

University of Pennsylvania Carey Law School

Penn Law: Legal Scholarship Repository

Faculty Scholarship at Penn Law

2011

Reconsidering International Tax Neutrality

Michael S. Knoll

University of Pennsylvania Carey Law School

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



Part of the [Banking and Finance Law Commons](#), [Economic Policy Commons](#), [International Business Commons](#), [International Economics Commons](#), [Law and Economics Commons](#), [Taxation Commons](#), [Taxation-Federal Commons](#), and the [Taxation-Transnational Commons](#)

Repository Citation

Knoll, Michael S., "Reconsidering International Tax Neutrality" (2011). *Faculty Scholarship at Penn Law*. 268.

https://scholarship.law.upenn.edu/faculty_scholarship/268

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.

Reconsidering International Tax Neutrality

MICHAEL S. KNOLL*

I. INTRODUCTION

Since the Kennedy Administration, two principles have dominated U.S. international tax policy and the debate over what that policy should be: capital export neutrality (CEN) and capital import neutrality (CIN).¹ The central idea in the literature is that an income tax cannot simultaneously satisfy both CEN and CIN unless tax rates on capital are harmonized across countries.² Over the intervening fifty or so years, the U.S. government's commitment to CEN or CIN has swung back and forth.³ One reason for those shifts in policy is the widespread view that both goals cannot be achieved simultaneously.⁴

In an insightful and important new article, Fadi Shaheen challenges that view.⁵ Shaheen does not argue that the traditional proof of the impossibility claim, discussed further below, is wrong. Instead, tracing the normative conceptions of CEN and CIN back to their origins in Peggy Musgrave's 1963 and 1969 books,⁶ Shaheen argues that CEN and CIN have been misconstrued.⁷ Using CEN and CIN as defined by Musgrave,⁸ Shaheen argues that a territorial tax system can simultaneously satisfy both neutrality benchmarks without the need for

* 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 thank Fred Brown, Ruth Mason, Fadi Shaheen, and Reed Shuldiner for their comments and suggestions, and Alvin Dong and Benjamin Meltzer for their assistance with the research.

¹ For a brief history of U.S. international tax policy, see Reuven S. Avi-Yonah, *All of a Piece Throughout: The Four Ages of U.S. International Taxation*, 25 *Va. Tax Rev.* 313 (2005).

² See, e.g., Michael J. Graetz, *Taxing International Income: Inadequate Principles, Outdated Concepts, and Unsatisfactory Policies*, The David R. Tillinghast Lecture, NYU School of Law (Oct. 26, 2000), in 54 *Tax L. Rev.* 261, 272 (2001).

³ Avi-Yonah, note 1, at 315-16.

⁴ *Id.* at 325.

⁵ Fadi Shaheen, *International Tax Neutrality: Reconsiderations*, 27 *Va. Tax Rev.* 203 (2007).

⁶ Peggy B. Richman, *Taxation of Foreign Investment Income: An Economic Analysis* (1963); Peggy B. Musgrave, *United States Taxation of Foreign Investment Income* (1969).

⁷ Shaheen, note 5, at 205.

⁸ *Id.* at 207-13.

governments to harmonize tax rates.⁹ Shaheen, further, argues that in the absence of harmonization a worldwide tax system will satisfy neither benchmark.¹⁰

There is much to admire in Shaheen's article, which illuminates a great deal of the contemporary discussion of international tax policy, provides insightful economic analysis, and advances the dialogue among economists, lawyers, and policymakers. I disagree, however, with Shaheen's ultimate conclusions, which I believe are exactly backward. Interpreting CEN and CIN largely as Shaheen does, which I believe is also the way those concepts generally are understood by lawyers, and policy analysts, albeit not professional economists, I argue that only a worldwide tax system can satisfy both CEN and CIN simultaneously. In contrast, in the absence of harmonization, a territorial tax system can achieve CIN but not CEN.

In this Article, I also show that the traditional proof that an income tax cannot simultaneously achieve both CEN and CIN is valid if CIN is interpreted not as it was understood by Musgrave and is used today by lawyers and policy analysts, but instead as it came to be used by economists beginning in the 1980's. There are, thus, two alternative and different interpretations of CIN, and the failure of commentators to be clear about which interpretation they have in mind when they use the term CIN has been the source of much confusion. I hope this Article will help to dispel some of that confusion. At the very least, writing this Article has helped me to understand more clearly the important international tax policy issues and academic debates of the day.

II. THE TWO PRINCIPAL INTERNATIONAL TAX NEUTRALITY PROPOSITIONS

Both CEN and CIN are neutrality propositions. That is, they are statements about when tax considerations will not distort decisions. In general, when taxation distorts decisions, it imposes an otherwise avoidable welfare cost. Unfortunately, it is impossible (or nearly so) for a tax not to distort some decisions. The different capital neutrality benchmarks refer to different decisions that investors make.

The normative goal behind CEN is that tax considerations should not influence whether investors resident in one jurisdiction invest their capital at home or abroad. If the tax system satisfies CEN, business, not tax, considerations will determine where investors invest.

⁹ *Id.* at 225-33.

¹⁰ *Id.* at 219-25.

This is often said to be efficiency enhancing because it will produce a more efficient global allocation of capital.¹¹

The normative goal behind CIN is often expressed as tax considerations should not influence whether a particular investment is made by domestic or foreign investors. If the tax system satisfies CIN, business, not tax, considerations will determine who makes which investments. It sometimes is said to be efficiency enhancing for a tax system to satisfy CIN because it will reduce inefficiencies in the structure of cross-border holdings.¹²

III. THE WIDELY ACCEPTED PROOF OF THE INCONSISTENCY OF CEN AND CIN

For many years, one of the principal ideas in the literature on international tax policy was that it is impossible for a tax system to satisfy both CEN and CIN simultaneously without harmonizing tax rates on capital. The often-repeated proof of that claim, which is usually and most easily expressed through an example, is straightforward.¹³ Assume that the United States imposes a 40% income tax and that the European Union imposes a 30% income tax. In order to satisfy CEN, U.S. investors must pay the same 40% tax on income earned in the European Union that they pay on income earned in the United States. That requires the United States to tax its residents on their worldwide income and to provide a foreign tax credit (FTC) for the full amount of tax paid to the European Union. Such a tax system is called a worldwide tax system.¹⁴ It also is sometimes called a residence-based tax system or a credit system.¹⁵ Under such a tax system, U.S.-based investors investing in the European Union will pay tax to the European Union on their income at a rate of 30%. They also will be taxed at a 40% rate in the United States on that income and receive a credit for the 30% tax paid to the European Union. Thus, they will have to pay 10% of their EU earnings to the United States in taxes, which leaves them with a total tax payment equal to 40% of their income. Hence, for U.S. taxpayers, CEN is satisfied if the United States has a worldwide tax system.

¹¹ E.g., Ruth Mason, *Tax Expenditures and Global Labor Mobility*, 84 N.Y.U. L. Rev. 1540, 1569-71 (2009).

¹² E.g., *id.* at 1571-72. The alternative interpretation of CIN that has dominated much of the discussion among economists is discussed below at Subsection IV.B.1.

¹³ See, e.g., Graetz, note 2, at 272 n.36.

¹⁴ E.g., Paul R. McDaniel, *Territorial vs Worldwide International Tax Systems: Which Is Better for the U.S.?*, 8 Fla. Tax Rev. 283, 289-90 (2007).

¹⁵ E.g., Shaheen, note 5, at 205-06 (residence-based tax system); Graetz, note 2, at 328-31 (credit system).

The analysis is similar with one difference for EU-based investors investing in the United States. The U.S. tax authorities will collect 40% of the EU investors' U.S. earnings in taxes. Because the U.S. tax liability on that amount exceeds the EU tax liability by 10%, the EU does not collect additional tax. That, however, is not the end of the story. In order to satisfy CEN, the European Union must provide a tax rebate to its investors of 10% of their U.S. income. Without a rebate EU-based investors would not pay tax at the same rate on their income earned in the United States as on their income earned in the European Union (30%). Such a provision often is referred to as an unlimited FTC because the credit is not limited to the residence country's tax on that income. Such a payment brings a high foreign tax rate down to the lower domestic tax rate, thereby achieving CEN for EU taxpayers.¹⁶

The standard argument continues by turning to CIN. In terms of the example, CIN requires that U.S. investors pay tax at the same rate as EU investors in every market. Both EU and U.S. investors in the European Union pay tax at 30%. Because all investors in the European Union, whether EU residents or U.S. residents, pay 30% tax to the European Union, it follows that if the United States does not tax the EU income of U.S.-based investors, then both groups of investors will pay tax at the same rate. Similarly, EU-based investors investing in the United States, pay tax to the United States at a rate of 40%, the same tax rate paid by U.S. investors investing in their home market. If the European Union neither taxes nor provides a rebate to its investors investing abroad, EU-based investors will pay the same tax in the United States as their U.S. competitors. Such a tax system, in which the home country does not tax its residents on the income they earn abroad, is called a territorial tax system.¹⁷ It is also sometimes called a source-based tax system¹⁸ because income is taxed only at its source or an exemption tax system¹⁹ because foreign source income is exempt from tax. Such a tax system will satisfy CIN.

The inconsistency of the two goals—CEN and CIN—immediately follows. CEN requires that U.S.-based investors pay the same 40%

¹⁶ Note that if the FTC is limited to the product of the domestic tax rate and foreign income, then the EU investor receives a FTC of only 30% of foreign income. Although that leaves the EU investor with no additional tax liability to the EU, because the investor has already paid tax equal to 40% of that income to the U.S. Treasury, the investor's total tax liability is 40%, not 30%. The last 10% tax paid to the United States generates no usable FTC. Thus, if the FTC is limited, then CEN will not be satisfied for the EU investor. In that case, the tax system sometimes is said to satisfy CEN with respect to the U.S. investor but not the EU investor.

¹⁷ E.g., McDaniel, note 14, at 290-91.

¹⁸ E.g., Shaheen, note 5, at 205-06.

¹⁹ E.g., Graetz, note 2, at 328-31.

tax in the European Union as they pay when they invest in the United States, which requires a worldwide tax system with an unlimited FTC. CIN, however, requires that U.S.-based investors pay the same 30% tax in the European Union that EU-based residents pay there, which requires a territorial tax system.²⁰ Thus, CEN and CIN cannot both be satisfied simultaneously unless the European Union and the United States both tax income at the same rate.²¹

If the European Union and the United States both tax income at the same rate, say 40%, then the global tax system would simultaneously satisfy both CEN and CIN.²² From the U.S. perspective, the U.S. investor would pay tax at 40% whether the investment took place in the European Union or the United States. Thus, CEN would be satisfied. The EU-based investor would also pay tax at 40% when the investment was made in the United States. Thus, CIN also would be satisfied from the U.S. perspective.²³

The above demonstration is quite standard and it can be found in one form or another in many articles and books, with many more citing the result.²⁴ It is, however, wrong, or at the very least misleading. To understand my criticism of the claim that CEN and CIN cannot simultaneously be satisfied without harmonizing tax rates we need to look more closely at the concepts of CEN and CIN, which for nearly fifty years have dominated the debate about international tax policy.

²⁰ The analysis is similar from the EU perspective. CEN requires EU investors to pay tax at 30% when they invest in the United States, but CIN requires EU-based investors to pay tax at 40% when they invest in the United States.

²¹ As others have pointed out, a cash-flow consumption tax will satisfy both CEN and CIN simultaneously without the need to harmonize statutory tax rates. E.g., David Bradford, *The X Tax in the World Economy* (CESifo, Working Paper Series No. 1264, Princeton Law & Public Affairs, Paper No. 03-9, 2004), available at <http://ssrn.com/abstract=447780>. That is because such a tax has the effect of exempting the ordinary return to capital from tax. *Id.* Thus, if two countries adopt cash-flow consumption taxes at different statutory rates, then they have both set their tax rates on capital to zero. In effect, a consumption tax only taxes the income from labor, which is the only income to which the statutory rate is applied.

²² In such circumstances, it does not matter whether the tax systems of the European Union and the United States are both territorial, both worldwide, or one is territorial and the other is worldwide. Regardless of the host country's method of providing double tax relief, an investor in a foreign country does not pay any tax to the investor's residence jurisdiction on foreign-source income.

²³ The analysis is identical from the EU perspective. The EU investor's total tax payment would be equal to 40% of income whether the EU investor invests at home or abroad. Also, a U.S. investor who invests in the European Union would pay tax at 40%, the same as an investor from the European Union.

²⁴ One of the clearest and best known examples comes from Graetz, note 2, at 272 n.36.

IV. GIVING NORMATIVE CONTENT TO CEN AND CIN

The economic analysis of international tax policy takes as its starting point the ideas that the maximization of global welfare is an appropriate goal of tax policy and that taxation by distorting economic decisions reduces that welfare.²⁵ In a world where labor and land are (or at least were) viewed as immobile, but capital is viewed as highly mobile, international tax policy is concerned with the impact alternative tax policies can have on various capital market decisions. By interfering with those decisions, tax policy imposes a welfare cost on society. The various tax neutrality propositions represent tax systems that do not distort specific capital decisions.

Sometimes, tax neutrality is measured against a baseline of the ideal nontax world.²⁶ Under certain restrictive assumptions, a world without taxes is efficient in the sense that it maximizes aggregate welfare. Under those same assumptions, the imposition of a tax that changes behavior reduces welfare. In those circumstances, the distortion caused by the tax can be measured against the baseline of the untaxed world. In a market in which there are already distortions (that is, other taxes), however, the welfare consequences of imposing a new tax, removing an old tax, or revising an existing tax cannot be measured against the nontax baseline. In order to determine whether any tax policy change produces a distortion, we look for margins across which changes to public and private benefits are not equal.²⁷

In such a world, a tax policy change increases a distortion when it increases the difference between public and private benefits.²⁸ It reduces that same distortion when it reduces that difference. To assess the total welfare consequences of any given change all of the distortions across all dimensions must be summed. That is a daunting task. It is also one that in theory can go in either direction. Thus, imposing a tax can reduce or increase welfare and eliminating a tax can increase or reduce welfare. Although either result is possible in theory, in practice nearby effects are likely to dominate distant effects. Accordingly, the practice is to look at the public and private benefits

²⁵ Most scholars advocate or assume that the international tax system should seek to maximize global welfare. For a dissenting view, see Graetz, note 2, at 277-82, who argues that each country should maximize national welfare. Shaviro argues that, because of the possibility of retaliation, the way for most countries to maximize national welfare is to seek to maximize global welfare. Daniel Shaviro, *Why Worldwide Welfare as a Normative Standard for U.S. Tax Policy?*, 60 *Tax L. Rev.* 155 (2007).

²⁶ E.g., Shaheen, note 5, at 206-15.

²⁷ See, e.g., Chris W. Sanchirico, *A Critical Look at the Economic Argument for Taxing Only Labor Income*, 63 *Tax L. Rev.* 867, 871 (2010).

²⁸ The welfare consequences of a distortion generally increase roughly as the square of the magnitude of the distortion. Jonathan Gruber, *Public Finance and Public Policy* 582 (2d ed. 2005).

at nearby margins. Viewed from such a perspective, a tax is inefficient with respect to any particular decision when the ratios of private and social benefits across that margin are not equal. If there are such margins, then a hypothetical central planner can increase welfare by making changes across that margin. In that case, the tax system is said to be inefficient with respect to those dimensions. Conversely, the dimensions on which welfare cannot be improved by the hypothetical planner by shifting resources are said to be efficient.²⁹ The welfare benchmarks of international tax policy focus on the various decisions that capital owners make.

A. *The Normative Meaning of CEN*

The welfare benchmark of CEN focuses on the location of capital. Viewed against the nontax baseline, a world in which CEN is satisfied is one in which the allocation of capital across jurisdictions is the same as it is in the untaxed world. That is to say, if the market would produce an equilibrium such that the allocation of assets across jurisdictions is the same as that a planner trying to maximize global welfare would produce, then the tax system satisfies CEN. Expressed in terms of shifting assets to increase welfare, a tax system satisfies CEN if it is not possible to increase aggregate welfare by changing the location of assets. The contribution that any asset makes to global welfare is a function of the before-tax rate of return generated by the asset. Thus, if the before-tax rates of return on the marginal asset in each jurisdiction are equal, then global welfare cannot be increased by shifting assets across borders. In such circumstances, the tax system is said to satisfy CEN.

As Musgrave pointed out many years ago, a worldwide tax system with an unlimited FTC will satisfy CEN.³⁰ A worldwide tax system with an unlimited credit ensures that all investors pay tax at their home country tax rate on all income regardless of where it arises. Because investors are concerned with their after-tax return, market forces will tend to push after-tax returns into equality. Thus, in an environment with a worldwide tax system, because every investor pays tax at the same rate on all income regardless of source, competition tends to push before-tax rates of return across countries into equality. In such circumstances, welfare cannot be improved by changing the location of capital. Thus, a worldwide tax system satisfies CEN.

²⁹ See Harvey S. Rosen & Ted Gayer, *Public Finance* 341-42 (8th ed. 2008).

³⁰ See Musgrave, note 6, at 74-75. In effect, international convention assigns the primary right to tax to the source country and gives the residence country a secondary right.

That can be seen by returning to the example and adding more structure. Recall that in the example, the U.S. tax rate is 40% and the EU tax rate is 30%. Assume further that readily available investments in the United States yield a before-tax rate of return of 10% annually (the "benchmark asset"). That implies that U.S. investors earn 6% after tax on their domestic investments. Because capital is assumed to be freely mobile, the before-tax rate of return in the European Union also must be 10% annually. That can be seen as follows. A U.S. investor in the European Union earns 10% before tax and pays tax at 30% to the European Union. That leaves the U.S. investor with an after-tax return of 7%. With a worldwide tax system, the U.S. investor reports the entire 10% before-tax return to the U.S. government and is assessed a tentative tax liability of 40% on that return. The U.S. investor receives a FTC for the 30% tax paid to the European Union. That leaves the investor with an additional 10% tax obligation on the before-tax income.³¹ Thus, the U.S. investor has no incentive to shift capital between the European Union and the United States because the after-tax rate of return in both jurisdictions is 6%.

Assuming that the European Union provides an unlimited FTC, the analysis is similar except that the after-tax rate of return for investors from the European Union is 7%, not 6%. Note that if the before-tax rate of return in the European Union is not 10%, then the market would not be in equilibrium, capital would shift from the jurisdiction with a lower before-tax rate of return to the jurisdiction with a higher rate of return, until the before-tax rate of return was the same across jurisdictions. Because a worldwide tax system leads to an equilibrium where the before-tax rate of return is equal everywhere, it follows that a worldwide tax system results in CEN.³²

Suppose that one or more countries diverge from the consensus and decline to tax their residents on foreign source income. Does the tax system still satisfy CEN? That depends upon what happens to the return to capital in different jurisdictions. If the countries that still use worldwide taxation are large enough that they continue to determine the before-tax rate of return everywhere and so set that rate equal around the world, then CEN is still satisfied. Alternatively, if those countries are no longer so large that the before-tax rate of return differs across countries, then CEN is lost.

It follows that if all countries adopt territorial taxation, then the tax system will not achieve CEN. That is easy to illustrate with the exam-

³¹ For simplicity and ease of exposition all assets are assumed to be riskless. Risk is discussed briefly in note 68.

³² It has long been recognized that in order for a worldwide tax system to achieve CEN without harmonizing tax rates the FTC must be unlimited. What other conditions must be met for a tax system to achieve CEN is a question that warrants further research.

ple. If the European Union and the United States both adopt territorial taxation with tax rates of 30% and 40%, and if the before-tax rate of return in the United States is 10%, then the before-tax rate of return in the European Union will be 8.57%. At those rates, investors everywhere earn 6% after tax, and thus have no incentive to shift capital. Shifting capital from the European Union to the United States, however, will increase worldwide welfare. For example, taking \$1 of capital from the European Union will cost \$1.0857 in one year. Investing that \$1 in the United States will produce \$1.10 in the United States in one year. The difference—\$0.0143—is the surplus. The existence of a surplus means that CEN is not achieved. Thus, global adoption of a territorial tax system violates CEN.

Over the years, Musgrave's conclusions that a worldwide tax system satisfies CEN and that a territorial tax system violates CEN have been broadly accepted by the economics, legal, and policy communities.³³ The story is more complicated with the other welfare benchmark, CIN.

B. *The Two Different Normative Meanings of CIN*

Musgrave discusses CIN in connection with business competition and expansion opportunities.³⁴ As described by Musgrave, the idea embodied in CIN is that if all investors in a jurisdiction are taxed at the same rate, regardless of their residence, then taxation should not affect competition in that jurisdiction.³⁵ Musgrave's notion of CIN might seem abstract and opaque, and that opacity has influenced the development of international tax policy.

1. *Savings Neutrality*

In an influential and important article published in 1980, Thomas Horst formalizes and models some of the basic ideas developed in Musgrave's early writings.³⁶ In that short article, Horst demonstrates that a worldwide tax system will not distort the allocation of income across locations.³⁷ Horst then demonstrates that territorial taxation will not distort the consumption-savings decisions across jurisdic-

³³ See, e.g., Gractz, note 2, at 271.

³⁴ Musgrave, note 6, at 119-21.

³⁵ *Id.* at 121.

³⁶ Thomas Horst, A Note on Optimal Taxation of International Investment Income, 94 Q.J. Econ. 793 (1980).

³⁷ *Id.* at 796.

tions.³⁸ Horst refers to the latter situation as one in which CIN obtains.³⁹

I refer to a tax system that does not distort the choice between consumption and savings across individuals as achieving savings neutrality. As is well recognized, income taxation distorts the consumption-savings choice by increasing the price of saving relative to the price of current consumption. The price of current consumption is the loss of the after-tax return on that capital. For each taxpayer, that cost is the taxpayer's after-tax return. Accordingly, if taxpayers earn different after-tax rates of return, then a social planner can increase aggregate welfare (measured by willingness to pay) by shifting saving and consumption across different investors. If, however, every investor earns the same after-tax return, then the social planner cannot improve welfare by shifting savings. That interpretation of CIN caught on and took over in the economics literature.⁴⁰ And so that interpretation is presumably what many economists have in mind when they say that a territorial tax system satisfies CIN. That is not what Musgrave meant, however, and more to the point, it is not what many modern day lawyers and policy analysts have in mind when they talk about CIN.

Nonetheless, global adoption of a territorial tax system satisfies such a conception of CIN. In a world where every country has a territorial tax system, investors pay tax only in the source country. Thus, competition among investors for the highest after-tax rate of return will push after-tax rates of return across jurisdictions into equality. In terms of the example, if the before-tax rate of return in the United States is 10%, then the after-tax rate of return in the United States is 6%. With a territorial tax system, 6% is the after-tax rate of return in the United States for both EU and U.S. investors. Competition to achieve the highest after-tax cash flow ensures that the after-tax rate of return in the European Union is also 6%, which implies a before-tax rate of return of 8.57% in the European Union. Because the after-tax rate of return is 6% everywhere for every investor, every investor faces the same trade-off between saving and current consumption. Thus, a central planner cannot increase aggregate welfare by reallocating consumption and savings among individuals. Both U.S. and

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ Devereux, in a footnote to his 1990 paper introducing the concept of capital ownership neutrality (CON), writes, "[i]n my [Institute for Fiscal Studies] report with Mark Pearson, we attempted to redefine capital import neutrality to cover this concept [CON]. This may have caused some confusion with what others have called capital import neutrality." Michael P. Devereux, *Capital Export Neutrality, Capital Import Neutrality, Capital Ownership Neutrality and All That*, 2 n.4 (Inst. for Fiscal Studies, Working Paper, 1990) (on file with author). As Devereux's comment makes clear, economists have a conception of CIN that differs from CON, although CON is a natural interpretation for the term CIN.

EU investors earn 6% after tax on their investments. Thus, at the margin, both U.S. and EU investors value \$1 of current consumption as much as \$1.06 in consumption one year later. Reduce investment by EU investors by \$1. At the margin, the EU investor is indifferent between saving and consuming \$1. The EU treasury, however, loses \$0.0257 assuming the investment is made in the European Union. Increase investment by U.S. investors by \$1. Assume that investment also takes place in the European Union. Thus, the EU treasury recovers the \$0.0257 it originally lost and so it is unaffected by the shift. If the U.S. investor receives \$1.06 it is as well off with the investment as with current consumption. That leaves no surplus, which implies that the tax system satisfies CIN. Thus, a territorial tax system does not violate CIN when CIN is understood as savings neutrality.

In contrast, a worldwide tax system does not satisfy CIN when CIN is understood to mean savings neutrality. That can be readily seen using the example. With a worldwide tax system, the before-tax rate of return is everywhere equal to 10%. U.S. investors earn 6% after tax on their investments, whereas EU investors earn 7%. Thus, at the margin, U.S. investors value \$1 of current consumption as much as \$1.06 in consumption one year later, whereas EU investors value \$1 of current consumption as much as \$1.07 in consumption one year later. That the tax system violates CIN can be seen by making the following adjustments. Reduce investment by EU investors by \$1. That investment would have produced \$1.10 in one year—\$0.03 of which would have been paid to the EU tax authority. At the margin, EU investors are indifferent between saving \$1 and consuming \$1.07 in one year. Thus, they are indifferent to the change. The EU treasury, however, loses \$0.03 assuming the investment is made in the European Union. Increase investment by U.S. investors by \$1. Assume that investment also takes place in the European Union. Thus, the EU Treasury recovers the \$0.03 it originally lost and so it is unaffected by the shift. If the U.S. investor receives \$1.06, it is as well off with the investment as with current consumption. Because the investment yields \$1.10 before tax and the EU tax collector must receive \$0.03 to break even, that leaves an additional \$0.01. That \$0.01 is surplus, and it implies that the tax system does not satisfy CIN. Thus, a worldwide tax system violates CIN when CIN is understood as savings neutrality.

2. *Competitiveness or Ownership Neutrality*

The second meaning of CIN is as competitiveness or ownership neutrality.⁴¹ Ownership considerations were first introduced into the economic literature on foreign direct investment in the late 1950's.⁴² That work, which is now recognized as the foundation of the modern literature on international trade, did not receive much attention at the time. Accordingly, for many years, economists ignored the importance of ownership in influencing foreign direct investment.⁴³

It was not until the 1980's that economists again started to think seriously about how ownership considerations impact foreign direct investment.⁴⁴ Even so, the rigorous economic analysis of ownership remained outside the realm of international tax policy for years.

That state of affairs changed slowly. In 1990, Michael Devereux coined the phrase capital ownership neutrality (CON) to describe a tax system that is neutral with respect to the ownership of assets.⁴⁵ Devereux's original paper on CON, however, was never published and the concept remained dormant for another decade.

Then, in a series of articles published in 2003 and 2004, Mihir Desai and James Hines brought ownership into the forefront of the professional economists' literature on international taxation.⁴⁶ Desai and Hines argue that productivity depends on the ownership of assets so that a tax regime that distorts ownership will impose large welfare costs.⁴⁷ Their work has been highly influential, although some com-

⁴¹ For discussions of the links between ownership and competitiveness, see Michael Knoll, *Taxes and Competitiveness* (Univ. of Pa., Inst. for Law and Econ., Paper No. 06-28, 2006), available at <http://ssrn.com/abstract=953074> [hereinafter *Competitiveness*]; Michael Knoll, *Business Taxes and International Competitiveness*, in *Dimensions of Competitiveness* ch. 7 (Paul De Grauwe ed., 2010) [hereinafter *Business Taxes*].

⁴² Edward M. Graham & Paul R. Krugman, *Foreign Direct Investment in the United States 191-93* (3rd ed. 1995).

⁴³ For an analysis that considers the importance of ownership and distinguishes ownership and portfolio investment, see *id.* at 9-11.

⁴⁴ Graham and Krugman were one of the first to reconsider the importance of ownership in influencing foreign direct investment in the first edition of their book published in 1989. *Id.*

⁴⁵ Devereux, note 40.

⁴⁶ Mihir A. Desai & James R. Hines Jr., *Evaluating International Tax Reform*, 56 *Nat'l Tax J.* 487 (2003) [hereinafter *Evaluating Reform*]; Mihir A. Desai, *New Foundations for Taxing Multinational Corporations*, *Taxes*, Mar. 2004, at 39; Mihir A. Desai & James R. Hines Jr., *Old Rules and New Realities: Corporate Tax Policy in a Global Setting*, 57 *Nat'l Tax J.* 937 (2004).

⁴⁷ Devereux describes his concept of CON as broader than that of Desai & Hines. The latter refers to acquisitions of existing assets only, whereas the former applies to both acquisitions and international trade. Michal P. Devereux, *Taxation of Outbound Direct Investment: Economic Principles and Tax Policy Considerations*, 24 *Oxford Rev. Econ. Pol.* 698, 707 (2008).

mentators question the magnitude of tax-induced ownership distortions and the data/measurements Desai and Hines employ.⁴⁸

Yet, the idea of competitiveness or ownership neutrality is much older. It seems clear upon reading Musgrave that when she used the term CIN she had competitiveness in mind, not savings neutrality. Thus, in her 1963 work, Musgrave introduces the phrase “capital import neutrality” in the following sentence: “A form of capital-import neutrality under which all investors who invest in one particular country are subject to the same tax treatment, namely, that of the country of the source of investment income, would allow all foreign investors in that country equal opportunities for expansion.”⁴⁹ Although Musgrave rejects CIN as the appropriate welfare benchmark because it does not promote neutrality with respect to the location of investment,⁵⁰ the passage is clearly not about savings, but instead has more to do with competitiveness.⁵¹

Similarly, in her 1969 work, Musgrave writes that business people argue that “the relevant concept of neutrality is equal treatment of U.S. investors abroad and their foreign competitors (capital-import neutrality).”⁵² And in a section entitled “*Capital-import neutrality*,”⁵³ Musgrave writes: “[B]usinessmen frequently maintain that neutrality should apply between U.S. foreign investors and their competitors abroad. This view of neutrality, which may be termed ‘capital-import neutrality,’ suggests taxation by source or exemption of foreign investment income by the United States.”⁵⁴ Once again, Musgrave is skeptical of the efficiency and fairness benefits of CIN, but even so there is no ambiguity as to connotation. CIN is about competitiveness, not savings.

It is certainly fair to say that Musgrave does not describe the nature of the competition that occurs between businesses. Nowhere does she

⁴⁸ Mitchell A. Kane, *Ownership Neutrality, Ownership Distortions, and International Tax Welfare Benchmarks*, 26 Va. Tax Rev. 53 (2006); Harry Grubert, *Comment on Desai and Hines, “Old Rules and New Realities: Corporate Tax Policy in a Global Setting,”* 58 Nat’l Tax J. 263 (2005).

⁴⁹ Richman, note 6, at 8.

⁵⁰ *Id.*

⁵¹ The connection between expansion and ownership is not clear. The idea might be that a lower tax rate means more after-tax dollars to invest and hence greater expansion. Alternatively, the idea might be that a lower tax rate means that the investor will earn more after tax on future investment, which will encourage greater expansion. The latter is closer to the idea of ownership. Such confusion has occurred in other areas. For a discussion of that confusion in the context of tax-exempt and taxable investors, see Michael S. Knoll, *The UBIT: Leveling an Uneven Playing Field or Tilting a Level One?*, 76 Fordham L. Rev. 857 (2007).

⁵² Musgrave, note 6, at 118.

⁵³ *Id.*

⁵⁴ *Id.* at 119.

explain how businesses compete with one another to expand production. Modern corporate finance, however, does explain how firms compete. They compete with one another for assets by raising money from outside investors, which they use to acquire assets. Thus, the competition between businesses takes the form of competition to own (and otherwise control) assets.⁵⁵

Ownership neutrality, then, is a second meaning of CIN and it seems to be the meaning intended by Musgrave. It is also a more natural meaning for the term CIN than the alternative meaning of not distorting the consumption-savings choice across investors. The phrase "capital import neutrality" does not suggest anything about savings. Instead, the phrase suggests investment from abroad into a host country in competition with local investors and the neutrality is often expressed as occurring between a home investor and a foreign investor or among foreign investors from different states. In many instances, the investors are assumed to be firms, not individuals, which further strains the interpretation of CIN as dealing with the individual investors' trade-off between consumption and savings. Also, both CEN and CIN are often described as dealing with foreign direct investment, not portfolio investment.⁵⁶ In a world where firms make direct investments and individuals make portfolio investments, it makes little sense for CIN to be about both direct investment and the consumption-savings tradeoff. Instead, ownership neutrality—or something close to it—appears to be what many writers about tax policy who are not professionally trained economists have in mind when they use the term CIN.⁵⁷

Although this is speculation, I suspect that many of the authors who use CIN as a form of ownership neutrality think of it as having immediate welfare consequences. Differential tax rates translate into a competitive advantage, which in turn translates into an excess burden.⁵⁸ It is also easy to understand how many readers without formal economic training came to think that absolute differences in tax rates across taxpayers determines competitiveness or ownership. It was a short step from that conclusion to the conclusion that differences in

⁵⁵ The term "assets" refers to a wide range of projects in which a business might invest, including the acquisition of existing plant and equipment, investment in new projects, and even the competition to make sales.

⁵⁶ But see Devereux, note 47, at 705 (analyzing CEN, CIN, and CON in the context of both portfolio and direct investment).

⁵⁷ The language of the traditional proof of the impossibility of achieving both CEN and CIN simultaneously without harmonizing tax rates reinforces this interpretation.

⁵⁸ Such differences in tax rates immediately translate into competitive differences when the competition is between separately taxed entities (for example, corporations) as opposed to investors with capital to invest. See Knoll, *Competitiveness*, note 41; Knoll, *Business Taxes*, note 41.

tax rates across investors have adverse welfare consequences by distorting who makes certain investments.

Furthermore, many of the writers who reproduce or refer to the proof of the impossibility of a tax system simultaneously satisfying both CEN and CIN seem to have in mind the notion of CIN as ownership neutrality, not CIN as savings neutrality.⁵⁹ I would guess that an even larger number of readers of those works think of CIN as closer to ownership neutrality than to savings neutrality when they read the proof and think about its significance.

The use of CIN to refer to a level playing field between foreign and domestic investors is in wide use. And this idea is closely connected with the concept of ownership. As Hugh Ault and David Bradford wrote in 1990, “[c]apital-import neutrality” refers to the nationality of ownership of firms.⁶⁰

It is certainly fair and accurate to describe much of the writing that advocates for CIN as ownership neutrality as thinly reasoned, especially the connection between CIN and economic efficiency. It is, however, incorrect to describe that work as treating CIN as savings neutrality or as anything other than as some aspect of competitiveness.

The simplest explanation for the lack of rigor in discussions of the connection between CIN as ownership neutrality and economic efficiency is that professional economists, until recently, generally thought the ownership of capital was unrelated to considerations of economic efficiency. In several places, Musgrave notes that the welfare considerations of the residence and nationality of the investor are of secondary importance to considerations of the location of investment.⁶¹ And more recently, Ault and Bradford wrote “[t]he nationality of the owners of capital is not generally associated with economically significant consequences (apart, perhaps, from portfolio diversification).”⁶² Thus, it is easy to see why some commentators, especially professional economists, might see Devereux, Desai, and Hines as introducing ownership considerations into the international tax policy discussion. However, the risk from reading Devereux, Desai, and Hines in that fashion is that it can cause the reader to misunderstand and misinterpret a large literature on international taxation by writers who are not professional economists.

⁵⁹ See, e.g., Graetz, note 2.

⁶⁰ Hugh J. Ault & David F. Bradford, *Taxing International Income: An Analysis of the U.S. System and its Economic Premises*, in *Taxation in the Global Economy* 11, 39 (Assaf Razin & Joel Slemrod eds., 1990).

⁶¹ E.g., Musgrave, note 6, at 9, 27.

⁶² Ault & Bradford, note 60, at 39.

When viewed from the perspective of noneconomists working in the field of international tax policy, Devereux, Desai, and Hines do not so much introduce ownership considerations into the discussion of international tax policy as they provide a rigorous economic foundation for doing so. Moreover, Desai and Hines have also been outspoken advocates for adopting an ownership neutral tax regime on the grounds that there can be large and negative welfare consequences from adopting tax systems that distort ownership patterns.⁶³ Thus, Desai and Hines argue at length that the ownership of capital substantially affects the productivity of that capital and hence global welfare.⁶⁴ Desai and Hines also look at what sorts of tax systems will or will not distort the ownership of capital.⁶⁵ They conclude that global adoption of either territorial or worldwide taxation will not distort ownership patterns even if tax rates vary across countries.⁶⁶

In order to understand the circumstances under which ownership neutrality occurs, the example needs more structure. Recall that the before-tax rate of return for investments in the United States is 10% a year. Assume that there is an investment available (the "candidate investment") through which a \$1000 investment will yield \$1100 in one year when that investment is liquidated. If the candidate investment is undertaken by a U.S. investor in the United States, the U.S. investor will report \$100 income, pay \$40 tax, and be left with an after-tax cash flow of \$1060. The candidate investment is, thus, worth \$1000 to a U.S. investor.⁶⁷ That is because at that price the investment gen-

⁶³ Desai & Hines, *Evaluating International Tax Reform*, note 46, at 494.

⁶⁴ *Id.* at 494-96.

⁶⁵ *Id.* Some of my recent scholarship contributes to this literature. E.g., Knoll, *Business Taxes*, note 41; Knoll, *Competitiveness*, note 41.

⁶⁶ Desai & Hines, *Evaluating International Tax Reform*, note 46, at 494-95.

⁶⁷ In order to calculate the value of the candidate investment to a potential investor, the following notation is helpful. Denote the pretax 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_i , the total tax rate imposed on an investor from *Country i* on the candidate investment by t_j , and the price paid by an investor from *Country i* for the candidate investment by V_i . An investor from *Country i* will have $C(1 - t_j) + V_i t_j$ after paying taxes on the candidate investment. That same investor must receive at least $V_i(1 + R(1 - t_i))$ or will forgo 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*: $V_i = C(1 - t_j) / [1 - t_j + R(1 - t_i)]$.

Furthermore, if the candidate investment is taxed the same as other investments, $t_i = t_j$, then the above equation for the maximum bid price an investor in *Country i* will pay for the candidate investment simplifies to $V_i = C / (1 + R)$. Substituting \$1100 for C and 10% for R into that equation yields \$1000. That an investor from the United States 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 which \$100 is income. The U.S. investor pays \$40 tax and so is left with \$1060. Thus, the U.S. investor earns an after-tax return of 6%, which confirms that such investor is willing to pay up to \$1000 for the candidate investment.

erates an after-tax return of 6%, the same rate as other readily available investments.⁶⁸

Assume that the United States and the European Union both adopt worldwide tax systems. The before-tax rate of return in the European Union, then, would be 10% as well. On their alternative investments EU investors would earn 7% after tax, not the 6% after tax as do U.S. investors. The reason why EU investors earn more after tax than do U.S. investors is they are taxed at 30% instead of 40%.

If an EU investor acquired the candidate investment in the United States, then that investor would report \$100 of U.S. source income to the U.S. government, which would assess a tax liability of \$40. That would allow the EU investor to repatriate \$1060. The EU investor would also report \$100 income to EU tax authorities and be assessed a tentative tax liability of \$30.⁶⁹ That investor would also receive a FTC of \$40 for the \$40 paid to the U.S. Treasury on that same income. Because the EU tax liability on that income is only \$30, the EU investor would be entitled to a rebate from the EU treasury of \$10. That would leave the EU investor with a net total tax liability of \$30 and hence with a cash flow of \$1070 after tax. The EU investor, thus, would value the candidate investment at \$1000, the same as a U.S. investor.⁷⁰ Because the EU and U.S. investor both value the candidate investment at \$1000, CIN would be satisfied with respect to the U.S. market.⁷¹

⁶⁸ As described throughout this Article, the value that an investor places on an asset is a function of how high the investor is taxed on that asset relative to other assets. That raises the question: What other assets are relevant? In a world of riskless assets, all assets are perfect substitutes for one another. In a world of risky assets, however, portfolio selection is more complicated and so the question what assets are the right alternatives is a difficult one. Mihir Desai and Dhammika Dharmapala argue that the right way to think about that question is to use the after-tax capital asset pricing model (CAPM). Mihir Desai & Dhammika Dharmapala, *Investor Taxation in Open Economies* (Aug. 2009), <http://areas.kenan-flagler.unc.edu/Accounting/TaxCenter/taxsym2010/Documents/Dharmapala-Desai.pdf>. According to that model, relative tax rates across assets and individuals determine the relative intensity of investments. *Id.* at 16-18. In such a world, investors do not specialize in their investments by holding only the most tax-advantaged investments and avoiding all other investments. *Id.* Instead, investors tend to hold a higher share of their portfolio in tax-advantaged investments and a smaller share in tax-disadvantaged investments, where tax-advantaged and tax-disadvantaged is measured by how the investor is taxed on that asset relative to other assets as compared with all other investors. *Id.*

⁶⁹ For simplicity and ease of exposition all amounts are expressed in U.S. dollars.

⁷⁰ The value of the candidate investment to an EU investor is calculated using the simple equation in note 67 for the value of the candidate investment when the tax rate on the candidate investment (t_c) and the benchmark asset (t_b) are the same. In that case, the tax rates drop out of the equation.

⁷¹ The example in the text assumes that differences in tax rates across countries do not reflect differences in services (value) provided to capital investors. If some of those tax differences are reflected in services, then a worldwide tax system will not achieve ownership neutrality.

Note that if the EU FTC were limited to the product of the EU tax rate and the EU investor's foreign income, then the investor would receive a credit of only \$30. That would leave the EU investor with no additional tax liability to the EU Treasury. Because the investor paid \$40 tax to the U.S. Treasury and repatriated \$1060, the investor's total tax liability would be \$40 and after-tax cash flow would be only \$1060. The additional \$10 tax paid to the U.S. Treasury would generate no usable FTC, which accounts for the \$10 difference in taxes paid and after-tax cash flows in the two versions of the example. If the FTC were limited, then CIN would not be satisfied for the EU investor. The EU investor would value the candidate investment at only \$985.07.⁷² The EU investor would value the candidate investment less than an equally efficient U.S. investor who had the same cash flow and paid the same tax. That is because the EU investor would pay more tax and have a smaller after-tax cash flow if the investment was made in the United States than if the economically equivalent investment was made in the European Union. In this circumstance, CIN is said not to be satisfied in the U.S. market.

Assume the candidate investment was sourced in the European Union. That investment would produce \$1100 when it was liquidated in one year. An EU investor who made the investment would report \$100 income to the EU tax authorities, pay \$30 tax, and would be left with an after-tax cash flow of \$1070. The EU investor, thus, would value the candidate investment at \$1000.⁷³ A U.S. investor who made the investment would report \$100 income to the European Union and pay \$30 tax to the EU tax authorities. That investor would also report \$100 to U.S. tax authorities, and would be assessed a tentative tax liability of \$40. The U.S. investor would also receive a FTC of \$30, and thus would owe an additional \$10 tax to the U.S. Treasury. In total, a U.S. investor would pay \$40 in tax, which would reflect the U.S. tax rate. After paying all taxes, the U.S. investor would be left with \$1060, which represents a 6% after-tax rate of return on the investment. Thus, the candidate investment would be worth \$1000 to the U.S. investor if it was located in the European Union, the same value as it has to EU investors.⁷⁴ Thus, the worldwide tax system also satisfies CIN with respect to the European Union.

⁷² The value of the candidate investment to an EU investor is calculated using the general equation in note 67 for the value of the candidate investment and setting t_i equal to 40% and t_j equal to 30%.

⁷³ Again, the value of the candidate investment to an EU investor is calculated using the simpler equation in note 67, which is not a function of tax rates.

⁷⁴ Once again, when the tax rate on the candidate investment and on benchmark investments are the same, the value of the candidate investment is not a function of tax rates.

Consider now the possibility that the United States and the European Union both adopted territorial tax systems. Assuming that the before-tax rate of return in the United States remained at 10%, U.S. investors would still earn 6% after tax in the United States. EU investors, however, would also earn 6% after tax in the United States. Equilibrium, thus, requires that EU investors also earn 6% after tax in the European Union. Given the 30% tax rate in the European Union, a 6% after-tax rate of return implies a before-tax rate of return of 8.57% in the European Union.

Assume that the candidate investment was located in the United States where it generates a before-tax rate of return of 10%. Whether it was acquired by an EU or U.S. investor, the holder would receive \$1100, pay \$40 in taxes, and be left with \$1060. Such an investment would be worth \$1000 because it generated an after-tax rate of return of 6%, the same as the benchmark asset despite the presence of different rates.

Assume that the candidate investment was located in the European Union. If we assume that competition takes the form of reducing the cash flow from the candidate investment, not increasing its cost, then the cash flow from the candidate investment would fall to \$1085.71.⁷⁵ At a 30% tax rate, the EU would collect \$25.71 tax, which would leave the investor with an after-tax cash flow of \$1060. That represents an after-tax rate of return of 6%. With such a return, the candidate investment would be worth \$1000 to both EU and U.S. investors. Thus, CIN would be satisfied in the European Union as well.

As the above examples show, CIN can be satisfied with either a territorial or worldwide tax system. That is in contrast with the usual view that a territorial tax system will achieve CIN, but a worldwide tax system will not.⁷⁶ Looked at from the perspective of an investment in the United States, CIN is the idea that EU-based investors investing in the United States should enjoy neither a tax advantage nor a tax disadvantage relative to their U.S.-based competitors. The standard explanation of CIN assumes whether there is a tax advantage depends on the relative tax rates applicable to U.S.- and EU-based investors investing in the United States. That, however, is incorrect when CIN is interpreted as ownership neutrality. As the example plainly shows, such neutrality does not depend on the relative tax rates paid by U.S. and EU investors in the same jurisdiction. Instead, each party's com-

⁷⁵ It might be more intuitive to assume that competition would increase the price rather than reduce the cash flow from the investment. Economically, the two effects are equivalent in that they reduce the before-tax rate of return. Assuming that the cash flow declines, however, makes clear what the effect is on the rate of return.

⁷⁶ The literature recognizes that both territorial and worldwide taxation can achieve CON. See Shaheen, note 5, at 209.

petitive position in the United States depends on the tax rate it pays in the United States relative to the rate it pays in the European Union.⁷⁷

Returning to the example, if U.S. investors pay 40% tax everywhere they invest and if EU investors pay 30% tax everywhere they invest, then both groups of investors will be indifferent as to the location of their investments as long as the before-tax return is equal across regions. It is true that EU-based investors earn more after-tax when they invest in the United States than do U.S. investors. In order for the EU-based investors to undertake the project, however, they must meet a higher after-tax hurdle rate because EU-based investors earn a higher after-tax rate of return at home as well. These two effects offset one another. In other words, the competitive positions of investors in any market does not depend upon their relative tax rates in that market, but rather on differences in their tax rates in that market compared with their tax rates in other markets.⁷⁸ The latter is less intuitive than the former and so it has confused many readers.

What this means is that CIN has been misapplied. CIN does not require that U.S.- and EU-based investors pay tax at the same rate in any single jurisdiction. Instead, it requires that investors from a given jurisdiction earn the same after-tax return in different jurisdictions. As demonstrated further below, that requirement does not violate CEN, which requires that for each investor the before-tax rate of return is equal everywhere. Before discussing the possibility of a tax system satisfying both CEN and CIN simultaneously without harmonizing tax rates on capital, the next Section summarizes the above discussion of the different types of distortions that are important for understanding international tax policy.

⁷⁷ It follows that a country's investors can enjoy a tax-induced competitive advantage in a region even if they are taxed more heavily than their competitors. They will have an advantage as long as they are taxed less heavily in the region than they are taxed in other regions relative to their competitors. For example, if U.S. firms pay tax at 40% on their U.S. investments and 35% on their EU investments, they will enjoy a competitive advantage in the European Union over EU investors who pay tax at 30% everywhere. To make the example more concrete, assume that the before-tax return to capital everywhere is 10%. EU-based investors will earn 7% in both the European Union and the United States; U.S.-based investors will earn 6% in the United States and 6.5% in the European Union. Assuming the marginal investment for U.S.-based investors was in the United States, they would be willing to make investments in the European Union that had a before-tax return of 9.25% because their after-tax return of 6.01% exceeds their 6% hurdle rate.

⁷⁸ In other words, competitive position depends upon second differences, not first differences.

C. *The Three Types of Distortions*

The discussion above describes three, not two, types of investment distortions implied by CEN and CIN. Those distortions include the location where capital is invested, the ownership of capital, and the savings-consumption decision. The first distortion—where capital is located—is the only distortion associated with CEN. In addition, the standard for neutrality—that the before-tax rate of return is equal everywhere—closely matches up with the widely perceived view that each investor pays tax at the same rate on income earned at home and abroad. The confusion comes from CIN.

CIN has two meanings. One of those meanings comes from the economics literature. According to that definition, CIN occurs when there is no distortion across individuals in the savings-consumption decision.⁷⁹ That, in turn, implies that every investor earns the same after-tax return at the margin. Because for marginal investments, all investors will earn the same before-tax rate of return in any location, the savings neutrality interpretation of CIN requires all investors in a jurisdiction to pay tax at the same tax rate. That is to say, savings neutrality does not require that the tax rate be the same in every jurisdiction. It does, however, imply that everyone who earns income in a jurisdiction pay tax at the same tax rate. Thus, such an interpretation of CIN is consistent with territorial taxation, but not with worldwide taxation.

Under the second definition of CIN, a tax system satisfies CIN if investors from all jurisdictions compete on par for investments in each jurisdiction. This is the definition of CIN implied in Musgrave's writings.⁸⁰ It is also the definition many policymakers and lawyers have in mind when they talk about CIN. Moreover, many people think that such neutrality requires that investors from different jurisdictions pay tax at the same rate in each jurisdiction. As described above, equality of tax rates across investors in each jurisdiction is a sufficient, but is not a necessary condition for ownership neutrality. The standard for ownership neutrality is not equality in absolute tax rates, but rather equality in relative tax rates. If relative tax rates paid by different investors across jurisdictions are equal, then ownership neutrality is achieved. There is no difference in relative tax rates across jurisdictions if taxpayers pay the same tax rate in all jurisdictions even if different taxpayers pay taxes at different rates. That is to say, savings neutrality requires that for each investor, the after-tax return is equal everywhere. It is not necessary that investors from different countries earn the same after-tax return or pay tax at the same rate as one an-

⁷⁹ See notes 36-39 and accompanying text.

⁸⁰ See notes 41-57 and accompanying text.

other. Accordingly, ownership neutrality can be satisfied using either territorial or worldwide taxation (without harmonizing tax rates) as long as all jurisdictions use the same type of tax system.

Summarizing these results, Table 1 describes the three types of distortions, the capital neutrality proposition associated with each distortion, the neutrality standard for each distortion expressed in terms of rates of return and tax rates, and whether territorial, worldwide, or both types of tax systems (if universally adopted) would meet that standard.

TABLE 1
TAX NEUTRALITY CONDITIONS

| <i>Distortion</i> | <i>Neutrality Proposition</i> | <i>Standard for Neutrality (rate of return)</i> | <i>Standard for Neutrality (taxes)</i> | <i>Systems that Satisfy</i> |
|-------------------|--|---|---|--|
| Location | CEN | For each investor, the before-tax rate of return is equal everywhere. | The tax rate is equal everywhere. | Universal Worldwide |
| Savings | CIN (economists' interpretation) | All investors earn the same after-tax rate of return at the margin. | Every investor faces the same tax rate at the margin. | Universal Territorial |
| Ownership | CIN (traditional interpretation) CON | For each investor, the after-tax rate of return is equal everywhere. | Relative tax rates across jurisdictions are the same across investors | Either Universal Worldwide or Universal Territorial |

D. A Note on Terminology

In light of the confusion that has been caused by CEN and CIN, especially the two different meanings of CIN, I believe we need to be more careful about terminology. We can do that in at least three different ways. The first possibility would be for commentators to drop the terms CEN and CIN. If the literature were to take this route, we would not stop using the concepts or the analyses that have been developed over the years, but we would avoid the labels. In their place, we could write and speak directly and specifically about the relevant distortion. Thus, instead of talking about CEN, commentators could talk about distortions in the location of investments (locational distortions). And instead of talking about CIN, commentators could talk about ownership and saving distortions. The last is the key—com-

mentators need to be clear whether they mean a distortion in ownership or a distortion in saving.

Second, if it is too late to banish talk of CEN, CIN, and CON, then every speaker or writer who uses the term CIN should try to be clear whether she is talking about distortions in ownership or in the savings-consumption choice. A simple change in terminology can help to facilitate such understanding. Instead of simply using the term CIN, we can strive to be more precise. Thus, we can speak of CIN as savings neutrality or CIN as ownership neutrality.⁸¹ It might take a while for such terminology to catch on, but once it did everyone would understand what the speaker or writer had in mind or would ask the speaker if the sense is not specified.

A third possibility is to associate locational neutrality with CEN, savings neutrality with CIN, and ownership neutrality with CON. This would match up well with most trained economists' understanding of these concepts. It also would allow the discussion of CON to proceed with little interruption or change in vocabulary. My concern, however, is that such a solution would not dispel the confusion of many lawyers and policymakers. The plainest meaning and most obvious connotation of CIN is too closely connected with ownership neutrality to be confident that such a simple change in vocabulary would remedy the confusion where it is most prevalent.⁸²

V. WHAT TAX SYSTEM SIMULTANEOUSLY SATISFIES CEN AND CIN?

This Part is divided into five Sections. In the first Section, I show that a worldwide tax system can simultaneously satisfy both CEN and CIN as ownership neutrality without harmonizing tax rates, whereas a territorial tax system cannot. In the second Section, I show that a territorial tax system can simultaneously satisfy both conceptions of CIN without harmonizing tax rates, whereas a worldwide tax system cannot. In the third Section, I argue that the traditional proof of the impossibility of simultaneously achieving CEN and CIN still holds if CIN is understood as savings neutrality. In that Section, I also describe why a tax system cannot simultaneously satisfy both CEN and CIN as savings neutrality without harmonizing tax rates. In the fourth Section, I describe and comment upon Shaheen's argument that a territorial tax system can simultaneously satisfy both CEN and CIN as ownership neutrality without harmonizing tax rates, whereas a world-

⁸¹ For those who like capitalized acronyms, CIN as savings neutrality could be written as CIN/SN and CIN as ownership neutrality as CIN/ON. I leave it to others to determine how these acronyms are pronounced.

⁸² Using CON for ownership neutrality and referring to CIN as "CIN as savings neutrality" for a period of time is likely to dispel some of the existing confusion.

wide tax system cannot satisfy either condition.⁸³ The fifth Section summarizes the above results.

A. The Argument that a Worldwide Tax System Simultaneously Satisfies CEN and CIN

In this Section, I show that a worldwide tax system can simultaneously satisfy both CEN and CIN as ownership neutrality without harmonizing tax rates, whereas a territorial tax system cannot. That result can be shown in an intuitive manner by returning to the numerical example.⁸⁴ When every country uses a worldwide tax system with an unlimited FTC, the before-tax rate of return would be equal everywhere. In terms of the example, then, the before-tax rate of return would be 10% in every jurisdiction. That implies that CEN would be satisfied.

Under those circumstances, CIN in the sense of ownership neutrality also would be satisfied. The candidate investment would be worth \$1000 to both EU and U.S. investors whether it was offered in the European Union or the United States. At a price of \$1000, the candidate investment would yield \$1100 in one year. That is a before-tax rate of return of 10%, which is the same as the benchmark asset.⁸⁵ Thus, CIN as ownership neutrality would be satisfied.

Conversely, with a territorial tax system, CEN and CIN as ownership neutrality are not satisfied simultaneously with different tax rates across countries. Returning to the example, where the U.S. tax rate is 40% and the EU tax rate is 30%, and the after-tax rate of return is 6% everywhere, the before-tax rate of return in the United States would be 10%, but it would be only 8.57% in the European Union. It immediately follows from the difference in before-tax rates of return that CEN would not be satisfied because global welfare could be increased by shifting assets from the European Union to the United States. CIN as ownership neutrality, however, would still be satisfied. First, if the candidate investment was in the United States, it would generate \$1100 in one year and so it would be worth \$1000 to both EU and U.S. investors. Second, if the candidate investment was in the European Union, it would generate \$1087.51 in one year and so it would be worth \$1000 to both EU and U.S. investors.

⁸³ See Shaheen, note 5.

⁸⁴ See discussion accompanying notes 13-21. That conclusion also follows directly from Table 1 and the discussion above.

⁸⁵ Of course, EU and U.S. investors earn different after-tax rates of return.

B. The Argument that a Territorial Tax System Simultaneously Satisfies Both Interpretations of CIN

Although a territorial tax system will not satisfy CEN, it will satisfy CIN as savings neutrality. Thus, a territorial tax system will satisfy both meanings of CIN. That a territorial tax system satisfies CIN as savings neutrality is easy to see. With a territorial tax system, the after-tax rate of return is equal everywhere and is the same for all investors. Thus, in terms of the example, the after-tax rate of return is 6% for both EU and U.S. investors. Because the after-tax rate of return is the same for both EU and U.S. investors, shifting saving and consumption among investors will not increase welfare. Thus, a territorial tax system satisfies both meanings of CIN.

In contrast, a worldwide tax system does not satisfy CIN as savings neutrality because the after-tax rate of return differs for residents of different jurisdictions. Thus, in the numerical example, EU investors earn 7% after tax, whereas U.S. investors earn 6% after tax. It therefore follows that a worldwide tax system simultaneously satisfies both CEN and CIN as ownership neutrality, but it fails to satisfy CIN as savings neutrality. And a territorial tax system simultaneously satisfies both CIN as savings neutrality and CIN as ownership neutrality, but it fails to satisfy CEN.

C. Why No Tax System Can Achieve Both Locational and Savings Neutrality Without Harmonizing Tax Rates

In Section V.A, I showed that a worldwide tax system can simultaneously satisfy both CEN and CIN as ownership neutrality. In Section V.B, I showed that a territorial tax system can simultaneously satisfy both CIN as savings neutrality and CIN as ownership neutrality. Nowhere, however, have I claimed that a tax system can satisfy both CEN and CIN as savings neutrality without harmonizing tax rates. Indeed, when CIN is interpreted as savings neutrality, the long-standing claim that it is impossible for a tax system to satisfy simultaneously both CEN and CIN simultaneously without harmonizing tax rates is valid.⁸⁶

The reason no tax system can achieve both locational and savings neutrality without harmonizing tax rates is straightforward. Locational neutrality requires that the before-tax rate of return is equal everywhere. Savings neutrality requires that all investors earn the same after-tax rate of return. Because each investor's after-tax rate of return is the product of the market-determined before-tax rate of re-

⁸⁶ That result can also be seen in Table 1. However, the intuition behind the result is not clear from just looking at the table.

turn and one minus the investor's tax rate, it follows that savings neutrality and locational neutrality can be achieved simultaneously only if every investor pays tax at the same rate. Thus, it should not come as a surprise that global harmonization of tax rates is required to achieve both CEN (locational neutrality) and CIN (savings neutrality).

D. Response to Shaheen's Argument that a Territorial Tax System Simultaneously Satisfies CEN and CIN

I am not the first to argue that a single tax system can simultaneously satisfy both CEN and some conception of CIN without harmonizing tax rates. Shaheen argues that territorial taxation can simultaneously satisfy CEN and CIN as ownership neutrality, but worldwide taxation cannot simultaneously satisfy either neutrality benchmark.⁸⁷ That claim conflicts with the result described above in two ways. First, Shaheen claims that worldwide taxation fails to achieve CEN.⁸⁸ Second, Shaheen claims that territorial taxation can achieve CEN.⁸⁹ In this Section, I offer my response to Shaheen's claims that a worldwide tax system cannot achieve CEN, but a territorial tax system can.

Shaheen, I believe, reached the wrong result with respect to worldwide taxation because he used the wrong baseline for an efficient tax system. In arguing that a worldwide tax system cannot satisfy CEN, Shaheen used the baseline of the nontax world.⁹⁰ Thus, Shaheen concluded that a worldwide tax system cannot satisfy CEN because the tax will reduce savings and hence must also affect where property is located.⁹¹ It does not follow, however, from the conclusion that a tax reduces savings and hence capital that there is also a locational distortion. What it means for there to be locational neutrality is that the marginal productivity of capital is equal across jurisdictions. In such circumstances, there is not a locational distortion because it is not possible to increase welfare by reallocating capital across jurisdictions. Thus, as described above, worldwide taxation is locationally neutral because the before-tax return to capital is equal everywhere.⁹²

Shaheen also argues that territorial taxation simultaneously satisfies both CEN and CIN because the location of capital will be the same as in the nontax world.⁹³ To reach that conclusion (especially the conclu-

⁸⁷ Shaheen, note 5.

⁸⁸ *Id.* at 224-25.

⁸⁹ *Id.*

⁹⁰ *Id.* at 222.

⁹¹ *Id.* at 222-23.

⁹² See discussion at Section V.A.

⁹³ Shaheen, note 5, at 226-27, 234, and 239.

sion that a territorial tax system satisfies CEN), Shaheen explicitly assumes that the economic incidence of any tax imposed on capital falls fully on labor.⁹⁴ That assumption is not standard in the literature. It is also inconsistent with most empirical research.⁹⁵ Moreover, if true, it implies that both territorial and worldwide taxation would satisfy CEN. If a tax statutorily imposed on capital does not fall on capital, then differential tax rates on capital will not affect the allocation of capital across jurisdictions. That assumption, which is equivalent to assuming a completely inelastic supply of labor, is highly questionable.⁹⁶

E. Summary

The two principal international tax systems can each achieve two of the three neutrality goals without harmonizing tax rates. This is set forth below in Table 2.

TABLE 2
TAX NEUTRALITY WITH DIFFERENT TAX SYSTEMS

| <i>Tax System</i> | <i>Location Neutrality</i> | <i>Ownership Neutrality</i> | <i>Savings Neutrality</i> |
|-------------------|----------------------------|-----------------------------|---------------------------|
| Worldwide | √ | √ | |
| Territorial | | √ | √ |

As is clear from Table 2, global adoption of a worldwide tax system can simultaneously satisfy both locational and ownership neutrality. And global adoption of a territorial tax system can simultaneously satisfy both ownership and savings neutrality. It is, however, impossible for a tax system to satisfy both locational and savings neutrality without harmonizing tax rates.

⁹⁴ Id. at 230-31.

⁹⁵ See Alan J. Auerbach, *Who Bears the Corporate Tax? A Review of What We Know* 8-9 (NBER, Working Paper No. 11686, 2005), available at <http://ssrn.com/abstract=823189>; William M. Gentry, Dep't of the Treasury, *A Review of the Evidence on the Incidence of the Corporate Income Tax* (OTA Paper 101, 2007); Jane G. Gravelle & Thomas L. Hungerford, *Corporate Tax Reform: Should We Really Believe the Research?*, 121 *Tax Notes* 419 (Oct. 27, 2008); Jane G. Gravelle & Kent Smetters, *Who Bears the Burden of the Corporate Tax in the Open Economy?* (NBER, Working Paper No. 8280, 2001), available at <http://ssrn.com/abstract=268889>.

⁹⁶ In light of the substantial uncertainty and disagreement on who bears the burden of the corporate income tax, there is simply no consensus that the burden falls entirely on labor. For a list of recent articles reviewing what is known about the economic incidence of the corporate tax, see sources cited in note 95.

VI. DIRECTIONS FOR FUTURE RESEARCH

The approach developed in this Article can also help to focus academic research. Various doctrines, concepts, and tax systems can be analyzed in terms of whether they advance or hinder attainment of one or more neutrality principles. For example, in this Article, I examine whether territorial and worldwide taxation achieves locational neutrality, savings neutrality, and ownership neutrality. I conclude that global adoption of worldwide taxation can achieve locational neutrality and ownership neutrality, but not savings neutrality, whereas global adoption of territorial taxation achieves savings neutrality and ownership neutrality, but not locational neutrality.

These same neutrality concepts can also be used to analyze other tax laws. For example, in a recent article, I assess whether the corporate income tax can simultaneously satisfy both locational neutrality and ownership neutrality.⁹⁷ I conclude that absent harmonization of corporate tax rates, it is impossible for a corporate income tax to achieve simultaneously both locational and ownership neutrality.⁹⁸ Similar analyses can be done for other tax systems.

The approach employed in this Article can also be used to assess whether other tax rules—for example, the source, currency exchange, timing, and anti-discrimination rules—tend to promote or interfere with various neutrality goals. That same approach can also be helpful in interpreting or designing tax rules in a way that promotes neutrality. It also helps to illustrate the trade-offs from alternative rules or systems of rules.

The approach developed in the Article can also be used to examine investments in specific industries or asset classes by specific categories of investors. The international tax literature usually talks about CEN, CIN and CON in a manner that suggests that the 'C' which refers to capital denotes capital in aggregate or at least foreign direct investment in aggregate. The various capital neutrality concepts are rarely used to talk about investments in specific industries or from specific categories of investors. Although savings neutrality probably makes sense only when talking about aggregate investment, locational neutrality and ownership neutrality are useful concepts for analyzing investments in specific industries and by specific investors. Thus, it is reasonable to ask whether tax rules encourage sovereign wealth funds (SWFs) or private foreign investors, relative to one another, to ac-

⁹⁷ Michael S. Knoll, *The Corporate Income Tax and the Competitiveness of U.S. Industries*, 63 *Tax L. Rev.* 771-96 (2010).

⁹⁸ *Id.*

quire U.S. equities.⁹⁹ It is also worth asking whether tax laws encourage foreign investors to invest in U.S. real estate relative to U.S. investors.¹⁰⁰ And it is important to ask whether current tax laws distort investment by nonprofits.¹⁰¹ It is also reasonable to inquire as to whether tax considerations encourage or discourage investment in auto production within the United States relative to production overseas. The language of locational neutrality and ownership neutrality facilitate that discussion by integrating that discussion into the larger international tax neutrality literature.

The subtlety of that discussion, however, varies depending on the neutrality concept that is being assessed. As described above, locational neutrality requires that the before-tax rate of return on investments be equal across borders. That, in turn, requires that investors pay tax at the same total rate across jurisdictions. When the total tax rate on investments made in different jurisdictions is not equal, then there is not locational neutrality. The location of investment will be distorted by being shifted away from high-tax jurisdictions and towards low-tax jurisdictions. Although there are some subtleties and some unexpected results occur because of implicit taxes and surrogate taxes, the results are largely intuitive and mostly as expected.

In contrast, ownership neutrality is more complex and so the results are often not intuitive and so are frequently unexpected. There are not one, but two different standards for ownership neutrality, depending upon whether the competition is occurring among investors or entities.¹⁰² And when the competition is between investors, the

⁹⁹ See, e.g., Victor Fleischer, *A Theory of Taxing Sovereign Wealth*, 84 N.Y.U. L. Rev. 440 (2009) (arguing that taxes provide SWFs with an advantage over other foreign investors); Mihir A. Desai & Dhammika Dharmapala, *Taxing the Bandit Kings*, 118 Yale L.J. Pocket Part 98 (2008), available at <http://yalelawjournal.org/content/view/full/72014/> (arguing that SWFs and other foreign investors are roughly on par under current tax law); Michael S. Knoll, *Taxation and the Competitiveness of Sovereign Wealth Funds: Do Taxes Encourage Sovereign Wealth Funds to Invest in the United States?*, 82 S. Cal. L. Rev. 703 (2009) (arguing that whether SWFs are advantaged or disadvantaged relative to other private foreign investors depends on a range of factors that vary across countries and describing how to design an international tax system for SWFs and private foreign investors that is ownership neutral).

¹⁰⁰ See Richard Kaplan, *Creeping Xenophobia and the Taxation of Foreign-Owned Real Estate*, 71 Geo. L.J. 1091 (1983).

¹⁰¹ See, e.g., Henry B. Hansmann, *Unfair Competition and the Unrelated Business Income Tax*, 75 Va. L. Rev. 605 (1989); Knoll, note 51; Susan Rose-Ackerman, *Unfair Competition and Corporate Income Taxation*, 34 Stan. L. Rev. 1017 (1982).

¹⁰² Throughout this Article, and in keeping with the standard practice in the literature, I ignore entities or assume that entities are explicitly or effectively taxed as pass-through entities. (An entity is effectively a pass-through, even if it is not technically one, if the beneficial owner is taxed on the basis of the entity's before-tax income and receives a FTC for any tax paid by that entity.) Much of the efficiency concerns with ownership probably arise at the level of the firm. Kane, note 48, at 58. Moreover, many multinational enterprises are taxed as corporations and those corporations are owned by investors who do not

distortion is not always in favor of the lowest-taxed investor. Instead, the advantage belongs to the investor who has the lowest total tax rate on the investment under consideration (the "candidate investment") relative to that same investor's total tax rate on readily available alternative investments (the "benchmark asset"). As a result, the tax consequences can be complicated to work out and are not always intuitive.¹⁰³

VII. CONCLUSION

For decades, the debate over the form that the international tax system should take has been dominated by the welfare benchmarks of CEN and CIN. That debate, however, has been confused because not all participants and readers share the same understanding of CIN. In the literature, there are two very different interpretations of CIN. In the interpretation favored by professional economists, CIN is savings neutrality. However, in the interpretation favored by lawyers, policy analysts, and lay readers CIN is most closely connected with competitiveness or ownership neutrality.

One place where that confusion is manifest is in the often-repeated statement that a tax system cannot simultaneously satisfy both CEN and CIN without harmonizing tax rates. That statement is correct when (and only when) CIN is understood as savings neutrality. It is, however, incorrect when CIN is understood as ownership neutrality. As described above, a worldwide tax system, which does not satisfy CIN as savings neutrality, simultaneously satisfies both CEN and CIN as ownership neutrality. It is, therefore, possible for one tax system to achieve simultaneously both CEN and CIN as ownership neutrality. That, however, requires international coordination. Countries must either harmonize their tax rates (as has long been recognized) or they must all adopt worldwide taxation (in contrast with the accepted wisdom).¹⁰⁴

Finally, it is my hope that this Article will serve to focus more clearly the longstanding debate on the advantages and disadvantages of alternative international tax regimes and the search for an optimal

receive FTCs for taxes paid by the corporation. In that case, ownership neutrality at both the level of the firm and the investor requires territorial taxation of the firm and worldwide taxation of the investor. See Knoll, *Business Taxes*, note 41.

¹⁰³ A good illustration of the complexity of the analysis, the difficulty in assessing who is advantaged and disadvantaged, the nonintuitive nature of many of the results, and the surprising nature of ownership neutral policy prescriptions is the recent series of papers assessing whether tax rules encourage or discourage investment by SWFs in the United States. See note 99.

¹⁰⁴ In addition, in order for global adoption of a worldwide taxation to lead to CIN as ownership neutrality there cannot be separate entity-level taxation.

international tax regime. Although the international tax literature is voluminous and the advances in understanding achieved in recent years are numerous and important, much of the current conversation remains confused because of the ambiguity surrounding the notion of CIN. A clearer understanding of the distortions that various tax regimes can cause and their relationship to the well-worn concepts of CEN and CIN—and careful use of terminology—should help everyone interested in international taxation. And that should benefit all of us.