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The U.S. Corporate Income Tax: A Primer for U.S. Policymakers

James P. Angelini, PhD, CPA
David G. Tuerck, PhD

THE BEACON HILL INSTITUTE AT SUFFOLK UNIVERSITY
8 Ashburton Place Boston, MA 02108
Tel: 617-573-8750, Fax: 617-994-4279
Email: bhi@beaconhill.org, Web: www.beaconhill.org

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Executive Summary

The U.S. corporate income tax is ripe for change – that's what you will believe, anyway, if you
follow the news as it relates to this subject. There is concern on the part of both major parties
about the fact that the U.S. rate is the highest among OECD countries and that the U.S. policy of
taxing corporations on a global, rather than a territorial, basis is causing trillions of dollars in
corporate profits to be stranded in foreign banks.

In this paper we describe how corporations and other business entities are taxed in the United
States. We report statutory tax rates for the United States and other countries and discuss
common U.S. corporate and business income tax avoidance schemes. We calculate an average
effective tax rate for the United States and show how marginal effective tax rates affect
investment decisions through their effects on the cost of capital. We report marginal effective
tax rates for the United States and other countries and show how changes in statutory tax rates
can affect investment, given different assumptions about the sensitivity of investment to changes
in the cost of capital.   We consider how the distributional effects of corporate taxes vary with
the sensitivity of savers to inter-country differences in the return to saving. Finally, we consider
some alternative tax reform proposals.

Despite a range of agreement among economists on these details, there are vast differences
between the tax reform proposals now under consideration. There is agreement that the rate is
too high but disagreement about whether and how a reduction in the rate should be matched with
a broadening of the base. There is agreement about the importance of encouraging corporations

to repatriate their profits but disagreement about whether to shift to a territorial basis or merely to double down on U.S. corporations by prohibiting "inversions" that are aimed at making it easier to shift profits to low-tax foreign countries. Progress toward eliminating these disagreements is difficult in view of the fact that corporations continue to serve as a target of populist resentment.

Notwithstanding this sentiment, we call for the abolition of the corporate income tax. That solution, we argue, emerges in part from a consideration of the schemes in which businesses engage in order to avoid the high rates that apply to corporations. It emerges also from a consideration of the fact that corporate taxation is double taxation and is, as such, easily underestimated and misunderstood for its effects on capital formation and income distribution.

We explore a model of the economy in which taxes on corporations and on corporate dividends combine to impose a substantial disincentive to corporate investment – a disincentive whose burden falls partly on workers and partly on savers. While the literature is ambiguous on the size, distribution and economic consequences of this burden, there is no doubt that the corporate tax (1) discourages corporate investment, (2) operates to shrink the economy and (3) falls, in part (if not in major part) on workers.

These are features of any tax on capital income, but, because the corporate tax lends itself to politically convenient high rates, there is a strong case for its abolition. But can we abolish the corporate tax without hamstringing lawmakers in their efforts to make the tax system more efficient and equitable according to their own vision of what those goals mean?

The answer is that we can do exactly that by considering two, very different but equally respectable approaches to tax reform: One follows the "accretion" approach, whereby taxes are imposed on individual income, irrespective of whether that income goes toward consumption or saving. Another follows the "consumption" approach, whereby the tax falls only on consumption. Both are time-honored approaches to the general idea of tax equity, and both have their advocates and critics. Neither, however, supports or depends upon the idea of a double tax on income received by corporations and then again by corporate shareholders.

Congress could take the accretion approach by simply abolishing all taxes on business income and taxing only individuals on both their capital and labor income. After reviewing several current proposals for tax reform, we find two – a proposed "flat tax" and a proposed national sales tax called the "FairTax" – that would take the consumption approach. Under the flat tax, businesses would expense and, in that fashion, untax net investment. Under the FairTax, the government would eliminate all business taxes and tax only retail sales of goods and services, thus also, in effect, untaxing net investment.

It thus turns out that there is no need to tax corporate income differently from other income under either approach. The corporate income tax serves only to obscure and worsen the negative consequences of any tax system for economic growth and tax fairness. It serves no purpose except to exploit popular resentment toward corporations to political ends that have no bearing on any legitimate goal of tax policy.

I. Introduction

It is a rare event in recent memory when there is bipartisan agreement on tax reform. Such is said to be the case with corporate tax reform.

President Obama's Bipartisan Debt Commission recommended reforming the "uncompetitive" corporate tax code (IRS, 2012a; NCFRR, 2011). In an opinion editorial published in the *Wall Street Journal,* Gene Sperling, former director of the President's National Economic Council, observed that, in the matter of corporate tax reform, consensus remained possible. Sperling noted that Representative David Camp, Chairman of the Republican-majority House Ways and Means Committee, has expressed his own aim to reform the corporate tax code. "There is no question that corporate tax reform in 2015 would be a heavy lift," Sperling observes. "But it might be a little less onerous if there were more focus on the amount of common ground that President Obama and Rep. Camp have started to unearth"(Sperling, 2014).

Yet, as another commentator has observed, partisan "rhetoric" and posturing" stand in the way. In order to close the divide that characterizes current national politics and to bring about reform, it is necessary to unearth the economic realities at issue: "Political discourse on reform should be based on facts, economic reasons and benefits to businesses and public at large" (Mathur, 2015).

The purpose of this primer on the U.S. corporation income tax is to provide a framework with which "political discourse on reform" can be conducted. We will state our own position at the outset: We believe the corporate income tax should be repealed, and largely because the political justification for taxing corporations lies in the difficulties that arise – and that we will identify in some detail – in determining who pays it and with what consequences for the economy.

One thing is certain: Corporations do not pay taxes. Only people pay taxes. No one thinks that a homeowner's property pays property taxes – the homeowner does. The corporation itself is just a legal veil behind which the executives in charge serve at the will of its owners, in which capacity they try to minimize the corporation's tax liability. Corporations don't pay the corporate income

tax. They just pass it along in the form of lower dividends to shareholders, lower wages to employees, and higher prices to consumers.

There appears to be agreement in principle that U.S. corporate tax rates have become too high largely because corporations have come to be seen as an easy target for raising tax revenue. However, agreement in principle is a far cry from agreement on details. In order to understand why reform is needed it is necessary to understand the details relating to U.S. business taxation in general and corporate taxation in particular.

In this report, we provide a legal and economic analysis of the U.S. corporate income tax. We begin, in Section II, with comparative data on business receipts and tax returns for alternative forms of business organization, distinguishing in the process between taxpaying and conduit business entities. We estimate the total amount of tax revenue that the U.S. federal government collects both on corporations and on dividends and capital gains received by corporate shareholders, pointing out the resulting double taxation.

In Section III, we distinguish between effective average and effective marginal tax rates on corporations, a distinction that is important for understanding how tax-law changes affect corporate investment. There we provide an estimate of the effective average tax rate on corporations, postponing to Section VIII a consideration of the effective marginal rate. We also provide comparative estimates of tax competitiveness and corporate tax rates by country.

U.S. tax law creates huge incentives for business entities to engage in complex tax avoidance strategies, some examples of which we provide in Section IV. These examples are useful for consideration of the tax reform proposals that we review in Sections XIII and XIV, and under which the need for investing heavily in tax avoidance would be greatly reduced. Section V sets the stage for putting the corporate tax under the lens of economic analysis: The double taxation of income that is inherent to the corporate tax creates a need for tools that show how taxes at the corporate and at the individual level affect the incentives of corporations to engage in capital formation.

Section VI provides a discussion of the Laffer curve and of evidence that both the United States and other countries have driven their corporate taxes so high that further increases might result in revenue losses. Section VII deepens the analysis by constructing a hypothetical supply and demand model for capital and labor, with which we can illustrate how a rise in the cost of capital, as brought about by a rise in the corporate tax, can diminish production, capital formation, wages and employment.

Section VIII then takes up the question of how we measure the cost capital, given that federal taxes impinge on both corporate and individual income. There we provide examples of how economists address this question and provide estimates of marginal effective tax rates for the United States and other countries. We show how changes in the effective marginal tax rate can affect capital formation.

Section IX establishes the link between saving and business investment. We spell out this link as an accounting relationship and then examine the individual choice calculus as it relates to the saving decision. We discuss the sensitive of savers to changes in the after-tax return to saving and the implications of that for corporate tax policy.

This leads to a discussion in Section X of "who pays the corporate tax?" In Section VII we limit our analysis to the conditions under which the entire burden of the tax is on labor. Whether the burden is on savers (shareholders) or labor depends, however, on the degree to which savers can move their capital from one country to another in response to differences in risk and after-tax rewards. The more readily they can do so, the greater the burden on labor. The less readily they can do so, the greater the burden on savers. The debate over that question is old and still unresolved. We provide some recent estimates, from the literature, of where the burden falls.

How much harm do corporate taxes inflict? That is the subject of Section XI, which provides estimates that range from "minimal" to substantial.

Having (we believe) established the principle that the existing corporate income tax and the system of double taxation it creates are a burden on corporate resources and on the economy, we

take up the question of tax reform in Section XII. There we begin with fundamentals, observing that there are two different ways to approach the problem. One is based on the Haig-Simons "accretion" principle and the other on the consumption principle. There are pros and cons associated with both, but any decision to reform the tax system requires a choice of one or the other. One reason the existing corporate tax code (along with the rest of the federal tax code) is so burdensome is that lawmakers have been unwilling to make that choice but instead have created a tax code replete with compromises between the two.

It turns out that the difference between the two is surprisingly straightforward: Taxes based on the accretion principle fall on income received by individuals for providing the services of labor and capital. Taxes based on the consumption principle fall on exactly the same income *minus* net investment by business firms.

Section XIII examines some tax reform proposals now before Congress. The proposals considered there include the tax changes proposed by the President in his 2016 budget, the proposal offered by Congressman Dave Camp in 2014, the "FairTax," the flat tax and the valued added tax. We also consider proposals to limit corporate inversions (under which U.S. corporations turn themselves into foreign corporations to avoid the relative high U.S. tax) and proposals to achieve tax integration.

Section XIV concludes with two suggestions for going forward. Policy makers could eliminate the existing federal tax code in favor of a consumption tax, and thereby untax net investment. They could do that by enacting the FairTax or the flat tax. Alternatively, they could eliminate the existing federal tax code in favor of an accretion tax, under which net investment would continue to be taxed and all taxes would be paid by individuals on their personal income. In either case, the corporate income tax, as we know it today, would disappear.

II. Business Taxation in the United States

Businesses in the United States may be operated as sole proprietorships, partnerships or corporations. The choice is dependent upon non-tax as well as tax factors. Examples of non-tax

factors that can influence the form of business are the number of owners, the desire for limited liability and maintenance costs. Table 1 presents all U.S. business forms with their total receipts and number of taxpayers. C-corporations represent 64% of total receipts yet only 4% of the total returns filed. Sole proprietors represent 70% of the returns filed yet only 4% of total receipts.

Table 1: Percentage of Total Business Receipts and Returns by Entity Type - 2012

	Total Receipts ($000)	%	# of Returns	%
C-corporations	22,830,809,333	64	1,635,369	4
S-corporations	6,572,866,128	19	4,205,452	11
Partnerships	4,763,737,266	13	3,388,561	9
Sole Proprietors (Sch. C)	1,279,684,288	4	26,202,494	70
Farming (Sch. F)	36,862,274	0	1,907,750	5
Total	35,483,959,289	100	37,339,626	100

Source: Internal Revenue Service, *Statistics, 2012, Corporation, Individual and Partnership Tax Returns*

There are only three types of business entities subject to tax under the federal income tax: Individuals operating as sole proprietors; C-corporations; and estates and trusts (fiduciaries). Each has its own tax rate schedules and rules. A conduit entity is one that passes all its income (or losses) through to owners. Entities are either taxpaying entities or conduit entities.

Conduit entities include partnerships, S-corporations and trusts. For partnerships and S-corporations, the income or loss is passed through to the partners or shareholders and is taxable to them. A partnership never pays any tax. The S-corporation usually does not pay tax, unless it was once a C-corporation and converted to "S" status after the first year of its life. Trusts are both taxpaying and conduit entities. Income is taxed to the beneficiaries if it is distributed to them. If it is retained by the trust, the trust pays the tax. Losses do not flow through to beneficiaries but are carried forward by the trust to offset income in future years. Retaining income at the trust level is expensive because of very progressive trust rates. A trust hits the top tax rate of 39.6% at only $12,300 for 2015. A single individual would not hit that rate until he had $413,200 of taxable income.[2]

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[2] Limited Liability Companies (LLC's) can elect to be taxed as almost any type of entity. The law does not recognize LLC's. Under ''Check-the-box'' regulations that became effective in 1997, an LLC will be taxed as a partnership unless it affirmatively elects to be taxed as a C or S-corporation via Form 8832. If it has only one

The income of the partnership or the S-corporation flows through and is taxable to the partners or shareholders *regardless* of how much they have taken out as draw (partnership), or dividends (S-corporation) during the year. The income is taxable to the owners whether or not they actually get it. This treatment can create cash flow problems for minority shareholders or partners, who have to pay tax on income they may not receive. If S-corporation taxable income is $100,000, the shareholders will be taxed on $100,000 on their personal returns, even if they did not receive a penny from the S-corporation in dividends. They are also taxed on only $100,000 even if they received a dividend of $150,000. The same is true for partnerships. Therefore, it is a flow of income, not cash. The cash paid out by an S-corporation as a dividend is usually not taxable and is ignored. This is not true for trusts or C-corporations. Dividends from a C-corporation are usually taxable.[3]

There is a big difference between an S-corporation and a partnership in how Social Security taxes are imposed. For an S-corporation the flow-through of income, or payment of dividends, is not subject to self-employment tax. For a partnership the flow-through of income is subject to the tax. This is a 15.3% difference on the first $118,500 and 2.9% after that (plus an extra 0.9% tax on higher income taxpayers starting in 2013). Dividends from, and earnings of, C-corporations are not subject to Social Security taxes.[4]

When there are losses in a partnership or S-corporation these also flow through and are potentially deductible. Again, these losses flow through to owners regardless of how much cash they have taken during the year as partner or employee compensation. Losses do not flow through to shareholders of a C-corporation. They are simply carried forward.[5]

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member it will be considered a disregarded entity and taxed as a sole proprietorship, unless it elects to be taxed as a C or S-corporation.

[3] Distributions from a C-corporation are taxable as dividends to the extent of the corporation's "earnings and profits," per §312 and§ 316. (All references to section numbers refer to the Internal Revenue Code, per 26 U.S.C.) If the corporation does not have any earnings and profits the distributions are tax free up to the shareholder's stock basis and capital gain for the excess.

[4] High income taxpayers pay a 3.8% Net Investment Income Tax, which is essentially the Medicare Health Tax.

[5] For C-corporations, all deductions must be "reasonable" in amount. Dividends disguised as wages, interest or rent can be reclassified as non-deductible dividends. For what is considered "reasonable," see the discussion of Small Business Tax Avoidance, below, pp. 15-16.

S-corporations are regular corporations whose shareholders have elected, within the first 75 days, to be taxed under Subchapter S of the Internal Revenue Code. An S-corporation can have only one class of stock outstanding and no more than 100 eligible shareholders. Despite these limitations, about 72% of all active corporate tax returns are filed by S-corporations (IRS, 2012b).[6]

Domestic C-corporations are subject to tax on their taxable income under Chapter 11 of the Internal Revenue Code.[7] One of the unique characteristics of C-corporations is that earnings are usually subject to double taxation. The corporation pays tax on its taxable income. If a portion of that profit is distributed as a dividend, the distribution generally is taxed again to the shareholder. A C-corporation that receives a dividend from another C-corporation generally pays tax on only 30% of the amount received.[8] This reduces triple taxation.

The corporate income tax represents about 14% of total tax revenue, when double taxes are included. See Table 2.

Table 2: C-Corporation Percentage of Total Receipts - 2012

	Tax Collected ($000)
C - Corporations	267,505,564
Qualified Dividends and 15% Capital Gains	96,725,388
Net Short term Capital Gains	0
Non-Qualified Dividends	27,281,520
Total Corporate Receipts	391,512,472
Total Tax Receipts	2,730,900,000
Total Corporate Receipts as % of Total Tax Receipts	14%

  *Dividends, LTCG and STCG are individual taxes.
  Source: Internal Revenue Service, *Statistics of Income.*

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[6] See Table 1.

[7] Tax-exempt organizations, such as certain schools, hospitals, churches and similar charities are organized as corporations, but they are not subject to income tax, except on their unrelated business income. We are also not including other businesses formed as C-corporations, but that receive special conduit tax treatment, similar to S-corporations. These include Regulated Investment Companies (mutual funds), Real Estate Investment Trusts, and others.

[8] See §§243-246, Dividends Received Deduction.

To illustrate this double taxation, assume that John owns 100% of the stock of Widgets, Inc. (a C-corporation) which has taxable income for the current year of $100,000. Widgets, Inc. would pay a corporate tax of $22,250. If Widgets distributes the remaining $77,750 to John, he will pay a tax of as much as 23.8% on that, or $18,505.[9] Therefore, the $100,000 is taxed twice for a total corporate and individual tax of $40,755 or 40.75%.[10] If the corporation had made a timely "S" election, or formed a partnership, the corporate tax of $22,250 would have been avoided. However, in an S-corporation, the $100,000 of flow-through income would be taxed as *ordinary* income up to the highest individual rate (39.6%), not the lower dividend rate (in this case 23.8%). Any S-corporation dividends paid would not be normally taxable.[11]

C-corporations also pay twice on liquidation. When they liquidate they pay tax at the corporate level on the gain on any appreciated assets, and the shareholders pay tax again when they receive the liquidating dividend. It is usually not advisable for a C-corporation to acquire real estate, since real estate tends to appreciate.

A basic principle of sound tax policy is horizontal equity, i.e., two taxpayers with the same income and alike in all other ways should pay the same tax. Clearly, the variability in the taxation of different legal business forms indicates we are not meeting that goal. This is especially true for those businesses which must, or choose to, operate as C-corporations. Even within the C-corporation area the goal of horizontal equity is not met. C-corporations with multinational operations have much lower effective tax rates than corporations with only domestic operations. (More on why below.)

III. Statutory vs. Effective Corporate Tax Rates

There is no more obvious reason to reform corporate taxes than the disparity between statutory and effective corporate tax rates. The statutory U.S. tax rate that applies to the highest income category is 35%. Rates in other brackets range from 15% to as high as 39% (because of a surtax).

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[9] Tax rates on qualified dividends and long term capital gains can be 0%, 15%, 18.8% and 23.8%, depending upon income level. We assume the highest rate.

[10] Below, Section VIII, we show how this double taxation enters into the determination of the cost of capital.

[11] Dividends from an S-corporation can be taxable if they are so large that they exceed the shareholder's stock basis.

Because there are several brackets and many differences between taxpaying entities in their ability to minimize taxes, effective rates vary across entities. The effective average tax rate (EATR) equals total tax liability, across all entities, divided by taxable and non-taxable income. The effective marginal tax rate (EMTR) equals the change in tax liability, across all entities, that results from a one-dollar change in taxable and non-taxable income.[12]

Because there are eight brackets, along with various phase-outs, the average rate is lower than the top statutory rate for many taxpayers. Estimates of effective average rates for C-corporations vary considerably, as there is disagreement on the methodology. Estimates range from about 13% to 28%, but there is general agreement that U.S. rates are the highest in the industrial world (Sullivan, 2013).[13] The wide variance is due to how the rates are calculated, what income is included and whether the corporation is multinational. Glaringly absent from these estimates is any consideration of the double taxation that is inherent to the code, in particular, the tax paid by shareholders on dividends and on capital gains. We estimate that taxes paid on dividends would add 17 percentage points to the effective C-corporation tax rate. If we assume a 13% C-corporation effective average rate, then the effective average tax rate, including taxes on dividends and capital gains, is 30%. See Table 3.[14]

Table 3: C-corporation Effective Average Tax Rate (%)

C-corporations	13
Dividends and Capital Gains	17
Total	30

Source: Internal Revenue Service, Statistics of Income.

It is a political sleight of hand to claim that the average effective corporate tax rate is low, as justification to raise the rate, or the tax base, without considering the taxes paid on dividends or on capital gains through stock sales. The entire corporate tax burden is at issue, not just part of

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[12] We consider some variations on this definition below, pp. 28-29.
[13] See also (Mintz & Chen, 2014).
[14] *Statistics of Income—2012*, Individual Income Tax Returns, Line Item Estimates, Internal Revenue Service, Washington, D.C. Seventy-eight percent of all dividends were "qualified" dividends, which are taxed at rates ranging from 0% to 23.8%. (IRS, 2012c).

it. Furthermore, any reform of corporate tax law should also include businesses operated as S-corporations. Although they are not usually subject to double taxation, the income that passes through to shareholders is subject to high individual tax rates.[15]

C-corporations organized in the United States are subjected to the highest statutory corporate tax rate in the industrialized world, at 35%.[16] In addition, their earnings and appreciated assets are subject to double taxation. This double taxation is fairly unique and puts the United States at a competitive disadvantage versus most other countries. Table 4 ranks 34 Organization for Economic Cooperation and Development (OECD) countries on international tax competitiveness for a variety of taxes. Overall, the United States ranks 32nd out of 34 countries, ahead of only Portugal and France, dead last on international tax competiveness and next to last on corporate taxes.

Table 5 presents corporate tax rates for OECD countries (OECD, 2015). The central rate is the top national or federal statutory rate, net of tax savings due to deductions for local government (sub-central) taxes. The U.S. has the highest combined rate of 39%. Almost 99% of C-corporations are in the 35%-or-above tax bracket. (See Table 6.)

However, there are ways to avoid the double tax on "C" corporations, and this game is being played with great fervor by most C-corporations, some with great success. The tax avoidance schemes employed by these corporations create massive economic distortions in the allocation of capital and labor in the United States and account for the large disparity between the statutory corporate tax rate and the effective rate.

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[15] Up to 39.6% and perhaps 43.4% if the 3.8% Net Investment Income Tax applies. Additional increases in the marginal rate can occur due to phase-out of deductions and credits and state and local corporate taxes. (Iowa has the highest state corporate tax rate, at 12%.) S-corporation taxable income can be taxed to the corporation also, if the S-corporation was once a C-corporation and certain conditions are met.

[16] U.S. corporate tax rates start at 15% on the first $50,000 of taxable income and range as high as 39%, before stabilizing at 35% on taxable income above $18.3 million.

Table 4: 2014 International Tax Competitiveness Index Rankings

Country	Overall Score	Overall Rank	Corporate Tax Rank	Consumption Taxes Rank	Property Taxes Rank	Individual Taxes Rank	International Tax Rules Rank
Estonia	100	1	1	8	1	2	11
New Zealand	87.9	2	22	6	3	1	21
Switzerland	82.4	3	7	1	32	5	9
Sweden	79.7	4	3	12	6	21	7
Australia	78.4	5	24	7	4	8	22
Luxembourg	77.2	6	31	5	17	16	2
Netherlands	76.6	7	18	11	21	6	1
Slovak Republic	74.3	8	16	32	2	7	6
Turkey	70.4	9	10	26	8	4	19
Slovenia	69.8	10	4	25	16	11	13
Finland	67.3	11	9	15	9	23	18
Austria	67.2	12	17	22	18	22	4
Korea	66.7	13	13	3	24	10	30
Norway	66.7	14	20	23	14	13	12
Ireland	65.7	15	2	24	7	20	26
Czech Republic	64.4	16	6	28	10	12	24
Denmark	63.7	17	14	14	11	28	20
Hungary	63.5	18	11	33	20	17	3
Mexico	63.3	19	32	21	5	3	32
Germany	62.8	20	25	13	15	32	10
United Kingdom	62.2	21	21	19	29	18	5
Belgium	59.6	22	28	29	22	9	8
Iceland	57.1	23	12	16	28	29	16
Canada	56.1	24	19	10	23	24	27
Japan	54.8	25	34	2	26	25	25
Poland	53.8	26	8	34	27	15	23
Greece	53.3	27	15	27	25	14	28
Israel	53.2	28	26	9	12	27	31
Chile	51.1	29	5	30	13	19	33
Spain	50.8	30	27	18	30	31	14
Italy	47.2	31	23	20	33	33	15
United States	44.6	32	33	4	31	26	34
Portugal	42.9	33	29	31	19	30	29
France	38.9	34	30	17	34	34	17

Source: Tax Foundation, 2014 International Tax Competitiveness Index, http:/taxfoundation.org/article/2014-international-tax-competitiveness-index

Table 5: 2015 Corporate Income Tax Rates – OECD countries

Country	Central Rate	Sub-Central Rate	Combined Rate
Australia	30.00	..	30.00
Austria	25.00	..	25.00
Belgium	33.99	..	33.99
Canada	15.00	11.30	26.30
Chile	22.50	..	22.50
Czech Republic	19.00	..	19.00
Denmark	23.50	..	23.50
Estonia	20.00	..	20.00
Finland	20.00	..	20.00
France	34.43	..	34.43
Germany	15.83	14.35	30.18
Greece	26.00	..	26.00
Hungary	19.00	..	19.00
Iceland	20.00	..	20.00
Ireland	12.50	..	12.50
Israel	26.50	0.00	26.50
Italy	27.50	..	27.50
Japan	22.55	9.56	32.11
Korea	22.00	2.20	24.20
Luxembourg	22.47	6.75	29.22
Mexico	30.00	..	30.00
Netherlands	25.00	..	25.00
New Zealand	28.00	..	28.00
Norway	27.00	..	27.00
Poland	19.00	..	19.00
Portugal	28.00	1.50	29.50
Slovak Republic	22.00	..	22.00
Slovenia	17.00	..	17.00
Spain	28.00	..	28.00
Sweden	22.00	..	22.00
Switzerland	6.70	14.45	21.15
Turkey	20.00	..	20.00
United Kingdom	20.00	..	20.00
United States	32.85	6.15	39.00

Source: OECD. Corporate Income Tax Rates, http://stats.oecd.org/Index.aspx?QueryId=58204

Table 6: C-corporations % of Tax Paid by Bracket - 2012

Taxable Income ($)	Rate (%)	Income Tax After Credits ($000)	%
0 - 50,000	15	2,325,904	0.87
50,000 - 75,000	25	538,955	0.20
75,000 - 100,000	34	563,446	0.21
100,000 +	35-39	264,077,260	98.72
Total Tax		267,505,565	

Source: Internal Revenue Service, Statistics of Income, Table 22

IV. Corporate Income Tax Avoidance

Techniques that C-corporations use to avoid double taxation of their earnings can be divided into two groups: those used by large businesses and those used by small businesses.

Large Business Tax Avoidance

Large multinational corporations can avoid corporate taxes by using a variety of international tax schemes. Most countries employ a "water's edge" rule that taxes only income earned in the country of residence. A unique aspect of U.S. corporate tax law is that a C-corporation is taxed on worldwide income, not just the income it created in the United States. U.S. law taxes the foreign income only when it is repatriated into the United States (usually at a 35% rate). Therefore, one way to avoid the U.S. corporate income tax is not to repatriate the income from a foreign subsidiary – that is if the parent corporation can avoid rules that try to prevent deferral of income in this way.[17] Otherwise, this income can be deferred indefinitely. It is estimated that U.S. corporations have almost $2 trillion of earnings parked in other countries, which is an increase of 12% over 2013 (Rubin, 2015).

Because the United States has such a high corporate tax rate, multinationals use a variety of tax avoidance techniques to shift income from the United States to countries with lower rates.

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[17] Foreign earned income (Subpart F income) can be taxed immediately to U.S. shareholders if a foreign corporation is deemed to be a controlled foreign corporation (CFC). A CFC is a foreign corporation that meets a control test per §§951(b), 957(a), 958(a) and (b). U.S. shareholders who own at least 10% of the CFC are taxed immediately on their share of Subpart F income, even if it is not distributed.

Although U.S. tax law permits a foreign tax credit to help alleviate double (really triple) taxation of foreign income, the credit can't be larger than the U.S. tax. Since the U.S. tax rate is so high, the overall corporate tax burden is reduced by reducing the amount of income subject to the U.S. tax as much as possible.

Corporate "inversion" is a technique that has received a great deal of recent scrutiny. In this technique a corporation simply shifts its headquarters and country of residency to a country with a lower tax rate than the United States, akin to an individual giving up U.S. citizenship.[18] Since the corporation is not domiciled in the United States, it is not subject to tax on its worldwide income, but only on the income earned in the United States. The corporation thus creates its own "water's edge" system of taxation. The Treasury department recently issued new regulations in an attempt to curb this behavior. These rules have slowed down the number of inversions. However, the new rules have made re-domiciling more difficult and costly, but not impossible.[19]

Most other tax avoidance techniques for multinational corporations involve shifting income from the high U.S. tax rate to a lower rate in another country. For example, it is common to transfer intellectual property, such as trademarks or patents, to a related corporation in a low or zero-tax rate country. The U.S. company pays deductible royalty fees for the use of the property, thus lowering its U.S. tax. The royalty income is either not taxable in the foreign country or taxed at a lower rate. The same goal is seen in transfer pricing schemes whereby income and deductions are allocated between related companies in different countries. For example, the U.S. parent corporation buys inventory at over-inflated prices from a foreign subsidiary, thus increasing its cost of goods sold deduction, or sells inventory at lower than normal prices. Interest charged on intercompany loans can be artificially low or high to shift income. The IRS and the tax authorities of other countries have the right to adjust income and deductions to an "arm's length" standard to properly reflect income. In other words, the transactions should reflect prices that

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[18] U.S. citizens are also taxed on their worldwide income. In 2014 the number of citizens renouncing their citizenship increased dramatically.
[19] Notice 2014-52, 2014-42 IRB 712.

would occur if the parties were not related.[20] Transfer pricing abuse has been on the radar of the IRS for some time, and corporations are routinely audited.

A final tax avoidance measure that is used by both small and large corporations is to engage in debt instead of equity financing. Interest on debt is deductible while dividends on equity are not. The economic distortion caused by this simple distinction cannot be overstated. It is largely responsible for the huge amount of debt on U.S. balance sheets and the preference for leveraged buyouts. An additional advantage of receiving interest on the debt is that the interest income is not subject to payroll taxes, except for the 3.8% net investment income tax for some taxpayers. Also, repayment of the principal is tax free, whereas redemptions of stock are usually taxable. However, if appreciated assets are transferred into the corporation, the receipt of debt will trigger a gain to the shareholder.

Small Business Tax Avoidance

Let's consider some of the advice tax accountants give their small-business clients.

a. *Elect "S" status.* An S-election must be made within the first 75 days (2.5 months) of the corporation's tax year for it to be applicable for that year. If that deadline is missed the corporation is a C-corporation for that year. The corporation can ask the IRS for a late election, but there is no guarantee that the agency will grant it. If there is appreciated property in the corporation, the shareholders will have to wait five years to liquidate the corporation to avoid a corporate-level tax, even though it is an S-corporation. This is called a "built-in gains tax," and it prevents C-corporations that want to liquidate from electing S status just before the liquidation to avoid the corporate-level tax.[21] Another benefit to electing S status in the first year of the corporation's life is that losses, which are likely in the first year, will flow through and be potentially deductible by the shareholders. If the S-election is missed and made in the second year, the first year losses will be stuck in the C-corporation until the corporation is liquidated, which may not be for many years. The

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[20] In the United States, §482 gives the IRS the rather broad authority to reallocate income and deductions between related companies.
[21] §1374.

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shareholders will not get the tax benefit of those first year losses. Due to the restriction on the number of shareholders allowed in an S-corporation (100) this is a viable option only for small business.

b. *Don't pay dividends, since they are taxed twice*. The IRS has a weapon against this form of tax avoidance called the Accumulated Earnings Tax.[22] The Accumulated Earnings Tax is an extra tax at a 20% rate, which is assessed on corporations that accumulate their income and never pay dividends. There are ways to avoid it.

c. *Compensate shareholding employees by paying salaries rather than dividends.* Compensation is deductible and can eliminate the corporate tax. However, all deductions have to be reasonable in amount, so the salary has to be reasonable in amount for the duties performed by the shareholder/employee. If the shareholder is not an employee then this won't work. The IRS will attack "unreasonable" compensation and claim that part of it is disguised dividends.

d. *Pay deductible rent to shareholder/lessors, instead of dividends*. This lowers the corporate tax, if the shareholder leases property to the corporation. This is another reason why shareholders should not put real estate in a C-corporation. There is no requirement that all assets be transferred to the corporation. The other big advantage of extracting rents from the corporation is that rents (of real estate) are not subject to payroll taxes. The shareholder/employee could reduce salary and take out the difference as rent and save the 15.3% FICA & MHI taxes (some high income taxpayers may be subject to a 3.8% Net Investment Income Tax on the rent). In addition, the real estate will generate depreciation deductions for the shareholders, which are non-cash.

V. The Drive to Eliminate Double Taxation

The elimination of the double taxation of C-corporations and their shareholders is gaining ground as a serious policy goal. On July 26, 2007, the Department of the Treasury hosted a conference entitled, *Global Competitiveness and Business Tax Reform.* A report on the conference summed up its findings as follows:

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[22] §531.

The conference highlighted the need for reform. The participants stressed that the business tax system has not kept pace with changes in the world economy. The United States has become increasingly linked to the world economy through trade and investment….Several countries have responded to the increasingly competitive environment by reforming their corporate incomes taxes and reducing corporate income tax rates. The conference participants expressed a conviction that in order for U.S. companies and U.S. workers to compete and thrive in today's global economic climate, the U.S. business tax system also must adapt to these changes.

The Treasury department has stated:

The multiple taxation of corporate profits distorts a number of economic decisions important to a healthy economy. It distorts corporate financing choices by taxing interest earned on corporate bonds less heavily than corporate profits. As a result, corporations are induced to use more debt than they otherwise would. It distorts corporate distribution policy by taxing dividends more heavily than corporate earnings that are retained and later realized as capital gains (primarily due to the deferral of gains until sale and the opportunity for step-up of stock basis at death). As a result, it confounds market signals of a company's financial health and may have important implications for corporate governance. It also penalizes investment in the corporate form by taxing corporate income more heavily than other capital income. Consequently, it discourages investment in and through corporations in favor of investment in other less heavily taxed business forms (such as partnerships) or in non-business assets (such as owner-occupied housing). The double tax on corporate profits was reduced in 2003 with the enactment of lower tax rates on dividends and capital gains, although this relief, which focused primarily on equity-financed investment, did not completely remove the double tax (Treasury, 2007).

Not surprisingly, corporations expend an enormous amount of time and money navigating the tax avoidance minefield. The resources spent on the tax avoidance industry constitute a dead loss of economic activity.

Efforts to stop tax avoidance will have only marginal success. Why? Because they ignore the underlying problem. The U.S. corporate tax system is not globally competitive. Our corporations are fleeing. One study estimates that we have lost $179 billion in business assets to foreign takeovers in the past ten years, primarily caused by our high tax rate.[23] Had the rate been only 10% lower, we would have avoided the takeover of more than 1,300 corporations.

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[23]"News Coverage: How the Tax Code Leads to Foreign Acquisitions of U.S. Companies, The Business Roundtable Blog, (March 12, 2015) http://businessroundtable.org/media/blog/news-coverage-how-tax-code-leads-foreign-acquisitions-us-companies.

Attempts by the Obama administration to stop inversions are not working (Athanasiou, 2015).[24] Other countries are lowering their rates, and we need to compete. Permanently eliminating or lowering the U.S. corporate tax rate would reverse the tax calculus and establish the United States as a tax haven. These moves would result in a huge infusion of capital and labor into the United States, especially given our other advantages, such as access to capital, rule of law, infrastructure, etc. Multinational corporations would reverse course and try to shift the sourcing of income into the United States, instead of away from it.

Yet, there is a general unwillingness to recognize these facts. A recent Pew Research poll found that 64% of Americans are "bothered a lot by the feeling that some corporations do not pay their fair share of taxes" (Pew Research Center, 2015; Federal Reserve Bank of Minneapolis, 2014). The fact that corporate executives are frequently depicted as villainous characters in TV crime dramas testifies to the popularity of the idea of making corporations pay more in taxes.

This idea is naïve for three reasons: First, corporations vary widely in size and profitability. Second, and far more important, corporate income cannot simply be snatched up by government without negative consequences for everyone, rich and poor alike. The layman seems unable to understand the role of profits in motivating firms to engage in capital formation, without which there would be no economic activity at all. Finally, and as we have pointed out, corporations don't pay taxes. People do, and the people are often workers.

No one would begrudge the owner of a small gift shop the right to make a "fair" profit. Yet, a multi-billion-dollar, publicly-traded corporation must also make a fair profit (an understanding of which will emerge from the discussion that follows), the principal difference being that the executives who run the corporation are beholden, not just to themselves, but also to the millions of shareholders who pay their salaries.

As we will show below, profits are a reward for saving. (To be sure, they are also a reward for risk taking, entrepreneurship and – sometimes – for exercising monopoly power. A consideration of all of these factors is beyond the scope of this report.) Profits are not booty to

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[24] Article is available to registered users at www.taxanalysts.com

be taken by the Robin Hoods of progressive politics to rectify injustices in the distribution of income. Whether received by a big corporation or a small business, profits are the return on investment that makes it possible for business owners to attract the financial capital they need in order to invest in their businesses.

VI. Lifting the Corporate Veil

Let's lift the veil that separates a corporation from any other business and ask what is necessary for firms to acquire physical capital and to produce. The short answer is that firms need to compensate adequately the people who provide them with the financial capital so that firms can acquire physical capital. But before we get into the details, let's reflect on what we already know. There are few economic laws that are rigidly true, but there are two in which we can place total confidence – the *Laffer curve* and the *law of diminishing returns*.

We begin with the Laffer curve.[25] Think of any economic magnitude that might serve as the base for some tax. Corporate profits, for example, or personal income. We can write the formula for the amount of revenue that the government will raise by taxing that base as follows:

(1) $R = tB(t),$

where R is the amount of revenue collected, t the tax rate and B the tax base. We know that a curve that relates R to t will have the shape of the curve in Figure 1.

Suppose B equals corporate profits. We can be certain that the government will raise no revenue through the corporate tax if it sets t at either zero or 100%. If t is zero, no corporation will have to pay any taxes. If it is 100%, no corporation will earn (or report) any profits.

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[25] Legend has it that economist Arthur Laffer drew this curve on a cocktail napkin while dining with Congressman Jack Kemp, thus setting the stage for the supply-side revolution and the Reagan-era tax cuts.

Figure 1

The Laffer Curve
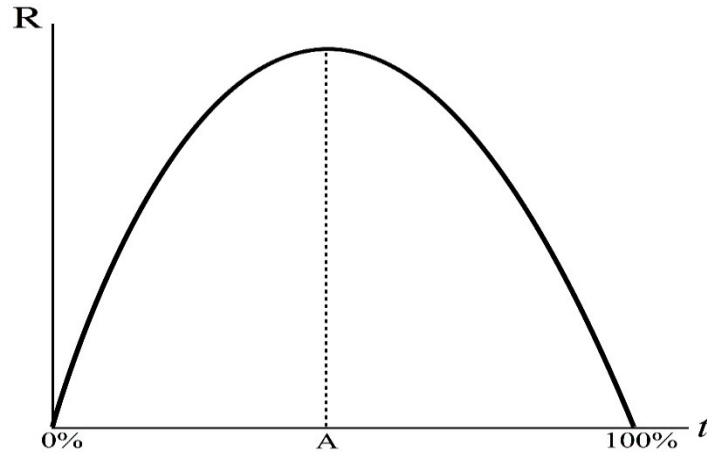
Let's transform equation (1) as follows:

(2) $\quad \%\Delta R = \%\Delta t + \%\Delta B$.

As *t* rises, *B* will fall. Thus the question whether revenue will rise, i.e., whether $\%\Delta R$ is positive, will depend on which is numerically larger, $\%\Delta t$ or $\%\Delta B$. Revenue will rise as long as $\%\Delta t >$ $-\%\Delta B$. (Recall that $\%\Delta B$ is negative, so we have to convert it to a positive number for this calculation.) At some point, however, $-\%\Delta B$ will be larger than $\%\Delta t$ and revenue will start to fall. This is point A in the graph.

One, very simple, approach to examining the economic effects of corporate taxes is to see from the data how close to A the corporate tax rate has gotten. Once the rate reaches that level, there is nothing to be gained from further increases. This is not at all to say that A represents the ideal rate. The policy goal is to choose the optimal rate, somewhere between zero and A, that makes the proper tradeoff between the needs of government and the level of economic activity, as measured by the size of the base.

Estimates of the Laffer Curve provide a window to the effects of taxes on capital, including corporate capital, viewed in a highly aggregated fashion. Economist Kimberly Clausing

examined data for countries belonging to the Organization for Economic Cooperation and Development (OECD) over the period 1979-2002 and found a Laffer Curve for central government corporate tax revenues, expressed as a fraction of GDP, that reaches its peak at a rate of 33% (Clausing, 2007).

In a more recent article, Mathias Trabandt and Harald Uhlig found that both the United States and 14 European Union countries are just to the left of the peak of a Laffer Curve for capital income. They find that, by increasing the average tax rate on capital income, the United States could increase revenue by at most 6% and that the 14 European Union countries could increase revenue by up to 1%. They also point out that the optimal tax rate will always be less than the revenue-maximizing tax rate. They recognize that "there rarely is a free lunch due to tax cuts." Which is to say that, based on their data, a tax cut will generally lead to a loss of revenue. "However, a substantial fraction of the lunch will be paid for by efficiency gains in the economy due to tax cuts. Transitions matter" (Trabandt & Uhlig, 2011, p. 326).

Now it's time to take up the law of diminishing returns. Simply stated, this law says that if there are two inputs to production, labor and capital, production will rise but will rise more and more slowly as we use more of one of the two inputs, holding the other constant.

VII. The Demand for Capital and for Labor

Corporate taxes increase the cost to corporations of raising capital (a matter we take up in the following section). Let's consider how this cost affects the size of the capital stock. We begin by writing down an equation for production:

(3) $Y = ZK^{\alpha}L^{1-\alpha}$.

This "Cobb-Douglas" equation has an ancient and much-honored pedigree. It is a simple and an easily interpreted representation of how technology (Z), capital (K) and labor (L) combine to bring about production (Y) (Cobb & Douglas, 1928).

In the *circular flow* that characterizes every economic system, Y is output and income (plus depreciation). By providing the services of capital and labor, people allow firms to produce and,

in turn, receive income to buy what the firms produce. By capital, we mean the dollar value of physical capital, i.e., plant and equipment that is used in production. Labor is the number of hours supplied by some composite worker who applies his services to the capital stock. Z is an index of technology.

The exponents, α and $1 - \alpha$, measure the share of income that goes, respectively, to capital and to labor. In a 2002 article, entitled "Getting Income Shares Right," Douglas Gollin observes that the legitimacy of the Cobb-Douglas formulation has been suspect because it assumes constancy of income shares both over time and across countries. While the shares have been fairly stable over time, conventional measures show wide disparities between countries. He attributes this to a mistaken classification of income earned by small firms as capital rather than labor income.

Gollin finds that the conventionally-calculated labor shares for 41 countries ranges from a low of 16.0% (Ecuador and Benin) to a high of 64.4% (Finland), with the United States at 58.9%. The adjusted labor share, however, fall into a much narrower band and ranges from 65-80%. He calculates the average adjusted share for the United States to be 72.7% (Gollin, 2002). In their "Reader's Guide" to corporate taxes, de Mooij and Ederveen assume 80% (Mooij & Ederveen, 2008, p. 685). We also will assume 80%. Thus equation (3) becomes

(4) $Y = ZK^{.2}L^{.8}$.

The size of the labor share matters for tax policy. Using the Cobb-Douglas equation (and here is where it proves its convenience), we have a simple formula for calculating the effect of a change in the cost of capital on the capital stock. One feature of the Cobb-Douglas (which has its critics) is that it implies that the *elasticity of substitution* (usually denoted by the Greek letter, σ) equals 1, which means the following: If the cost of capital relative to the cost of labor rises by 1%, the ratio of capital to labor falls by 1%. Knowing this, we can estimate (a) how a rise in the effective marginal tax rate on corporate income will affect the cost of capital and then (b), how a rise in the cost of capital will affect corporate investment.

In a 2002 paper, Robert S. Chirinko surveyed 13 academic studies plus several studies done by the Joint Committee on Taxation of the U.S. Congress. He found values of σ ranging from zero

to .93 (Chirinko, 2002, p. 364). In a later paper, he said that "the weight of the evidence suggests a value of σ in the range of 0.40-0.60"[26] (Chirinko, 2008, p. 671).

Consider the marginal product of capital, or MP_K, defined as the amount by which production will rise owing to the application of another unit of capital, holding labor constant. The equation for MP_K can be written as

$$(5) \quad MP_K = \frac{\Delta Y}{\Delta K}.$$

For the Cobb-Douglas production function,

$$(6) \quad MP_K = \frac{\alpha Y}{K}.$$

Note that, because of the law of diminishing returns, Y will rise more slowly than K as K rises. Thus MP_K will fall as K rises.

The marginal product of labor, defined as the amount by which production will rise owing to the application of another unit of labor, can be written as

$$(7) \quad MP_L = \frac{\Delta Y}{\Delta L}.$$

For the Cobb-Douglas equation,

$$(8) \quad MP_L = \frac{(1-\alpha)Y}{L}.$$

Again, because of the law of diminishing returns, Y will rise more slowly than L as L rises. Thus MP_L will fall as L rises.

Under this approach to tax-policy analysis, supply equals demand. There is a supply of capital and a demand for capital, which are equilibrated through adjustments in the cost of capital, cc. There is also a supply of labor and a demand for labor, which are equilibrated through

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[26] He also observed that "there is little evidence to sustain the assumption of a Cobb-Douglas function." Fortunately, for current purposes, we use that function mainly because of its simplicity. Whether the world is Cobb-Douglas or not does not affect the force of the arguments made here.

adjustments in the cost of labor, *W*. Let's consider the relevance of these relationships to corporate tax policy.

Figure 2

Effects of an Increase of the Cost of Capital on the Capital Stock
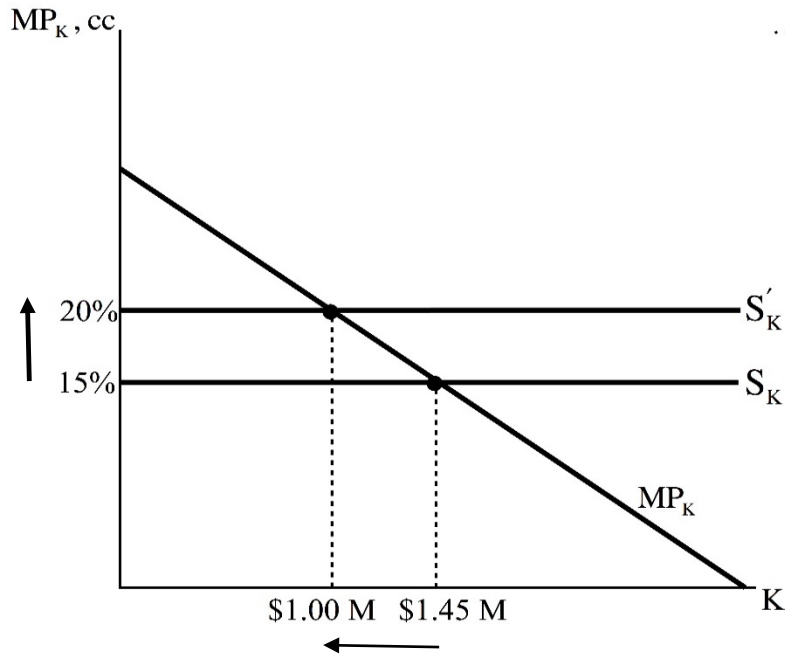
A curve relating MP_K to *K* can be interpreted as the demand for capital, and will be downward sloping. See Figure 2. In calculating the cost of capital, economists usually assume that the supply of capital, S_K is a horizontal line. (We will reconsider this assumption below.) This line intersects the vertical axis at some value of *cc*. The equilibrium capital stock is the size of the capital stock at which MP_K just equals *cc*. If the rate of return to a risk-free bond is 5%, if the economic depreciation rate on corporate capital is 10% and if there are no taxes or risks to consider, corporate stock must yield 15%. This is the cost of capital. Now how do we use this information to determine the effect of changes in the cost of capital (brought about, say, by the imposition of taxes)? The answer lies in the relationship between MP_K and *K*.

There is another concept called the *elasticity of demand for capital*, which equals the percentage change in *K* that will result from a 1% change in the cost of capital (and therefore in the MP_K) and which we will label ε. We can find ε by dividing the elasticity of substitution by the labor income share:

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$$(9) \quad \varepsilon = \frac{\sigma}{1 - \alpha} .$$

Suppose that a firm currently has $1.45 million worth of capital, and let cc rise by 1/3 from 15% to 20%. We will show below how the imposition of a corporate tax will cause cc to rise. Knowing that

$$(10) \quad \varepsilon = \frac{1}{.8} = 1.25 ,$$

we can determine that the assumed rise in the cost of capital will cause the capital stock to fall from $1.45 million to $1.00 million.[27]

Now see Figure 3. The MP_L curve can be interpreted as the demand for labor. The S_L curve represents the supply of labor (always considered to be upward sloping). The downward slope of the MP_L curve reflects the law of diminishing returns. The upward slope of the S_L curve reflects the notion that people require a higher and higher wage to supply more and more labor (meaning a higher and higher cost to firms of acquiring labor as the amount of labor demanded rises).

The equilibrium flow of labor is the quantity of labor services provided at which the marginal product of labor just equals the cost of labor, i.e., the wage the firm has to pay. If there are no taxes on either labor or capital, the equilibrium quantity of labor, $L,$ supplied by workers and hired by firms is OA and the equilibrium wage rate, $W,$ is OC.

Now let's see how the rise in cc can affect employment and wages. First, as we have seen, firms reduce the amount of capital they wish to hold. Second, the reduction in capital causes a reduction in output (see equation (3)). And a reduction in output causes a reduction in MP_L (equation (8)) and, with it, a reduction in the demand for labor, in wages rates and in the amount

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[27] Here the cost of capital, and therefore MP_K, rise by 29% ($= \ln(.20) - \ln(.15)$). Multiplying by 1.25, we can figure that the capital stock falls by 37% (before rounding). If the capital stock is $1.45 million before the tax is imposed, it falls to $1 million ($= \exp(\ln(\$1.45 \text{ million})) - 0.37$) after the cost of capital rises.

Figure 3

Effects of an Increase in the Cost of Capital on Labor
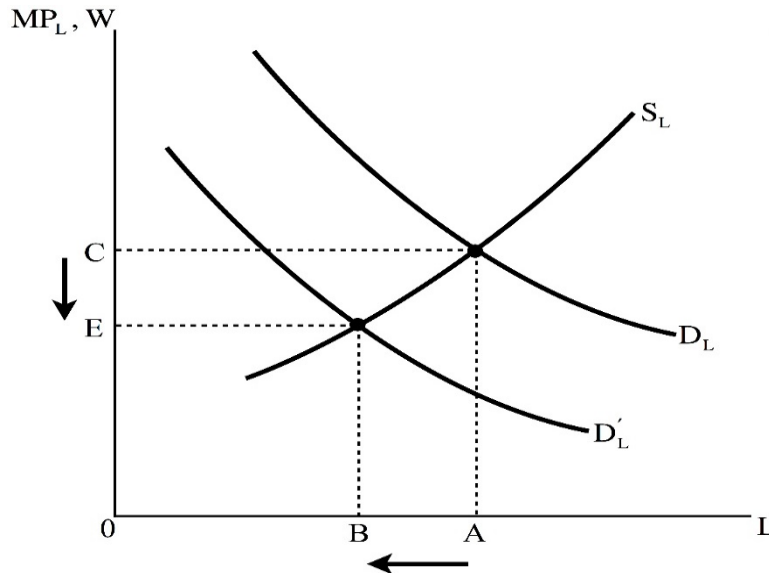
of labor firms want to employ. This is illustrated in Figure 3 by the downward shift in the demand for labor curve from D_L to D'_L, causing W to fall from OC to OE and L to fall from OA to OB.

The imposition of a tax on capital reduces the capital stock (and therefore, as we will see, investment), and output. As to distributional considerations, under the (defensible) assumptions made here, the burden of the tax falls entirely on labor and not at all on capital.[28] When we lift the corporate veil, some very unexpected results greet our eyes.

VIII. The Cost of Capital under the Corporate Tax

Now let's see just how the imposition of a tax on capital can raise the cost of capital. We will focus on taxes imposed on corporate profits and on shareholder income, which is to say,

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[28] This does not seem apparent inasmuch as the capital stock shrinks. But in these examples, "capitalists," i.e., savers who provide financial capital to corporations, are unaffected. They just allocate their saving to untaxed or less-highly-taxed uses such as buying bonds or foreign stocks or putting their money in bank saving accounts. We discuss this further below.

dividends. We allow that depreciation is deductible for tax purposes but ignore any tax credits for which the corporation might be eligible.

Suppose a corporation wants to raise $100 million through a stock issue to finance an expansion in its plant. Buyers of the firm's stock would have to receive a return equal to whatever after-tax interest rate they could get by buying a no-risk security like a bank CD, plus enough to (1) recover the depreciation of the capital goods bought by the firm, (2) cover the risk involved, (3) compensate for expected inflation and (4) cover any taxes that would be imposed on the profits made by the firm. In this instance, the cost of capital depends on taxes imposed at both the corporate and the individual level.

The seminal works on this issue came from Dale W. Jorgensen (Jorgensen, 1963) and Robert E. Hall and Jorgensen (Hall & Jorgensen, 1967). The following example applies their methodology as interpreted by Harvey S. Rosen and Ted Gayer in their book *Public Finance* (Rosen & Gayer, 2008, Chap. 19).

Let r stand for the after-tax interest rate on risk-free assets and δ the rate of economic depreciation. If r equals 5% and δ equals 10%, the stock would have to offer a dividend yield of at least 15% to get people to buy it, absent taxes (and absent risk and inflation). The cost of capital cc would be 15%.

Now assume that there are taxes on both corporate profits and on the dividends stockholders receive. Corporations pay out all of their after-tax profits as dividends.

Let the corporate tax rate, t_{corp}, be 35% and the tax rate on dividends, t_{div}, be 15%. Assume also that corporations can write off their capital for tax purposes at the same rate that it depreciates, so that the tax life of the asset is ten years. Now the cost of capital becomes the before-tax return that the firm must receive so that stockholders will receive an after-tax return, net of depreciation, of 5%.

At a 5% discount rate, the present value of the firm's tax saving is about $27,000,000 or 27% of the $100 million needed to expand the firm's plant.[29] We will call this fraction f. Because the firm can recover 27% of the cost of raising the needed capital by taking advantage of its depreciation allowance, the return that savers must receive on their $100 million stock purchase is only 73% of 15%, which is about 11%. But the before-tax return they will require, and hence the cost to the firm of raising capital, will have to be high enough to cover the taxes involved.

Suppose that the corporate tax rate is 35% and the tax rate that applies to dividends is 15%. Following Rosen and Gayer, the cost of capital is calculated as

$$(11) \quad cc = \left[\frac{(1-f)(r+\delta)}{1-t_{div}} \right]\left[\frac{1}{1-t_{corp}} \right].$$

Substituting the assumed values of the variables,

$$(12) \quad cc = \left[\frac{(1-.27)(.05+.1)}{1-.15} \right]\left[\frac{1}{1-.35} \right] = 19.8\%.$$

The profit the firm must make on the investment is $19.8 million (= .198 X $100 million). The corporation pays 35% of this amount in taxes, which come to $6.9 million, leaving the difference of $12.9 million to be distributed as dividends to taxpayers, who in turn pay $1.9 million (= .15 X $12.9 million) in dividend taxes. After-tax dividends come to $11.00 million. The total tax bill of $8.8 million comes to 44.75% of profit (before rounding).

An important matter for assessing corporate tax policy is the effective marginal tax rate (EMTR) faced by the corporation. We have defined the EMTR as the change in tax liability, across all entities, that results from a one-dollar change in taxable and non-taxable income. In this example, there is only one corporation and therefore one entity. The EMTR, by our definition, is 44.75%.

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[29] $100,000,000 * .1 * .35\left[\frac{1}{1.05^1} + \frac{1}{1.05^2} + ... + \frac{1}{1.05^{10}} \right] = \$27,026,072.$

In their 2008 review of the literature on corporate taxes, Ruud A. de Mooij and Sjef Ederveen define the effective marginal tax rate as "the difference in the cost of capital in the presence and in the absence of tax, in percentage of the pre-tax cost of capital" (Mooij & Ederveen, 2008, p. 684).

We can obtain our measure of the EMTR by applying this definition as follows: Because, as mentioned previously, the corporation can reduce its tax liability by deducting 27% of its investment from its gross income to get its taxable income, its stockholders need to get a return of 11%, on their investment. This is the after-tax return, r_{at}. Then

$$(13) \quad \text{EMTR} = \frac{cc - r_{at}}{cc} = \frac{19.81\% - 11.00\%}{19.81\%} = 44.75\% \text{ (before rounding)}.$$

There are other ways to calculate the cost of capital and the EMTR. Many authors deduct the depreciation rate to get the cost of capital. For example, see (Chua, 1995, p. 164), and (Gravelle, 1994, p. 289). Then, in this example,

$$(14) \quad cc = 19.81\% - 10.00\% = 9.81\%.$$

Then also

$$(15) \quad \text{EMTR} = \frac{cc - r}{cc} = \frac{9.81\% - 5.00\%}{9.81\%} = 49.03\% \ .$$

Still another approach is to consider only corporate taxes (Mintz, 1995) and (Chua, 1995). We then get

$$(16) \quad cc = \frac{(1-f)(r+\delta)}{1-t_{corp}} - \delta = \frac{(1-.27)(.05+.10)}{1-.35} - .10 = 6.85\% \ ,$$

and

$$(17) \quad \text{EMTR} = \frac{cc - r}{cc} = \frac{6.85\% - 5.00\%}{6.85\%} = 27.01\% \ .$$

There have many studies in which the authors estimate the EMTR for the United States. Most use the methodology of equations (16) and (17). In a survey of 1994 corporate tax rates, Jack

Mintz reported effective marginal tax rates for the G-7 countries. Jack Mintz and Duanjie Chen did a follow-up survey for 2013. The results are shown in Table 7.

Table 7: G-7 Effective Marginal Tax Rates, 1994 and 2013

	EMTR (%)	
Country	1994	2013
Canada	23.8	18.6
France	28.3	35.2
Germany	31.2	24.4
Italy	38.9	24.5
Japan	35.0	29.3
United Kingdom	34.1	25.9
United States	25.4	35.3
Average G-7	30.9	27.6

Source: (Mintz, 1995), 43 and (Mintz & Chen, 2014)

In their review of the literature, de Mooij and Sjef find that the average reported elasticity of capital to the cost of capital, denoted ε above, lies between ½ and 1. Despite the evidence just shown, they find that the average value of the computed EMTRs is "quite small." They offer a range of estimates of the *semi-elasticity of investment*, defined as the percentage change in the capital stock that results from a 1-percentage-point change in the tax rate. "For an EMTR of, say, 10 percent, the semi-elasticity of investment to the EMTR , i.e., ε^{INV} , lies in the range of -0.55 to -1.1" (Mooij & Ederveen, 2008, p. 685).

As in Section VII, we can use ε , the elasticity of the capital stock with respect to the cost of capital, to calculate the percentage change in the capital stock that results from a 1% change in the cost of capital:

(18) $\quad \dfrac{\Delta K}{K} = -\varepsilon \dfrac{\Delta cc}{cc}$.

Now suppose the EMTR changes by some amount ΔEMTR. We can find resulting percentage change in the cost of capital by applying the formula,

$$(19) \quad \frac{\Delta cc}{cc} = \frac{\Delta EMTR}{1 - EMTR} \; .$$

De Mooij and Sjef put the EMTR at 10%. Given this assumption and given that the EMTR then changes by one percentage point,

$$(20) \quad \frac{\Delta cc}{cc} = \frac{.01}{1 - .1} = 1.11\% \; .$$

If the elasticity of the capital stock with respect to the cost of capital is .5, then substituting into equation (18) we get

$$(21) \quad \frac{\Delta K}{K} = -.5 \times 1.11\% = -.55\% \; .$$

A 1 percentage point rise in the EMTR causes the capital stock to fall by .55%.

We would get a larger effect if we applied the 2013 EMTR for the United States as reported in Table 7 above. Then

$$(22) \quad \frac{\Delta cc}{cc} = \frac{.01}{1 - .353} = 1.55\% \; ,$$

and

$$(23) \quad \frac{\Delta K}{K} = -.5 \times 1.55\% = -.78\% \; .$$

We can also experiment with different values of ε. In their 1999 paper, Robert S. Chirinko, Steven M. Fazzari and Andrew P. Meyer decided that a value of .25 was most plausible (Chirinko, Fazzari, & Meyer, 1999). Revising equation (23) accordingly,

$$(24) \quad \frac{\Delta K}{K} = -.25 \times 1.55\% = -.39\% \; .$$

We have presented a number of illustrations of how changes in corporate tax policy affect capital formation. The importance of corporate taxes derives from how they affect the cost of capital and how changes in the cost of capital affect the demand for capital and therefore investment.

The size of the effects depends on the parameters σ, ε and ε^{INV}. And the foregoing review of the empirical literature shows that there are varying estimates of these parameters. Yet, there can

be little doubt that, by increasing the cost of capital, the corporate tax reduces the demand for investment and therefore the overall level of economic activity.

Four topics remain to be considered: (1) the sensitivity of saving to changes in the after-tax return to saving, as brought about by changes in corporate tax policy, (2) who bears the burden of corporate taxes, (3) how corporate taxes affect the economy and (4) how we can approach the topic of corporate tax reform. (The reader already knows we favor abolition, but we need to widen the context in which we make that argument.)

IX. Saving

The preceding exposition assumes, in effect, that there is a fixed pool of saving, so that all that matters is how savers allocate their saving between corporate stocks and other assets. Other assets are perfectly substitutable for stocks sold by U.S. corporations. The sole consequence of a rise in the corporate tax rate is to raise the cost of capital. The after-tax return to saving remains unchanged, in that savers will simply switch out of stocks and into other assets should that return decrease.

These assumptions make sense insofar as savers (including stockholders) live in an integrated world economy, where capital markets work seamlessly to allocate capital to whatever use promises the highest return. Suppose that, as appears to be the case, the United States operates in a way that is particularly punishing to corporate investment. In such a world, savers in the United States will just move their capital abroad in response to higher U.S. taxes on corporate capital. Those one-percenters don't care if they have to move their money out of some firm in Kansas to another in Luxembourg in order to maintain the after-tax rate of return they get on their saving. The only people who care are workers in Kansas.

It is our judgment that this is very much the way corporate taxes work. And if we are right, then politicians who attempt to prove their commitment to populist values by punishing corporations are just taking advantage of the corporate veil that we have been shredding over the last few pages.

Yet, as is so often the case in economics, things are not quite so simple, and we have to give due consideration to the argument that corporate taxes are shifted to stockholders. Indeed, that was the received view some time ago, when international financial markets were not as integrated as they are today. Arnold Harberger took this view in his seminal 1962 article on corporate taxes. "Even allowing for a rather substantial effect of corporate taxes on the rate of saving," he said, leads to only a minor modification of my over-all conclusion that capital [which is to say, the stockholder] probably bears close to the full burden of the tax" (A. C. Harberger, 1962, p. 236).

Let's therefore see how taxes on capital, including taxes on corporate capital, can impose a burden on savers, including people who save by buying stocks in corporations. It is useful first to identify the accounting relationship between saving and investment.

Some Accounting Relationships

In any country, spending is divided between spending on capital (denoted *I),* on consumer goods, *C*, on government goods, *G*, and on exports, *X*. Production will equal spending on these items minus what home-country consumers spend on imports, *M*. We let *NX* stand for exports minus imports. Then

(25) $Y = C + I + G + NX$.

Because *Y* equals both output and income (plus depreciation), we can provide a linkage between how countries divide their spending between different kinds of goods and how they divide their income between purchases of consumer goods, *C*, private saving, *S* and taxes, *T*:

(26) $Y = C + S + T$.

For now, let's simplify the algebra by assuming that government balances its budget, so that *G =T,* and that the exports equal imports, so that *NX =* 0. If then we substitute equation (26) into equation (25), we get

(27) $S = I.$

Saving and investment are just opposite sides of the same coin.[30]

Let K stand for the capital stock in the current year and K_{-1} the capital stock in the preceding year. As we have noted, a certain fraction, δ, of the capital stock wears out every year. That means that K equals K_{-1} plus spending on capital during the current year minus the capital that wears out during that year:

(28) $K = K_{-1} + I - \delta K$.

Now let Net I be the change in the capital stock from the preceding year to the current year.

(29)   Net $I = \Delta K$,

(30) $\Delta K = I - \delta K$.

But then under the foregoing assumptions,

(31) $\Delta K = S - \delta K$.

The change in the capital stock from one year to the next depends how much people save, which is to say, how willing they are to allocate their income to saving and away from consumption. This reveals the link between private saving and investment, including corporate investment.

Climatologists of the alarmist persuasion like to talk about "sustainability," which is to say, the preservation of ecological systems against economic pressures. There is a sustainability issue when it comes to economic systems as well. An inspection of the last few equations shows that a minimal level of saving is necessary to prevent the capital stock from eroding through the natural process of economic depreciation. Likewise, growth in the capital stock requires that ΔK be positive, which, in turn, requires that saving exceed economic depreciation. The question of how corporate taxes affect the economy is therefore a question of how they affect saving as well as investment.

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[30] Note that the reasoning does not lose force because government doesn't balance its budget or because, for years, imports have exceeded exports. The full equation is $S = I + G - T + NX$. The fact that $G - T$ is positive just means that, before any private saving is available to finance investment, it must be high enough to cover the deficit in government spending. The fact that NX is negative means that private saving is reduced by the amount of the trade deficit.

Why People Save

So where does saving come from? People work and save in order to enjoy consumption. People work because they value the reward in the form of enhanced current consumption more than the leisure they sacrifice by working. They save because they place a higher value on the additional future consumption that is made possible by saving than they place on the current consumption forgone. The following equation relates utility to consumption:

(32) $U = \dfrac{C^{1-\theta}}{1-\theta}$,

where *U* equals utility, i.e., some index of personal satisfaction. As we shall see, the parameter θ reflects how responsive the consumer is to changes in the return to saving: the smaller θ, the more responsive he is to changes in that return. Like the Cobb-Douglas production function, this equation has an honored pedigree in the annals of economics (Romer, 2012, Chap. 2).

People do not save in order to provide businesses with financial capital (or to make it possible for government to engage in deficit spending). They save because they expect a reward in the form of increased future consumption in exchange for giving up current consumption. Suppose that a person expects prices to remain constant and is willing to put a $100 into saving in exchange for a reward of $105 a year from now. In other words, he would want to receive interest at the rate of 5%. But suppose he expects prices to rise by 3% over the next year. Then he would want to receive interest at the rate of 8%.

Let's put inflationary expectations aside, though, and focus on the matter of "impatience" and how it enters into saving decisions. Even absent inflationary expectations, few people are willing to put $100 into saving now in return for a reward of $100 a year from now (exceptions being countries like Japan and Switzerland, where interest rates are vanishingly small).

Patience and its opposite – impatience – is a personal matter, but we can suppose that few people are willing to save for less than a 3% reward for overcoming their impatience (which is to say, they would expect a reward of $103 a year from now).[31] The technical term for this expected

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[31] It is true that people currently put money into saving even though their nominal reward is barely 1%. One motive is that people want to have money available to them as a precaution against future setbacks and expenses.

reward is *rate of time preference*. People have some rate of time preference, often denoted ρ, that is greater than zero.

Suppose Joe will make $50,000 in wages this year and next and, for the moment, plans to allocate all of his wages to consumption. Now he discovers that he can get a return r of 5% on money he puts into saving this year. He also figures that he would have to get a return of a least 3% to put a dollar into saving. That is, his ρ equals 3%. The amount that he will actually put into saving depends on another personal calculation, which, in the economics literature, goes by the name of *intertemporal elasticity of substitution* or IES. This is number of percentage points by which he would like next year's consumption to exceed this year's consumption for every percentage point that r exceeds ρ. It equals $1/\theta$ from equation (32).

Investment requires saving, and people's willingness to save depends on how impatient they are for current consumption (the size of ρ), the reward they get for saving (r) and the degree to which they want to increase future consumption at the cost of current consumption (their IES). The greater the ρ and the smaller the IES, the greater r must be in order to induce people to save. Equivalently, savers respond less to variations in r the smaller the IES.

Suppose the IES equals 1.5, which is to say, $\theta = .67$. Then Joe would want his consumption in the next period to exceed his consumption in the current period by 3%. The following formula demonstrates this result:

(33) $\%\Delta c = (r - \rho)\text{IES}$.

In this instance,

(34) $\%\Delta c = (.05 - .03)1.5 = .03$.

If Joe wants his consumption next year to exceed his consumption this year by 3%, he will put $721 into saving this year. If a tax on capital income reduces r to 3%, he will reduce his saving to zero.[32]

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[32]Let C be consumption this year and C_+ be consumption next year, and assume that all of next year's income goes to consumption. Then, $r = .05$, and $C_+ = \$50,000 + (\$50,000 - C)1.05$. But $C_+ = C(1.03)$. Substituting and

Now consider the aggregate economy, and assume that U.S. capital markets are walled off from the rest of the world and that all saving takes the form of stock purchases. (Bear with us. We are trying to make a point. We could just say that stocks are a uniquely desirable saving instrument.)

Once again, the government imposes a tax on corporate capital – a tax of the kind we have been considering. This will put pressure on r to fall (and with it, $r + \delta$ in our examples). The lower the IES for the United States as a whole, the more r is likely to fall without much reduction in saving, burdening stockholders in the process. Contrarily, of course, a low IES augurs badly for any hope that a cut in corporate taxes would increase saving.

The economics literature offers varying estimates of the size of the IES. At one extreme, the measured value is zero (Hall, 1988), and at the opposite extreme it is 2 (Gruber, 2013). By most accounts the IES is small (Romer, 2012, pp. 345-346). This means that savers in our hypothetical one-country economy do not reduce their saving much at all in response to the imposition of a corporate tax. The burden of the tax falls largely on them. Given these assumptions, Harberger would be right in his 1962 prediction. There would in fact *not* be "a rather substantial effect of corporate taxes on the rate of saving," and capital would bear "close to the full burden of the tax."

X. So Who Does Pay the Corporate Tax?

In a closed economy of the kind considered by Harberger in 1962, the supply of capital shrinks, not just because the cost of capital rises but also because the return to saving falls. How much it shrinks and how the burden is distributed between labor and capital depends on the elasticity of the supply of capital with respect to the return to capital (which is to say the percentage change in the supply of capital that results from a 1% fall in the return to capital). The more elastic it is, the more the burden falls on labor. The less elastic, the more it falls on savers.

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solving, we get C = $49,279. Saving equals $50,000 - $49,279 = $721. If $r = 3\%$, $\%\Delta c = 0$ and there will be no saving.

Compare Figure 4 to Figure 2. In Figure 2 the supply of capital curve is horizontal, indicating that the elasticity of supply is infinitely high and that savers would merely reallocate their saving from corporate stocks to other assets in response to the tax on corporate profits and dividends. In Figure 4, the supply of capital is upward sloping, indicating that the elasticity of supply is much lower and that savers are compelled to absorb part of the *tax wedge*, owing to limitations in the availability of other saving instruments. There a 50% EMTR causes the cost of capital, *cc,* to rise from 15% to 20% and causes the after-tax return to saving, r_{at} to fall from 15% to 10%. Savers would bear half the burden of the tax and workers, owing to the shrinkage in the capital stock, the other half.

Harberger subsequently reversed his original view. In a 1980 article, in which he summarized his work on less developed countries, he draws "the lesson … that the return to capital is brought into rough equalization through the international capital markets" (A. Harberger, 1980, p. 331). He later explored a scenario in which the United States adopts a 50% corporate tax and under which 3/5 of the world's capital stock is held in the United States and the rest in foreign countries. In that scenario, "one-eighth of the tax wedge is absorbed by the worldwide fall in rates of return….The rest of the wedge is fully reflected by a fall in the wage rate in the United States." (A. Harberger, 1995, p. 62).

There is varying empirical support for this scenario. In a 2009 study, three co-authors affiliated with the Oxford University Centre for Business Taxation used a data set for 55,000 companies in nine European countries to estimate the incidence of corporate taxes. They found that about 59% of the burden of corporate taxes is on wages (Arulampalam, Devereux, & Maffini, 2012, p. 8).

R. Alison Felix of the Federal Reserve Bank of Kansas City found that "a one-percentage point increase in the average corporate tax rate decreases annual gross wages by .9 percent" (Felix, 2007, p. 20). In an earlier study of state corporate income taxes, she and co-author James R. Hines found that an increase in the state corporate tax rate narrows the wage premium that union workers enjoy over nonunion workers: "A one percent higher state tax rate … is associated with roughly a 0.36 percent reduction in union wage premiums" (Felix & Hines, 2009, p. 15).

Figure 4

Interpretation of the Corporate Tax à la Harberger (1962)
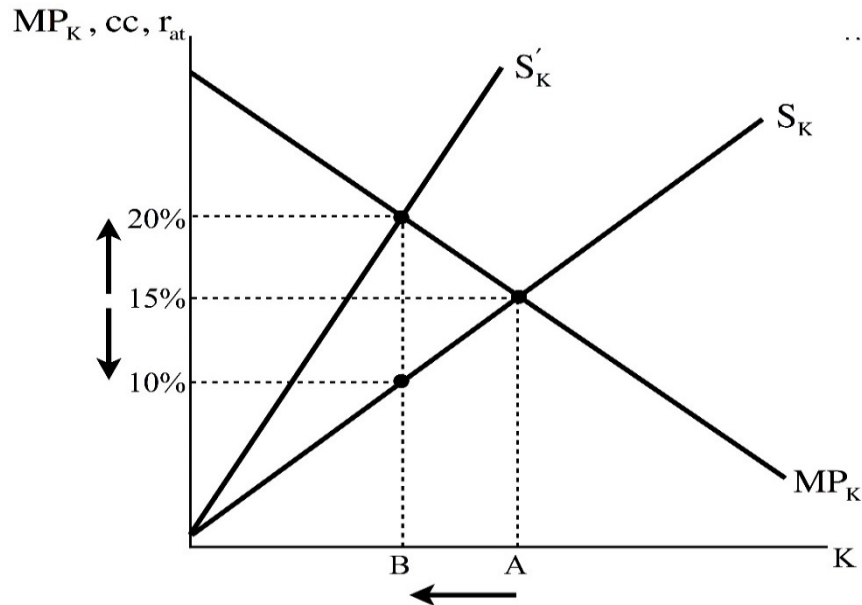
In his 1980 article, Harberger also noted that he and Martin Feldstein had "become linked with a particular (and probably polar) interpretation" of the incidence question. (A. Harberger, 1980, p. 331). The source of this dispute is a 1980 article co-authored by Feldstein and Charles Horioka. There the authors recognized that, under the assumption of a closed economy, taxes on capital will be borne by the owners of capital. That conclusion "would be radically altered by replacing this assumption with a model of perfect capital mobility." Insofar as "capital is free to leave the country, a very large part of the burden would be shifted to domestic labor and to foreign capital owners" (Feldstein & Horioka, 1980, p. 315).

According to Feldstein and Horioka, however, capital is not so free, and the reason is that various factors prevent arbitrageurs from equalizing after-tax returns from capital by simply moving capital from locations that offer low returns to those that offer high returns. "For most investors, the uncertainties and risks associated with foreign investment are perceived as so great that investment is restricted to the domestic economy." (Feldstein & Horioka, 1980, p. 316). From their examination of the data, they conclude that "the evidence of a close relationship

between investment and saving is important in a number of ways." Among these are the conclusion that "it is appropriate, at least as an approximation, to study income distribution in general and tax incidence in particular with models that ignore international capital mobility." (Feldstein & Horioka, 1980, p. 328). Thus was born a still-simmering debate over the incidence of corporate taxes.[33]

Our reading of this literature leads us to conclude that the appropriate approach is illustrated by Section VII, Figures 2 & 3 above. Most of the burden of the U.S. corporate tax is on labor. Yet, we readily conceded that the jury remains out on this matter.

XI. How Harmful are Corporate Taxes?

The jury is in, however, on the matter of whether corporate taxes exert negative effects on investment. The literature is vast, and we could review only a small portion of it in writing this primer. However, we did not come across a single academic article that denies that cutting the corporate tax rate would increase investment and output. The most skeptical assessment we found comes from Jane Gravelle:

> The estimated effect of cutting the corporate rate by 10 percentage points (about .7 percent of output) is minimal, increasing output by 15/100 of a percentage point. Moreover virtually all of that gain in the aggregate is paid to foreigners as returns on their investments;…Finally, note that if the rate reduction were enacted alone, any gains in output would be more than offset by the crowding out of investment due to an increased deficit (Gravelle, 2014, p. 310).

A recent article by Arnold Zellner and Jacques Kibambe comes to a very different conclusion. Observing that "U.S. corporate income tax rates and dividend tax rates are among the highest in the OECD group and in the world," they make a strong case for reductions in both. "It is striking," they say "to note how many firms from developed economies have relocated to low tax countries since the beginning of globalization. Many countries that have instituted tax reforms have experienced substantial growth" (Zellner & Ngoie, 2015, pp. 58-59).

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[33] Jane Gravelle reviews the more recent literature in a 2010 report published by the Congressional Budget Office. According to her analysis, "an assumption that 40 percent of the corporate tax burden falls on labor and 60 percent falls on capital is consistent with open-economy models and with the current empirical evidence regarding the appropriate parameter values for those models." (Gravelle, 2010, p. 26).

Zellner and Ngoie develop what they call a "Marshallian Macroeconomic Model" or MMA (after the economist Alfred Marshall, who laid out the foundations for modern price theory during the early part of the last century) to determine how alternative tax-rate cuts could stimulate the U.S. economy. Their approach, in fact, combines the economics of Marshall with that of John Maynard Keynes, both of whom taught economics at Cambridge University in England (Keynes, 1936; Marshall, 1961). [34]

As the authors explain it in a separate paper, the MMA approach consists of disaggregating the economy into a number of sectors. As they put it,

> We, along with Alfred Marshall and others, have introduced a product market involving demand and supply equations derived from assumed optimizing behavior of firms and consumers. On aggregating over firms, we obtain the industry supply equation, which depends on the number of firms in operation…To determine the number of firms in operation, we introduce a firm-entry-sector, such that when positive profits exist in the industrial sector, firms enter to compete away profits and to help the sector return to a new equilibrium (Ngoie & Zellner, 2012, p. 427).

Onto this framework, "which can be found in many price theory texts," they impose a Keynesian equation for the purpose of showing how tax cuts stimulate the economy by diverting money from the public sector to the more-efficient private sector.

They arrive at this equation by adopting an approach common to macro theory texts: From our earlier analysis, we know that, by assumption, output is the sum of spending on U.S. produced goods:

(35) $Y = C + I + G + NX$.

In a Keynesian model, there is a stable relationship between consumption and disposable income, such that an increase by one dollar in disposable income causes consumption to rise by

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[34] This approach has a long but turbulent history. It was almost universally embraced in the 1930s and 40s, came under criticism from the 50s through the 90s, and has had a recent revival. It began with the publication in 1936 of John Maynard Keynes's *General Theory of Employment, Interest, and Money*, with which Keynes intended to revolutionize economic theory so that it would better fit the depressed era when it was published.

some fraction, *c*. This fraction is known as the *marginal propensity to consume.* Disposable

income, Y_D is what is left over from income, *Y,* after people pay federal and state taxes at rates,

denoted, respectively, by t_F and t_S:

(36)　$Y_D = Y(1 - t_F - t_S)$.

Consumption equals some constant $\bar{C}$ plus *c* times disposable income:

(37)　$C = \bar{C} + cY(1 - t_F - t_S)$.

Substituting into equation (35), we get

(38)　$Y = \dfrac{1}{1 - c(1 - t_F - t_S)} \left[\bar{C} + \bar{I} + \bar{G} + \overline{NX} \right]$,

where $\bar{C}, \bar{I}, \bar{G}$ and $\overline{NX}$ are exogenous (determined outside the model) and *Y* and *C* are

endogenous (determined by the model).

The expression $\dfrac{1}{1 - c(1 - t_F - t_S)}$ is the Keynesian multiplier derived by the authors. It tells us the

amount by which *Y* will expand for any reduction in t_F and/or t_S.

Working from this assumption, the authors conclude that "permanent cuts of 5 percentage points
in the personal and corporate tax rates will induce an increase of 3 percentage points in the
annual U.S. GDP growth rate." Moreover, they find that "the government sector, like other
sectors, will grow in absolute size but decrease in relative size as a result of proposed tax
reforms" (Zellner & Ngoie, 2015, p. 78). These are startling results.

Other writers have provided estimates of the beneficial effects of corporate tax reduction. In an
article entitled, "How Lower Corporate Tax Rates Would Spur Economic Growth and Reduce
Unemployment," Ilhan Meric, Ira B. Sprotzer and Gusler Meric find that by reducing the top
corporate rate from 35% to 25%, "we can offset the adverse effects of the recent increases in
dividend and capital gains rates, and it may increase stock prices by as much as 8.6%, encourage
new corporate investments, increase economic growth, and lower the unemployment rate
significantly" (Meric, Sprotzer, & Meric, 2013, p. 52).

In a report of May 2011, Scott Hodge, president of the Tax Foundation, presented a ten-point argument for reducing the corporate tax rate. (Hodge, 2011). Among the studies he cites is a report from the OECD, which states that "corporate income taxes appear to have a particularly negative impact on GDP per capita" (Johansson, Heady, Arnold, Brys, & Vartia, p. 43). The report finds that, for a sample of 12 European countries, "a cut in the statutory tax rate from 35% to 30% would increase the long-run investment-to-capital ratio by 1.0% and 2.6% depending on the specification." Furthermore, "a five percentage point increase in the present value of the depreciation allowance … is estimated to increase the investment rate by 0.9% to 2.5%" (Johansson et al., p. 33).

XII. A Framework for Considering Tax Reform

We stated at the outset of the study that we believe that the corporation income tax should be repealed. We believe that a balanced review of the literature on this issue, such as we have tried to present here, leads to no other conclusion. Specifically, the following lessons emerge:

- First, the corporate tax allows politicians to pose as champions of the poor and the middle class when in fact, in the globalized economy of today, the corporate tax burdens labor, probably more than it burdens capital. The corporate tax is just a veil behind which politicians seek to hide the consequences of their actions regarding tax policy;

- Second, it distorts the allocation of resources in a particularly harmful way, i.e., by raising the cost of capital, diminishing investment and thus reducing output and living standards;

- Third, it causes managers to invest time and energy in tax avoidance – time and energy that would be better spent running their businesses;

- Fourth, reform of the kind considered below could be carried out in a "revenue-neutral" fashion, so that the total tax revenue remained constant until the positive effects on economic activity kicked in.

It is easy, however, to call for repeal. What is difficult is figuring out what new tax would take the place of the corporate tax if it were repealed. Or what government spending would be

eliminated if revenue losses occur.[35] A detailed discussion of either issue is beyond the scope of this study. However, we will give consideration to the broad conceptual issues that arise in any discussion of tax reform, to the end of showing the choices that are available to a government that sees reduction of the corporate tax as a step toward a more rational tax code. But, first, a little history.

Haig-Simons v. The Consumption Tax.

In 1651, philosopher Thomas Hobbes, reflecting on what we now call tax equity, argued that government should tax consumption, rather than income (as conventionally defined). Writing in *Leviathan*, he said that it is only fair that tax impositions fall on consumption: "When the impositions, are laid upon those things which men consume, every man payeth equally for what he useth." (Hobbes, 1998). Centuries later, in the 1920s and 1930s, Robert M. Haig and Henry C. Simons provided what became the textbook defense for taxing income (conventionally defined), and not consumption.[36] Thus was joined a still-unresolved debate between two fundamentally different visions of tax equity and efficiency.

Debate over this issue is made more difficult by terminological confusion. Part of the confusion is over just what we mean by "income." The popular and legal definition is the amount of cash (after any business expenses) a tax entity raises in a year's time. That is the definition we have been using here.

The Haig-Simons definition follows the "accretion" definition. There are only three things an individual can do with the cash he acquires in a year's time: He can spend it, save it or pay taxes out of it. Ignoring taxes, that leaves just two: spend or save. What he spends goes to consumption, C. What he saves goes to the acquisition of some asset: cash, a bank CD, stock in some corporation, etc. However he saves, the acquisition of that asset brings about an "accretion" to net worth, ΔNW . The Haig-Simons definition of the tax base is therefore

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[35] This will depend on whether the economy is to the left or right of point A in Figure 1.
[36]For a review of this episode in the history of economic thought, see (Bittker, 1967). It seems that, that of the two, Simons was the far more enthusiastic proponent of the accretion approach. (Wildasin, 1990).

(39) $B = C + \Delta NW$.

Consumption-tax advocates argue, on the other hand, that this is the wrong definition. We should label as income only that cash which contributes to our current well-being. Because it is our consumption, not saving, that contributes to our well-being, we should define the tax base as consumption.

(40) $B = C.$

There is a strand of modern macroeconomics called *the permanent income hypothesis* that underlies this idea. The permanent income hypothesis makes a distinction between transitory and permanent income. If someone hits the lottery for a million dollars, his transitory income rises by a million dollars, but his permanent income rises by only a fraction of that amount.

Why? Because people try to even out their consumption over their lifetime, borrowing when they are young, saving when they are middle-aged and dissaving when they are old. So today's lucky winner (especially if young) would want to put most of his winnings into saving, consuming only a small fraction of his winnings now. Thus, while his transitory income rises by a million dollars his current consumption might rise by only, say, 5% of that, or $50,000. That rise in his current consumption equals the rise in his permanent income. Thus, permanent income equals consumption, and it is permanent income that should matter for tax purposes.

Contrary to this point of view, advocates of the accretion concept would say that this is nonsense. The lottery winner's ability to pay rises by a million dollars not $50,000, and his taxable income should be the one million.

Let's consider another, more complicated example.

Suppose that there are two households that earn the same amount in wages, say, $50,000 in each of two years. In year 1, Household X spends it all, but Household Y saves $10,000 of this amount and puts its saving in the bank at 5% interest. Under Haig-Simons, Household X's year-1 tax base is calculated as

(41) $B = C + \Delta NW = \$50,000 + 0 = \$50,000$.

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Household Y's tax base is the same:

$$(42) \quad B = C + \Delta NW = \$40,000 + 10,000 = \$50,000.$$

If the income tax is 20%, they both pay $10,000 in taxes. This, according to proponents of the accretion concept, is only fair, since they both have the same ability to pay taxes in year 1.

Consumption-tax advocates complain that the fairness here is a mirage: Consider what happens in year 2. In that year, Household X again pays $10,000 in taxes, but Household Y now has to pay taxes both on its wages and on the interest earned on the money saved in year 1. (That interest is an accretion to its net worth, so it must pay taxes on that as well.) It pays $10,100 (= .2 X $50,500) in taxes. Thus, although the two households start out in exactly same circumstances, the household that saves pays more in taxes.

If we assume a discount rate of 5%, the present value of Household X's taxes, under the accretion standard is $19,524 (= $10,000 + $10,000/1.05). The present value of Household Y's taxes is $19,619 (=$10,000 + $10,100/1.05). Household Y, which innocently (and perhaps commendably) decided to be the more thrifty of the two, ends up with a tax liability whose present value exceeds that for Household X.

Now suppose both households are taxed only on their consumption. The government permits households to deduct their saving in computing their taxable income (and, by the same token, requires them to pay taxes on any dissaving). For Household X, nothing changes. It still has a tax liability whose present value is $19,524.

Household Y pays $8,000 (= .2 X $40,000) in taxes in year 1. To complete the example, let Household Y consume both its $50,000 in wages in year 2 and the $10,500 that it has in the bank, so that it dissaves $10,500. Thus its taxable income in year 2 is $60,500 (= $50,000 + $10,500), and it pays $12,100 in taxes. Now the present-value of its tax liability is exactly the same as X's: $19,524 (= $8000 + $12,100/1.05).

Advocates of the consumption principle make two arguments regarding this example. First, by taxing consumption, the government taxes both households equally. Second, by taxing consumption it removes a bias against saving that the tax code would otherwise create. Arguably, saving is taxed twice under the accretion standard but only once under the consumption standard. Thus the accretion standard is biased against saving.

Advocates of the accretion principle, say that the consumption tax is biased against low-income households. Because low-income households allocate a larger share of their income to consumption than do high-income households, low income households pay more in taxes relative to their income under the consumption standard. We will return to this issue of tax equity in our discussion of the "FairTax" proposal below.

Some "Taxing" Algebra

The two competing principles have implications for how the tax system affects investment. We have written GDP, *Y,* as a stream of expenditures on consumption, government goods, capital and net exports:

(43) $Y = C + I + G + NX$,

where

(44) $I = \text{Net } I + \delta K$,

so that

(45) $Y = C + \text{Net}I + \delta K + G + NX$.

Now let's add one more equation, which tells us that GDP is the sum of labor income, Y_L, capital income, Y_K, and depreciation, δK :

(46) $Y = Y_L + Y_K + \delta K$.

If we subtract δK from both sides of equations (45) and (46) and substitute, we get a measure of the tax base, *B*:

(47) $Y_L + Y_K = C + \text{Net } I + G + NX$.

Equation (47) provides the tax base under the accretion concept. It taxes income, defined as GDP minus depreciation. Suppose the federal government collects taxes at some uniform rate t. Assuming that it collects all taxes from people as income earners, revenue would be:

$$(48) \quad R = t(Y_L + Y_K).$$

However, because both sides of equation (47) must balance, it could just as well be said that:

$$(49) \quad R = t\left(C + \text{Net } I + G + NX\right).$$

Notably, under the accretion concept, Net I is part of the tax base.

Now let's redefine the tax base in such a way as to untax net investment. To do that we simply to subtract Net I from equation (47) to get a new measure of B:

$$(50) \quad Y_L + Y_K - \text{Net}I = C + G + NX .$$

Because this equation leaves investment untaxed, it also leaves saving untaxed. It therefore provides a base for a consumption tax. We will revisit this conceptualization at greater length below.

XIII. Some Corporate Tax Reform Proposals

As we will show, the preceding discussion provides a framework for corporate tax reform. Let's next consider a few specific proposals for tax reform, all of which would affect corporate taxes.

The Obama Administration's FY 2016 Budget

On February 2, 2015, President Obama released his almost $4 trillion FY 2016 budget proposal. As with his prior proposals, the President calls for more tax incentives for lower income families, a consolidation of the myriad education tax breaks and creation of new retirement incentives (of which there are already many). He also wants to increases taxes for high-income taxpayers. On the business side, he reiterated his call to reduce the corporate tax rate but only if the base is broadened by eliminating "loopholes" that permit C-corporations to reduce their effective tax rate, especially in the international tax area. Specifically, the President would lower the C-

corporate tax rate to 28% (25% for domestic manufacturing) and "pay" for this by eliminating some tax breaks for the oil, gas and coal industries (a step towards a carbon tax).

For the past few years, small business has been able to utilize §179 to expense, rather than capitalize and depreciate, up to $500,000 of non-realty assets if they purchase less than $2 million in one year. In addition, there has been a 50% bonus depreciation deduction for all businesses, not just small business, for purchase of new, non-realty, assets. These provisions expired at the end of 2014, with the §179 deduction being reduced to only $25,000 and the 50% bonus depreciation expiring altogether. Although there has been some discussion about restoring these deductions, their fate is uncertain. The President would permanently restore the §179 deduction to $500,000, increase it to $1 million in 2016 and index it thereafter. An extension of bonus depreciation is not supported by the President. Since the GOP agrees with extending and increasing §179, the prospects of an extension for 2015 are promising.

The Internal Revenue Code §1202 allows a 50%, 75% or 100% exclusion of the gain on the sale of certain C-corporation small business stock, if held at least five years. The 75% and 100% exclusions expired on December 31, 2014. The President is in favor of renewing the 100% capital gain exclusion for non-corporate taxpayers.

The Tax Increase Prevention Act of 2014 extended the research tax credit through 2014, but Congress has not extended it to 2015. The President proposes to make it permanent and less complex.

The President's budget calls for the repeal of the last-in, first-out (LIFO) method of accounting for inventory. The LIFO method sets the price of ending inventory at older, usually lower, prices and thus lowers taxes for businesses in a period of rising prices by increasing cost of goods sold. Regarding health care, the President wants to expand the credit for health insurance provided by small employers to apply to up to 50 employees, rather than 25, with phase out between 20 and 50 employees.

The President's budget aims at taxing large banks and other financial institutions for having too much debt on their balance sheets. The tax is a 7-basis point fee on total liabilities.

The President's budget also attempts to curtail tax avoidance via international transactions. Instead of eliminating the tax on worldwide income the President would create a hybrid system. He would tax the previously untaxed earnings of Controlled Foreign Corporations (CFC's) at 14% (the tax would be paid over five years). After that the accumulated earnings could be repatriated without tax. Foreign income of U.S. corporations would pay taxes (with no deferral) at the rate of 19% reduced by 85% of the foreign tax rate paid on the same income.

Other international tax reforms proposed by the President include:

- Removing of tax deductions for outsourcing of jobs to foreign countries;

- Curbing corporate inversions whereby corporations change their country of residency to a lower tax country to avoid tax on their worldwide income;

- Limiting the shifting of income via intangible property transfers;

- Making changes to Subpart F (see footnote 17); and

- Restricting the use of hybrid arrangements that create income not attributable to any country.

Other business tax reforms proposed by the President include:

- Making the Work Opportunity Tax Credit permanent;

- Making the Production Tax Credit permanent;

- Making the Indian Employment Credit permanent;

- Creating a new business credit for costs incurred with insourcing a U.S. business;

- Taxing carried interest profits of some partnerships as ordinary income instead of as capital gains;

- Expanding the use of the cash method of accounting for certain small businesses;

- Increasing the deduction for start-up expenses under §195;

- Making the New Markets Tax Credit permanent;

- Permitting corporations to issue Qualified Public Infrastructure Bonds[37];

- Providing a Carbon Dioxide Investment and Sequestration Tax Credit;

- Reforming and expanding the Low-Income Housing Tax Credit (LIHTC).

In the past, the President has called for middle class tax relief (those making less than $250,000) and continues to call for higher taxes on the "rich" and on corporations that do not pay their "fair share".

The Tax Reform Act of 2014

In 2014, House Ways and Means Committee Chairman Dave Camp proposed comprehensive tax reform (the Tax Reform Act of 2014). He would reduce individual tax rates to only two: 10% and 25%, with a 10% surtax for high income taxpayers. Corporate tax rates would be reduced to 25%, phased in over time. These rate reductions are paid for by base broadening. He would also tax carried interest as ordinary income, instead of as capital gains, for certain partnerships. The bill aims to be revenue neutral over 10 years.

Pass-through income from S-corporations and partnerships, and sole proprietorships, would be taxed to individuals, as they are now. Many corporate and business income tax credits, deductions, and other provisions would be eliminated or reduced. Depreciation of business assets would be much slower, thus reducing the deduction, and raising the cost of capital. Research and development expenditures would be amortized instead of taken as a credit. Advertising would be amortized, also, instead of being deducted as a current expense. The §199 domestic production activities deduction would be repealed as would the last-in, first-out (LIFO) method of inventory accounting. The corporate AMT would also be repealed.

For multinational corporations, the Act proposes a 95% exemption for dividends received by U.S. corporations from foreign subsidiaries. Subpart F rules would be changed to tax intangible

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[37] These are tax-exempt bonds that corporations contracted to build public infrastructure could offer.

income of foreign subsidiaries when earned and to tax foreign intangible income at 15%. The proposal also includes "thin capitalization" rules that restrict domestic interest deductions. To capture some of the $2 trillion in unpatriated income, the Act calls for a one-time tax to U.S. corporations of 8.75% tax on previously untaxed earnings and profits of foreign subsidiaries.

The FairTax

The "FairTax" is a proposal to replace almost all federal taxes in favor of a national retail sales tax.[38] The Fair Tax Act of 2013 (H.R. 25/S. 122) would tax personal consumption and government purchases at 23%, measured on a tax-inclusive basis.[39] The goal is to encourage savings by taxing consumption only.   To offset its regressivity, the Act would provide a rebate payment (or "prebate") for each household equal to the tax that household would pay if its income was just equal to the poverty level for a household of similar size and composition. The Act would eliminate the corporate income tax, along with all other taxes on investment.

Let's return to the algebra, explored above, in equations (43) through (50). There we saw how, by untaxing net investment, equation (50) provides the base for a consumption tax.   Now subtract net exports from both sides of (50) to get

(51) $Y_L + Y_K - \text{Net}I - NX = C + G$.

The right-hand side of equation (51) is the FairTax base (ignoring the prebate). The FairTax untaxes net exports as well as net investment. It is collected by taxing personal consumption, *C,* and government purchases, *G.* At 23%, the equation for revenue is

(52) $R = .23(C + G)$.

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[39] This differs from the usual, tax-exclusive measure of a sales tax rate. If a product sells for $1.00 without any sales tax, it would sell for $1.30 under the FairTax, with the government collecting the 30 cents added to the price. Because .3/1.3 equals .23, the rate becomes 23% on a tax-inclusive basis. Most people would think of the rate on a tax-exclusive basis however, which puts it at 30% (= .3/1). One criticism of the Act is that it deliberately understates the tax rate as most people think about it. Defenders argue that, because personal income taxes are considered on a tax-inclusive basis, a sales tax should be considered in the same way.

We can just as well say that revenue equals 23% of labor and capital income after subtracting net investment and net exports. The income on corporate capital is taxed, just as it is now, except that, because the government collects taxes on personal and government consumption, there is no need to distinguish between corporate and other kinds of income for tax purposes.

The Act is controversial. There is, first of all, the fact that it would be considered regressive – even with the prebate – since tax incidence is usually measured by dividing the tax paid by income defined in Haig-Simons terms.

> **Example**: Tom makes $50,000 per year. He spends it all and pays the 23% tax which comes to $11,500. He receives a prebate of $183.43 per month or $2201.16 per year. His net tax is $9,299, which equals 18.60% of his income ($9,298.84/$50,000). Ed makes $500,000 per year, but spends only $300,000. His tax is $69,000 (= $300,000 X .23). He receives a prebate of $2,201. His net tax is $66,799. His tax rate, as a percentage of his income (measured by the accretion standard) is $66,799/$500,000 or 13.36%, much less than Tom's rate.

The fact that low-earner Tom pays a much larger share of his income in taxes than Ed does is what makes the tax unfair in the view of advocates of the Haig-Simons principle.

FairTax tax advocates would argue that the tax appears unfair only because the example (wrongly) defines income as an accretion. We get just the opposite result if we define income as consumption.[40]

> **Same Example:** Tom's net tax ($9,299) divided by his income, measured as consumption ($50,000), is 18.60%. Ed's net tax ($66,799) divided by his income, measured by the same standard ($300,000), is 22.27%. Ed pays a higher tax rate than Tom.

To be sure, compliance is an issue (as it is with any tax). Because the retail price of goods would include, not only the FairTax, but also any state sales tax, the tax, measured on a tax-exclusive basis, would approach 40% in some states. It is hard to predict how large a black market in retail goods and services this would create, but one would certainly emerge.

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[40] The Beacon Hill Institute found that, under the consumption definition, the FairTax would be progressive, not regressive. (Tuerck, 2007).

There are also transition issues. In the short term, the price of homes would probably fall with the elimination of the deduction for home mortgage interest and property. The accumulated saving of retired people would fall in value as retail prices rose. Charities are concerned that donations would decline because there would be no more income tax deduction for charitable contributions.[41]

Finally, there are the quite-valid concerns that the FairTax, as conceived by its sponsors, would be subject to the same corrupting influences that bedevil the existing tax system. The FairTax would tax medical services, groceries and babysitting. How long would it take for those activities to become exempt, in the face of political pressures and the realities affecting compliance? Nations with a value added tax (VAT) have struggled for years with defining taxable consumption. There are over 9,600 different sales tax rates in the U.S., with different definitions of what is taxable.

Valued Added Tax (VAT)

A VAT is a consumption tax that is assessed at every stage of production. Frequently used in other OECD countries, the idea of a VAT is gaining bi-partisan support in the United States.[42]

The VAT tax base is similar to the FairTax base, except that there is no explicit prebate or mandate to eliminate all other taxes as a condition for its implementation.[43] The benefits and drawbacks of a VAT are much the same as those of the FairTax. Like the FairTax it obviates any consideration of business organization inasmuch as it is imposed on sales, not income. A major concern is the same as with the FairTax – that the underlying principle would be

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[41] The Beacon Hill Institute found that this worry is unwarranted. Charitable contributions would rise because the FairTax would expand household income and, in that way, induce people to contribute more rather than less. See "The FairTax and Charitable Giving," available at
http://www.beaconhill.org/FairTax2007/FTaxCharitableGivingBHI4-24-07.pdf.

[42] *Tax Proposals Would Move U.S. Closer to Global Norm. Proposals for a consumption tax gain traction in both parties.* Wall Street Journal, 3/30/15.

[43] One author suggests a base for the value added tax equal to that provided in the right-hand side of equation (55), below, except that, under his definition, the government would not tax wages paid to government workers (Zee, 1995, p. 98).

vulnerable to erosion in the face of political realities. VAT taxes have increased for many countries since their inception.[44] And, currently, VAT taxes are rising worldwide.[45]

The Flat Tax Act (H.R. 1040)[46]

A flat tax is a (roughly) proportional tax. For example, if John makes 10 times more than Judy, John pays about 10 times more tax. In a progressive rate structure John pays more than ten times what Judy pays. Because we currently have a very progressive income tax rate structure moving to a revenue neutral flat tax would require broadening the base by the elimination of many deductions and credits – a politically difficult endeavor. Broadening the base also means taxing the 47% of taxpayers who do not currently pay income taxes. Warren Buffet's tax rate, and most likely his tax, would necessarily decrease.

The Flat Tax Act is modeled after a much-heralded (and debated) proposal by economists Robert E. Hall and Alvin Rabusha (Hall, Rabushka, & Krepelka, 1995). It allows businesses and individuals to elect irrevocably to be subject to a 19% rate initially and then to a 17% rate after two years. The estate and gift taxes would also be repealed. The flat rate would apply to wages, retirement distributions, and unemployment benefits. A dependent child's taxable income would be taxable to the parent if the child is under the age of 14.

The Flat Tax Act provides for "standard deductions" based on filing status:

- $32,496 for a married couple filing jointly or a surviving spouse;

- $20,739 for a single head of household;

- $16,248 for a single person or a married person filing a separate return

An "additional standard deduction" equal to $6,998 would be allowed for each dependent of the taxpayer. All deductions would be indexed for inflation using the consumer price index (CPI).

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[44] *The Global VAT Craze*, Wall Street Journal, 3/20/15
[45] *Ibid.*
[46] The Simplified, Manageable, And Responsible Tax (SMART) Act (S. 173) is very similar to the flat tax.

For all businesses, including sole proprietors, C-corporations, S-corporation shareholders and partners in partnerships, the initial tax rate would be 19% (declining to 17%) on the difference between the gross revenue of the business and the sum of its wage payments, purchases from other firms, and pension contributions.

So conceived, the flat tax is a variation on the idea of a consumption tax. To see why, ignore the details about deductions and subtract gross investment, I, from both sides of equation (46) to get:

(53) $Y - I = Y_L + Y_K \text{-Net}I$.

Then revise equation (53) to read as follows:

(54) $\left[Y - \left(I + Y_L \right) \right] + \left[Y_L \right] = Y_L + Y_K - \text{Net}I$.

Note that the right-hand side of equation (54) is identical to the left-hand side of equation (50). Note also that the flat tax base is identical to the FairTax base except that the flat tax does not untax net exports. (Compare the right-hand side of equation (50) with the right hand side of equation (51)). We can measure the base as

(55) $B = C + G + NX.$

We write the left-hand side of equation (54) in such a way as to separate the tax on business from the tax on persons. The expression, $\left[Y - \left(I + Y_L \right) \right]$, represents the tax base for business returns, and, ignoring deductions, the expression, $\left[Y_L \right]$, represents the tax base for personal returns. Even though the flat tax is an income tax, insofar as it is collected on business and personal income, so redefined, it is a tax on consumption, defined as shown above in equation (55). Although the legislation makes the noted distinction between incorporated and unincorporated business, all businesses would calculate their taxable income as gross sales minus expenses. There would be no incentive to choose one form of business organization over another based on tax considerations and there would be no double taxation of income.

One of the selling points is that, by virtue of its simplicity, the flat tax would eliminate almost all taxpayer compliance costs. Both businesses and individuals could file their taxes on a post-card size return.

Again, there are pitfalls: The principle under which all income would be taxed at the same rate would be at the mercy of the same pressures, now in play, to make taxes more progressive. There is nothing to prevent Congress from creating new and higher tax brackets for high wage earners. The proposed law would make it difficult to raise the tax rate or reduce the standard deduction, by requiring a 3/5ths majority vote, but whether Congress would so constrain itself is another question.

Limiting Corporate Inversions

A corporate tax avoidance technique that is getting renewed scrutiny is a tax inversion. In a tax inversion a U.S. corporation reorganizes so that the parent corporation is domiciled in a foreign, zero or low tax, country that did not tax foreign source income. By making the low tax country the resident country the corporation is taxed by the United States only on its earnings within the United States, rather than on worldwide income.

This technique is not new and was first employed in the late 1990's. The first attempt at stopping corporate inversions was the American Jobs Creation Act of 2004 (JOBS Act, P.L. 108-357), which denied the tax benefits of an inversion if the original U.S. stockholders owned 80% or more of the new firm and there was no real business activity taking place in the foreign country. But there were some loopholes that have subsequently been exploited with great success. Inversions were allowed if there were substantial business operations in the new country. For a time, the threshold for establishing a "substantial" business interest was only 10% of the business in the new country. This threshold was subsequently increased to 25%. The other loophole permits American shareholders to own up to 79.9% of the new foreign parent corporation and be subject to taxation only on their U.S. income. Several recent inversions have captured significant interest from President Obama and Congress (Marples, 2014).[47]

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[47]For example, the discussion of Pfizer, Chiquita, AbbVie, and Burger King at http://fas.org/sgp/crs/misc/R43568.pdf.

On September 22, 2014, the U.S. Treasury issued new regulations to stop further erosion of the U.S. tax base, but those regulations have only slowed down the activity. It cannot be stopped without new law. Proposals to curb inversions include H.R. 4679, S. 2360 and the President's FY2016 budget. The proposals would treat all merged firms as U.S. firms if the U.S. shareholders simply maintain control, (i.e. controlled more than 50%, rather than 80%) of the merged company. H.R. 694 and S. 250 would also eliminate the deferral that is now allowed on unrepatriated earnings. H.R. 5278 and S. 2704 would bar inverted firms from receiving federal contracts.

Two policy options have been discussed in response: a general reform of the U.S. corporate tax and specific provisions to deal with tax-motivated international mergers. Some have suggested that lowering the corporate tax rate as part of broader tax reform would slow the rate of inversions. Although a lower rate would reduce the incentives to invert, it would be politically difficult to reduce the rate to the level needed to stop inversions.

Integration

Corporate dividends to shareholders are, as pointed out, subject to double taxation. There are two ways to eliminate the double taxation of C-corporation dividends. The first is to allow C-corporations a deduction for dividends paid to shareholders. This will save the corporation taxes at their marginal tax rate, if any. Alternatively, double taxation is eliminated by making dividend distributions to shareholders non-taxable. Both methods will eliminate double taxation, and both are equivalent, but only if the C-corporation tax rate is equal to the individual tax rate. To avoid the problem of differing marginal rates of tax between the corporation and the shareholder, the individual can be allowed a tax credit equal to the corporate tax paid.

However, not all distributions to shareholders are dividends. Distributions that exceed the earnings and profits of the corporation are not taxable up the shareholder's cost basis in the

stock. [48] Distributions in excess of basis are capital gains and are taxable. No deduction should be allowed to the corporation for distributions that are not taxable to the shareholder. [49]

There is also potential double taxation of C-corporation appreciated property if the corporation is liquidated. There is one tax to the corporation on the gain, or deemed gain, on corporate appreciated assets and a second tax to the shareholders upon receiving the liquidating dividend. [50] This double tax can also be eliminated by either method, but rules would have to be enacted that allow the deduction to the corporation only when there is net gain on assets or the shareholder's stock is appreciated.

Portman-Schumer Proposal

Senators Rob Portman and Chuck Schumer have proposed a tax reform measure that would exempt most repatriated dollars from U.S. taxation but would impose a "deemed repatriation" tax to fund infrastructure spending (International Tax Reform Working Group, 2015). The plan is similar to the reform submitted by Rep. Camp discussed above. It provides special treatment for intellectual property known in tax policy circles as a "patent box." The "patent box" provision is a response to the latest development in international tax competition where countries establish lower rates on intellectual property which are parked abroad.

XIV. Some Concluding Observations

As we can see, existing reform proposals divide themselves into three categories:

1. Proposals that would retain, but reform, the corporate tax (the President's FY 2016 Budget proposal, the Tax Reform Act of 2014, proposals that limit corporate inversions, and proposals for tax integration);

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[48] §§301, 312 and 31.

[49] Earnings and Profits is a tax term of art and it measures the corporation's dividend paying ability. See §§312 and 316.

[50] §§331 and 336. This assumes the corporation has an overall gain on their assets and the shareholder has a gain on the stock.

2. Proposals that would automatically eliminate the corporate tax (the FairTax and the VAT); and

3. Proposals under which corporations would still file a tax return but under which there would be no distinction, for tax purposes, between incorporated and unincorporated enterprises (the flat tax).

We have shown that there are two opposing principles of tax equity – one based on the accretion standard for measuring income, the other based on the consumption standard. In large measure, the key to getting meaningful reform lies in choosing which principle to adopt.

Consider the ever-fashionable idea that accelerated depreciation of corporate assets is a tax "loophole." (Stodola, 2011). Indeed, it is a loophole under the accretion standard. Under that standard, net investment is part of the tax base, and businesses may deduct only depreciation defined as δK, i.e., only economic depreciation. Under the consumption standard, however, all investment is untaxed. Thus under the flat tax, it is permissible (indeed, mandatory) to expense investment. Under the FairTax, investment is untaxed because the tax base consists only of personal consumption and government consumption.

In reality the entire tax code is a mishmash of compromises between the two standards. The tax on bank interest reflects the accretion standard. The deductibility of contributions to IRAs and 401Ks and the favorable tax treatment of dividends and capital gains reflect the consumption standard. In order to get meaningful tax reform, it is therefore necessary to decide which standard, the accretion or the consumption standard, is to be followed.

Principled corporate tax reform begins with the need to decide which path shall be taken: the path to the taxation of income defined as an accretion or the path to the taxation of income defined as consumption. We have considered three proposals (the FairTax, the VAT and the flat tax) that would move us down the second path and that would, in the process, effectively eliminate corporate taxation.

If the choice is to move down the first path, then it becomes necessary to eliminate the double taxation of corporate income and to tax all income of U.S. residents equally. We accomplish that and, in one stroke, eliminate the problem with inversions, by taxing only individual income and not business income. Under the accretion standard, Americans would be taxed on dividends received from corporations located in the United States and from their foreign subsidiaries, but the parent companies would not be taxed on their profits. Hence, reform based on the accretion concept, like reform based on the consumption concept, eliminates corporate taxation.

Any principled change in tax policy is subject to erosion in the face of political realities. The Tax Reform Act of 1986 was supposed to be a model for the principle that good tax policy combines a low tax rate with a broad base. That law fixed the top personal income tax rate at 28% and eliminated many deductions. The top rate now is 39.6%. And the tax base is a concoction of exclusions that make the effective top rate even higher. How could any principled change in corporate tax policy withstand such erosive forces, considering that a majority of voters appear to believe that only faceless corporations bear the burden of corporation taxes?

The answer lies in educating the public to the fact that (1) corporate taxes, like all taxes on capital, reduce capital formation and, in the process, impose a burden on labor and (2) the difficulty of achieving reform and of reducing compliance costs derives from an unwillingness to decide just what it is – "income," as conventionally defined, or consumption – we want to tax. We hope that this essay will provide a step toward a meaningful discussion of that issue.

Works Cited

Arulampalam, W., Devereux, M. P., & Maffini, G. (2012). The Direct Incidence of Corporate Income Tax on Wages. *European Economic Review, 56*(6), 1038-1054.

Athanasiou, A. (2015). Is the Anti-Inversion Notice Doing Its Job? *Tax Notes*.

Bittker, B. I. (1967). A "Comprehensive Tax Base" as a Goal of Income Tax Reform. *Harvard Law Review, 80*(5), 925-985. doi: 10.2307/1339337

Center, P. R. (2015, March 19, 2015). More Are Bothered by Corporations, Wealthy Not Paying Fair Share Than by What They Pay in Taxes.   Retrieved May 12, 2015, from http://www.people-press.org/2015/03/19/federal-tax-system-seen-in-need-of-overhaul/3-19-2015_01/

Chirinko, R. S. (2002). Corporate Taxation, Capital Formation, and the Substitution Elasticity Between Labor and Capital. *National Tax Journal*, 339-355.

Chirinko, R. S. (2008). σ: The Long and Short of It. *Journal of Macroeconomics, 30*(2), 671-686.

Chirinko, R. S., Fazzari, S. M., & Meyer, A. P. (1999). How responsive is business capital formation to its user cost?: An exploration with micro data. *Journal of public economics, 74*(1), 53-80.

Chua, D. (1995). The Concept of the Cost of Capital: Marginal Effective Tax Rate on Investment. In P. Shome (Ed.), *Tax Policy Handbook* (pp. 161-165). Washington DC: Intermational Monetary Fund.

Clausing, K. A. (2007). Corporate Tax Revenues in OECD Countries. *International Tax and Public Finance, 14*(2), 115-133.

Cobb, C. W., & Douglas, P. H. (1928). A Theory of Production. *American Economic Review*, 139-165.

Federal Reserve Bank of Minneapolis. (2014). The Recession and the Recovery in Perspective. Retrieved March 8, 2014, from https://www.minneapolisfed.org/publications_papers/studies/recession_perspective/

Feldstein, M., & Horioka, C. (1980). Domestic Saving and International Capital Flows. *The Economic Journal, 90*(358), 314-329. doi: 10.2307/2231790

Felix, R. A. (2007). Passing the Burden: Corporate Tax Incidence in Open Economies. doi: https://www.kansascityfed.org/Publicat/RegionalRWP/RRWP07-01.pdf

Felix, R. A., & Hines, J. R., Jr. (2009). Corporate Taxes and Union Wages in the United States. *National Bureau of Economic Research Working Paper Series, No. 15263*. doi: 10.3386/w15263

Gollin, D. (2002). Getting Income Shares Right. *Journal of Political Economy, 110*(2), 458-474.

Gravelle, J. G. (1994). *The Economic Effects of Taxing Capital Income*. Cambidge, Massachusetts: MIT Press.

Gravelle, J. G. (2010). *Corporate Tax Incidence: Review of General Equilibrium Estimates and Analysis*. Washington, DC.

Gravelle, J. G. (2014). Raising Revenue from Reforming the Corporate Tax Base. In J. W. Diamond & G. R. Zodrow (Eds.), *Pathways to Fiscal Reform in the United States* (pp. 290-334). Cambridge, Massachusetts: The MIT Press.

Gruber, J. (2013). A Tax-Based Estimate of the Elasticity of Intertemporal Subsitution. *Quaterly Journal of Finance, 3*(1), 1-20.

Hall, R. E. (1988). Intertemporal Substitution Effects. *Journal of Political Economy, 96*(2), 339-357.

Hall, R. E., & Jorgensen, D. W. (1967). Tax Policy and Investment Behavior. *American Economic Review, 57*, 391-414.

Hall, R. E., Rabushka, A., & Krepelka, J. (1995). *The Flat Tax* (Vol. 423): Wiley Online Library.

Harberger, A. (1980). Vignettes on the World Capital Market. *American Economic Review, 70*(2), 330-337.

Harberger, A. (1995). The ABCs of Corporation Income Taxation *Tax Policy and Economic Growth* (pp. 51-73). Washington DC: American Council for Capital Formation.

Harberger, A. C. (1962). The Incidence of the Corporation Income Tax. *The Journal of Political Economy*, 215-240.

Hobbes, T. (1998). *Leviathan [electronic resource] / Thomas Hobbes ; edited with an introduction and notes by J.C.A. Gaskin* (J. C. A. Gaskin & I. NetLibrary, Trans. J. C. A. Gaskin & I. NetLibrary Eds.). Oxford ; New York: Oxford University Press.

Hodge, S. (2011). Ten Benefits of Cutting the Corporate Tax Rate *Special Report*. Washington DC: Tax Foundation.

International Tax Reform Working Group, S. F. (2015). *International Tax Reform Working Group: Final Report*. Retrieved from http://www.portman.senate.gov/public/index.cfm/files/serve?File_id=923a866b-9c71-429a-a655-5dd0adef2caa.

IRS. (2012a). *Statistics of Income*. Washington DC: U.S. Internal Revenue Service.

IRS. (2012b). *Statistics of Income*. Washington DC: U.S. Internal Revenue Service Retrieved from http://www.irs.gov/pub/ins-soi/12CorporateReturnsOneSheet.pdf.

IRS. (2012c). *Statistics of Income*. Washington DC: U.S. Internal Revenue Service.

Johansson, A., Heady, C., Arnold, J., Brys, B., & Vartia, L. *Taxation and Economic Growth*: OECD Publishing.

Jorgensen, D. W. (1963). Capital Theory and Investment Behavior. *American Economic Review, 53*, 247-259.

Keynes, J. M. (1936). *The General Theory of Interest, Employment, and Money*: London: Macmillan.

Marples, D. a. J. G. G. (2014). Corporate Expatriation, Inversions, and Mergers: Tax Issues. *Congressional Research Service*, 17.

Marshall, A. (1961). *Principles of Economics* (C. W. Guillebaud & S. Royal Economic, Trans. C. W. Guillebaud & S. Royal Economic Eds. 9th (variorum) ed., with annotations by C. W. Guillebaud ed.). London, New York: Macmillan for the Royal Economic Society.

Mathur, V. K. (2015). Political posturing shouldn't guide corporate tax reform. Retrieved May 23, 2015, from http://www.standard.net/Guest-Commentary/2015/03/21/Economic-arguments-should-guide-corporate-tax-reform

Meric, I., Sprotzer, I. B., & Meric, G. (2013). How Lower Corporate Tax Rates Would Spur Economic Growth and Reduce Unemployment. *Journal of Taxation and Investments, 31*(1), 45-52.

Mintz, J. (1995). The Corporation Tax: A Survey. *Fiscal Studies, 16*(4), 23-68.

Mintz, J., & Chen, D. (2014). The U.S. Corporate Effective Tax Rate: Myth and the Fact. Retrieved May 10, 2015, from http://taxfoundation.org/article/us-corporate-effective-tax-rate-myth-and-fact

Mooij, R. A. d., & Ederveen, S. (2008). Corporate Tax Elasticities: A Reader's Guide to Empirical Findings. *Oxford Review of Economic Policy, 24*(4), 680-697.

NCFRR. (2011). *The Moment of Truth*. Washington DC: National Commission on Fiscal Responsibility and Reform Retrieved from http://www.fiscalcommission.gov/.

Ngoie, J. K., & Zellner, A. (2012). The use of a Marshallian macroeconomic model for policy evaluation: Case of South Africa. *Macroeconomic Dynamics, 16*(03), 423-448.

OECD. (2015). Corporate Income Tax Rates.   Retrieved May 10, 2015, from http://stats.oecd.org//Index.aspx?QueryId=58204

Romer, D. (2012). *Advanced Macroeconomics* (4th ed.): McGraw-Hill.

Rosen, H. S., & Gayer, T. (2008). *Public Finance*. New York, NY: McGraw-Hill.

Rubin, R. (2015). Cash Abroad Rises $206 Billion as Apple to IBM Avoid Tax.   Retrieved May 20, 2015, from http://www.bloomberg.com/news/articles/2014-03-12/cash-abroad-rises-206-billion-as-apple-to-ibm-avoid-tax

Sperling, G. (2014, October 8, 2014). Believe It or Not, Corporate Tax Reform is Doable in 2015, Opinion Editorial. *Wall Street Journal*.

Stodola, S. (2011). 10 Giant Loopholes That Businesses Use to Dodge Taxes. Retrieved from http://www.businessinsider.com/corporate-tax-breaks-2011-2?op=1

Sullivan, M. (2013). Behind the GAO's 12.6 Percent Effective Corporate Tax Rate. *Tax Notes*, 197-200.

Trabandt, M., & Uhlig, H. (2011). The Laffer Curve Revisited. *Journal of Monetary Economics, 58*(4), 305-327.

Treasury, D. o. t. (2007). *Approaches to Improving the Competitiveness of the U.S. Business Tax System for the 21st Century*. Washington, DC: U.S. Department of the Treasury.

Tuerck, D. G., Jonathan Haughton,Paul Bachman, Alfonso Sanchez-Penalver and Phuong Viet Ngo. (2007). A Distributional Analysis of Adopting the FairTax: A Comparison of the Current Tax System and the FairTax Plan. Boston: The Beacon Hill Institute at Suffolk University.

Wildasin, D. (1990). R. M. Haig: Pioneer Advocate of Expenditure Taxation? *Journal of Economic Literature, 28*(2), 649-654. doi: 10.2307/2727267

Zee, H. H. (1995). Value-Added Tax. In P. Shome (Ed.), *Tax Policy Handbook* (pp. 86-99): International Monetary Fund.

Zellner, A., & Ngoie, J. K. (2015). Evaluation of the Effects of Reduced Personal and Corporate Tax Rates on Growth Rates of the U.S. Economy. *Econometric Reviews, 34*(1-2), 56-81.