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CAPITAL INCOME TAXATION AND PROGRESSIVITY IN A GLOBAL ECONOMY

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Abstract

The increase in international capital mobility over the past two decades has put pressure on the tax treatment of corporate equity income. Corporate level taxes distort investment flows across locations and create opportunities for tax avoidance by shifting income across jurisdictions. Outward flows of capital shift part of the burden of the corporate level tax on equity income from capital to labor, thereby making its incidence less progressive. Individual level taxes on corporate equity income lower the after-tax return to savings but have less distorting effects on investment location and are more likely to fall on owners of capital than workers. This logic suggests there may be both efficiency gains and increases in progressivity from shifting taxes on corporate equity income from the corporate to the shareholder level. We discuss these effects and estimate the distributional effects of raising shareholder-level taxes on corporate equity income and using the revenue to cut the corporate tax rate. We find that taxing capital gains and dividends as ordinary income (subject to a maximum 28 percent rate on long-term capital gains) would finance a cut in the corporate tax rate from 35 percent to about 26 percent, assuming no behavioral responses. While the distributional effect depends on what one assumes about the incidence of the corporate income tax, our results suggest that even if the corporate income tax is paid entirely by capital income, the reform would make the tax system more progressive.

I.   INTRODUCTION

Throughout the entire history of the U.S. income tax, income of equity owners of U.S. corporations has been subject to two levels of tax. The income is first taxed under the corporate profits tax, which allows deductions for wages and interest payments, but not for distributions to shareholders. Distributions are then taxed again as dividend income to shareholders and a portion of retained earnings is also taxed a second time when shareholders realize capital gains that arise from those retentions.[1]

While both the corporate and shareholder level taxes on corporate equity income make pre-tax returns to corporate equity investments higher than after-tax returns to shareholders, the two levels of tax have very different economic effects in an open economy with internationally mobile capital. The corporate level tax is largely a *source-based* tax on the returns to corporate investments in the United States. Both U.S. and foreign-owned multinationals are taxable on their income from investments in the United States, but U.S. multinational corporations pay little additional tax on profits from overseas investments because of provisions such as deferral and foreign tax credits (Grubert and Altshuler 2008). This means that the corporate-level tax may raise the cost of corporate capital in the United States much *more* than it lowers after-tax returns to U.S. investors. As a result, some analysts have suggested that the corporate income tax is mostly shifted to U.S. workers through a decline in the capital-labor ratio in the United States (Harberger 1995, 2006 and Randolph 2006), although others (Gravelle and Smetters 2006) dispute this finding.

In contrast, shareholder-level taxes are *residence-based* taxes imposed on worldwide dividends and equity of U.S. citizens, but not foreign investors.   This means that the shareholder-level tax may raise the cost of corporate capital in the United States by much *less* than it lowers after-tax returns to U.S. investors. The result would be that U.S. shareholders would continue to bear the burden of individual-level taxes on corporate equity, even if much of the burden of the corporate-level tax is shifted to labor.

Over the years, there have been many proposals in the United States to reduce or eliminate the double taxation of corporate equity income so that corporate income is taxed only once.[2] In 2003, the Bush Administration proposed eliminating the individual

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[1] The two levels of tax do not always, however, make the total combined marginal tax rate on corporate income higher than the marginal tax rate shareholders would otherwise pay on a dollar of fully-taxed income. Some corporate-level income is taxed at rates less than the corporate statutory rate due to preferences such as accelerated depreciation of machinery and equipment, expensing of research expenditures and intangible drilling costs of oil, gas, and mineral development.   Capital gains of individuals accrue tax free until realized and, upon realization, have been taxed at preferential rates for most of the history of the U.S. income tax. And capital gains and dividends accrued within qualified retirement plans are not subject to individual income tax.

[2] Proposals to eliminate the double taxation of dividends have been put forward by the Ford Administration in Congressional testimony (Simon, 1975) and a major tax reform study (U.S. Treasury Department, 1977), by the Reagan Administration in the original Treasury proposal that led eventually to enactment of the

shareholder component of the corporate income tax and taxing all corporate income once by exempting dividends and capital gains paid out of previously taxed corporate profits. Congress, instead, reduced maximum tax rates on dividend income, but allowed the tax benefit irrespective of whether any underlying corporate tax had been paid. The tax rate on capital gains, already lowered from 28 percent to 20 percent in 1997, was reduced further to 15 percent. At the same time, the top corporate tax rate has remained at 35 percent since 1993, so that almost all the tax relief on corporate equity income has come at the individual shareholder—not the corporate—level, although some provisions have reduced the effective corporate tax rate by narrowing the tax base.[3]

While the United States has been emphasizing tax cuts for shareholders, other countries, perhaps more attuned to cross-border competitive effects, have been lowering the corporate tax rate while removing provisions that allow shareholder relief from dividend taxes. Since the 1986 tax reform act, the U.S. federal statutory corporate rate has remained virtually unchanged, rising from 34 percent to 35 percent in 1993, although declining slightly to 31.85 percent after the enactment of a deduction for domestic production activities in 2004. Most other OECD countries have lowered their top corporate rates substantially over the same period, so that currently the U.S. combined federal-state average top rate (39.3 percent, excluding the effect of the domestic production deduction) is above that of every other country in the world except Japan and substantially above the (un-weighted) average statutory rates for the rest of the G7 of 32.2 percent and for the rest of the OECD of 26.2 percent (OECD, 2008). In comparison, in 2000, the U.S. combined rate of 39.3 percent was lower than the average of the rest of the G7 (40.4 percent) and much closer to the rest of the OECD (33.4 percent).

While lowering their corporate rates, many European countries have eliminated provisions that provided relief to resident shareholders for the double taxation of corporate dividends. Since 2000, Finland, France, Germany, Italy, Norway, Sweden, and Turkey have abandoned imputation regimes that provided relief from the double taxation of dividends. The only countries remaining with full relief of double taxation for shareholders are Australia, Canada, Mexico and New Zealand. (Korea and the United Kingdom provide modest partial relief). Australia is considering restoring a second level of tax on dividends (Henry 2009) and should they do so, New Zealand is likely to follow.

The result of these changes is a switch in the relative levels of tax rates on personal and corporate-level income from corporate equity between the United States and other major economies in this decade. The OECD calculates the personal tax ratio— (PIT/PIT + CIT)—which is the share of the overall tax rate on distributed profits that comes from the taxation of the dividends to individual shareholders.[4] In 2000, the U.S. personal tax ratio was 33.9 percent, slightly above the un-weighted average ratios for the

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1986 Tax Reform Act (U.S. Treasury Department, 1984), and by the administration of the first President Bush in a study of corporate tax integration options (U.S. Treasury Department, 1992).

[3] The most important of these was enactment of the domestic production deduction in 2004, which when fully-phased in (in 2010) will reduce the effective tax rate on corporate income from domestic production activities in the United States to 31.85 percent.

[4] PIT is the top personal income tax rate on dividends (net of imputation credits), while CIT is the top rate on corporate income.

rest of the OECD (32.1 percent) and the rest of the G7 (30.7 percent). By 2008, these relative rates had flipped, with the U.S. personal tax ratio dropping to 21 percent, while the personal tax ratios increased to 33.0 percent in the rest of the OECD and to 35.2 percent in the rest of the G7.

The shift to corporate level taxation of corporate equity in the United States affects domestic investment (through an outflow of capital), tax avoidance (through transfer pricing and other methods of income-shifting), economic efficiency and income distribution. This paper focuses on one of these effects of how we tax corporate income—the potential effect on income distribution. We estimate the distributional effects of reversing the recent tax shift by repealing recent tax cuts on capital gains and dividend income and using the revenue generated to reduce the corporate income tax rate. We perform these estimates using two alternative assumptions of the incidence of the corporate income tax: the traditional assumption currently used by federal agencies and the Tax Policy Center that 100 percent of the tax is paid by recipients of capital income and an alternative assumption that, due to an outflow of capital caused by the tax, only 30 percent of the corporate tax is paid by recipients of capital income and 70 percent is paid by recipients of labor income.

II.   WHO PAYS THE CORPORATE INCOME TAX?

Understanding how an income tax reform that shifts the tax on capital from the corporate level to the individual level will affect the distribution of income requires information on who bears the final burden of both the corporate and the personal income tax. While the accepted methodology for assigning the economic burden of personal income taxes is uncontroversial and straightforward (the individual that actually pays the tax is assumed to bear the burden of the tax), the same is not true for the corporate income tax. Assigning the burden of the corporate income tax has proven to be a difficult and controversial exercise. This controversy has divided the main government agencies charged with producing distributional analyses of the federal tax system. Faced with the uncertainty over who bears the burden of the corporate income tax reflected in the economic literature, the staff of the Joint Committee on Taxation has chosen to ignore the tax in its distributional analyses, while published estimates by the staffs of the Congressional Budget Office and Treasury's Office of Tax Analysis assign the entire burden of the corporate tax to capital owners in proportion to their share of aggregate capital income.[5] This section offers a selective review of the literature that informs our choice of incidence assumptions for our analysis of capital income tax reforms.[6]

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[5] See Cronin (1999) and JCT (1993) for summaries of the issues involved.

[6] Others have compiled outstanding reviews of the literature. Gravelle (2008) outlines the development of research on corporate tax incidence over the past several decades. Zodrow (1999) provides an overview of the issues surrounding economic modeling of tax incidence. Gentry (2007) surveys recent empirical studies of corporate tax incidence; Gravelle and Hungerford (2008) critique them. Auerbach (2006) discusses many of the complications of determining corporate tax incidence including dynamics, investment incentives in the corporate income tax, corporate financial policy, risk, imperfect competition, the choice of organizational form, international capital flows, and managerial incentives.

Changes to the taxation of capital income at the corporate level can affect many business decisions and, as a consequence, make incidence analysis a difficult endeavor. The corporate income tax can influence how companies invest, how investment is financed, and how investment is allocated across locations, as well as how businesses are organized, risk-taking behavior, and managerial incentives. These effects can vary across sectors and will depend on how any corporate reform is structured (for instance, rate changes versus changes in investment incentives). All of these behavioral responses will in turn affect wages, output prices, and levels of investment. To further complicate matters, a corporate tax reform in one country can trigger reforms in other countries. This complex set of economic interactions makes it difficult to isolate the impact of corporate income taxation on the returns to capital, land, and labor as well as on relative prices of goods and services made in corporate and non-corporate firms. Further, as Auerbach (2006) points out, there is an important dynamic dimension that must be taken into account in any incidence analysis of the corporate tax. In the short-run, the burden of the tax likely sticks with shareholders. Over time, the tax will be shifted to other capital owners and labor, but for a variety of reasons, even in the long-run, most of the tax (and even all) may be borne by shareholders.

In his seminal study of corporate tax incidence, Harberger (1962) shows that in a simple closed-economy model with two perfectly competitive sectors and fully mobile factors of production, imposing a tax on the return to capital in one sector (the corporate sector) would cause investors to shift capital from the taxed to the untaxed sector. This initial reallocation of capital leads to a new allocation of labor across sectors and new levels of output in each sector that further modifies the initial effects of the tax on factor and output prices.

Harberger finds that the pattern of factor reallocation and associated price changes depend critically on the initial proportional allocations of labor and capital in the corporate and non-corporate sectors, the degree to which firms in the corporate and non-corporate sectors can substitute labor for capital, and the elasticities of demand for corporate and non-corporate output. Harberger demonstrates how these allocations and elasticities determine the division of the corporate tax burden between labor and capital. Using parameters that are reasonable for the U.S. economy, Harberger finds that capital bears approximately the full burden of the corporate income tax. Subsequent computable general equilibrium models with multiple output sectors generated similar findings.

Researchers have considered the sensitivity of the Harberger model to the relaxation of all the key assumptions, especially the assumption of a closed economy with no international capital flows. Given the importance of international trade and capital flows, it seems artificial to work with closed-economy models.[7] Once we allow for international capital mobility, domestic owners of capital may be able to escape the tax by moving capital abroad, turning the original Harberger result on its head.[8]

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[7] Harberger (2006) notes, however, that closed-economy models are not necessarily inappropriate. He argues that a closed-economy model is appropriate if all countries, or alternatively, a set of countries that make up large part of the world economy, enact tax reforms that raise or lower corporate tax rates in a similar fashion. If only one country, or a small set of countries, raise or lower their corporate rate, an open-economy model is necessary.

[8] See, for example, Mutti and Grubert (1985).

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Researchers have traditionally followed two broad approaches to study the incidence of the corporate income tax in an open economy. One method extends the Harberger model to determine how a hypothetical corporate tax might affect the equilibrium return to capital and labor; the other method relies on observed empirical evidence relating corporate tax rates to changes in wage rates. While the theoretical studies obtain mixed results, the empirical work suggests that the corporate income tax may depress wages.

A.   *Open economy incidence in general equilibrium models*

Randolph (2006) builds a two country, five-sector model with three factors of production (capital, labor, and land). The five sectors include a corporate sector producing tradable goods that are perfect substitutes with foreign goods; a corporate sector producing tradable goods that are not perfect substitutes with foreign goods; a corporate sector with goods that are not internationally tradable (e.g., utilities); a non-corporate sector producing tradable goods (e.g., agriculture); and a non-corporate sector producing non-tradable goods (e.g., residential housing). The corporate income tax is modeled as an add-on tax on capital income in the domestic corporate sectors. Randolph assumes that capital is perfectly mobile across countries, labor is immobile, land is used in the agricultural sector only, and markets are perfectly competitive. Worldwide supplies of capital and labor are fixed.

The incidence results in Randolph's model are straightforward. The corporate tax induces a reallocation of capital abroad that increases the productivity of foreign labor and consequently raises wages abroad. Because domestic workers are not able to follow the capital abroad, they suffer as the domestic capital stock falls. Changes in land values are determined in the agricultural sector. Randolph assumes that the agricultural sector at home is not big enough to affect output prices and, as a result, any change in land values will be offset by changes in the after-tax costs of labor and capital. Since the cost of labor and the cost of capital in the non-corporate sector fall in equilibrium due to the tax, land values increase at home. In contrast, since foreign wages increase and returns to capital fall, land values may increase or decrease abroad.

The final allocation of burdens between factors of production depends on model parameters. For example, the larger is the domestic economy as a percent of the world economy, the larger is domestic capital's share of the burden. In the limit, as the domestic economy's share of world output approaches 100 percent, capital bears the full burden of the tax, as in the original Harberger model with a closed economy. Similarly, as the size of the domestic corporate sector increases, the share of incidence of the corporate tax borne by capital increases. Randolph finds that under reasonable baseline assumptions for the size of the U.S. economy, initial capital and labor shares and behavioral responses, domestic labor bears the bulk of the tax—slightly more than 70 percent—while domestic capital bears slightly more than 30 percent of the burden (expressed as a share of revenue). Domestic land enjoys a small benefit. Owners of

foreign capital bear about 70 percent of the burden but this burden is exactly offset by the benefits to foreign labor (about 70 percent) and landowners (about 1 percent).[9]

Randolph's model followed earlier work by Harberger (1995) and Gravelle and Smetters (2006). As Randolph explains in a useful appendix, his model is based on Harberger's contribution. However, Harberger finds that domestic labor bears much more than the full burden of the corporate income tax—from 200 to 250 percent. There are three reasons for the striking difference in results between the two models. First, and most importantly, Harberger considers only changes in sources of income in his analysis while Randolph considers both the sources and uses of income. Second, Harberger uses a somewhat different parameterization of the U.S. economy. Finally, Harberger assumes that the imposition of the corporate income tax reduces worldwide capital income by exactly 100 percent of revenues. Randolph does not impose this constraint in his analysis.

Using assumptions that are consistent with Harberger's parameterization of the U.S. economy and allowing the combined burden to exceed 100 percent of revenues, Randolph's model predicts that domestic labor bears 87 percent of the corporate income tax.[10] The main conclusion to draw from these models is that in an open economy setting, the imposition of a tax on capital in the corporate sector can be substantially shifted from domestic capital to domestic labor.

Gravelle and Smetters (2006) draw very different conclusions from their open economy model. They estimate corporate tax incidence in a model that allows for less than perfect capital mobility. By varying the degree of demand substitution for tradable goods produced in the corporate sector, the authors set up a mechanism by which capital mobility may be limited. They also allow capital mobility to be constrained by imperfect portfolio substitution between foreign and domestic assets.

Gravelle and Smetters' model generates similar results to the Randolph model when both foreign and domestic assets in investors' portfolios and foreign and domestic tradable goods are close to perfect substitutes. Under these assumptions, domestic labor bears 71 percent of the burden, owners of domestic capital bear about 36 percent of the burden, foreign labor bears about -70 percent of the burden and owners of foreign capital bear about 70 percent of the burden (land rents change little in both the domestic and foreign economies). At the other extreme, if foreign and domestic portfolio assets and domestic and foreign tradable goods are not close substitutes, domestic labor bears -3 percent of the burden and domestic capital bears 91 percent, while foreign factors bear very little burden. The authors argue that prior empirical research supports adopting a product substitution elasticity of 1 between foreign and domestic tradable goods, which indicates that domestic capital bears between 71 percent of the corporate income tax burden (for high capital portfolio substitution elasticities) and 91 percent (for low capital portfolio substitution elasticities).

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[9] Randolph also produces estimates assuming different relative capital intensities of the domestic corporate sectors, and finds that the burden falling on domestic labor can vary between about 60 percent and 90 percent, while the burden falling on domestic capital can vary between about 30 to 40 percent.
[10] Harberger (2006) considers how both uses and sources of income are affected by the corporate income tax and finds that domestic labor bears almost 100 percent of the tax.

Randolph (2006), Harberger (2006) and Gentry (2007) critique the parameterization used in the Gravelle and Smetters study. They note that the long-run substitutability between domestic and foreign goods is likely large, so assuming that product substitution elasticity is high may be more appropriate for a model of the long-run impacts of the corporate income tax. Randolph shows that adding additional corporate sectors to the model can mitigate the impact of low product substitution elasticities and raise the share of incidence that falls on labor. Randolph, Harberger and Gentry also question the low capital portfolio substitution elasticity in Gravelle and Smetters' preferred case.

Despite the complexity inherent in the various relevant general equilibrium models, the fundamental conclusions remain the same: if it is feasible and profitable for capital to avoid a tax by shifting to other sectors (and abroad in an open-economy model), then the burden will fall primarily on labor, assuming labor is immobile. The extent to which a shift is feasible and profitable depends on a variety of assumptions, which drive any conclusions about corporate tax incidence. Because there is no consensus on the size of the underlying behavioral responses, there is no consensus on tax incidence.

B.   Empirical incidence analysis[11]

Empirically estimating corporate tax incidence avoids the problem of determining what behavior to assume in a general equilibrium model. Several recent papers have used international panel data to estimate the impact of corporate taxes on employee wages and earnings. With one exception discussed below, these papers do not provide direct information on the shares of the corporate tax paid by labor and capital. They do, however, shed some light on the mobility of capital across borders.

Hassett and Mathur (2006) use a panel data set of 72 countries over 25 years to estimate the effect of corporate taxes on manufacturing wages. Using average nominal wages over five-year periods as the dependent variable, the authors estimate that a 10 percentage point increase in the top statutory corporate rate leads to a 25 percent reduction in wages. While this is a substantial effect, the authors report that the use of average and effective corporate tax rates produces weaker relationships.

Felix (2007) uses household survey data from 19 different countries from 1979 to 2002 to estimates the effect of differences in corporate tax rates across countries on annual household earnings. Felix includes a measure of an economy's openness as an explanatory variable. She finds no statistically significant relationship when she accounts for an economy's openness and reports that a one percentage point increase in the top corporate statutory rate leads to a -0.71 to -1.23 percentage point decrease in the average household annual wage.

Gravelle and Hungerford (2008), among others, dispute the methods and findings of these studies. They re-estimate the Hassett and Mathur model using both purchasing power parity (PPP) and inflation-adjusted PPP to adjust wages, as opposed to Hassett and Mathur's approach of using exchange rates. This specification generates much weaker relationships between the corporate tax and manufacturing wages. Gravelle and

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[11] This section borrows heavily from Harris (2009).

Hungerford also note that about one-third of Hassett and Mathur's five-year observations were based on less than five years of data due to missing data and re-estimate the model using only observations for which the five years of data exist. They then find no significant effect of the corporate tax on manufacturing wages. Finally, Gravelle and Hungerford estimate the model using annual data, rather than five-year averages, and find no significant effect.

Gravelle and Hungerford list several problems with the study by Felix. They note that the study does not control for country-fixed effects and uses an unusual patchwork sample of observations with many countries having only one or two years of data. Finally, Gravelle and Hungerford note that both studies produce estimates of corporate tax burdens (about $4 in tax burden for every $1 in tax revenue collected in the Felix study) that are far too large to be predicted by any reasonable theoretical model.

Desai, Foley, and Hines (2007) use multinational firm-level data to estimate the extent to which the corporate tax burden is shared between labor and capital. The authors attempt to directly estimate the distribution of corporate tax burdens. To do so, they jointly estimate the impact of corporate taxes on wages and the return to capital while imposing a restriction that the sum of the burden on wages and capital must equal the total tax effect. They find that between 45 and 75 percent of the corporate tax burden falls on labor (57 percent in the baseline specification).

Arulampalam, Devereux, and Maffini (2009) attempt to estimate the effects of the corporate tax on wages through the bargaining process. They hypothesize that firms and workers bargain over economic rents and that the corporate tax can change the outcome. Using data on more than 50,000 firms operating in nine European countries, they measure the effect of taxes paid by firms (as opposed to corporate tax rates) on employee compensation. Since they use firm-level data, they cannot measure the general equilibrium effects on the wage rate, but rather the impact on the outcome of the worker and firm bargain over economic rents. The authors find that, under their preferred specification, the elasticity of employee compensation with respect to corporate tax rates per worker is -0.120 in the short-run and -0.093 in the long-run. They conclude that labor bears between 60 and 100 percent of the corporate income tax.

Gravelle and Hungerford also dispute studies using the firm-level approach. They criticize the Desai, Foley, and Hines study on several counts, including the use of firm-level changes in wages to measure the reduction in economy-wide wages and the use of changes in interest income to measure the reduction in capital income. They also note that the study's results are driven by the restriction that the combined estimated (labor and capital) burden of the corporate income tax equals 1; relaxing that restriction makes the estimates statistically insignificant.[12]

Gravelle and Hungerford also criticize the Arulampalam, Devereux, and Maffini study. They note that the authors' estimation strategy measures only the short-run effects of the corporate tax on wages, not the long-run impact on the equilibrium division of economic rents. They find the results implausible, noting that the short-run elasticity of

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[12] The authors refer to comments made by Bill Randolph at a March 2008 seminar at the American Enterprise Institute, where Randolph stated that without the restriction, the Desai, Foley, and Hines results were no longer significant.

corporate taxes on wages cannot be that high in the presence of multi-year wage contracts.[13]

Gentry (2007) also finds problems with the recent empirical literature. He agrees with Gravelle and Hungerford's assertion that these studies capture the short-run impact of the corporate tax, while theory indicates that the mechanism by which labor is affected by the tax (notably an adjustment in equilibrium wage levels) would likely require several years to adjust. Gentry also agrees that the use of firm-level data can only partially measure wage changes because it ignores economy-wide price effects. He raises concerns about the assumed direction of causality between corporate tax rates and wages, noting instead that governments could shift towards higher capital taxation immediately before returns to wages fall. Finally, Gentry notes, as do Gravelle and Hungerford, that the findings in these papers are much larger than the *a priori* expectations would suggest, and that these magnitudes far exceed the plausible ranges predicted by general equilibrium models.

The empirical studies are certainly innovative and have rejuvenated the study of corporate tax incidence in open economies. The serious concerns raised by Gravelle and Hungerford, as well as Gentry, suggest that the empirical studies to date contribute little if anything to resolving the question of who actually bears the burden of the corporate income tax. We are left to rely on theoretical models, which generate a wide range of results for the burden of the corporate tax in an open economy. Some studies find that most of the burden of a domestic corporate income tax is borne by domestic labor, while others find that almost all the burden is borne by domestic capital, as in Harberger's groundbreaking 1962 study of a closed economy.

C. *Other considerations*

Our discussion of the literature so far may give the impression that if we were to find the perfect dataset and refine the estimation technique for an empirical analysis or agree on a parameterization of a preferred open economy general equilibrium model, we will have answered the incidence question for the corporate income tax. Unfortunately, there are many considerations that prevent us from drawing this conclusion.

Auerbach (2007) provides an excellent discussion of why the incidence question may, for all practical purposes, ultimately be unanswerable. First, there is an important timing element. The initial burden of any change in the corporate income tax falls on existing shareholders through an initial drop in asset values. The tax also induces a change in the rate of return on capital which will be borne by future investors in corporate and non-corporate capital. One can think of this in terms of generational incidence. The "old" or existing shareholders suffer a decrease in asset values and the "young" or future holders of capital suffer a reduction in rates of return. When the incidence is passed to the young depends on the speed of adjustment which adds another dimension of uncertainty to the incidence question. If adjustment is not instantaneous, it may be misleading to look at a one-period cross-sectional distributional analysis. We implicitly assume in our

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[13] Gravelle and Hungerford also criticize the use of short-run panel data and the "widely varying" results obtained by the paper.

analysis that current capital owners are identical in terms of asset holdings to future capital owners and, further, that the full burden of the tax can be shifted from existing shareholders.

The presence of investment incentives creates another problem for incidence analysis. Due to the accelerated depreciation schedules in the tax code, new capital will always be worth more than old capital of equal productivity. The resulting "old capital" discount, capitalized into existing asset values, increases when the corporate tax rate is increased. The incidence of the reduction in existing asset values due to the tax change is difficult (and may even be impossible) for existing shareholders to avoid. Thus a portion of any corporate tax increase may be borne indefinitely by existing shareholders.

Auerbach discusses other factors that may prevent existing shareholders from shifting the corporate tax. For example, to the extent that the corporate income tax is a tax on economic profits, a change in the tax will not be passed on to all capital owners (or labor). Further, any change in the advantages of using the corporate form to organize business due to changes in the corporate tax may not be shifted.

A final problem with the type of distributional analysis we present (and that is presented by government agencies) is the omission of consideration of the excess burden associated with taxes. This problem is well-known. Standard distribution tables distribute the tax revenue and not the total burden of the tax, which likely results in an understatement of the total tax burden. Whether or not the total burden of a tax *change* exceeds the total revenue change depends on the extent to which excess burden is altered by the tax reform. If, for example, excess burden is reduced by a tax cut, then a static estimate of the tax saving understates the reduction in the total tax burden.

With all these caveats in mind, we proceed to present a distributional analysis of a change in the taxation of capital income.[14] We address the uncertainty surrounding the incidence of the corporate tax by presenting analyses under different assumptions concerning who bears the ultimate burden of the tax.

III.   EFFECTS OF A TAX SHIFT FROM THE CORPORATE TO THE INDIVIDUAL LEVEL

A.   Distributional Effects

The central focus of this paper is to measure the distributional effects of a tax shift from corporate taxation to individual-level taxation of capital income. For individual taxpayers, the net effect of this reform is a combination of the higher taxes paid on long-term capital gains and qualified dividends plus the benefits of lower taxation of corporate profits. Who benefits from the latter part of the reform—the reduced corporate tax burden—depends critically on our corporate tax incidence assumptions.

We assume that the higher tax rates on capital gains and dividends are borne directly by those taxpayers who report these types of income on their tax returns. Long-term capital gains and qualified dividends are more concentrated among the highest

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[14] We have ignored the problem of how taxes on capital affect capital accumulation. This is important since our reform will impact personal saving decisions and corporate investment.

income taxpayers than other forms of capital income, such as interest income and gains attributed to retirement saving accounts. Consequently, repealing the preferred rates on capital gains and dividends and using the revenue to reduce taxes on capital income broadly should make the tax system more progressive.

If one assumes that the economic burden of the corporate tax falls exclusively on owners of capital—who tend to be wealthier than non-capital owners—then a reduction in the corporate tax by itself is regressive. But even then, reducing the corporate income tax and substituting higher taxes on capital gains and dividends could make the tax system more progressive. If, instead, corporate tax incidence is divided between wage earners and capital owners alike instead of falling all on capital, substituting higher capital gains and dividend taxes for corporate taxes would be even more progressive because wage earners would also benefit from the tax shift.

Note that even if some or all the burden of the corporate tax is borne by labor, a cut in corporate revenues alone would make the tax system less progressive. Wages are also a higher share of income for higher-income than for low- and middle-income taxpayers, who receive a relatively larger share of their income from transfer payments. The corporate tax incidence assumption affects the *degree* of regressivity of a corporate tax cut, not whether a corporate tax cut alone is progressive or regressive.[15]

The net shift in tax burden is then the combination of an extremely progressive tax increase (repealing preferred rates on capital gains and dividends) combined with either an extremely regressive tax cut (when the corporate burden is assumed to fall on all capital) or a mildly regressive tax cut (when the corporate burden falls on both labor and capital). As we will show in the following sections, the net effect of this reform is undoubtedly progressive, although the degree of progressivity depends on the corporate tax incidence assumptions.

B.   *Behavioral responses and revenue*

We argue that decreasing the taxation of capital income at the corporate level while increasing the burden at the shareholder level may be an appropriate response to increased capital mobility. The reform we model, raising the individual rate on dividends and long-term capital gains and decreasing the corporate statutory rate, while holding revenue constant, will induce a wide range of behavioral responses. We recognize that behavioral responses will impact the revenue estimates of both capital gains and dividend tax rate increases and corporate tax rate cuts and, if these behavioral responses are not perfectly offsetting, would affect the size of the corporate rate reduction that increasing rates on capital gains and dividends could finance. In the simulations in this paper, we assume no behavioral responses to the tax rate changes. We leave investigation of any feedback effect on estimated revenue to future work, but below outline some of the potential behavioral responses.

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[15]Harris (2009) shows that the corporate tax is generally progressive, so that, absent other changes, a reduction in the corporate tax would make the tax system less progressive.

As Grubert and Altshuler (2008) point out, shifting more of the taxation of corporate income to the personal level would increase the attractiveness of the United States for investment by both foreign and domestic companies and reduce the incentive for individual U.S. shareholders to escape the impact of the U.S. corporate tax by investing in lightly taxed foreign companies.[16] The reduced differential between statutory rates at home and abroad would also decrease the incentive for companies operating in the U.S. to shift reported income to their non-U.S. affiliates. Grubert (2009) reports that foreign tax rates fell by about 5 percentage points between 1996 and 2004. Using data from tax returns of U.S. multinational corporations, he estimates that this drop in foreign rates induced an increase in the share of income held in foreign affiliates of U.S. multinationals of about 8 percentage points in 2004. This suggests a loss of U.S. tax revenues of at least $20 billion a year. Clausing (2009) reports estimates from Bureau of Economic Analysis data suggesting an even larger impact of tax differentials. She finds that every one percentage point differential between the U.S. and a particular foreign corporate tax rate is associated with a 0.5 percentage point increase in reported profits abroad. An effect of this magnitude implies that, in 2004, the corporate tax rate differential induced U.S. and foreign-owned multinational corporations to shift over $180 billion in profits—and over $60 billion in tax revenues—out of the United States. Finally, a cut in the statutory corporate rate could increase repatriations of profits of foreign subsidiaries of U.S. multinational corporations. All these behavioral changes would cause corporate revenues to fall by less than under our static assumptions.

Lowering the corporate rate will increase the attractiveness of operating in the corporate form relative to the non-corporate form. Altshuler, Auerbach, Cooper and Knittel (2009) report that between 1982 and 2001, the share of net income in S corporations increased from 3 percent to 40 percent. A reduced corporate rate may induce businesses operating as pass-through enterprises to incorporate and reverse some of this trend. This would raise corporate tax revenue, but lower individual tax revenue. The continued double-taxation of corporate profits combined with the higher rate on distributions would mitigate the incentive for individuals to shelter income in the corporate form to take advantage of a corporate rate that would be lower than the top individual rate (see Halperin 2009). If the revenue-neutral corporate rate was 25 percent, for example, and the top tax rate on dividends was set to 35 percent, the combined burden on distributed corporate profits would be 51.25, still significantly higher than the top rate on personal income of 35 percent. If, however, individuals wanted to accrue and reinvest profits or could find ways to convert labor income to corporate income, the lower rate would make corporations an attractive tax shelter that would erode the individual income tax base.

Shifting the taxation of capital income to the individual level may lead to a decrease in both capital gains realizations and dividend payouts. Many studies have examined the effects of capital gains tax rates on realizations of capital gains, with highly

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[16] A reform that reduces the corporate rate could be part of a broader reform of taxation of U.S. multinational corporations that ends deferral and, as a result, eliminates many of the distortions in the current system (see Grubert and Altshuler 2008), but this paper assumes no changes in international tax rules.

varying estimates. (For a review of these studies, see Zodrow 1993). In addition, even though capital gains rates would be higher, the restoration of pre-1997 rates on gains and dividends would on balance increase the incentive for corporations to retain instead of distribute profits, leading to lower revenues from taxation of dividend income. A number of recent studies of the 2003 dividend tax cut document large and rapid increases in dividend payouts suggesting the possibility that revenues from dividends may be substantially lower than our static model predicts (Chetty and Saez 2005 and Brown, Liang and Weisbenner 2007). An increase in the tax rate on dividends may also lead to an increase in share repurchases as an alternative to dividends since share repurchases would continue to be tax-advantaged (both from deferral and the lower rate on long-term capital gains) under our reform.[17]

IV.   SIMULATIONS AND METHODOLOGY

A.   *Simulations*

We estimate the distributional effects of a revenue-neutral tax reform that lowers corporate tax revenues while increasing individual-level taxation of capital gains and dividends. Our simulation procedure is divided into two steps. First, we model the effects of taxing capital gains and dividends as ordinary income—rather than under preferred rates—subject to a maximum 28 percent rate imposed on long-term capital gains. This tax law corresponds to the tax code prior to the passage of the Taxpayer Relief Act of 1997.

The second part of our simulation reduces the aggregate corporate tax burden by an amount equal to the revenue raised by the higher taxation of long-term capital gains and dividends. Such a reduction in revenue could be achieved through a variety of reforms to the corporate tax code, although we interpret the reduction in revenue to represent a lower corporate tax rate. We use calendar year 2012 for our simulations to abstract from any temporary effects the current economic downturn may have on the returns to capital and/or the distribution of capital income.

The two reforms are, by design, exactly offsetting in terms of tax revenues. We first estimate the increase in revenue generated by increasing the taxation of capital gains and dividends. We find this reform raises individual income tax receipts by $87.2 billion in 2012. We then model the effects of reducing corporate revenues by $87.2 billion, a reform that could be achieved by lowering the corporate tax rate to 25.9 percent (assuming no economic or behavioral responses). Although we simulate the simultaneous implementation of these reforms, the magnitude of the corporate rate cut is wholly determined by the increased tax revenues at the individual level. As noted above, we model these reforms in a static environment with no behavioral response from taxpayers. That is, there is no change in reported income among taxpayers, and no change in aggregate before-tax corporate profits.

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[17] See Grullon and Michaely (2002) for empirical work on the substitutability of dividends and share repurchases.

B.   *Methodology*

We use the TPC microsimulation model to simulate the distributional effects of tax reforms described above. The TPC tax model uses two data sources: the 2004 public-use file (PUF) produced by the Statistics of Income (SOI) Division of the Internal Revenue Service and the 2005 Current Population Survey (CPS). The PUF contains 150,047 income tax records with detailed information from federal individual income tax returns filed during 2004. It provides key data on the level and sources of income and deductions, income tax liability, marginal tax rates, and use of particular credits, but it excludes most information about pensions and IRAs as well as demographic information such as age. TPC uses a constrained statistical match with the March 2005 CPS of the U.S. Census Bureau to map non-tax information onto the PUF.[18] The model also includes imputations of wealth in tax-deferred retirement plans from the Survey of Consumer Finances.

We assume extension of 2009 tax law in our baseline.[19] That is, we assume EGTRRA and JGTRRA provisions have been extended, including the maximum 15 percent tax rates on long-term capital gains and qualified dividends, the lower statutory tax rates on individual income, the higher Child Tax Credit, and the marriage penalty abatement. We further assume that estate tax law is at its 2009 levels and that the Alternative Minimum Tax (AMT) has been indexed to inflation.

Simulating the taxation of capital gains and dividends as ordinary income—with a 28 percent cap on capital gains—is straightforward. All dividends are treated as ordinary income, as are short-term capital gains. Long-term capital gains are treated as ordinary income, except for taxpayers subject to the 33 percent or 35 percent statutory tax rates. In these cases, long-term capital gains are taxed as ordinary income with a maximum tax rate of 28 percent. There are no preferential rates for capital gains or dividends under the AMT.

Simulating the reduction in corporate tax receipts is more complicated because it requires some assumption about the incidence of the corporate income tax. We model the distributional effects of cutting the corporate tax rate under a scenario where the whole corporate tax is borne by capital and another where it is divided between capital and labor. Under the second scenario, we assign 70 percent of the corporate tax burden to labor and 30 percent to capital.[20] Such a division closely follows the conclusions presented in Randolph (2008).

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[18] The statistical match provides important information not reported on tax returns, including measures of earnings for head and spouse separately, their ages, the ages of their children, and transfer payments. The statistical match also generates a sample of individuals who do not file income tax returns ("nonfilers"). By combining the dataset of filers with the dataset of estimated nonfilers from the CPS, we are able to carry out distributional analysis on the entire population rather than just the subset that files individual income tax returns.

[19] This analysis was completed before the recent healthcare reform was passed. As a result, we do not take into account any tax changes embedded in the reform in our baseline.

[20] By design, the sum of the proportions equals 1, although this could theoretically be adjusted to allow the burden of the U.S. corporate tax on U.S. taxpayers to differ from the revenues collected.

We attempt to define each household's capital and labor share under as broad a measure as possible.[21] For the purposes of determining each household's share of capital income, we define capital income as the sum of taxable and tax-exempt interest; dividends; realized capital gains;[22] net income from rents, royalties, and estates or trusts; interest, capital gains, and dividends accruing to defined-contribution retirement accounts; and the proportion of business pass-through income attributable to capital.[23]

To determine each household's share of labor compensation, we define compensation as the sum of wages and salaries; the employer portion of OASDI payroll taxes; employer contributions to retirement accounts; and the proportion of business income attributable to labor.

Under the scenario where corporate tax incidence falls entirely on capital, each tax unit's corporate tax burden equals total corporate tax liability multiplied by the unit's share of aggregate capital income.[24] Thus, a tax return that reports 0.05 percent of aggregate capital income incurs 0.05 percent of aggregate corporate tax liability. When corporate tax incidence is divided between labor and capital, each tax unit's corporate tax liability is the sum of each unit's labor share and capital share of the corporate income tax. A tax unit's labor share is the unit's share of aggregate labor income, multiplied by the aggregate portion of the corporate income tax deemed to be borne by labor. Capital share is defined analogously.

V.   RESULTS

On average, people in the lower and middle income groups receive very little income from capital. Even in the fourth quintile of the income distribution, average capital income is only about $6,730, compared with labor income of over $55,000 (Table 1). But capital income rises sharply at the very top of the distribution. Taxpayers in the top 1 percent of the income distribution receive almost 10 times as much capital income per return as those in the 95th-99th percentiles of the distribution and, in contrast to all groups in the bottom 99 percent, they report more income from capital than income from labor.

Overall, roughly 75 percent of factor incomes (the sum of labor and capital income) come from labor and only 25 percent from capital (Table 2). But, income from capital is 54 percent of all factor incomes in the top 1 percent of the income distribution and 63 percent in the top 0.1 percent.

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[21] Due to data constraints, the imputed value of owner-occupied rent is omitted from our definition of capital income. Rental income is included in our definition of capital income, either as corporate profits or as a portion of business pass-through income.

[22] In order to temper the wide variations in realized capital gains that can occur across years, TPC adjusts each record's reported realization of long-term and short-term capital gains by a factor accounting for aggregate trends in capital gains realizations. Rohaly, Carasso, and Saleem (2005) describe this adjustment in greater detail.

[23] We assign 20.8 percent of positive business pass-through income—defined as income reported on IRS Schedules C, E, or F—to capital and 79.2 percent of business income to labor. These proportions are based on the shares of corporate sector output reported as corporate profits and labor compensation in the National Income and Product Accounts.

[24] In the TPC model, aggregate corporate tax receipts are derived from CBO estimates. We derive the 2012 estimate of baseline corporate tax receipts from CBO (2009).

Among all tax units, capital income from tax-favored sources (qualified dividends and long-term capital gains) accounts for 30 percent of all capital income, fully taxable income (interest, non-qualified dividends, short-term gains, and other capital income taxed at ordinary rates) is 23 percent, tax-exempt income (income accrued within qualified defined contribution retirement plans and tax-exempt interest) is 40 percent, and business income (the capital share of net income from sole proprietorships and pass-through business entities) is approximately 7 percent. But the proportions of capital income sources are very different for the highest income taxpayers. Capital income recipients in the top 1 percent of the income distribution receive a much higher share of their capital income from long-term capital gains and qualified dividends (40 percent) and a substantially lower share of capital income from tax-exempt sources (33 percent) than other capital income recipients.

Because capital income from long-term gains and qualified dividends is so concentrated at the very top of the income distribution, restoring the pre-1997 rates on dividends and capital gains and using the revenue to finance corporate rate reduction makes the income tax more progressive even if one assumes that the burden of the corporate income tax falls 100 percent on capital income (Table 3). Raising the top rate on long-term capital gains to 28 percent, taxing dividends at ordinary income rates, and reducing the top corporate tax rate to 25.9 percent would raise after-tax incomes by between 0.2 and 0.3 percent in the bottom four quintiles and by between 0.3 and 0.4 percent in the bottom three-fourths of the top quintile (the 80th through 95th percentiles). All income groups below the top 1 percent would be net winners, but tax returns in the top 1 percent would see their after-tax incomes decline on average by 1.3 percent and those in the top 0.1 percent would see their after-tax incomes decline by 2.3 percent.

These results reflect the extreme concentration of capital gains and dividends among very high income taxpayers. The top 1 percent of returns would bear 70 percent of the burden of the increase in tax rates on capital gains and dividends, while receiving 44 percent of the benefits from a lower corporate tax rate (Table 4). The corporate tax cut alone would still be very regressive. It would increase after-tax income by 1.3 percent in the top quintile and 2.2 percent for the top 1 percent, compared with gains of 0.4 percent or less in the bottom four quintiles. But the benefits from corporate rate reduction would be less concentrated at the top than the burdens from raising capital gains and dividend taxation because taxpayers below the very top of the distribution would benefit to some degree from lower tax burdens on retirement income assets invested in corporate equities and from higher returns on other capital assets as capital shifts into the corporate sector in response to a corporate rate cut.

The shift from taxing corporate source income at the corporate level to taxing it at the individual level raises progressivity even more if one assumes that much of the corporate income tax burden falls on workers in the form of reduced wages. With labor bearing 70 percent of the corporate tax burden, the tax shift would increase after-tax incomes by between 0.6 and 0.7 percent in the bottom four quintiles, compared to an increase in income of 0.3 percent or less for these groups if the corporate income tax falls entirely on capital. The average taxpayer in the top 1 percent experiences almost twice the tax increase – an increase of $31,616 per return (2.3 percent of after-tax income), compared to only $16,781 (1.3 percent of after tax income) when labor income bears

more of the corporate tax because she benefits less from the corporate rate cut. Cutting the corporate tax rate continues to benefit higher-income groups more as a share of their after-tax income than lower income groups (Table 6), but the concentration of gains among the top income groups is much less than when capital income pays the entire corporate tax. With the 30-70 capital-labor division of corporate tax burden, the top quintile receives 61 percent of the benefits of a corporate rate cut and the top 1 percent receives 22 percent of the benefits, much less than the corresponding shares of 81 and 44 percent of the benefits of a corporate rate cut when capital income bears 100 percent of the corporate tax burden.

VI.   CONCLUSION

In recent years, methods of taxing equity income of corporations have moved in opposite directions in the United States and the rest of the OECD. While other OECD countries have reduced their top statutory corporate tax rate, the top federal corporate tax rate in the United States has remained unchanged. While the United States has cut its tax rates on dividends and capital gains, other countries have increased taxation of corporate equity income at the personal level by scaling back or eliminating provisions that integrated corporate and personal income taxes.

In a world with increased international capital mobility, there is increased logic for taxing corporate-source income at the individual instead of the corporate level. Corporate-level taxes are based on the location of investment and may thereby distort investment flows and create opportunities to avoid tax by shifting the reporting of income to other jurisdictions. Individual-level taxes are residence-based and therefore have less distorting effects on investment location, while reducing after-tax income of savers. If private saving is believed to be less responsive to changes in after-tax returns than location-specific investment is to changes in required pretax returns, then individual-level taxation would entail less efficiency loss per dollar of revenue collected than corporate level taxation. In addition, because taxpayers cannot escape residence-based taxes by shifting income overseas, residence-based taxes on capital income are more likely to be borne by owners of capital and less likely to be shifted to less internationally mobile factors such as labor through capital outflows. As a result, taxing capital income at the individual shareholder level may be more progressive than taxing at the corporate level.

This paper provides estimates of the distributional effects of raising shareholder-level taxes and using the revenue to cut the corporate tax rate in the United States. We find that restoring the pre-1997 tax rules applying to dividends and capital gains would finance a cut in the top corporate tax rate from 35 percent to about 26 percent, assuming no behavioral responses. The distributional effects depend on what one assumes about the incidence of the corporate income tax, but even if the corporate income tax is paid entirely by capital, low and middle-income groups would benefit from the shift and taxpayers at the very top of the income distribution would pay more. The distributional shift in tax burdens to the very top and away from others would be even larger if one assumes that a portion of the corporate income tax is shifted to labor through outward capital mobility.

Taking account of behavioral responses could alter these estimates, but the net effect of behavioral effects on revenues is unclear. Lower corporate rates would produce some positive revenue feedbacks in the form of capital inflows and a shift in reported profits from overseas jurisdictions to the United States, but could also result in negative feedbacks to the extent the new differential between the top corporate and individual rates enables high tax bracket individuals to shelter some of their income within corporations. Higher marginal rates on capital gains and dividends could lead to reduced capital gains realizations and lower corporate dividend payout ratios. An analysis of the net effect of all these feedbacks is beyond the scope of this paper, but is an important topic for future research.

Although the effects on economic efficiency are complex, and creating a differential between top corporate and individual rates gives rise to new problems, it seems nonetheless that shifting a larger share of corporate tax liability from the corporate to the shareholder level is worth considering. The way we tax corporate income may be one of many ways that "American exceptionalism" has led us astray in recent years. A shift in taxes on corporate equity income from the corporate to the shareholder level could increase the attractiveness of the United States as an investment location *and* make the tax system more progressive.

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Table 1

Mean Individual Income from Capital and Labor, 2012

Modified Cash Income Percentile	Components of Capital Income				Capital Income	Labor Income
	Tax-Favored	Taxable	Tax-Exempt	Business Income		
Lowest Quintile	284	416	162	793	1,027	10,397
Second Quintile	269	680	300	1,105	1,478	19,583
Middle Quintile	480	1,130	613	1,478	2,531	33,920
Fourth Quintile	1,277	2,304	2,633	2,486	6,730	55,368
Top Quintile	24,200	16,114	31,612	22,961	76,701	148,317
All	5,302	4,129	7,064	5,765	17,694	53,519
Detail on top quintile						
80-90	3,332	4,261	8,907	4,440	17,424	85,779
90-95	6,770	7,656	19,294	9,190	35,632	130,526
95-99	21,195	18,011	44,518	28,864	89,728	191,538
Top 1 Percent	332,049	169,345	268,617	253,426	822,724	690,113
Top 0.1 Percent	2,179,584	954,934	1,229,742	1,222,145	4,618,466	2,706,586

Source: Urban-Brookings Tax Policy Center Microsimulation Model.

Notes: Modified cash income is cash income plus income earned in defined contribution pension accounts. Tax-favored capital income includes long-term capital gains and qualified dividends. Taxable income is all capital income taxed at ordinary rates. Tax-exempt capital income consists of income from defined-contribution pension accounts and tax-exempt interest. Business income includes net income from sole-propreitorships and all entities that pass-through earnings to shareholders. Capital income is the total of tax-favored, taxable, and tax-exempt income plus 20.8 percent of business income. Labor income is the sum of all compensation plus 79.2 percent of business income. Baseline is current law.

Table 2

Mean Shares of Individual Income from Capital and Labor, 2012

Modified Cash Income Percentile	Labor Income	Capital Income	Shares of Capital Income			
			Tax-Favored	Taxable	Tax-Exempt	Business Income
Lowest Quintile	91.0%	9.0%	27.6%	40.6%	15.7%	16.1%
Second Quintile	93.0%	7.0%	18.2%	46.0%	20.3%	15.5%
Middle Quintile	93.1%	6.9%	19.0%	44.7%	24.2%	12.1%
Fourth Quintile	89.2%	10.8%	19.0%	34.2%	39.1%	7.7%
Top Quintile	65.9%	34.1%	31.6%	21.0%	41.2%	6.2%
All	75.2%	24.8%	30.0%	23.3%	39.9%	6.8%
Detail on top quintile						
80-90	83.1%	16.9%	19.1%	24.5%	51.1%	5.3%
90-95	78.6%	21.4%	19.0%	21.5%	54.1%	5.4%
95-99	68.1%	31.9%	23.6%	20.1%	49.6%	6.7%
Top 1 Percent	45.6%	54.4%	40.4%	20.6%	32.6%	6.4%
Top 0.1 Percent	36.9%	63.1%	47.2%	20.7%	26.6%	5.5%

Source: Urban-Brookings Tax Policy Center Microsimulation Model.

Notes: Modified cash income is cash income plus income earned in defined contribution pension accounts. Tax-favored capital income includes long-term capital gains and qualified dividends. Taxable income is all capital income taxed at ordinary rates. Tax-exempt capital income consists of income from defined-contribution pension accounts and tax-exempt interest. Business income includes net income from sole-propreitorships and all entities that pass-through earnings to shareholders. Capital income is the total of tax-favored, taxable, and tax-exempt income plus 20.8 percent of business income. Labor income is the sum of all compensation plus 79.2 percent of business income. Baseline is current law.

Table 3

Distributional Analysis of Revenue Neutral Change in Taxation of Capital Income, 2012

(Raise tax rates on capital gains and dividends and use revenue to lower corporate tax rate)

Assumes capital bears 100% of burden of corporate income tax

Modified Cash Income Percentile	Percent of Tax Units		Percent Change in After-Tax Income	Average Federal Tax Change ($)	Average Federal Tax Rate	
	With Tax Cut	With Tax Increase			Change (% Points)	Under the Proposal
Lowest Quintile	62.4	0.3	0.3	-31	-0.3	4.6
Second Quintile	87.8	1.7	0.2	-60	-0.2	9.9
Middle Quintile	92.9	2.8	0.2	-101	-0.2	15.8
Fourth Quintile	93.7	4.9	0.3	-184	-0.2	18.4
Top Quintile	89.6	10.2	-0.2	454	0.2	23.3
All	83.6	3.5	0.0	-1	0.0	19.7
Detail on top quintile						
80-90	93.2	6.5	0.3	-319	-0.2	20.3
90-95	91.8	8.2	0.4	-585	-0.3	21.2
95-99	84.7	15.2	0.2	-545	-0.2	22.8
Top 1 Percent	67.6	32.4	-1.3	16,781	1.0	26.9
Top 0.1 Percent	49.9	50.1	-2.3	136,458	1.7	29.2

Source: Urban-Brookings Tax Policy Center Microsimulation Model.

Notes: The simulation shows the distributional effect of taxing dividends and capital gains as ordinary income, capped at to 28% for long-term capital gains, and using the revenue raised to lower the corporate income tax rate. Modified cash income is cash income plus income from defined contribution pension plans. Tax units with negative cash income are excluded from the lowest income class but are included in the totals. For a description of cash income, see http://www.taxpolicycenter.org/TaxModel/income.cfm. The income percentile classes used in this table are based on the income distribution for the entire population and contain an equal number of people, not tax units. Includes both filing and non-filing units but excludes those that are dependents of other tax units. After-tax income is modified cash income less: individual income tax net of refundable credits; corporate income tax; payroll taxes (Social Security and Medicare); and estate tax. Average federal tax (includes individual and corporate income tax, payroll taxes for Social Security and Medicare, and the estate tax) as a percentage of average cash income.

Table 4

Distributional Analysis of Components of Revenue Neutral Change in Taxation of Capital Income, 2012

(Raise tax rates on capital gains and dividends and
use revenue to lower corporate tax rate)

Assumes capital bears 100% of burden of the corporate income tax

Modified Cash Income Percentile	Increase in Individual Level Tax on Capital Gains and Dividends			Decrease in Corporate Income Tax		
	Percent with Tax Increase	Percent Change in After-Tax Income	Share of Total Tax Change	Percent with Tax Decrease	Percent Change in After-Tax Income	Share of Total Tax Change
Lowest Quintile	1.1	0.0	0.1	62.7	0.3	1.4
Second Quintile	5.2	0.0	0.5	89.6	0.3	2.8
Middle Quintile	10.9	-0.1	1.3	95.8	0.3	4.9
Fourth Quintile	23.5	-0.2	3.5	98.6	0.4	9.1
Top Quintile	49.6	-1.5	94.7	99.8	1.3	81.2
All	15.6	-0.9	100.0	87.1	0.9	100.0
Detail on top quintile						
80-90	35.5	-0.3	4.1	99.6	0.6	8.6
90-95	50.4	-0.4	4.5	100.0	0.8	8.8
95-99	70.2	-1.0	16.1	100.0	1.2	19.6
Top 1 Percent	88.2	-3.5	70.0	100.0	2.2	44.3
Top 0.1 Percent	94.7	-5.2	45.3	100.0	2.9	25.1

Source: Urban-Brookings Tax Policy Center Microsimulation Model.

Notes: The simulation shows the distributional effect of taxing dividends and capital gains as ordinary income, capped at to 28% for long-term capital gains, and using the revenue raised to lower the corporate income tax rate.. Modified cash income is cash income plus income from defined contribution pension plans. Tax units with negative cash income are excluded from the lowest income class but are included in the totals. For a description of cash income, see http://www.taxpolicycenter.org/TaxModel/income.cfm. The income percentile classes used in this table are based on the income distribution for the entire population and contain an equal number of people, not tax units. Includes both filing and non-filing units but excludes those that are dependents of other tax units. After-tax income is modified cash income less: individual income tax net of refundable credits; corporate income tax; payroll taxes (Social Security and Medicare); and estate tax. Average federal tax (includes individual and corporate income tax, payroll taxes for Social Security and Medicare, and the estate tax) as a percentage of average cash income.

Table 5

Distributional Analysis of Revenue Neutral Change in Taxation of Capital Income, 2012

(Raise tax rates on capital gains and dividends
and use revenue to lower corporate tax rate)

Assumes capital bears 30% of burden of the corporate income tax

Modified Cash Income Percentile	Percent of Tax Units		Percent Change in After-Tax Income	Average Federal Tax Change ($)	Average Federal Tax Rate	
	With Tax Cut	With Tax Increase			Change (% Points)	Under the Proposal
Lowest Quintile	91.8	0.4	0.6	-59	-0.5	5.3
Second Quintile	95.7	2.1	0.6	-158	-0.6	10.9
Middle Quintile	96.3	3.4	0.7	-296	-0.6	16.8
Fourth Quintile	93.6	6.3	0.7	-469	-0.5	19.3
Top Quintile	86.7	13.3	-0.5	1,147	0.4	22.6
All	92.8	4.4	0.0	-2	0.0	19.8
Detail on top quintile						
80-90	91.7	8.3	0.6	-664	-0.5	21.0
90-95	88.3	11.6	0.5	-784	-0.4	21.5
95-99	79.6	20.3	0.0	72	0.0	22.3
Top 1 Percent	62.5	37.5	-2.3	31,616	1.8	24.5
Top 0.1 Percent	45.3	54.7	-3.7	234,342	2.9	25.8

Source: Urban-Brookings Tax Policy Center Microsimulation Model.

Notes: The simulation shows the distributional effect of taxing dividends and capital gains as ordinary income, capped at to 28% for long-term capital gains, and using the revenue raised to lower the corporate income tax rate. Modified cash income is cash income plus income from defined contribution pension plans. Tax units with negative cash income are excluded from the lowest income class but are included in the totals. For a description of cash income, see http://www.taxpolicycenter.org/TaxModel/income.cfm. The income percentile classes used in this table are based on the income distribution for the entire population and contain an equal number of people, not tax units. Includes both filing and non-filing units but excludes those that are dependents of other tax units. After-tax income is modified cash income less: individual income tax net of refundable credits; corporate income tax; payroll taxes (Social Security and Medicare); and estate tax. Average federal tax (includes individual and corporate income tax, payroll taxes for Social Security and Medicare, and the estate tax) as a percentage of average cash income.

Table 6

Distributional Analysis of Components of Revenue Neutral Change in Taxation of Capital Income, 2012

(Raise tax rates on capital gains and dividends
and use revenue to lower corporate tax rate)

Assumes capital bears 30% of burden of the corporate income tax

Modified Cash Income Percentile	Increase in Individual Tax on Long-term Capital Gains and Dividends			Decrease in Corporate Income Tax		
	Percent with Tax Increase	Percent Change in After-Tax Income	Share of Total Tax Change	Percent with Tax Decrease	Percent Change in After-Tax Income	Share of Total Tax Change
Lowest Quintile	1.1	0.0	0.1	92.3	0.6	2.7
Second Quintile	5.2	0.0	0.5	97.9	0.7	6.7
Middle Quintile	10.9	-0.1	1.3	99.6	0.8	11.9
Fourth Quintile	23.5	-0.2	3.5	99.9	0.8	17.7
Top Quintile	49.6	-1.5	94.7	100.0	1.0	60.8
All	15.6	-0.9	100.0	97.2	0.9	100.0
Detail on top quintile						
80-90	35.5	-0.3	4.1	100.0	0.9	13.3
90-95	50.4	-0.4	4.5	100.0	0.9	10.3
95-99	70.2	-0.9	16.1	100.0	0.9	15.6
Top 1 Percent	88.2	-3.4	70.0	100.0	1.0	21.6
Top 0.1 Percent	94.7	-4.9	45.3	100.0	1.2	10.7

Source: Urban-Brookings Tax Policy Center Microsimulation Model.

Notes: : The simulation shows the distributional effect of taxing dividends and capital gains as ordinary income, capped at to 28% for long-term capital gains, and using the revenue raised to lower the corporate income tax rate. Modified cash income is cash income plus income from defined contribution pension plans. Tax units with negative cash income are excluded from the lowest income class but are included in the totals. For a description of cash income, see http://www.taxpolicycenter.org/TaxModel/income.cfm. The income percentile classes used in this table are based on the income distribution for the entire population and contain an equal number of people, not tax units. Includes both filing and non-filing units but excludes those that are dependents of other tax units. After-tax income is modified cash income less: individual income tax net of refundable credits; corporate income tax; payroll taxes (Social Security and Medicare); and estate tax. Average federal tax (includes individual and corporate income tax, payroll taxes for Social Security and Medicare, and the estate tax) as a percentage of average cash income.

Appendix

Median Individual Income from Capital and Labor, 2012

Modified Cash Income Income Level	Components of Capital Income				Capital Income	Labor Income
	Tax-Favored	Taxable	Tax-Exempt	Business Income		
Lowest Quintile	0	0	0	0	182	11,124
Second Quintile	0	0	0	0	65	22,540
Middle Quintile	0	0	0	0	77	37,093
Fourth Quintile	0	39	406	0	2,895	59,812
Top Quintile	0	467	15,181	0	20,507	107,916
All	0	0	0	0	757	31,485
Detail on top quintile						
80-90	0	135	7,355	0	10,881	95,293
90-95	0	623	18,183	0	23,547	147,259
95-99	650	2,021	36,699	0	54,140	190,079
Top 1 Percent	15,738	20,750	140,852	4,798	295,788	458,998
Top 0.1 Percent	265,060	185,570	669,192	65,695	1,943,684	1,616,541

Source: Urban-Brookings Tax Policy Center Microsimulation Model.

Notes: Modified cash income is cash income plus income earned in defined contribution pension accounts. Tax-favored capital income includes long-term capital gains and qualified dividends. Taxable income is all capital income taxed at ordinary rates. Tax-exempt capital income consists of income from defined-contribution pension accounts and tax-exempt interest. Business income includes net income from sole-propreitorships and all entities that pass-through earnings to shareholders. Capital income is the total of tax-favored, taxable, and tax-exempt income plus 20.8 percent of business income. Labor income is the sum of all compensation plus 79.2 percent of business income. Baseline is current law.