International Competitiveness, Tax Incentives, and a New Argument for Tax Sparing: Preventing Double Taxation by Crediting Implicit Taxes

Michael S. Knoll
University of Pennsylvania Law School

Follow this and additional works at: https://scholarship.law.upenn.edu/faculty_scholarship

Part of the Corporate Finance Commons, International Business Commons, International Economics Commons, Law and Economics Commons, Taxation Commons, and the Taxation-Transnational Commons

Repository Citation

This Article is brought to you for free and open access by Penn Law: Legal Scholarship Repository. It has been accepted for inclusion in Faculty Scholarship at Penn Law by an authorized administrator of Penn Law: Legal Scholarship Repository. For more information, please contact PennlawIR@law.upenn.edu.
International Competitiveness, Tax Incentives, and a New Argument for Tax Sparing:

Preventing Double Taxation by Crediting Implicit Taxes

Michael S. Knoll*
University of Pennsylvania

Key words: tax sparing, foreign tax credit, worldwide taxation, competitiveness, tax competition, implicit taxes, foreign direct investment, international taxation, capital export neutrality (CEN), capital import neutrality (CIN), capital ownership neutrality (CON), national neutrality (NN).

JEL Codes: E62, F00, F13, H21, H25, K34, and O10

- Theodore K. Warner Professor, University of Pennsylvania Law School; Professor of Real Estate, Wharton School; Co-director, Center for Tax Law and Policy, University of Pennsylvania. I have benefited from a presentation that I made at the 2007 Law and Society meetings. I thank Alvin Dong for assistance with the research. Preliminary draft – not for quotation or attribution without the permission of the author. Copyright 2008 by Michael S. Knoll. All rights reserved. Comments welcome. I can be reached at mknoll@law.upenn.edu.
International Competitiveness, Tax Incentives, and a New Argument for Tax Sparing:

Preventing Double Taxation by Crediting Implicit Taxes

Michael S. Knoll
University of Pennsylvania

I. INTRODUCTION

Much of the United States’ current international tax regime dates back to the 1950’s. At that time, international trade and cross-border investment played a much smaller role in the U.S. economy than they do today. In 1960, international trade in goods represented 6 percent of gross domestic product (GDP). In 2006, it accounted for 20 percent of GDP.\(^1\) In 1960, annual cross-border investment flows represented 1 percent of GDP. In 2006, that number was 18 percent of GDP. By 2006, the aggregate ownership of foreign capital by U.S. investors and of U.S. capital by foreign investors totaled $26 trillion – about two years’ GDP.\(^2\)

That dramatic growth in cross-border transactions is prompting a rethinking of international tax principles and is refocusing attention on how the tax system affects the competitiveness of U.S. workers and businesses. Policymakers have been especially interested in two issues: where investment occurs and who owns

---

\(^1\) Trade in services, which was not counted in 1960, represented another 5 percent of GDP.

what investments. Governments want investment to incur within their borders. Domestic investment sustains employment, encourages economic growth and provides a tax base. Although the reasons are not always as clearly articulated, governments also have an interest in seeing their residents – both individuals and business entities – own and control a substantial portion of both domestic and foreign assets. Those two issues – the location of investment and who owns a given investment – are at the heart of the debate over tax sparing.3

II. TAX SPARING

Tax sparing has been described as “perhaps the most contentious” international tax treaty issue of the day.4 In this Part, I describe tax sparing, provide a brief history of the practice, and offer a short overview of the arguments for and against tax sparing. However, before discussing tax sparing, I first provide a very brief introduction to cross-border taxation.

A. Territorial and Worldwide Taxation

There are two leading paradigms for how countries tax their residents on their foreign income. The two paradigms are territorial taxation and worldwide taxation. Although no country is a perfect exemplar of either system, countries tend to cluster around one or the other system.

A territorial tax system taxes each taxpayer only at the source. Income earned in one country is not taxed in any other country. Thus, with a territorial tax system, investment income is taxed at the rate applied in the source jurisdiction to local investments. Such a tax system is said to satisfy capital import neutrality (CIN) because foreign and domestic investors are subject to tax at the same rate on any given investment. With a territorial tax system,


residents pay no tax in their home country on income earned abroad.

In contrast to a territorial tax system, a worldwide tax system taxes income both in the country where it is earned and in the country where the taxpayer resides. Long-standing convention gives the primary right to tax to the source country. Accordingly, in order to prevent double taxation, the country of residence grants a foreign tax credit for the taxes that a resident taxpayer pays to foreign governments on foreign-source income. In theory, a worldwide tax system requires an unlimited foreign tax credit. With contemporaneous taxation at home and abroad, and an unlimited foreign tax credit, the effect of worldwide taxation is to tax the investor at the investor's residence country tax rate on any investment. Such a tax system is said to satisfy capital export neutrality (CEN) because an investor is subject to the same tax rate regardless of the location where the income arises.

Territorial and worldwide tax systems are the principal ideals in cross-border taxation today. There is a third tax system, largely out of favor, which is similar to a worldwide tax system in that it subjects foreign income to tax, but differs from a worldwide tax system in that it does not provide a foreign tax credit. Instead, foreign investors include their after-tax foreign income in their home country income. In effect, such a tax system provides a deduction for taxes paid to foreign governments on foreign source income. Such a tax system is said to satisfy national neutrality (NN).

NN is sometimes said to encourage the maximization of national welfare because it places the same value on host country tax revenues and the revenues of host country actors, while at the same time placing no value on foreign country tax revenues. That is to say, NN values home country tax revenues, but not foreign country tax revenues. Accordingly, NN has been widely rejected as an appropriate welfare benchmark for international taxation because of its beggar-thy-neighbor quality. If everyone followed NN, there would be much less cross-border investment and a substantial welfare loss. Even commentators who advocate adopting an international tax system that maximizes national, as

---

5 A country with an unlimited foreign tax credit will refund taxes on domestic income if the source country tax on foreign income exceeds the residence country tax on that income. No country offers a truly unlimited foreign tax credit.

6 Throughout this essay, I largely ignore the possibility of deferring residence country taxation with a worldwide tax system. Conceptually, such deferral is effectively a reduction in the excess of the home country tax rate over the source country tax rate.
opposed to global welfare, generally reject NN because of the likelihood of retaliation and the subsequent loss of national welfare. NN, however, plays a significant role in understanding the economic consequences of tax sparing.

B. What is Tax Sparing?

Host countries grant investment tax incentives in order to attract foreign investment so as to promote economic development. In order for a tax incentive offered by a host country government to have its intended effect, the country of residence must not collect (at the same time and in the same amount) the tax revenue that the host country foregoes. When the country of residence has a territorial tax system, the incentive remains intact because the country of residence does not tax foreign source income.

In contrast, for a country with a worldwide tax system, the foreign tax credit only credits taxes paid by the taxpayer to a foreign government. Accordingly, when the foreign investor is a resident of a country with a worldwide tax system, the tax incentive will not reduce the investor’s tax. Instead, the residence country will collect the tax that the host country spares. In that case, the tax incentive merely shifts tax revenue from the treasury of the host country that foregoes the tax to that of the residence country.

If, however, the country of residence has a tax sparing agreement with the source country that applies to the tax incentive, then the residence country will give its investor a foreign tax credit for the taxes that investor did not pay to the host country by virtue of the host country’s tax incentives. That is to say, the investor will receive a foreign tax credit for taxes that have been “spared” by the host country. In that case, the tax incentive will reduce the total taxes paid by the investor and collected by the host government. Also, the incentive will have no impact on the taxes collected by the government of the country of residence. Thus, the question whether or not to engage in tax sparing arises only when a country has a worldwide tax system.

---

7 For an extensive study of investment tax incentives in the international context, see Alex Easson, Tax Incentives for Foreign Direct Investment (2004).
C. The History of Tax Sparing

The history of tax sparing dates back more than 50 years. In 1953, the British Royal Commission looking at whether to use tax policy to aid British overseas investment recommended that Great Britain adopt tax sparring. The issue was debated in Parliament before it was finally rejected by the Chancellor of the Exchequer in 1957. The discussion in Britain over tax sparing, however, continued, and in 1961, tax sparing legislation was enacted in the United Kingdom.\(^9\)

Ironically, tax sparing first appearance in a tax treaty is in a treaty negotiated between the United States and Pakistan. The 1957 United States – Pakistan draft treaty provided for temporary tax sparing on the business income of U.S. taxpayers partially or fully exempt from tax by a Pakistani statute. The U.S. Senate, however, disapproved of the tax sparing provision and refused to ratify the treaty. Since that time, the United States has steadfastly opposed the inclusion of tax sparing provisions in its income tax treaties.\(^11\) As a result, the United States has never ratified a treaty with a tax sparing provision.\(^12\)

In spite of consistent U.S. opposition, there was widespread adoption and use of tax sparing provisions beginning in the 1960’s and continuing into the 1990’s. Such provisions were included in many treaties, especially between developed countries and developing countries.\(^13\) Those treaties – many of which are still in force today – generally provide for tax sparing by the developed country in favor of the developing country. That is to say, the developed country agrees to provide its residents with a foreign tax credit for the taxes that its residents do not pay to the host country on source income earned in the source country by virtue of a specified foreign tax incentive.

---


\(^10\) OECD, Reconsideration, supra note [], at 15.

\(^11\) OECD, Reconsideration, supra note [], at 15-16.

\(^12\) Whether a specific provision is or is not a tax sparing provision is not always clear. For example, Article X of the income tax treaty between Germany and the United States provides that Germany will reduce its dividend withholding tax to 10 percent, but the United States would grant a 15 percent credit. Such a provision might be thought to be a form of tax sparing.

\(^13\) OECD, Reconsideration, supra note [], Annex II 64-66 (tax sparing provisions among OECD countries); Annex III 67-69 (tax sparing provisions between OECD and non-OECD countries).
As of 1998, among the 29 members of the Organization for Economic Cooperation and Development (OECD), all but the United States has included a tax sparing provision in at least one of its international tax treaties. And most member countries had many treaties with tax sparing.

Within the OECD, the most frequent beneficiaries of tax sparing provisions are the following countries: Greece, Ireland, Italy, Korea, Mexico, Portugal, Spain and Turkey. Reciprocal grants of tax sparing are rare. The one notable exception is for treaties to which South Korea is a party. As of 1998, South Korea had 6 such treaties with other OECD members. As of 1998, other countries with more than one treaty with reciprocal tax sparing provisions are the following: Italy (4), Czech Republic (2), and Turkey (2).

Almost all OECD members have tax sparing provisions in treaties with non-OECD members. Among the non-OECD countries that are most frequently the beneficiaries of tax sparing by OECD members are Argentina, Brazil, China, India, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Venezuela. Many developing countries choose not to have a tax treaty rather than to enter into one that does not grant it tax sparing. Accordingly, the United States, because of its opposition to tax sparing, has a much smaller network of international tax treaties than do many other OECD countries.

The growth of tax sparing provisions came to “a relatively abrupt halt” about ten years. In 1998, the OECD issued a report, called Tax Sparing: A Reconsideration. In that report, the OECD questions the merits of tax sparing and calls for a collective reconsideration of the practice. As the OECD writes:

“Many OECD Member countries that have been critical to or opposed to inclusion of tax sparing provisions in treaties apply the credit method to

---

14 The OECD is an international organization of 30 member countries that accept the principles of representative democracy and free market economics. Slovakia, the 30th member, joined in 2000.
15 See OECD, Reconsideration, supra note [], Annex II 64-66 (tax sparing provisions among OECD countries); Annex III 67-69 (tax sparing provisions between OECD and non-OECD countries).
17 Brooks, supra note [], at [13].
18 OECD, Reconsideration, supra note [].
avoid double taxation. These countries generally take the view that the overall tax system of a particular country should be neutral so that the tax consequences of investment decisions ought to be the same regardless of whether the investment is made at home or abroad. Tax considerations should not influence investors’ decisions to invest domestically or abroad.”

“To satisfy this objective, many such countries apply the foreign tax credit method in taxing foreign source income. Tax sparing provisions are incompatible with the policy behind the credit method in that they preserve the effectiveness of foreign tax incentives, making it more favorable, with respect to taxation, to invest abroad than at home.”

Nonetheless, the OECD report did not call upon member countries to stop granting tax sparing. Instead, the OECD acknowledged the existing practice of countries deciding whether or not to include a tax sparing provision in their bilateral treaties. In addition to calling for reconsideration, the OECD listed what it described as best practices that countries should follow if they grant tax sparing. Those practices, many of which were already being followed by many member countries, include the following: defining the covered tax incentive precisely and not providing for open-ended tax sparing; restricting the tax sparing credit for local as opposed to export activities; setting a maximum tax rate for the credit; denying any tax sparing credit for income exempt from tax in the country of residence; inclusion of an anti-abuse clause; inclusion of time limitations or sunset clauses; and only granting tax sparing to a country at a considerably lower level of economic development, which should be determined by objective criteria.

For example, in the ten years since the release of the OECD report, neither Australia nor the United Kingdom has granted tax sparing provisions in any of its tax treaties. And Canada has

---

19 OECD, Reconsideration, supra note [ ], at 19.
20 OECD, Reconsideration, supra note [ ], at 35-36.
21 OECD, Reconsideration, supra note [ ], at 36.
22 OECD, Reconsideration, supra note [ ], at 36-37.
23 OECD, Reconsideration, supra note [ ], at 37.
24 OECD, Reconsideration, supra note [ ], at 37.
25 OECD, Reconsideration, supra note [ ], at 37-38.
26 OECD, Reconsideration, supra note [ ], at 38.
27 Brooks, supra note [ ], at [17].
only granted one tax sparing provision since 2000 – to Mongolia – and that provision included a 3-year sunset provision. That the United Kingdom has not granted a tax sparing provision since 1997 is noteworthy because 46 of its international treaties in force contain such a provision.

Tax sparing, however, is not dead. A 2003 study by Victor Thuronyi found that between 2000 and 2003 approximately one third (33 of 107) of the tax treaties negotiated by countries (other than the United States) that tax their residents on their worldwide business income contained a tax sparing clause. Out of Thuronyi’s sample of 107 tax treaties, 70 treaties involved at least one OECD member country, but only 16 (23 percent) of those treaties contained a tax sparing provision.

D. The Standard Arguments for Tax Sparing and the Response of Critics

Since the issue first surfaced more than fifty years ago, the merits of tax sparing have been hotly debated by academics and other commentators. The debate continues today. The proponents of tax sparing have made a range of arguments in an attempt to justify tax sparing and encourage its adoption. Critics

---

28 Brooks, supra note [], at [17].
29 Brooks, supra note [], at [18].
have responded directly to those arguments and have offered other arguments against tax sparing. Those arguments have also drawn responses from proponents. A thorough and comprehensive canvassing of those arguments is beyond the scope of this essay. In this Part, I present a brief summary of the major arguments for and against tax sparing.

Although the proponents of tax sparing have produced a wide range of arguments for tax sparing, three arguments are most commonly advanced as justifications for tax sparing. Those arguments and the responses of critics of tax sparing are discussed next. I then briefly discuss some of the critics’ other arguments against tax sparing.

One of the most frequently offered justifications for tax sparing is that tax sparing is and should be part of a developed nation’s foreign aid program. Many countries, especially poor and developing countries, offer tax incentives to attract foreign direct investment. Foreign investment brings capital, jobs and training to countries with high levels of poverty and unemployment. Investment tax incentives are offered by a developing country as a tool for promoting its own economic development.

A tax sparing agreement will allow tax incentives to redound to the benefit of the foreign investor. In contrast, when the country of residence does not engage in tax sparing, the tax incentive will be swallowed by the residence country treasury. In that case, there is no chance for the tax incentive to have its intended effect.

Critics of tax sparing will often concede that encouraging development is an admirable goal and that wealthy countries should do more. They argue, however, that tax sparing is an inefficient and undesirable means of providing such assistance. They point to the lack of governmental control and supervision, the inability to set amounts (either as floors or ceilings), and

32 Examples of articles that generally oppose tax sparing include the following: Kim Brooks, supra note [ ]; William J. Martin, Treaty Tax-Sparing Credits, 27 Tax Mgmt Int’l J. 444; Deborah Toaze, Tax Sparing, Good Intentions, Unintended Results, 49 Can Tax J. 879 (2001).
33 For a thoughtful and recent assessment of the relative strengths and weaknesses of most of the arguments for and against tax sparing, see Brooks, supra note [ ], at [17]-[45].
34 OECD, Reconsideration, supra note [ ], at 19.
35 Viewed from this perspective, tax sparing is seen as a concession by the developed country to the developing country.
frequently question whether the tax sparing credit will do much good for the host country.

A second argument that is often made is that tax sparing is an appropriate means of showing respect for foreign sovereignty over a foreign country’s own economy. The proponents of tax sparing argue that countries should be able to set tax rates on activities that occur within their borders. However, the source country effectively loses that authority when the investment comes from abroad, the investment benefits from tax incentives, and the country of residence does not grant tax sparing. In that case, any tax incentive goes from the host country treasury to the residence country treasury.

Critics of tax sparing reject this argument. Carried out to its logical extension, they argue, the proponents’ argument calls for the country of residence to have a territorial tax system (at least for active business income). Moreover, such an argument seems far too flimsy of a foundation for such an important decision as whether or not to tax residents on their territorial or worldwide incomes. Less philosophically, critics also argue that the country of residence has a legitimate interest in how its residents are taxed. Thus, they argue that claims of sovereignty are not helpful in deciding whether to provide for tax sparing.36

A third rationale sometimes offered for tax sparing is that a tax-sparring provision is necessary in order to prevent domestically based multinational enterprises (MNEs) from being disadvantaged relative to their foreign-based peers. The concern is that if some countries offer tax sparing provisions then MNEs based in those countries will be at a competitive advantage relative to MNEs from those countries that do not offer those provisions.37 In contrast with the first two arguments, under this argument, tax sparing is seen not as a concession from developed to developing country, but as a form of tax competition among developed countries.

Critics, however, note that any form of tax reduction is likely to improve the competitiveness of the investor receiving the tax reduction. Such an argument without more is, thus, an argument to cut taxes across the board – at least for residents with foreign source income – because they are competing with other investors some of which are likely to pay more tax. As with the argument immediately above, this argument would seem to also lead to a territorial tax system. Properly understood, such an argument is

36 Peroni, supra note [1].
37 OECD, Reconsideration, supra note [1], at 19.
not an argument for tax sparing because it is not tied to or limited to tax sparing.

In addition to responding to the arguments of proponents for tax sparing, the critics of tax sparing also offer a series of arguments against the practice. First, some critics of tax sparing argue that tax sparing is inconsistent with the logic of the foreign tax credit, which is that foreign income should be taxed once and only once. Tax sparing violates that central principle because income that benefits from a foreign tax incentive and then goes untaxed by the country of residence is not taxed at all.

Second, some critics of tax sparing point out that although tax incentives and direct incentives are economically equivalent – both benefit the investor at the expense of the source treasury – those two types of government programs are treated similarly for tax purposes when the country of residence does not grant tax sparing and differently when it does. Tax sparing, thus, provides foreign countries with an incentive to favor tax incentives over other economically equivalent investment incentives. In addition, the widespread practice of not granting tax concessions when the source country offers other types of investment incentives demonstrates the conceptual failing of tax sparing.

Third, some critics of tax sparing argue that their opposition to tax sparing is not so much because tax sparing is itself harmful. Instead, they argue that the real problem is with tax incentives. Tax incentives, so the argument goes, distort investment decisions, produce waste and inefficiency, and encourage a harmful race to the bottom among nations. Viewed from this perspective, countries have an obligation to refrain from tax sparing as a means of discouraging other countries from offering tax incentives.

Fourth, some critics of tax sparing point out that tax sparing provisions are often abused. The OECD Report lists four types of abuse. They are: transfer pricing, conduit situations, routing, and the maintenance of artificially high tax rates. Except for the possibility of a country setting an artificially high tax rate so that it can lower that rate by granting investment tax incentives and thereby generate extra tax sparing credits for the investor, the other abuses are all the types of abuses that arise whenever there are tax differences across countries. Thus, such arguments would not seem to be especially forceful as applied to tax sparing. In contrast, the possibility of the source country government

---

38 OECD, Reconsideration, supra note [], at 28-30.
setting an artificially high tax rate on the books and to effectively lower that tax rate with tax incentives is an argument against tax sparing.

III. HOW FOREIGN TAX INCENTIVES DISADVANTAGE U.S. COMPETITORS

In this Part, I describe how foreign tax incentives disadvantage U.S. investors and investors from other countries that have adopted a worldwide (residence-based) tax system and do not engage in tax sparing. This Part is divided into four sections. In the first section, I introduce a simple example that illustrates the disadvantage. In the second section, I provide the intuition for that result. In the third section, I show that a comparable problem does not occur with a territorial (source-based) tax system. In the fourth section, I briefly describe several empirical studies that have looked at the impact that tax incentives and tax sparing have had on cross-border investment.

A. A Simple Example

Consider the following simple example. There is a one-year investment that will pay $1100 in one year (the candidate investment). Initially, there are just two countries – A and B. Investors from the two countries compete for the candidate investment, which is located in country B. The investors are all assumed to be equally proficient in owning and operating the investment. Thus, all investors would generate the same cash flow from the candidate investment using the same inputs. It, therefore, follows that in a world without taxes, investors from country A will value the candidate investment as much as investors from country B. The assumption that all investors are equally proficient is not realistic. I make it in order to isolate the impact of taxes. That assumption implies that any difference in the value of the investment to investors from different countries is a result of taxes.

Introduce taxes. Country A has a worldwide tax system. Assume that the before-tax interest rate is 10 percent a year everywhere. All of the income from the candidate investment arises in country B, which has the first right to tax that income. Thus, country B’s international tax system is largely irrelevant to the analysis that follows. Assume country B imposes tax at 40 percent. Initially, assume country B does not offer any investment incentives.
In order to calculate the value of the candidate investment to investors resident in country B, we must first calculate their hurdle rate for new investments – the minimum rate of return that they must receive on their investments.\textsuperscript{39} Given a before-tax rate of return of 10 percent everywhere, and a 40 percent tax rate everywhere, investors from country B will earn 6 percent after tax wherever they invest. Thus, they must earn the same 6 percent (or more) after tax on the candidate investment or they will not hold it. Given a 40 percent tax rate, an after-tax rate of return of 6 percent translates into a 10 percent before-tax rate of return. It, thus, follows that the maximum amount that investors resident in country B will pay for the candidate investment is $1000.\textsuperscript{40}

We can perform a similar exercise for potential acquirers of the candidate investment resident in country A. The assumption that country A has a worldwide tax system (with an unlimited foreign tax credit) implies that investors from country A earn 10 percent on their alternative investments everywhere they invest. In order to illustrate some of the subtleties with tax sparing it is helpful to assume that the countries have different tax rates. Thus, assume that the residents of country A are taxed at 50 percent on their worldwide income. Thus, they will earn 5 percent after tax on their alternative investments. With their 50 percent tax rate, that 5 percent after-tax rate of return translates into the same 10 percent before tax rate of return. Thus, the maximum amount that an investor from country A will pay for the candidate investment is also $1000.\textsuperscript{41}

\textsuperscript{39} In order to calculate the value of the candidate investment to a potential investor, the following notation is helpful. Denote the pre (explicit) tax cash flow from the candidate investment by C, the before-tax return on alternative investments by R, the total tax rate imposed on an investor from country i on alternative investments by t\textsubscript{i}, the total tax imposed on an investor from country i on the candidate investment by t\textsubscript{j}, and the price paid by an investor from country i for the candidate investment by V\textsubscript{i}. An investor from country i will have C(1- t\textsubscript{j}) + V\textsubscript{i} after paying taxes on the candidate investment. That same investor must receive at least V\textsubscript{i}(1+R(1-t\textsubscript{i})) or will forego the candidate investment for other investments. Equating those two expressions and rearranging terms, yields the maximum bid price for the candidate investment by an investor from country i: \[ V_i = \frac{C(1-t_j)}{1-t_j+R(1-t_i)}. \]

\textsuperscript{40} If the candidate investment is taxed the same as other investments, t\textsubscript{i} = t\textsubscript{j}, then the equation in footnote [\( ] \) for the maximum bid price an investor in country I will pay for the candidate investment simplifies to \[ V_i = \frac{C}{1+R}. \] Substituting $1100 for C and 10 percent for R into that equation yields $1000. That an investor from country B is willing to pay up to $1000 to acquire the candidate investment can be seen as follows. In one year, that investor will receive $1100. Of that amount, $100 is income. The country B investor pays $40 tax on that income and so is left with $1060. Thus, the investor earns an after-tax return of 6 percent, which confirms that such investor is willing to pay up to $1000 for the candidate investment.

\textsuperscript{41} That can be seen using the equation in footnote [\( ] \) and substituting $1100 for C and 10 percent for R. As is apparent from that equation, when the candidate investment is
In one year, that investor will receive $1100 and pay $40 tax to country B on $100 income. That investor will also report $100 income to the tax authorities in country A and be assessed a tax liability to country A’s fisc of $50. That investor will also receive a foreign tax credit of $40 and so will owe an additional $10 tax to country A. Thus, the investor from country A will pay $50 tax in total and be left with $1050. Such an investor will value the candidate investment at $1000 because the candidate investment generates the same after-tax return of 5 percent as other investments.

As the example above illustrates, investors from countries A and B both value the candidate investment at $1000. Thus, neither party has a tax-induced advantage in acquiring the asset. Accordingly, if one investor were able to squeeze more value out of the candidate investment, say an additional $1.10, it would be able to outbid other potential buyers, by $1, to acquire the candidate investment. In such circumstances, the tax system is neutral with respect to who will acquire the asset. That is to say, the tax system does not affect the ownership of assets because it does not change relative values across investors.42

Introduce a very simple tax incentive. Assume country B exempts the return from the candidate investment from tax in that country. For investors resident in country B, only the tax rate in country B is directly relevant. If that tax rate is reduced to 0, then if the candidate investment still costs $1000 and still pays $1100 in one year, then investors in country B will find the candidate investment more attractive than alternative investments. Under those assumptions, the candidate investment pays 10 percent after-tax, whereas all other investments return 6 percent after tax. Thus, competition for the candidate investment will increase and that competition will tend to reduce the return from holding that asset. Assume that the price of the candidate investment remains at $1000, but that increased competition due to the tax incentive

---

42 The examples in this essay assume that the investors operate with fixed stocks of capital. That assumption implies that equally efficient investors with different tax rates will value ordinarily taxed assets at the same amount. If, however, the investors are conduits, then the conduit that is subject to a lower tax rate will enjoy an advantage. See Knoll, Competitiveness, supra note [ ]. Under such circumstances differentially taxed assets have the small type of consequences as described below, but the exposition and arithmetic are more complicated.
drives the cash flow from the investment down to $1060. At that point, investors in country B are indifferent between the candidate investment and alternative investments.

What about an investor from country A? Because country B has exempted the candidate investment from tax in that country, an investor from country A will not pay any tax to country B if it acquires that investment. However, because country A has a worldwide tax system with a foreign tax credit, and because the investor does not pay any tax to country B, that investor will not receive a foreign tax credit from country A. Thus, the investor from country A will pay tax at 40 percent to country A on its income from the candidate investment in country B. Assuming that the country A investor purchases the candidate investment for $1000 and that the investment produces $1060, the investor will report $60 in income to country A and be assessed a tax liability of $30. Because the investor pays no tax to country B, the investor does not receive a foreign tax credit, and so the investor will pay $30 in taxes to country A. That will leave the country A investor with $1030 after paying tax.

For the investor from country A, that translates into an after-tax return of only 3 percent a year. Because the after-tax return on the candidate investment to the country A investor is less than 6 percent – the return that such an investor earns on other available investments – a country A investor will not be willing to bid as much as $1000 for the candidate investment. Indeed, the most an investor from country A will pay for the candidate investment is $963.64. It, thus, follows investors from country B will outbid investors from country A for the candidate investment. Because both groups of investors are assumed to be equally productive and efficient, the difference in maximum bid prices is a result of taxes. Specifically, country B’s tax incentives disadvantage investors from country A relative to investors from country B.

Moreover, the tax advantage enjoyed by investors from country B relative to those from country A is an increasing function of the magnitude of the tax incentive country B provides. As that is easiest to visualize when there is free entry into the industry so that tax incentives bring forth more production, thereby lowering output and profits. More formally, that can be seen using the equation in footnote [] and setting C equal to $1060, $t_i$ equal to 0 and $t_j$ equal to 40 percent. That can be seen using the equation in footnote [] and setting C equal to $1060, $t_i$ equal to 50 percent and $t_j$ equal to 50 percent. It might be thought that the disadvantage that arises in the example is an artifact of country A having a higher tax rate than country B. It is not. Regardless of relative tax rates, tax incentives will still disadvantage foreign investors. This can be demonstrated.
described above, when there is no tax incentive, there is no difference in bid prices. Investors from both countries value the candidate investment at $1000. If the tax incentive cuts the statutory tax rate in half – from 40 percent to 20 percent – then the candidate investment is still worth $1000 to investors from country B, but it will be worth only $977.27 to investors from country A. That difference, $22.73, is less than the difference with complete exemption, $36.36. Table 1 below gives the maximum bid price for investors from countries A and B and the difference (the tax-based advantage enjoyed by investors from country B) between them both in dollars and as a percentage of the $1000 bid price of country B investors. That table shows that the larger the tax incentive provided by country B the bigger the advantage enjoyed by investors from country B over investors from country A.

PLACE TABLE 1 HERE

by assuming that the tax rate in country A is alternatively 30 percent (lower than that of country B) and 40 percent (equal to that of country B). Start with a 30 percent tax rate and assume that the foreign tax credit is limited to 30 percent. As country B reduces the tax on the candidate investment, the market rate of return from holding the candidate investment falls. As long as the tax rate on the candidate investment in country B is at least 30 percent, the investor will pay no tax on the candidate investment to country A. Thus, tax incentives that reduce the tax on the candidate investment from 40 percent down to 30 percent are not offset by country A. Hence, over that range, tax incentives benefit investors from country A as well as from country B. However, once the tax rate on the candidate investment in country B reaches the statutory tax rate in country A (30 percent), then any further tax incentives will reduce the explicit tax rate for investors resident in country B, but not for those resident in country A. At this point, additional tax incentives granted to residents of country A are offset by additional taxes paid to country A. Such tax incentives, therefore, disadvantage investors from country A relative to those from country B. Consider a 40 percent tax rate in country A. In that case, an investor from country A pays no tax on the full return from any investment in country B taxed at the statutory rate of 40 percent. Accordingly, as the tax assessed on the candidate investment by country B falls, the tax collected by country A increases, thereby disadvantaging investors from country A.

47 The maximum bid prices in Table 1 are calculated as follows. First, the cash flow from the candidate investment, C, is calculated by rearranging the equation in footnote [1] to solve for C instead of for \( V_i \) and setting \( V_i = 1000 \), \( t_i = 50 \) percent and \( t_j \) equal to the tax rate in the top row of Table 1. That gives the cash flow from the candidate investment assuming that investors from country B determine the equilibrium cash flow. The maximum bid price to an investor in country A is then calculated using that same equation, but in its original form, so it solves for \( V_i \) not C, using the derived value for C and setting \( t_i = t_j = 40 \) percent, which simplifies to \( V_i = C/(1+R) \) when \( t_i = t_j \).

48 Interestingly, the disadvantage is independent of the tax rate in the country of residence. That is because a higher tax rate decreases the return on alternative assets and the candidate investment proportionately.
B. The Source of the Tax Disadvantage

As demonstrated in the last section, tax incentives provided by country B on domestic investments will disadvantage investors from country A relative to those from country B. More generally, tax incentives will disadvantage foreign investors from countries that impose tax on the worldwide income of their residents relative to investors from the country that offers the incentive. In this section, I describe the intuition behind that result. In brief, the advantage that investors from the source country enjoy over investors from abroad arises because the foreign tax credit does not credit implicit taxes. The foreign tax credit only credits explicit taxes. In effect, when the source country provides investment tax incentives, it is substituting implicit taxes (not credited) for explicit taxes (credited). Because implicit taxes are not creditable, an investor from country A pays taxes twice – once explicitly and once implicitly – when the source country offers a tax incentive. That such double taxation is the source of the disadvantage can be illustrated by returning to the example.

As the example demonstrates, the tax benefit that country B provides to the owner of the candidate investment increases the attractiveness of that investment to investors from country B. The tax incentive causes investors from country B to bid down the rate of return from holding the candidate investment. In order for the tax-advantaged candidate investment to be as attractive to potential bidders as normally taxed alternative investments, investors from country B need to earn a before-tax rate of return of only 6 percent on the candidate investment. That 4 percentage point reduction in the hurdle rate – from 10 percent to 6 percent – represents a 40 percent reduction in the required rate of return on the investment.

To keep the arithmetic simple, I assume that the price of the candidate investment remains $1000, but that increased competition pushes down the cash flow from owning the candidate investment from $1100 to $1060. Thus, the $40 decrease in the cash flow produced by the candidate investment is a direct result of the investment incentive and market competition.⁴⁹

⁴⁹ Alternatively, the cash flow could remain at $1100 with competition driving the bid price up to $1037.74. Economically, the key is that the market return drops to 6 percent – whether it is a decline in cash flow, a rise in price, or some combination of the two is irrelevant. Throughout this essay, I assume a drop in cash flow because it illustrates the implicit tax most clearly and directly.
In the language of tax economics, the candidate investment is subject to an implicit tax of 40 percent or $40. The $40 reduction in the cash flow from the candidate investment as a result of the tax incentive is itself a tax. To the owner of the asset, the market’s response to the tax incentive is itself a tax. The market’s response is from the perspective of the investor as much of a tax as any government imposed and collected tax because it reduces the owner’s cash flow from holding the asset by the same amount as an explicit tax of the same size. The principle difference is that the market response is an implicit, rather than explicit, tax. That is because the $40 revenue is not collected by country B’s treasury. Instead, the revenue, in effect, goes to providers of scarce resources to the industry (if costs – input prices\(^{50}\) – increase), consumers (if per unit revenue – output prices – decrease), or as is frequently the case some combination of factor suppliers and consumers. In the example, however, the benefit of the tax is passed through to consumers who purchase the output produced by the candidate investment at a lower price.\(^{51}\) In contrast with an explicit tax, which is imposed by statute and collected by tax authorities, an implicit tax arises through market forces. Competition for the higher return from owning a lightly taxed asset brings down the return to equilibrate the market. That reduction in return is a form of tax. It is an implicit tax.

In the simple example, where the tax incentive is complete exemption, investors in country B, thus, see the decision whether to buy the candidate investment or invest in alternative assets as a choice between paying a 40 percent explicit tax (on the alternative investment) or a 40 percent implicit tax (on the candidate investment). In either case, the total tax is 40 percent, and so investors from country B are indifferent between the two assets.\(^{52}\)

The calculation is different in an important respect for an investor from a country with a worldwide tax system. If an investor from country A wants to acquire the candidate investment, that investor must bid at least $1000 in order to avoid being outbid by an investor from country B. That implies that the country A investor’s return from the candidate investment after paying tax in country B will be 6 percent. If an investor from country A acquires

\(^{50}\) Wages are the price paid for using labor as an input.

\(^{51}\) The market equilibrium would be identical in substance, but not in form, if investors in the candidate investment were taxed in country B at the regular rate of 40 percent and country B used the revenue to subsidize consumers who purchased the output.

\(^{52}\) I ignore and therefore do not discuss the possibility of investors subject to different tax rates sorting themselves among assets. Such clientele effects would occur here with more complex tax schedules.
the candidate investment, then that investor pays the implicit tax at the same rate as an investor from country B. Country A, however, has a worldwide tax system and imposes tax at a rate of 50 percent on the global incomes of its residents. Thus, country A assesses a 50 percent tax on the 6 percent return a resident of country A earns from holding the candidate investment. That tax is an additional 3 percentage points ($30), and it drives the after-tax rate of return down to 3 percent ($30). That is substantially below the return on alternative investments – 5 percent ($50) – and so investors from country A will avoid the candidate investment.53

As the example makes clear, investors from country A are paying total tax on the candidate investment at a total tax rate that is substantially higher than 50 percent – the total tax rate paid by an investor from country B. The total tax rate on the candidate investment when it is owned by investors from country A is 70 percent, which is the sum of 40 percent implicit tax plus 30 percent explicit tax. The explicit tax rate is 30 percent -- not 50 percent – because a 50 percent statutory tax is assessed on the 6 percent after implicit tax return produced by the candidate investment. The country A tax is not assessed on the 10 percent return before both explicit and implicit taxes. In effect, the implicit tax paid in country B is deductible before assessing the explicit tax due to country A. If, however, the country B tax were explicit rather than implicit, it would be creditable, not deductible. As long as the tax rate is less than 100 percent, a credit is more valuable than an equivalent deduction.

C. Territorial Tax System

It is important to point out that investors from a country with a territorial tax system are not disadvantaged when a foreign country uses tax incentive to encourage investment. Consider another country, country C, with a territorial tax system. Country C's investors earn the after-tax return wherever they invest. Thus, they earn 6 percent in country B on the candidate investment.

53 Of course, an investor from country A might still outbid investors from country B. That, however, is unlikely unless such an investor is a much more productive owner of the candidate investment. If the country A investor is as productive as country B owners or just somewhat more productive, then the tax system is changing the ownership of assets. Moreover, if the country A investor is more productive than the country B counterpart, but not sufficiently more productive to outbid the country B investor, then there is an efficiency cost. Resources are lost because the less productive investor owns the candidate investment.
Assume that the tax rate in country C is also 50 percent. That implies that the before-tax return in country C is 12 percent. Assume initially that country B does not provide a tax incentive for the candidate investment. If an investor from country C buys that investment for $1000, then that investor will report $100 income, pay $40 tax to country B, and be left with $1060 after all taxes. Because country C is assumed to have a territorial tax system, the country C investor will owe no tax to country C on the candidate investment, leaving the investor with $1060. Because such an investor can earn the same 6 percent after taxes by investing in alternative assets, it follows that the candidate investment is worth $1000 to such an investor. Thus, in the absence of tax incentives, the candidate investment is worth the same amount to an investor from a country with a territorial tax system as it is to a resident of the host country.54

Assume that country B provides a tax incentive for the candidate investment. In the example, country B exempts the return from the candidate investment from tax. That drives the return on the candidate investment down to 6 percent. In the example, the candidate investment costs $1000 and pays $1060. Investors from a country with a territorial tax system pay no tax on that income. Thus, they will value the candidate investment at $1000 – the same as investors from the host country.

Moreover, the above result does not depend upon the tax incentive being the full elimination of the tax. Instead, equality is maintained because territorial taxation ensures no double taxation. Equilibrium ensures that the total tax rate in country B is the same on all assets. Territorial taxation, because it provides that there is no taxation in the residence country, prevents double taxation.55

In effect, a territorial tax system, because it exempts foreign income from tax, treats explicit and implicit taxes the same. It,

54 Once again, the result does not depend upon the assumption that the tax rate is higher in country C than in country B. The result still holds if the tax rate in country C is equal to (40 percent) or lower than (say 30 percent) than that in country B. Changing the tax rate in country C changes the before-tax return in country C, but not the after-tax return. Because the after-tax return to an investor from country C is still 6 percent, the value of the candidate investment to such an investor is still $1000.

55 That equality will still hold if the tax rate in the country with the territorial tax system equals or is below that in the source country. That is because the tax rate in the source country determines only the before-tax rate of return in that country, not the after-tax rate of return. (It should be noted that when countries have different tax rates and not all countries use either territorial or worldwide taxation, the equilibrium does not have all countries valuing regularly taxed investments in all other countries at the same amount. In the language of linear programming, there are corner solutions.)
thus, allows the host country to trade-off explicit and implicit taxes without affecting the tax paid by foreign investors to their country of residence. In contrast, a worldwide tax system that does not provide for tax sparing does not treat explicit and implicit taxes the same. Such a tax system recognizes only explicit taxes and only treats as taxes – and hence only credits – explicit taxes. Such a system tacitly treats implicit taxes as a decrease in income – either a decline in gross revenue or an increase in expenses. Accordingly, because a deduction is less valuable than a credit of the same amount, investors in countries with worldwide tax systems are disadvantaged by tax incentives relative to other investors.

D. Empirical Evidence

In its 1998 report, the OECD asserts that tax incentives and tax sparing have had little impact on the location of foreign investment. That assertion, however, is contradicted by the available empirical studies. Those studies show that investors from countries that employ a worldwide tax system without tax sparing are at a tax-induced disadvantage relative to investors from countries that employ a territorial tax system or engage in tax sparing.

In Tax Sparing Provision Influence: A Credit versus Exempt Investor Analysis, Celine Azemar and Andrew Delios look at the impact of tax sparing provisions on the location of investment by French exempt investors and Japanese credit investors. Using data from 54 developing countries, Azemar and Delios find that tax sparing provisions tend to eliminate differences in where investors locate their investments.

In “Tax Sparing” and Direct Investment in Developing Countries, James Hines compares Japanese and U.S. foreign direct investment in countries in which Japan has tax sparing. Hines find that Japan has more foreign direct investment than it otherwise would have had in countries in which it has tax sparing. In addition, Hines finds that Japanese firms are subject to total tax rates that are 23 percent lower than their U.S. counterparts in countries in which Japan has tax sparing agreements.

56 OECD, Reconsideration, supra note [], at 12-13.
The empirical studies are consistent with the analysis and explanation given above. That is to say, a worldwide tax system without tax sparing because it does not credit explicit taxes while allowing only a deduction for implicit taxes disadvantages investors from countries that adopt worldwide tax systems and do not engage in tax sparing.

IV. THE MECHANICS OF CREDITING IMPLICIT TAXES

As the last part makes clear, investors from countries with worldwide tax systems that do not provide for tax sparing are at a tax-induced competitiveness advantage when competing for foreign investments supported by tax incentives. As described above, that disadvantage occurs because the foreign tax credit – as currently implemented – does not treat implicit taxes in the same manner as explicit taxes. The foreign tax credit treats explicit taxes as real taxes and so it credits them. In contrast, the foreign tax credit does not treat implicit taxes as real taxes, and so it does not credit them. In effect, because the foreign tax credit does not acknowledge the existence of implicit taxes it indirectly treats such taxes as reductions in income. Thus, with a worldwide tax system, implicit taxes are effectively deductible from income, which is less valuable than a credit of the same amount. The disadvantage at which investors from countries that tax their residents on their worldwide income find themselves can be eliminated by revising the foreign tax credit so that it credits both implicit and explicit taxes on the same terms. This Part explains how such a revised foreign tax credit would work. In this Part, I also show that the existing method for calculating the foreign tax credit when there is tax sparing (sometimes referred to as the tax sparing credit) generally provides too much relief. The following Part discusses the reasons for crediting implicit taxes.

In order to understand both why the current tax sparing credit produces the wrong result and how the foreign tax credit could be revised in order to credit implicit taxes, return to the example. Recall that in the example country A imposes a worldwide income tax at 50 percent and country B imposes a 40 percent income tax. Assuming that country B does not offer a tax incentive to the holder of the candidate investment, the owner of the candidate

59 If the residence country has a lower tax rate than the source country and the foreign tax credit is either unlimited or the taxpayer has excess foreign income that is not already offset with foreign tax credits, then the current method will provide too little relief.
investment acquires it for $1000, reports $100 income (a before-tax return of 10 percent) and pays $40 tax to country B. For an investor resident in country B, there are no additional taxes. That leaves the investor with $1060 after taxes, which is the same 6 percent return that the investor earns on other investments.

Consider an investor from country A. If such an investor acquires the candidate investment for $1000, then that investor reports $100 income to country A and is assessed a tax liability of $50. Country A also grants that investor a foreign tax credit of $40 and so that investor owes an additional $10 in taxes to country A. Thus, after paying all taxes, the country A investor is left with $1050, which is the same 5 percent after-tax return that the investor earns investing in alternative assets.

Introduce the same tax incentive as before – assume that the candidate investment is exempt from tax in country B, the source jurisdiction. Also, continue to assume, as is currently the case, that country A does not credit implicit taxes. As described above, the candidate investment will be worth only $963.64 to an investor from country A. It, thus, follows that an investor from country B will outbid an equally efficient investor from country A.

The analysis and calculations are different if country A has a tax sparing agreement with country B that gives the country A investor a foreign tax credit for taxes not paid to country B by virtue of tax incentives provided by country B. Assuming that such an investor purchases the candidate investment for $1000, then such an investor will report $60 of income to country B. On that income, the investor will be assessed a tax liability of $24 by the host country. That tax, however, is not collected by virtue of country B’s tax incentive. The investor will also report $60 of

---

60 The assumptions that country A imposes a flat tax at 50 percent on the worldwide income if its residents and that country B imposes a flat tax at 40 percent on income that has its source in country B together imply that country A collects tax at an additional 10 percent from its overseas investors on normally taxed assets in country B.

61 This is where the assumption that the tax rates in the source and residence country are not equal plays a useful pedagogical role. If the source and residence jurisdictions imposed tax at the same rate, then the investor would have no tax obligation to the home jurisdiction. That result masks the need to include the tax implicitly paid by the investor in the investor’s income.

62 See Table 1.

63 If such an investor paid $1000, that investor would receive $1060 and report $60 income to country A. On this income, the investor would owe $30 tax. Because the investor pays no explicit foreign tax, the investor gets no credit for the purpose of the foreign tax credit. Thus, the investor will pay an additional $30 tax. That will leave the investor with only $1030, which is an after-tax return of 3 percent. That is two percentage points below the return on alternative assets.
income to country A – the country of residence. Given the country of residence’s 50 percent tax rate, the investor incurs a total tax liability to the country of residence of $30. The investor from country A also receives a foreign tax credit of $24 – the tax not paid to country B by virtue of the tax incentive – leaving the investor with a tax liability to country A of $6. Thus, after all taxes and credits, the investor from country A has an after-tax cash flow from the investment in the candidate investment of $1054, which is an after-tax return of 5.4 percent. That return – although less than what an investor from country B earns on the candidate investment – is $4, 40 basis points, or 0.4 percent above the return that such an investor would earn on alternative investments. Accordingly, such an investor would value the candidate investment at more than $1000. Indeed, such an investor would value the candidate investment at $1003.81.64 Thus, with tax sparing, as it is currently applied, investors from countries that offer tax sparing have a tax-induced advantage over investors from the host country.

In effect, the country of residence is providing the investor with both a deduction and a foreign tax credit. Conceptually, there is a single, simple mistake, which presents itself as two errors in computation. The mistake is not treating the $40 implicit tax incurred in country B as a tax. That mistake leads to two errors in the calculation of the tax that the investor owes to country A. First, the investor reports pretax income of only $60 instead of $100 to country A. Second, the investor receives a foreign tax credit from country A of only $24, not $40. At the investor’s 50 percent tax rate, the investor pays only $6 in tax to country A, not $10, which accounts for the $4 difference.65

In contrast with the traditional tax sparing calculation, the conceptually correct way to credit implicit taxes requires first that the before all tax (including implicit tax) cash flow be assessed.66 That cash flow cannot be directly observed because that cash flow is not part of any market transaction. Instead, that cash flow must be constructed indirectly. In the example, that is simple to

---

64 The value of the candidate investment to an investor from country A is calculated as follows: $1003.81 = $1054/1.05.
65 If, however, the tax rate in the source country is above the tax rate in the country of residence (assuming that the foreign tax credit is either unlimited or that the investor has excess foreign income the tax on which can be offset by additional foreign tax credits), then the traditional method of calculating the tax sparing credit will advantage foreign investors relative to domestic investors.
66 For proposals to revise the calculation of the foreign tax credit and tax sparing credit in a similar manner by including the amount of any tax incentive in pre-tax income, see McDaniel, Policy, supra note [], at 274-76; Shannon, supra note [].
do. Equally risky alternative assets that are taxed in the ordinary course yield 10 percent. Therefore, the candidate investment yields a before-tax return of 10 percent. The 4 percentage point reduction in the rate of return or $40 reduction in cash return is an implicit tax. Thus, the $40 implicit tax must be added to the observed $60 cash flow to arrive at the investor’s before-all-tax cash flow of $100. On that return, country A assesses an explicit tax of 50 percent. Thus, the investor’s tax liability to country A is $50. Against this $50 tax, the investor gets credit for $40 implicit tax paid to B. That leaves the investor with a net tax liability to country A of $10. Of course, 10 percent of $100 is $10. Hence, the investor from country A pays total tax of $50 on the candidate investment, which leaves $1050 after tax, which is equivalent to an after-tax return of 5 percent. Such an investor from country A is willing to pay the same $1000 for the candidate investment as a similar investor from country B or country C. Thus, in order for the foreign tax credit to credit accurately and properly implicit taxes incurred in the source country the country of residence must add to the investor’s income as conventionally calculated any implicit taxes incurred in the source country in order to get back to pre-tax income. The country of residence must then credit the amount of implicit tax paid against the investor’s tax obligation. If the foreign tax credit is calculated in such a manner, then investors from a country with a worldwide tax system will not be at a tax-induced competitive disadvantage by virtue of the tax incentives.67

V. THE CASE FOR CREDITING IMPLICIT TAXES

This Part is divided into four sections. In the first section, I develop the arguments for crediting implicit taxes. In that section, I show that many of the arguments made against tax sparing actually support tax sparing once tax incentives are recognized as creating implicit taxes. In the second section, I describe the tax sparing regime to which the arguments in the first section lead. That tax regime extends tax sparing much further than traditional tax sparing. Accordingly, I sometimes describe that system as crediting implicit taxes and sometimes as tax sparing. In the third section, I discuss some practical issues in implementing such a system. The fourth section looks at the implications of the

67 Assuming that the foreign tax credit is either unlimited or that the investor has excess foreign income the tax on which can be offset with additional tax credits, then the total tax with the revised foreign tax credit is just the tax rate in the country of residence. In terms of the example, call that t_A. The total tax using the traditional method of calculating the tax sparing credit is t_A - t_B (t_A - t_B). The former will exceed the latter whenever t_A > t_B, and conversely.
arguments developed in this essay for the debate over the relative merits of territorial and worldwide taxation.

A. The Arguments in Favor of Crediting Implicit Taxes

I present the argument for crediting implicit taxes by responding to critics' arguments against tax sparing. The critics of tax sparing make four main arguments against tax sparing. First, they argue that tax sparing is inconsistent with fundamental tax principles and the justification for the foreign tax credit because income that receives a tax incentive from the source country and is not taxed by the country of residence is never taxed. Second, they argue that tax sparing treats tax incentives better than direct incentives, which in turn provides foreign governments with an incentive to favor tax incentives over direct grants. Third, although many critics of tax sparing concede that tax sparing will improve the competitiveness of domestic investors, they argue that improving competitiveness is not a reason to favor tax sparing because any decrease in the tax rates on domestic firms will do likewise. Fourth, the critics of tax sparing argue that tax sparing provisions can be abused, most readily by the source government, which can set an artificially high tax rate solely with the intention of lowering that tax rate.

In the rest of this section, I show that once one recognizes that tax incentives give rise to implicit taxes and implicit taxes are indeed taxes, then each of those 4 arguments against tax sparing is turned on its head. That is to say, each of those arguments becomes a reason to grant tax sparing, not an argument against it, once implicit taxes are recognized as taxes.

1. Tax sparing is necessary to prevent double taxation and to ensure that all income is taxed once and only once

One argument regularly made by critics of tax sparing is that tax sparing is inconsistent with one of the fundamental tenets of the income tax – that all income regardless of source should be taxed once and only once. Critics argue that income that is not taxed at the source by virtue of a tax incentive and is not taxed at the investor's residence by virtue of a tax sparing agreement escapes tax in violation of that principle. Accordingly, they argue that rejecting tax sparing and taxing that income in the investor's residence provides one level of taxation.
The analysis above, however, leads to the opposite conclusion: tax sparing is not inconsistent with basic principles of how income is calculated and taxed. Rather than being an exception or deviation from those principles, tax sparing is required by those principles. It is the failure to engage in tax sparing that is the violation of standard tax norms. That is to say, in spite of its name, tax sparing does not spare income from tax. In contrast, it ensures that an investor’s income is taxed once and only once. A system without tax sparing violates tax norms because it taxes income twice—once implicitly and then again explicitly. Such double taxation is inconsistent with fundamental tax principles and the justification for a foreign tax credit.68

The problem with much current practice is that it fails to recognize implicit taxes as taxes and so it does not provide a credit for implicit taxes. It is that failure to recognize and treat implicit taxes as real taxes that is the source of the problem with the current hostility towards tax sparing. Accordingly, what the tax law needs to do is to make explicit recognition of implicit taxes and to treat such taxes as real taxes.69

Once implicit taxes are recognized as taxes, the practice of not crediting implicit taxes and not engaging in tax sparing is recognizable as an example of NN. Countries that employ a worldwide tax system credit the explicit taxes paid by their

68 The traditional view of tax sparing views the host country as having a choice what tax rate to impose on different types of income. In contrast, the implicit tax view of tax sparing described here, sees each country as setting the overall tax rate on investment income arising within its borders, but as being unable to set the total tax rate on each investment separately. According to the implicit tax view, the source country can select what portion of the total tax rate on an asset is explicit tax and what portion is implicit tax by changing the explicit tax rate, but it cannot affect the total tax rate on the asset (without changing the total tax rate on all other assets in the economy). That is because market competition will ensure that the total tax rate on all assets is the same for all assets within that country. The observation that the total tax rate on all assets in a country is the same regardless of what explicit tax rates apply to different assets underscores the claim that implicit taxes are real taxes just as are explicit taxes.

69 In 1999, Charlotte Crane observed that tax doctrine has ignored implicit taxes and challenged the tax community to think seriously about how tax law should be reshaped to take account of implicit taxes. Charlotte Crane, Some Explicit Thinking About Implicit Taxes, 52 SMU L. Rev. 339 (1999). In a series of articles, I draw on the economics of implicit taxes to explain why the cross-border dividend-stripping transactions in Compaq and IES Industries appeared to generate before-tax profits, but did not once allowance was made for implicit taxes. Michael S. Knoll, Implicit Taxes and Pretax Profit in Compaq and IES Industries, 114 Tax Notes 679 (2007), reprinted 46 Tax Notes Int’l 1361 (2007); Michael S. Knoll, Implicit Taxes and Economic Substance, 115 Tax notes 397 (2007); Michael S. Knoll, Compaq Redux: Implicit Taxes and the Question of Pretax Profit, 26 Va. Tax Rev. 821 (2007). This essay provides another example where tax doctrine has become confused because implicit taxes were overlooked.
residents on foreign source income. Such an action is seen as consistent with CEN. In contrast, those same countries (unless they have a tax sparing agreement) (tacitly) allow a deduction for implicit taxes incurred abroad. The deduction of foreign taxes is not consistent with CEN, but rather is consistent with NN, which is widely rejected as an inappropriate welfare benchmark for international tax systems.

2. Tax sparing ensures that direct subsidies are taxed the same as tax incentives

The recognition that competition tends to push the total tax rates on different assets into equality also uncovers the error in another criticism that is frequently leveled against tax sparing. Critics of tax sparing correctly note that tax incentives are a subsidy. Tax incentives are a subsidy with a real economic cost similar to that of a direct subsidy. These critics further argue that the tax consequences of a direct subsidy and a tax incentive are similar without tax sparing, but that the subsidy is less attractive than the tax incentive with tax sparing. Thus, these critics conclude that this difference underscores the inappropriateness of tax sparing as well as creating incentives for countries to use tax incentives instead of direct incentives. In contrast, tax sparing creates an incentive to favor tax incentives over direct incentives.\(^70\)

That argument can be illustrated using the example. Assume that country B, the host country, instead of offering a tax holiday offers a direct subsidy to the owner of the candidate investment in year 1 of 4 percent of the year 0 purchase price of $1000, or $40. That subsidy is equal in value to the tax incentive in the original example and replaces that incentive. As the argument goes, the investor will earn $100 from the candidate investment and receive a $40 payment from the government. Regardless of how the subsidy is taxed in the source country, as long as it is taxed in the country of residence, an investor from country B will report $140 income and pay $70 in taxes to the tax authorities from countries A and B and so will be left with $1070 after tax. Alternatively, if country A provides a $40 tax incentive, the investor will receive $1100 and pay $10 tax to country B and be left with $1090. The difference, $20, is the tax that country A insists be assessed on the direct subsidy provided by country B to an investor from country A. (Note that if country A does not offer tax sparing, then the investor ends up with $1060, less than either amount.)

\(^70\) See discussion in Brooks, supra note [], at [38-39].
The error in the analysis given above is that no allowance was made for the impact of the subsidy or tax incentive on cash flows. That is clear from the example, which treated the cash flow from the investment as $1100 and hence the profit as $100 in both cases. In a competitive market, the value of the subsidy is competed away and so the investor’s profit from the investment (excluding the subsidy) is only $60 when there is a $40 untaxed subsidy, which yields a total profit of $100. Thus, if a direct subsidy of $40 is offered to the investor from country A – and presumably then to other investors as well – the cash flow on the candidate investment in one year will fall to $1060. The investor will also receive a cash subsidy payment of $40 and so will have $1100. Of that $1100, the investor will report $100 income and so will pay $50 tax in total. (The investor’s total tax is $50 as long as country A will not allow the investor to exclude the subsidy from taxable income.) That tax will exactly offset the subsidy, leaving the investor with $1050 as with tax sparing. Thus, tax sparing or crediting the implicit tax ensures that the tax treatment of direct subsidies and tax incentives is the same. In contrast, when implicit taxes are not credited, then direct incentives are more attractive than tax incentives.

3. Tax sparing precisely offsets the disadvantage from foreign tax incentives

A third argument that is regularly made by proponents of tax sparing is that tax sparing is necessary in order to promote the competitiveness of domestic investors abroad. Although some critics of tax sparing have questioned whether tax incentives and tax sparing will affect the location of investment, most commentators – regardless of their position on tax sparing – accept the notion that tax sparing will increase ownership of foreign assets by home country investors. Instead, the critics of tax sparing respond by arguing such a claim does not justify tax sparing in particular. Instead, such a claim, they argue, is a general appeal for lower taxes and leads not to tax sparing, but to the exemption of foreign source income from taxation in the country of residence. And, as always, there is a trade-off between lower taxes here and higher taxes somewhere else. For example, such an argument does not provide a reason to prefer tax sparing

---

71 A similar observation has previously been made by other authors, including McDaniel, Identification, supra note [], at 276; McDaniel, Policy Analysis, supra note [], at 274-76; Shannon, supra note [].

72 The subsidy might not be directly taxable to the investor if, say, country B paid some of the investor’s expenses by paying workers to work for the investor so the investor paid lower wages.
over lower taxes on foreign investors generally. More to the point, such an argument says nothing specific about tax sparing.

In contrast with that standard argument for tax sparing as improving competitiveness generally, the implicit tax argument developed here provides a more specific and tailored argument for tax sparing. The approach developed here notes that there are two kinds of taxes – implicit and explicit – but only one kind of tax is regularly credited. Moreover, because source countries can shift the distribution of the total tax between those two kinds of taxes, but not the sum, it is clear the double tax faced by domestic investors when there is not tax sparing. Viewed from such a perspective, tax sparing or crediting implicit taxes, is a tailored response that addresses a specific and genuine competitiveness concern.

Furthermore, if a country does not credit implicit taxes incurred abroad, it is handing foreign governments a method for disadvantaging its investors. All the foreign country has to do is to grant tax incentives for targeted industries. Those incentives will create implicit taxes that replace explicit taxes for the home country investors and for countries with territorial tax systems but that are in addition to the taxes paid by foreign investors from countries with world wide tax systems. Thus, tax sparing can be seen as part of a competitiveness agenda.73

4. If tax sparing should be prohibited so as to discourage countries from offering tax incentives, then countries with territorial tax systems should also be required to adopt measures that discourage tax incentives

Another argument frequently made against tax sparing is that tax sparing discourages host countries from granting harmful tax incentives. According to this view, the real problem is with tax incentives. Tax incentives are viewed by some critics of tax sparing as a form of extortion practiced by MNEs, as wasteful government spending, as harmful tax competition, or as diverting investment from more efficient to less efficient locations.74

73 In this regard, it is worth noting one of the techniques that U.S.-based foreign investors use to mitigate the foreign trade credit’s failure to incorporate implicit taxes. By keeping money invested abroad, and delaying repatriations, foreign investors can defer their U.S. tax payment. This is a form of self-manufactured crediting, but it is not limited to such situations.
74 OECD, Reconsideration, supra note [], at 25-27.
Of course, if the problem is with tax incentives, and presumably with other investment incentives as well, that problem can be addressed directly by rules that prohibit inappropriate investment incentives. In general, a more direct approach is likely to be more transparent and more effective than an indirect approach. Viewed from such a perspective, the argument against tax sparing is that countries have an obligation not to grant tax sparing so as to discourage tax incentives. That obligation might run to the citizens of the host country (if tax incentives are waste or a form of extortion) or to taxpayers everywhere (if tax incentives are a form of tax competition or produce inefficient diversion). However, if there is such an obligation, then there is no reason to exempt residents of countries with territorial tax systems from that same obligation, which is in fact what happens with a territorial tax system. If countries have an obligation to prevent their resident overseas investors from enjoying the benefits of tax incentives, then presumably such an obligation also applies to countries that employ a territorial tax system.\(^\text{75}\)

The most direct way to impose such an obligation on territorial countries and to ensure that it is of the same magnitude for countries with a territorial tax system as for countries with a worldwide tax system is to require the former to soak up the tax incentive with a special tax. The special tax would be on the income foregone by country B at the tax rate generally imposed by country B. As applied to the example, country C would have to impose a tax at 40 percent on the $100 income foregone by country B. Of course, an accurate and correct tax would require ascertaining the pretax income of the country C investor before the effect of the incentive.\(^\text{76}\)

\(^{75}\) One way to think of the difference between territorial and worldwide taxation is that the former both credits implicit taxes and treats differences in national rates of return as an implicit tax. A worldwide tax system does not credit implicit taxes in any way. In effect, what I propose in this essay is that a worldwide tax system credit implicit taxes, but that it not go so far as to treat cross-border differences in rates of return as implicit taxes. Such a proposal, if adopted, would preserve the principal difference in how territorial and worldwide tax systems deal with ordinarily taxed investments (when countries have different tax rates) while bringing more closely together how those two systems deal with differentially taxed investments.

\(^{76}\) Because the tax is intended as a penalty to discourage host country behavior, and so where it has its intended effect, it is not collected, the tax does not have to be assessed as accurately as the tax sparing proposal offered in the text.
B. A Broad Credit for Implicit Taxes

The decision by a country with a worldwide tax system to give a tax credit for the tax that the source country imposes, but does not collect when it grants tax incentives is called tax sparing. The 1998 OECD report adopted a negative tone towards tax sparing, and tax sparing has been on the wane since then. Countries that grant tax sparing do so as a concession, generally only to less developed or developing countries, and only through bilateral treaties. Tax sparing provisions are also limited. They typically apply only with respect to certain specifically enumerated taxes and for only a fixed and predetermined length of time.

In contrast, with such negotiated and narrow grants of tax sparing, the arguments developed in Parts III and IV are not so limited. Instead, those arguments imply that countries that employ a worldwide tax system should automatically grant tax sparing covering all other countries and all tax incentives. Moreover, such arguments do not imply that a credit would only be available when the investment is made in a country at or a below a specific level of development. Instead, the credit would apply to investments in all countries regardless of their level of development. Moreover, those arguments imply that such a grant be of indefinite duration.

There is a view that the United States has given away too much in its tax law so that when it comes time to sit down with foreign governments to negotiate tax treaties all of the leverage is gone. Accordingly, the United States might not want to offer automatic foreign tax credits for implicit taxes, but to negotiate with other countries whether to do so. In that case, the United States should be open to negotiating not the narrow tax sparing provision of the past, but the general type of provision advocated in this essay. As is widely recognized, the United States and nearly all other countries with tax systems provide a wide range of investment incentives both through the tax system and elsewhere. However, what is not as widely recognized is that such tax incentives – whether they are described as tax incentives and narrowly tailored or are broad and deeply embedded in the tax system – disadvantage foreign investors from countries with worldwide tax systems. A credit for implicit taxes would prevent tax incentives from determining the ownership of assets. Without such a credit, investment tax incentives will continue to disadvantage investors from countries with worldwide tax systems, such as the United States.

Thus, under McDaniel’s tax expenditure analysis the key question is whether a direct subsidy would be included in taxable income. That is because McDaniel’s approach endeavors to treat direct and tax subsidies the same. Accordingly, if the direct subsidy were not included in income, then neither would the tax incentive be included in income. In contrast with the analysis under tax expenditure analysis, the implicit tax approach developed in this essay involves a three-way comparison among direct

---

77 There is a view that the United States has given away too much in its tax law so that when it comes time to sit down with foreign governments to negotiate tax treaties all of the leverage is gone. Accordingly, the United States might not want to offer automatic foreign tax credits for implicit taxes, but to negotiate with other countries whether to do so. In that case, the United States should be open to negotiating not the narrow tax sparing provision of the past, but the general type of provision advocated in this essay.

78 As is widely recognized, the United States and nearly all other countries with tax systems provide a wide range of investment incentives both through the tax system and elsewhere. However, what is not as widely recognized is that such tax incentives – whether they are described as tax incentives and narrowly tailored or are broad and deeply embedded in the tax system – disadvantage foreign investors from countries with worldwide tax systems. A credit for implicit taxes would prevent tax incentives from determining the ownership of assets. Without such a credit, investment tax incentives will continue to disadvantage investors from countries with worldwide tax systems, such as the United States.

79 The system for providing a foreign tax credit for implicit taxes incurred abroad that is described in this essay bears a resemblance to, but is broader than a proposal offered by McDaniel for the United States to unilaterally provide a foreign tax credit to U.S. overseas investors for tax incentives provided by less developed and developing countries that would be classified as subsidies under a tax expenditure analysis. See McDaniel, Identification, supra note [], at 276; McDaniel, supra note [], at 273-76. Thus, under McDaniel’s tax expenditure analysis the key question is whether a direct subsidy would be included in taxable income. That is because McDaniel’s approach endeavors to treat direct and tax subsidies the same. Accordingly, if the direct subsidy were not included in income, then neither would the tax incentive be included in income. In contrast with the analysis under tax expenditure analysis, the implicit tax approach developed in this essay involves a three-way comparison among direct
C. The Obstacles in Implementing a Foreign Tax Credit for Implicit Taxes

In the last section, I described how countries with worldwide tax systems can extend the foreign tax credit system to cover implicit terms on the same terms as they cover explicit taxes. In the section before that, I argued that such a proposal has a number of advantages. Specifically, I showed that an expanded foreign tax credit is consistent with the logic of a worldwide tax system and the foreign tax credit because it ensures that all income is taxed once and only once. It also will eliminate the current difference in the tax treatment of tax incentives and other investment incentives. In addition, and no doubt of substantial importance to many policymakers and business people, such an expanded foreign tax credit, if enacted, will also eliminate the tax-induced disadvantage at which investors from countries with worldwide tax systems find themselves relative to investors from countries with territorial tax systems and from the source country when the source country offers tax incentives. In this section, I look briefly at the possibility of implementing such a proposal.

The obvious difficulty with implementing such a proposal is that in order to calculate the implicit tax it is first necessary to define the baseline against which that tax is measured. Implicit taxes, as opposed to say, tax expenditures, are measured not relative to an ideal baseline, but to an actual existing economic baseline. The use of an actual (rather than an ideal) baseline has several advantages. First, it eliminates the possibility of the source country manipulating the country of residence’s foreign tax credit that concerned critics of tax sparing. An increase in tax rates on the books that is not applied has no impact on transactions and so does not affect the calculation of implicit taxes. Second, it places investors from different jurisdictions on an equal footing. The use of an ideal baseline would treat investors from a worldwide jurisdiction differently than investors from the source jurisdiction or from territorial jurisdictions or even from other worldwide jurisdictions. There is, however, one major disadvantage from the use of an actual baseline: implicit taxes are notoriously difficult to measure in real markets. They are

subsidies, tax incentives, and assets that do not benefit from direct subsidies or tax incentives (normally taxed assets). Because market forces tend to equalize the after-tax rate of return across different assets, the implicit tax approach ties the tax treatment of differentially taxed assets to that of other assets in the economy. In this way, an analysis based on implicit taxes answers the underlying question left often by tax expenditure analysis: when should a direct subsidy be included in taxable income?
typically estimated by scholars using methodologies that although well established and powerful lack the precision that is expected for the assessment of tax liabilities. That raises the specter of public and private attempts to influence how taxes are assessed and the actual or perceived arbitrariness of tax assessments. At the very least, the matter of implementation would appear to be a major problem that needs to be addressed before such a system could be implemented.

D. Implications for the Debate over Territorial and Worldwide Taxation

Even if the practical problems in extending the foreign tax credit to cover implicit taxes on the same terms as explicit taxes are insurmountable so that such a tax system is impractical, the discussion and analysis in this essay still has much to contribute to current discussions of international tax policy. Specifically, the arguments and examples in this essay are relevant to the ongoing controversy over whether countries should adopt territorial or worldwide taxation. Almost all economic analyses of alternative international tax regimes assume at least tacitly that all investments in any single economy are taxed the same. Such analyses, thus, make no allowance for differentially taxed assets. Yet, differentially taxed assets are ubiquitous.80

As this essay demonstrates, tax considerations will affect the ownership of such differentially taxed assets. There are efficiency reasons to believe that such ownership neutrality is desirable.81 Accordingly, in a world with differentially taxed assets, a territorial tax regime can achieve such neutrality whereas a worldwide regime cannot unless it credits implicit taxes as described in this essay. Alternatively, if tax and other investment incentives are seen as a problem that needs to be addressed and the practice discouraged, then there is an argument for a worldwide tax system without tax sparing. That argument, however, is linked with an argument that countries refrain from employing tax and other investment incentives. Moreover, such an argument calls upon countries with territorial tax systems to either abandon those systems or to impose punitive taxes on domestic investors that

80 For example, in the United States, interest is generally taxed as it accrues consistent with the notion of economic income. In contrast, the use of depreciation schedules that do not mimic the actual decline in value of an asset over time means that such assets are taxed differently than interest bearing assets. Also, many depreciable assets are taxed differently from one another. In addition, the realization requirement because of the benefit of deferral causes other assets to be taxed still differently.

benefit from foreign investment incentives. Furthermore, unless one is prepared to take a strong stance against investment incentives (or to argue against the importance of ownership neutrality), the prevalence of differentially taxed assets places an additional burden on proponents of strengthening worldwide taxation by eliminating deferral. Such reforms would exacerbate the disadvantage from not crediting implicit taxes.

VI. CONCLUSION

The United States has a long-standing opposition to tax sparing. Tax sparing is seen by its critics as an undesirable form of development aid, as inconsistent with fundamental tax principles, especially the notion that all income should be taxed once and only once, as encouraging the provision of tax incentives, and as not responding precisely to any specific tax-induced disadvantage.

Tax sparing, however, should not be seen as a concession from the country of residence to the country of source, nor should it be seen as a form of development aid. Most important, tax sparing is not inconsistent with the basic principles that give rise to the foreign tax credit — that all income should be taxed once and only once. Instead, tax sparing is required by that principle. In addition, tax sparing would not encourage governments to use tax incentives over other investment incentives. Instead, a tax sparing credit calculated in the manner recommended here would treat both tax incentives and other subsidies the same.

The existing foreign tax credit distinguishes between explicit and implicit taxes. It recognizes and therefore credits only the first kind of tax. Yet implicit taxes are also real taxes. The failure of the foreign tax credit to credit implicit taxes means that investors resident in a country with a worldwide tax system who compete for foreign assets supported by tax incentives pay tax twice on their income — first implicitly abroad and then explicitly at home. The resulting higher tax burden disadvantages such investors when they compete against other investors — investors from the source country, investors from countries with territorial tax systems, and investors from countries with worldwide tax systems that offer tax sparing.

The solution is also clear: crediting implicit taxes incurred abroad on the same terms as explicit taxes incurred abroad.

Among the proponents of such a regime are Fleming, Peroni, & Shay, supra note [].
Doing so will ensure that foreign income is taxed once, not twice. It will also improve the competitiveness of domestic firms when foreign governments provide tax incentives. There are, however, likely to be substantial practical difficulties in implementing such a system – most obviously with measuring implicit taxes. The refusal to do so only ensures double taxation of the income of resident investors who look to invest in countries that grant tax incentives. For such investors, the term “tax incentive” is a misnomer. For them, foreign tax incentives are “tax disincentives.” And they will remain tax disincentives until host countries stop offering tax incentives or until resident countries either adopt territorial tax systems or start crediting implicit taxes on the same terms as explicit taxes.
<table>
<thead>
<tr>
<th>Tax Rate on Candidate Investment (percent)</th>
<th>40%</th>
<th>35%</th>
<th>30%</th>
<th>25%</th>
<th>20%</th>
<th>15%</th>
<th>10%</th>
<th>5%</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash Flow</td>
<td>$1,100.00</td>
<td>$1,092.31</td>
<td>$1,085.71</td>
<td>$1,080.00</td>
<td>$1,075.00</td>
<td>$1,070.59</td>
<td>$1,066.67</td>
<td>$1,063.16</td>
<td>$1,060.00</td>
</tr>
<tr>
<td>Value in Source</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>Value in Residence</td>
<td>$1,000.00</td>
<td>$993.01</td>
<td>$987.01</td>
<td>$981.82</td>
<td>$977.27</td>
<td>$973.26</td>
<td>$969.70</td>
<td>$966.51</td>
<td>$963.64</td>
</tr>
<tr>
<td>Difference</td>
<td>$0.00</td>
<td>-$6.99</td>
<td>-$12.99</td>
<td>-$18.18</td>
<td>-$22.73</td>
<td>-$26.74</td>
<td>-$30.30</td>
<td>-$33.49</td>
<td>-$36.36</td>
</tr>
<tr>
<td>Percent Difference</td>
<td>0.00%</td>
<td>-0.70%</td>
<td>-1.30%</td>
<td>-1.82%</td>
<td>-2.27%</td>
<td>-2.67%</td>
<td>-3.03%</td>
<td>-3.35%</td>
<td>-3.64%</td>
</tr>
</tbody>
</table>