



**Business Tax Reform and the Tax Treatment  
of Debt:  
Revenue neutral rate reduction financed by an  
across-the-board interest deduction limit would  
deter investment**

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## **Executive Summary**

Both President Obama and prominent Members of the Congress have identified a lower corporate income tax rate as an important policy objective to help make the United States a more attractive place for businesses to invest and locate. The tax plans put forward by President Obama, House Ways & Means Committee Chairman Dave Camp (R-MI), and Senators Ron Wyden (D-OR) and Dan Coats (R-IN) all propose significant reductions in the corporate income tax rate. However, there is far less agreement on how to pay for a lower corporate tax rate.

Some of these tax reform plans have suggested that the deductibility of interest expenses be limited to help finance a lower corporate tax rate and address the tax differential between debt and equity finance in the current income tax. This report quantifies the effects of these limitations on the cost for new investment in the United States as measured by the marginal effective tax rates (METR), a concept that measures the additional economic income a marginally profitable hypothetical investment needs to earn to cover taxes over its lifetime.

This report finds that an across-the-board limitation on the corporate deductibility of interest would adversely impact investment. Such limitations raise the cost of new investment by significantly more than an equal cost reduction in the corporate income tax rate lowers the cost of new investment. The resulting lower level of investment would have the potential to impede rather than encourage economic growth.

This report finds, for example, that the provision in the Wyden-Coats tax plan to limit the interest deduction to its non-inflationary component would have a significant negative effect on the cost of investing in the United States.

- This provision, which would reduce allowable interest expense deductions by roughly 25% and is estimated by the Joint Committee on Taxation to raise \$162.7 billion over ten years, could finance a roughly 1.5 percentage point reduction in the corporate income tax rate.
- Rather than making the United States a more attractive place to invest by lowering the METR for new investment, a 1.5 percentage point reduction in the corporate income tax rate financed by limiting the deductibility of interest expenses would increase the METR on new corporate investment from 31.0% to 33.1% -- a 6.7% increase in the METR.

Even though the cost of debt and equity financing investment would be more equal, this higher overall cost of investment in the United States as compared to other nations would make the United States a less attractive place to invest. Moreover, the United States would be unique among developed economies in imposing an across-the-board limitation on the deductibility of interest expenses. Over time, while the existing capital stock may be financed and allocated more on economic considerations, the corporate capital stock in the United States would be smaller. Workers would have less capital to work with and new technologies would be integrated into production more slowly. A smaller corporate capital stock would adversely affect worker productivity and, ultimately, living standards.

Moreover, limiting the general deductibility of corporate interest expenses runs counter to long-standing income tax principles that allow interest expenses to be deducted as a legitimate business expense dating back to the inception of the corporate income tax in 1909. Income on debt-financed business capital is currently treated the same as income from labor and other business expenses: deductible by the business and taxed to the recipient according to the recipient's tax treatment.

Interest deductibility is not the root cause of the tax bias for debt financing. Rather the tax bias results primarily from other aspects of the US income tax system:

- The double tax on corporate profits raises the tax cost of equity as compared to debt financing. Thus, limiting the deductibility of interest to address the over- or double-taxation of equity-financed investment in the corporate sector would be at cross purposes with other tax and economic policy objectives.
- For a variety of policy reasons, the Congress has chosen to exempt or lightly tax various types of investment income, including interest income received by lenders, such as non-profit organizations, foreigners, and households with tax preferred retirement accounts or state and local tax-exempt bonds. The differential between borrower and lender tax rates becomes more important given the tax code's lack of inflation adjustment, other than for individual tax rate brackets.
- In order to encourage investment, the Congress has also chosen to provide accelerated tax depreciation, especially for investment in equipment, which can significantly reduce the tax on debt financed and equity-financed investment. The combination of accelerated depreciation with interest deductibility can result in negative effective tax rates.

An important aspect of tax reform is carefully balancing competing objectives. While promoting economic neutrality through more even treatment of economic activity is often viewed as a reasonable policy objective, this may be at cross-purposes if this comes at the expense of raising the overall tax on the return to investment and indirectly taxes non-profit organizations and retirement savings. Limiting the deductibility of interest expenses may also be misplaced in that such a limitation does not address the root causes of the bias for debt finance.

## **Business Tax Reform and the Tax Treatment of Debt: Revenue neutral rate reduction financed by an across-the-board interest deduction limit would deter investment**

### **I. Introduction**

There is broad agreement that the US corporate income tax is in need of reform. The US statutory corporate income tax rate is the highest among the 50 largest economies and the US international tax system is out-of-line with other major developed countries in its treatment of foreign source income. President Obama and prominent Members of the Congress have put forward plans for significant reductions in the corporate tax rate and changes in the international tax rules. There is, however, far less agreement on how to pay for a lower corporate tax rate.

Many tax reform plans would rely on the elimination of most or all business tax expenditures to finance a lower corporate tax rate. But some reform tax plans have looked beyond business tax expenditures for additional revenue to lower the corporate income tax rate. For example, the Wyden-Coats Bi-Partisan Tax Fairness and Simplification tax plan would limit the deductibility of interest expenses to its non-inflationary component. The President's recently released Framework for Business Tax Reform does not specify the details of an interest deduction limitation, but indicates that such a limitation would be included in its plan for business tax reform.

Proposals to limit the deductibility of interest expenses, however, are at cross-purposes with some of the objectives of tax reform. For example, while limiting interest deductibility aims to improve the allocation of capital in the economy by leveling the playing field between debt and equity finance, such a limit would increase the tax cost of investing by substantially more than a corresponding reduction in the corporate tax rate. Rather than making the United States a more attractive place to invest, such a policy shift could make the United States a less attractive place to invest.

Moreover, the general deductibility of interest expenses is a long-standing provision dating back to the inception of the corporate income tax in 1909 and grounded in income tax principles that underlie income tax systems generally. No other developed nation imposes an across-the-board limitation on the deductibility of interest expenses. The bias for debt financing under our current system is not due to the deductibility of interest, but other features of the US income tax. For example, in pursuit of various policy objectives the Congress has chosen to exclude a significant share of interest income from the income tax base of recipients or is lightly taxed. Debt held within retirement savings accounts and pension funds is untaxed to help encourage additional retirement savings. Significant amounts of US debt held by foreigners are tax exempt due to statutory laws or by negotiated treaties that conform to international norms.<sup>1</sup> In addition, nonprofit organizations, such as university endowments, hold debt and other investments that are largely untaxed to help provide support to this sector.

Disallowing interest expense deductions at the corporate level to offset the benefit of lightly taxed or exemption of interest income could be a form of an indirect tax on households with pensions or tax-preferred retirement saving accounts, foreign lenders, and tax-exempt organizations.

Other features of the income tax serve to increase the tax cost of equity financing as compared to debt financing. The double tax on corporate profits increases the tax on equity-financed investment. Policy solutions aimed at addressing the tax bias for debt financing could as well address the tax bias against equity financing by reducing rather than increasing the scope of the double tax on corporate profits that also distorts economic decision making in other ways.<sup>2</sup> Several countries have adopted an allowance for corporate equity (ACE) to reduce the tax distortion against corporate equity and move toward a single level of tax on corporate income.<sup>3</sup>

This report analyzes the effect of the Wyden-Coats limitation of the deductibility of corporate interest expenses to their non-inflationary component to pay for an equal-cost 1.5% reduction in the corporate income tax rate on investment incentives. This approach isolates the impact of financing a lower corporate tax rate with a limitation on the deductibility of interest expenses. The concept of the marginal effective tax rate (METR), which measures the tax cost of an investment over its lifetime, is used to analyze investment incentives.

This report finds that, on net, the METR on new corporate investment would increase from 31.0% to 33.1%, an increase of 6.7%. This significant increase in the METR indicates that business investment would decline in response to lower after-tax returns. The resulting lower level of investment would have the potential to impede rather than encourage economic growth.

## **II. The tax treatment of debt under the current income tax**

The current income tax generally applies broad income tax principles to the taxation of interest. Interest expenses paid by borrowers are generally deductible as a business expense,<sup>4</sup> while interest income received by lenders is generally includable in income and subject to tax at applicable recipient tax rates. With this treatment, interest income is generally subject to one level of tax under the graduated individual income tax rates. This is the same manner in which most other business expenses, such as wages payments to employees, are taxed, and also follows the practice in other developed nations.

A number of deviations from the broad principles of an income tax, however, reduce the tax on debt-financed investments. Importantly, the lower tax on the return to debt-financed investment and the tax bias for debt financing arises not because of the deductibility of interest expenses but for other reasons.

First, although a pure income tax would only tax non-inflationary income, the current tax system does not index interest income or expenses for inflation. The current tax system also does not adjust depreciation, inventories or capital gains for inflation. Thus, the current tax system taxes the inflationary gain received by lenders and allows a deduction for the inflationary component of interest expenses paid by borrowers. This issue, which is particularly problematic during periods of high inflation, can result in different effective tax rates across a wide variety of investments. The effective tax rate on interest will generally fall below the statutory tax rate when taxpayers claim interest deductions at tax rates that exceed those applied to interest income. The tax benefit of deducting the inflationary component will exceed the additional tax from taxing the corresponding interest income. Inflation adjustments have been considered in past tax reforms, but have been rejected due to the additional complexity they would introduce into the tax code.<sup>5</sup>

Second, a considerable amount of interest income is not subject to tax at the lender level. In pursuit of various policy objectives, the Congress has excluded certain holders of debt or excluded certain types of investment earnings. For example, in order to provide support to state and local government activities, the interest paid on state and local municipal bonds, including private activity bonds for specific purposes and subject to specific limits, is generally excluded from the taxable income of both individuals and businesses. Similarly, to help encourage retirement and other types of saving, interest income received by pension funds or within individual retirement accounts, 401(k)-type plans, college savings plans, health savings accounts and other tax preferred savings accounts are excluded from the tax base. In conformity to international practice interest income received by foreigners is less heavily taxed due to negotiated treaty agreements. Finally, to lend support to the activities of the nonprofit sector (e.g., university endowments), interest income received by this sector is generally excluded from the tax base, to the extent it is not treated as unrelated business income.

Third, it is important to consider how the taxation of equity finance differs from debt finance (see Table 2). The taxation of the return to a corporate equity-financed investment differs from a debt-financed investment in at least two important ways.<sup>6</sup> First, the return to an equity-financed

investment is subject to tax at the corporate level. The corporate income tax does not generally allow a deduction for dividend payments or provide basis adjustments for corporate income that is retained. Thus, equity returns are generally subject to the corporate income tax; that is, the corporate income tax is largely a tax on equity returns. Second, equity returns are subject to additional investor level taxes when received by shareholders as dividends or when retained and received as additional capital gains.

**Table 2. Top total income tax paid on a debt- and equity-financed investment in 2013**

	Interest	Dividends	Capital Gains
Pre-tax corporate earnings	\$100	\$100	\$100
		<u>Corporate income tax</u>	
Corporate level tax rate (fed+st/loc)	39.0%	39.0%	39.0%
<b>Corporate income taxes paid</b>	<b>\$0.00</b>	<b>\$39.00</b>	<b>\$39.00</b>
		<u>Proceeds to lenders/shareholders</u>	
After-tax corporate earnings	\$100.00	\$61.00	\$61.00
	Interest payment to lender/debt holder	Dividend payment to shareholders	Stock buyback, leading to capital gains for shareholders
		<u>Individual income tax</u>	
Top federal dividend/capital gains tax rate*	42.1%	42.1%	5.7%
Individual taxes paid on dividends/capital gains	\$42.13	\$25.70	\$3.49
State income tax rate*	6.2%	6.2%	1.3%
State income tax paid on dividends/capital gains	\$6.20	\$3.78	\$0.81
<b>Total individual income taxes paid</b>	<b>\$48.33</b>	<b>\$29.48</b>	<b>\$4.30</b>
<b>Total taxes paid</b>	<b>\$48.33</b>	<b>\$68.48</b>	<b>\$43.30</b>
<b>Total income tax rate</b>	<b>48.3%</b>	<b>68.5%</b>	<b>43.3%</b>
<b>After-tax income to lender/shareholder</b>	<b>\$51.67</b>	<b>\$31.52</b>	<b>\$56.70</b>

\*The top federal rate includes the 3.8% Medicare tax and the effects of the limitation on itemized deductions for high income taxpayers (the "Pease provision") on the value of deducting state and local income taxes for federal tax purposes. The statutory tax rate on capital gains is reduced by one-half to reflect the benefits of tax deferral and by one-half again to reflect the benefits of step-up of basis at death.

Source: Ernst & Young LLP Center for Tax Policy.

These points are illustrated in Table 2, which shows the top total income tax rate for a debt- and equity-financed investment. These calculations are for a hypothetical investment in the corporate sector with a \$100 return where the investor/lender faces the top tax rates under the tax law in effect in 2013 (with the sunset of the lower rates enacted in 2001/2003 and the Medicare tax applied to investment returns beginning in 2013).

For the debt-financed investment, the deductibility of interest expenses, in effect, offsets the corporate level tax leaving the full \$100 subject to the top lender's federal tax rate of 42.1% (i.e., the 39.6% individual income tax rate, the 3.8% Medicare tax, and the effects of the limitation on itemized deductions (the "Pease" provision) and the deductibility of state income taxes for federal tax purposes) and an average 6.2% state tax rate. The total top tax burden for a debt-financed investment is \$48.33. Thus, the investment returns income of \$51.67 to the lender after taxes.

For the equity-financed investment, a \$39 federal-state corporate level tax is paid on the \$100 return at the corporate level and then investor level taxes are paid on the remaining \$61 after-corporate tax return. Investor level taxes are paid of either \$29.48 on dividends distributed to shareholders or \$4.30 on corporate income that is retained and eventually realized as capital gains. Combining both the corporate and individual levels of tax, the investment returns income of either \$31.52 (dividends) or \$56.70 (capital gains) to the investor after taxes.

The top total tax rate on an equity-financed investment returned to shareholders as dividends is 68.5% and 43.3% for an equity-financed investment that is retained and taxed as capital gains. The double tax on corporate dividends significantly increases the top tax rate on equity-financed investment, while the tax benefits of deferral and the step of basis at death dampen the effects on corporate earnings that are retained.

Of course, the tax rate on interest could be significantly lower to the extent certain types of interest income received by debt holders are excluded from the tax base or lightly taxed. Again, a key conclusion is that interest deductibility is not the cause of the tax bias for debt financing.

Finally, accelerated depreciation lowers the tax on the return to both debt- and equity-financed investments. Accelerated depreciation has generally been provided through the tax code in one form or another for the past several decades, especially for investment in equipment. Accelerated depreciation provides faster write-off of an investment which reduces the present value of taxes on its return. Accelerated depreciation reduces the effective tax rate on an investment below the statutory tax rate in present value, thereby providing an incentive for additional investment. The combination of accelerated depreciation and the deductibility of interest expenses can result in negative effective tax rates on investment.

It is in the pursuit of broad policy objectives by the Congress with accelerated depreciation and incomplete or lightly taxing certain types of interest income received by lenders, as well as the differential in tax rates on lenders' interest income relative to the deduction for borrowers' interest expenses that can lead to low or even negative effective tax rates on marginal debt-financed investments.



### **III. Corporate tax reform plans and proposals to limit interest deductibility**

This report focuses on the impact of an across-the-board limitation on interest expenses when combined with an equal cost reduction in the corporate tax rate. Only two tax plans with limits on the deductibility of interest expenses have been put forward by elected officials in the past several years: 1) the President's Framework for Business Tax Reform, and 2) the Wyden-Coats Bi-Partisan Tax Fairness and Simplification Act (the "Wyden-Coats plan").

While the major elements of these two plans are shown in Table 3, comparison is made difficult by the lack of detail under the President's Framework. Nevertheless, both plans entail a significant reduction in the corporate income tax rate and a significant broadening of the tax base, including some limitation on the deductibility of corporate interest expense.

The President's Framework would lower the corporate income tax rate to 28%, while the Wyden-Coats tax plan lowers the rate to 24%. The President's FY 2013 Budget would have the top individual tax rate revert back to its pre-2001 39.6% level, while the Wyden-Coats tax plan would retain the current top 35% individual income tax rate.

These changes in tax rates are important with regard to the tax treatment of interest for two reasons. First, lower tax rates would generally reduce the tax benefits of all deductions, including those for interest expenses, at the corporate and non-corporate business level. Second, changes in the relative taxation of lenders (i.e., interest income) and the tax rate at which interest expenses are deducted would affect the tax rate difference on both the non-inflationary and the inflationary component of interest. As discussed above, if lenders and borrowers are taxed at the same rate, there would be no tax policy considerations involving the taxation of the inflationary component of interest.<sup>7</sup>

The tax reform plans would also directly limit the deductibility of interest expenses. The President's Framework plan indicates that a limitation would be imposed on the deductibility of interest expenses but does not provide any further details on how this the limitation would operate. The Wyden-Coats tax plan would limit deductibility of all corporate interest expense to its non-inflationary component. According to the legislative language accompanying the Wyden-Coats tax plan, this would be accomplished by excluding an amount of interest expenses equal to the inflation rate over the nominal interest rate plus a non-inflationary rate of return set at 6%. Historical inflation and nominal rates on corporate bonds suggest that this limitation would be roughly 25% of interest expenses.

**Table 3. Major features of recent tax reform plans that include a limitation on the deductibility of interest expenses**

Provision	Current Law		Administration's Framework for Business Tax Reform (February 2012)	Wyden-Coats Bi-Partisan Tax Fairness and Simplification Act (April 2011)
	2012	2013		
<b>Business tax provisions</b>				
Corporate tax rate	35%	35%	28%	24%
Limit interest deduction	No across-the-board limitation	No across-the-board limitation	Unspecified limit	Limited to non-inflationary component
Domestic production activities deduction	9% deduction	9% deduction	10.7% deduction plus unspecified additional deduction for advanced manufacturing	Repealed
Accelerated depreciation	MACRS	MACRS	Repealed	Repealed (MACRS replaced with ADS)
Other bus. tax expenditures	Many	Many	Unspecified base broadening	Most eliminated
International tax rules	Worldwide w/ deferral & FTC	Worldwide w/ deferral & FTC	Shift towards more of a worldwide system	Repeal deferral and per country foreign tax credit limit
<b>Individual tax provisions</b>				
Top individual ordinary rate	35%	39.6% <sup>*</sup>	39.6% <sup>**</sup>	35%
Top L-T capital gains rate	15%	20% <sup>*</sup>	20% <sup>**</sup>	22.75 (35% excl.)
Top qualified dividend rate	15%	39.6% <sup>*</sup>	39.6% <sup>**</sup>	22.75 (35% excl.)
Individual tax expenditures	NA	NA	Limitation of major deductions/exclusions to 28% <sup>1/</sup>	Modest changes

<sup>1</sup>In addition, beginning in 2013 the Medicare tax rate of 3.8% will apply to financial income for single taxpayers (married couples) with annual wages exceeding \$200,000 (\$250,000).

<sup>\*\*</sup>These individual tax changes were not included in the President's Framework for Business Tax Reform, but instead were included in the President's FY 2013 Budget.

The Wyden-Coats interest proposal is similar in some respects to a proposal included in the Treasury Department's 1984 "Treasury I" tax reform proposal, a precursor to the Tax Reform Act of 1986.<sup>8</sup> This proposal sought to restrict taxation to non-inflationary income only. In the case of interest, this proposal sought to exclude the inflationary component from both interest expenses received by borrowers and interest income earned by lenders. This symmetry restricted the taxation to non-inflationary income only by symmetrically excluding the inflationary component from both interest earned by lenders and interest paid by borrowers. The Wyden-Coats proposals, in contrast, would only limit the deductibility of interest expenses paid by borrowers without a corresponding change for lenders. Consequently, rather than excluding the inflationary component from interest flows for tax purposes, this provision would increase taxes on interest.

There are also differences in investor level taxes on dividends and capital gains. When the President's Framework is combined with his FY 2013 Budget proposals, investor level taxes on dividends and capital gains are both higher than under 2012 law. Under the President's FY 2013 Budget, the federal income tax rate on dividends and capital gains would revert back to their pre-2001 levels of 39.6% and 20%, respectively. The higher investor level taxes increase the double tax on corporate profits and amplify the tax bias against corporate equity as compared to debt-finance. The Wyden-Coats proposal would tax both dividends and capital gains at a top 35% tax rate, but allow a 35-percent exclusion, resulting in an effective tax rate on dividends and capital gains of 22.75%.

These changes in investor level taxes embodied by the President's proposals are particularly noteworthy because at the same time that a limitation on the deductibility of interest expenses is being proposed to address the tax bias for debt-finance other parts of his plan would work in the opposite direction by significantly increasing investor level taxes. For example, the President's proposed tax increase on large flow-through businesses would likely significantly increase business activity subject to the double tax on corporate profits, and thus, also increase the tax differential between debt finance and equity finance.<sup>9</sup> In addition, the President's proposal to allow the dividends and capital gains tax rates to increase back to their pre-2003 levels for high income taxpayers would also increase the double tax on corporate profits and the tax differential between debt and equity finance. In contrast, the Wyden-Coats tax plan helps address the impact of the double tax on corporate profits by including the 35-percent exclusion for dividends and capital gains.<sup>10</sup>

#### **IV. Estimated impact of corporate reform and limits on interest deductibility on investment incentives**

This report uses the concept of the marginal effective tax rate (METR) on capital investment to measure the impact of an across-the-board limitation on the deductibility of interest expenses on investment incentives. This measure is widely used to analyze how changes to the tax system affect marginal investment decisions.<sup>11</sup> The METR provides an estimate of the tax cost of a hypothetical marginal investment over its life. The measure can be viewed as measuring the additional economic income a marginal investment needs to earn to cover taxes over its lifetime. A more detailed discussion of the METR concept and estimates for this report is provided in the Appendix.

The METR is useful for analyzing differences in the tax treatment of investment across sectors of the economy, asset types and sources of finance. The METR is also used in many macroeconomic models of the US economy to estimate the broad economic impacts of changes in tax policy on economic performance.

The METR captures the tax consequences to a firm for making an investment and to the saver who provides the finance. The major aspects of the corporate tax system affecting the taxation of new investment are captured, such as the corporate income tax rate, depreciation allowances, and interest deductions. The measure also captures investor level taxes on dividends, capital gains, and interest.

The estimates presented in this report are for federal income taxes alone under the tax law that will be in effect in 2013. Thus, the estimates reflect the sunset of the lower tax rates enacted in 2001/2003 scheduled to occur at the end of 2012 as well as the application of the 3.8% Medicare tax on investment income beginning in 2013.<sup>12</sup>

##### *Investment incentives and marginal effective tax rates under 2013 law*

Estimates of the METR for new investment under current law in 2013 are provided in Table 4.<sup>13</sup> Overall, the METR for the US economy is 20.1%, but varies considerably by sector, asset type, and source of finance. The METR for new investment in the business sector, for example, is 28.1%, but -3.6% for new investment in owner-occupied housing. The lower METR for new investment in equipment in the corporate sector (26.9%) as compared to new investment in structures (31.1%) reflects the benefits of accelerated depreciation under the current capital cost recovery system.

The effects of the double tax on corporate profits can also be seen in Table 4 by comparing the METR in the corporate sector (31.0%) to the METR in the non-corporate sector (24.6%).<sup>14</sup> Not only does this difference reflect the extent by which the double tax on corporate profits contributes to the differential between debt and equity finance, but also the tax differential against investment in the corporate sector and a higher METR for business investment generally. The misallocation of capital between sectors means investment is not going to its most productive uses within the economy because of tax considerations. The higher overall

METR means that business investment is generally lower than it would be otherwise because of the tax treatment.

**Table 4. Marginal effective tax rate for new investment under 2013 law**

	2013 Law
Business sector	28.1%
Corporate sector	31.0%
Equipment	26.9%
Structures	31.1%
Land	38.5%
Inventories	40.1%
Public utilities	27.3%
Debt finance	0.7%
Equity finance	40.5%
Noncorporate sector	24.6%
Equipment	19.6%
Structures	24.7%
Land	27.8%
Inventories	31.3%
Owner-occupied housing	-3.6%
Economy-wide	20.1%

Source: Ernst & Young LLP Center for Tax Policy.

There is a significant difference in the METRs for corporate debt-financed investment (0.7%) as compared to corporate equity-financed investments (40.5%). As discussed above, the low METR for debt financing reflects a number of factors with policy considerations that are separate from the general income tax principle of deductibility of business interest expenses. A substantial share of interest is received by debt holders that are tax-exempt or lightly taxed. Debt held within retirement savings vehicles, by foreigners, and certain institutions in the non-profit sector all contribute to the low tax rate for debt-financed investment. For example, corporate debt that is taxed at the recipient level has a METR of 24.1%, while corporate debt that is not taxed at the recipient level has a calculated METR of -26.4%. The double tax on corporate profits also increases the METR on equity-financed investment further driving a tax wedge between debt-and equity-financed corporate investment.<sup>15</sup>

*Estimated impact of limiting the deductibility of interest expenses*

Estimates of the impact of limiting the deductibility of interest expenses and a revenue neutral reduction in the corporate income tax rate are provided in Table 5. The provision to limit the deductibility of interest expenses to the non-inflationary component under the Wyden-Coats tax plan was estimated by the Joint Committee on Taxation to raise \$162.7 billion over ten years.<sup>16</sup> Assuming the 10-year revenue cost of reducing the corporate income tax rate per percentage point is \$100 billion to \$110 billion, the Wyden-Coats interest limitation provision can be expected to finance a roughly 1.5 percentage point reduction in the corporate income tax rate.

**Table 5. Impact of limiting interest deductibility to finance a revenue-neutral 1.5% reduction in the corporate income tax rate in 2013**

	2013 Law	Lower corporate income tax rate by 1.5%			Plus 25% limit on interest deductibility			Net effect of combined policy	
		METR	Percentage Point Change	% Change	METR	Percentage Point Change	% Change	Percentage Point Change	% Change
Business sector	28.1%	27.7%	-1.6%	-0.5%	30.8%	3.2%	11.4%	2.7%	9.6%
Corporate sector with double tax	31.0%	30.1%	-0.8%	-2.7%	33.1%	2.9%	9.7%	2.1%	6.7%
Equipment	26.9%	26.2%	-0.7%	-2.7%	29.2%	2.9%	11.2%	2.2%	8.2%
Structures	31.1%	30.2%	-0.8%	-2.7%	33.2%	3.0%	9.9%	2.2%	7.0%
Debt finance	0.7%	1.7%	NA	NA	16.5%	14.9%	NA	15.8%	NA
Equity finance	40.5%	39.4%	-1.1%	-2.8%	39.4%	0.0%	0.0%	-1.1%	-2.8%
Economy-wide	20.1%	19.8%	-0.3%	-1.7%	22.1%	2.4%	11.9%	2.0%	10.0%

Notes: Although not shown separately, the overall METR estimates also reflect the METR for new investment in public utilities, inventories and land.  
Source: Ernst & Young LLP Center for Tax Policy.

As shown in Table 5, a 1.5 percentage point reduction in the corporate income tax rate reduces the METR on new investment in the corporate sector by 0.8 percentage points (or a 2.7% decrease). The incremental effect of a 25% limitation on interest expenses increases the METR by 2.9 percentage points (or a 9.7% increase). The change in the METR from the limitation on interest expenses more than offsets the reduction due to the lower corporate tax rate. The net effect of the policy is for the METR for new investment in the corporate sector to rise by 2.1 percentage points (or an increase of 6.7%). This implies that the return to a new investment in the corporate sector would need to be, on average, 6.7% higher in order to cover the additional taxes associated with the combined effect of a 1.5% lower corporate income tax rate and an equal cost limitation imposed on the deductibility of interest expenses.

The impact on a corporate debt-financed investment is also shown in Table 5. The METR would rise from close to zero to 16.5% for a debt-financed investment in the corporate sector under the combined impact of both lowering the corporate income tax rate and limiting the deductibility of interest expenses. The METR for an equity-financed investment in the corporate sector would fall slightly from 40.5% to 39.4%. Even after the Wyden-Coats limitation of the deductibility of interest expenses to the non-inflationary component, a significant differential between debt- and equity-financed investment remains. This is suggestive of other features of the income tax, such as the exclusion of certain types of debt/lenders from the tax base and the double tax on corporate profits, as root causes of the existing differential.

While the proposal aims to improve economic performance by leveling the playing field between debt and equity financing, the higher METR for new investment in the business sector would deter investment. The reduction in the capital stock could potentially have a negative effect on overall economic performance.<sup>17</sup>

## **V. Conclusion**

Some tax reform plans have included provisions to limit the deductibility of corporate interest expenses. These provisions are, in part, intended to raise additional revenue to enable further reduction in the corporate income tax rate and to address the tax bias for debt financing under the current tax system.

While such limitations narrow the differential between debt and equity financing, this report finds that a reduction in the corporate tax rate that is financed by a limitation on the deductibility of interest expenses would increase the METR on new investment in the corporate sector. Investment in the corporate sector would decline. A more efficiently allocated capital stock by itself would improve economic performance, but this policy would also result in a smaller capital stock which has the potential to adversely affect overall economic performance.

Moreover, the source of the tax bias for debt financing has little to do with the deductibility of interest expenses, which is grounded in long-standing income tax principles. Instead, the low effective tax rate on debt-financed investment has at its root causes the difference in tax rates faced by borrowers and lenders and the double tax on corporate profits. As well, in pursuit of various broad policy objectives the Congress has provided accelerated depreciation and excluded from the tax base significant amounts of interest income received through pension funds and other retirement savings vehicles, state and local bonds, non-profit organizations and foreigners. This treatment helps encourage additional investment, and retirement and other types of saving, and provides support to state and local governments and the non-profit sector.

An important aspect of tax reform is carefully balancing competing objectives. While promoting economic neutrality through more even treatment of economic activity is often a policy objective, it can be at cross-purposes if at the expense of raising the overall tax on the return to investment, as well as indirectly taxing non-profit organizations and retirement savings.



## **Appendix – Calculation of the marginal effective tax rate (METR) on new investment**

The METR is derived from an estimate of an investment's cost of capital using the framework first formalized by Hall and Jorgenson (1967) and later refined by Fullerton and King (1984) and described in detail by Gravelle (1994) and Mackie (2002). The cost of capital (net of depreciation) is given by:

$$c = \frac{(r + \delta - \pi)(1 - uz)}{1 - u} - \delta$$

where  $c$  denotes the cost of capital,  $r$  is the firm's nominal after-tax discount rate,  $\delta$  is the rate at which the asset depreciates,  $\pi$  is the rate of inflation,  $u$  is the corporate income tax rates and  $z$  is the present value of depreciation allowances. The present value of depreciation,  $z$ , reflects the discount rate, the tax life of an asset, the depreciation schedules, and other elements of the depreciation system. The values of  $\delta$  and  $z$  vary by type of asset as depreciation allowances for equipment are typically accelerated as compared to their economic lives.

Investor level taxes and the deductibility of interest are accounted for by assuming that a firm can arbitrage between debt and real capital following Fullerton and Bradford (1981) and Fullerton, Gillette and Mackie (1987). Investments are frequently financed with both debt and equity financing. Thus, this study calculates the METR for a "hypothetical" investment based on a weighted average of debt and equity financing assuming 35-percent debt and 65-percent equity financing.<sup>18</sup>

A further issue involves a firm's marginal source of equity finance; that is, whether the old or new view of dividend taxes applies. This report follows Auerbach and Hassett (2003) and assumes that one-half of equity finance operates under the old view, whereby dividend taxes affect investment decisions, and the other half of firms operate under the new view, whereby firms rely on retained earnings as the marginal source of finance and dividend taxes are capitalized into firm value.<sup>19</sup>

The METR is then calculated by subtracting a firm's after-tax rate of return from the pretax rate of return – the "tax wedge" – divided by the pretax return. Estimates of the METR are provided for the business sector, the corporate and non-corporate sectors, debt- and equity-financed investment, and investment in equipment and structures.<sup>20</sup> These METRs on equity-financed investment include the investor level taxes on capital gains and dividends (i.e., the double tax on corporate profits), whereas the METR on debt-financed investment reflects the deductibility of interest at the corporate level and the assumption that about one-half of debt holders are either tax-exempt or lightly taxed (e.g., pension assets/foreigners).

While this approach allows an evaluation of tax reform plans on marginal business investment, it has some limitations and caveats. This approach assumes perfect competition, whereas many firms operate in imperfectly competitive markets that may give rise to rents (above-normal profits), which are more influenced by statutory marginal tax rates. Differences in corporate tax

rates across countries may influence the geographic location of rent-producing activities, such as research and intangible assets.

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<sup>1</sup> US Congressional Joint Committee on Taxation, *Present Law and Background Relating to Tax Treatment of Business Debt*, July 11, 2011, JCX-41-11.

<sup>2</sup> The JCT pamphlet, *Present Law and Background Relating to Tax Treatment of Business Debt*, presents data on business debt and interest deductibility. In 2010, the debt-to-equity ratio of non-financial C and S corporations was 50.4%, well within the range of 29.5% to 89.0% between 1987 and 2010. Interest expense as a percent of taxable income before interest was 53.4% for non-financial corporations, during the recession, well within the range of 41.2% to 61.9% between 1987 and 2008. Interest expense as a percentage of net income before interest of corporations other than S corporations, RICs and REITS was 60.8% in 2008, again well in the range of 37.8% to 80.9% between 1991 and 2008. The effect of the double taxation of corporate income can be seen in the differences in the ratios of C corporations, S corporations and partnerships. pp. 60-62.

<sup>3</sup> For example, see Michael Devereux and Ruud de Mooij, (2011), "An applied analysis of ACE and CBIT reforms in the EU?" *International Tax and Public Finance*, Vol. 18, pp. 93-120.

<sup>4</sup> JCT pamphlet, *Present Law and Background Relating to Tax Treatment of Business Debt*, describes current law rules specifically "designed to limit the tax benefits that can be obtained from interest deductions to protect the tax base" and "resulting tax arbitrage (which) can shelter otherwise taxable income." p. 2.

<sup>5</sup> For example, the 1984 Treasury I proposal would have adjusted both interest expenses deducted by borrowers and interest income received by lenders for inflation to remove the effects of inflation from the income tax. These proposals, however, were dropped as the tax reform debate leading up to the Tax Reform Act of 1986 evolved.

<sup>6</sup> There are various rules designed to distinguish between debt and equity finance. For example, see Joint Committee on Taxation (2011).

<sup>7</sup> The reduction in the tax rate at which borrowers deduct interest expenses under the Wyden-Coats tax plan relative to the tax rate at which lenders pay tax on interest income would help alleviate policy concerns over the tax rate differential between lenders and borrowers.

<sup>8</sup> For example, see U.S. Department of the Treasury, *Tax Reform for Fairness, Simplicity, and Economic Growth: The Treasury Department Report to the President, November 1984*, November 1, 1984, pp. 77, 111-116.

<sup>9</sup> The details of the President's proposal to tax large flow-through business were not provided in the Framework, but several options were included in the August 2010 report, *The Report on Tax Reform Options: Simplification, Compliance, and Corporate Taxation*, released by the President's Economic Recovery Advisory Board (PERAB).

<sup>10</sup> Integrated corporate-individual effective tax rates provide a more complete picture by taking into the double tax on corporate profits. The top integrated corporate-individual tax rate on dividends would be 41.29 percent under the Wyden-Coats plan, as compared to 44.75 percent under current law or under the President's policies.

<sup>11</sup> For example, see President's Framework for Business Tax Reform, February 2012; Congressional Budget Office, "Background Paper: Computing Effective Tax Rates on Capital Income: Data: Corrected\_ETRs.xls," December 2006; Jane Gravelle, Testimony before the US Senate Finance Committee, "Tax Reform Options: Incentives for Capital Investment and Manufacturing," Congressional Research Service, March 6, 2012.

<sup>12</sup> Beginning in 2013, high-income individuals will pay an additional 0.9 percentage points on earned income over \$200,000 (\$250,000 for married couples), an increase in the Medicare tax to 3.8%. The Medicare tax will also be applied to financial income for high-income taxpayers beginning in 2013.

<sup>13</sup> The estimates assume an inflation of 2 percent and a 4.0 percent real rate of return.

<sup>14</sup> Some of the difference in METRs between the corporate and noncorporate sectors is also attributable to the benefits of the graduated individual income tax rate schedule in the noncorporate sector.

<sup>15</sup> The inflationary component of interest can also lead to a lower METR for debt financed investment if lenders are taxed at rates below the rates at which interest expenses are deducted.

<sup>16</sup> See "Estimated revenue effects of S. 3018, The Bipartisan Tax Fairness and Simplification Act of 2010," November 2, 2010. These estimates are for the earlier Wyden-Gregg tax plan, which included an identical limitation on the deductibility of interest expenses.

<sup>17</sup> A lower corporate tax rate, however, could have other beneficial effects. Research has found that the corporate income tax can have an impact on where multinational companies choose to locate their production facilities and on the size of these investments (Devereux, Michael and Ben Lockwood, 2006). Foreign direct investment has also been found to be highly sensitive to cross-country differences in after-tax returns (Mooij and Sief Ederveen, 2005). With increasing globalization and the mobility of income, companies are able to arrange their affairs in a manner that reduces taxable income or increases deductions in response to differences in corporate tax rates across countries. Research has found that a reduction in the corporate tax rate could increase the size of the corporate income tax base, possibly financing further reduction in the tax rate with additional economic benefits.

<sup>18</sup> This and many other assumptions are based on Mackie (2002).

<sup>19</sup> More recent empirical research by Hassett and Newmark (2008) suggest that the new view may be more prevalent among firms.

<sup>20</sup> The estimates presented below assume the same financing across asset types or the corporate and noncorporate sectors even though structures may be more reliant on debt finance than equipment. Alternatively, investment in the noncorporate sector may be more reliant on equity finance. Differences in leverage may alter some of the differences in METR reported below.