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***TAXES AND COMPETITIVENESS***

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## Taxes and Competitiveness

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### I. Introduction

Around the world, the tax laws are shaped by concerns with competitiveness. Governments often respond favorably to the argument that an industry is at a competitive disadvantage from regulation, unfair foreign practices, or taxes by amending the tax law to reduce the industry's tax burden. As a result, the tax laws contain many provisions that attempt to eliminate what would otherwise be tax-driven advantages and disadvantages in competitiveness. For example, in the United States, the unrelated business income tax (UBIT) was enacted in order to eliminate a perceived advantage that not-for-profit entities enjoy due to their exemption from the income tax. And for decades, the U.S. federal government has sought to offset the perceived advantage enjoyed by competitors from countries that rebate value added taxes on exported goods and services through a series of incentives, which have been consistently struck down by the World Trade Organization (WTO) and its predecessor.

The usual way that commentators, politicians and policy experts think about the relationship between taxation and competitiveness is by comparing the total tax burden from an activity across competitors. The competitor with the lower tax burden is said to have a tax-induced competitiveness advantage; the one with the higher burden, a disadvantage. That simple way of thinking about how taxes affect competitiveness is sometimes right, but often wrong. As described below, a simple comparison of tax burdens will reflect a tax-driven competitiveness advantage when the competition is between conduits that raise the funds to make an investment, but not when it is between the ultimate investors. However, recognizing whether the competition is between conduits or investors can be more difficult than would appear at first blush. Also, depending upon the question that is being asked, the competition between the conduits or the investors might be more relevant.

More broadly, this paper provides a general theory of how taxes impact competitiveness.

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As part of that theory, this paper also introduces the concept of tax-based competitiveness neutrality. A tax system is competitively neutral when taxes do not cause competitors to change their relative valuations of any investments. In order for a tax system to be competitively neutral, I show that the tax system must generally satisfy the following two conditions:

1. The tax cost of new investment funds are equal across competitors; and
2. Tax incentives/disincentives have the same dollar value for all competitors.

The first condition ensures competitiveness neutrality across conduits that raise the funds that they invest; the second ensures competitiveness neutrality across investors who invest their own funds. When the relevant competition involves parties that both invest their own money and raise funds from outsiders, then both conditions are necessary.

## II. What is Meant by Competitiveness and What Does It Mean for Taxes to Affect Competitiveness?

Politicians, lobbyists and commentators frequently invoke the metaphor of the level playing field. An unlevel playing field is one that gives some competitors a competitiveness advantage relative to other competitors. A level playing field is one where no party has such an advantage. A competitiveness advantage can derive from a myriad of sources. For example, it is much cheaper to grow bananas in the tropics than in the Arctic. Thus, banana growers located in the tropics have a competitiveness advantage over those located in the Arctic. That kind of competitiveness advantage, however, has nothing to do with taxes.<sup>1</sup> My focus in this paper is with how taxes affect advantages in competitiveness.<sup>2</sup>

Taxes can affect competitiveness in many ways. For example, taxes affect the incentive to acquire education, and education affects competitiveness. Viewed in this way, almost any tax can affect competitiveness. However, some taxes are likely to have a more direct and immediate effect than other taxes. In this paper, I will ignore the indirect effects taxes can have on competitiveness and instead focus on taxes that have a direct effect on competitiveness.<sup>3</sup>

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<sup>1</sup> Although the advantage is not caused by taxes, it can be offset by taxes. The so-called scientific tariff was aimed at offsetting competitive advantages whatever their source. See Richard B. Dagen & Michael S. Knoll, *Duties to Offset Competitive Advantage*, 10 *Maryland Journal of International Law and Trade* 273 (1986).

<sup>2</sup> Competitive advantage can be comparative or absolute.

<sup>3</sup> The indirect effect of taxes can be large and important, but they are likely to be more difficult to understand.

Competitiveness deals with the production of goods and services for sale. A tax will affect competitiveness if it changes production relative to the untaxed equilibrium. What I have in mind is the traditional partial equilibrium analysis from basic economics. I want to put income effects to one side and focus on substitution effects – changes in relative prices. Another way to view this exercise is as evaluating what are often described as tax incentives/disincentives. That is to say, when do taxes encourage some producers relative to other producers?

Taxes can affect competition in at least two ways. They can cause a change in the total amount and composition of the goods and services that are produced. They can also change who produces various goods and services. I am especially interested in the last question because that appears to be the kind of question that motivates important public debates. For example, do taxes encourage foreign producers to produce cars for the U.S. market over U.S. producers? Do taxes place U.S. multinational corporations at a disadvantage relative to foreign corporations? The important competitiveness questions do not all involve cross-border transactions. Do taxes give not-for-profit entities an advantage in competing against for-profit entities? The purpose behind this paper is to provide a framework to begin to answer these and many related questions.<sup>4</sup>

An intuitive way of conceptualizing competitiveness is to think in terms of the value a competitor places on an asset, project, or business (a candidate investment). The higher the value, the more competitive is a party in competing for that asset, project or business. This definition is consistent with many of our intuitions. For example, a more efficient production technology, lower production costs, more efficient management, greater success with regulators, or a lower cost of capital all give rise to advantages in competitiveness.<sup>5</sup> In addition, this definition of competitiveness can be applied in many situations.

Competitors often find themselves bidding against one another for existing facilities. For example, a for-profit entity and a not-for-profit entity might both be competing to purchase an existing company. In such a case, taxes affect competitiveness if the tax system changes the price one entity is willing to bid relative to that of another entity. Thus, for example, if taxes reduce the maximum bid price for all competitors by ten percent, there is no effect on competitiveness. On the other hand, if taxes change the competitors' maximum bid prices so

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<sup>4</sup> Taxes can also affect where goods and services are produced. That is another question that motivates debates and influences policies. That question can also be explored using the same techniques.

<sup>5</sup> One objection to equating competitiveness with value is that some competitors might value an opportunity highly, but they are prevented by regulations or other barriers from either making the investment or squeezing much value out of it. However, when looked at from the perspective of how taxes affect competitiveness, these non-tax barriers are simply reductions in value.

that the for-profit entity, which would have been the high bidder without taxes, is outbid by the not-for-profit entity with taxes, then taxes have affected competitiveness.

That same logic applies when the competitors are not looking to purchase an existing asset, project or business, but are instead looking to construct it themselves. In such cases, there are usually one or more scarce resources that the parties are competing to acquire. The competitor that places the highest value on the project will generally place the highest value on these scarce resources and therefore acquire them.

Furthermore, that same logic also carries over when the parties are competing to acquire knowledge or to be the first entrant in a new market. In general, the party that values the opportunity the most is likely to invest the most, and so has a higher probability of achieving its goals. Its actions might even discourage other potential competitors from trying to enter the market. Once again, taxes affect competitiveness by changing the relative values that parties put on such candidate investments. Thus, it is plausible to speak in terms of how much each competitor values a candidate investment (i.e., the maximum bid price). Taxes then can affect competitiveness by changing the relative values that parties put on a candidate investment.

Finally, the same logic also applies when the parties compete not by bidding for an asset, but by reducing the prices they charge for the goods and services that they can produce with the asset. Lower prices that translate into lower revenues reduce the value of an asset to its owner. Thus, if a reduction in the price of the goods or services to be sold reduces one party's valuation of an asset less than a second party's evaluation of that same asset, then the first party has a tax-induced competitiveness advantage over the second. Thus, if taxes can influence the ability of competitors to compete by lowering prices.

The above approach to taxes and competitiveness also suggests a simple definition for a tax system that is neutral with respect to competitiveness. A tax system is competitively neutral if taxes do not (cannot) affect the rank order of bid prices among potential bidders for a candidate investment. A competitively non-neutral tax system then is one where taxes can change relative bid prices. In such a case, taxes are likely to affect who makes what investments by changing relative valuations.

Before leaving this Part, I want to touch briefly on the issue of why we should be interested in competitiveness. Of course, politicians, the press and the public are interested, but their focus is usually on jobs, which confounds economists. For the economists, I offer three additional reasons.

The first reason comes from the theory of the firm and the economic literature on industrial organization. Because individuals are not all equally productive and organizations are not all equally efficient, the cash flow that a collection of assets will generate depends on who owns the assets and through what organizational structure. As a result, the tax system, by shifting ownership from a more productive owner to a less productive owner or from a more

efficient organization to a less efficient organization, can produce a real welfare cost.<sup>6</sup> In this view, a competitively neutral tax system (tax neutrality or competitiveness neutrality) is positive sum.

The second reason is the possibility of positive externalities. If ownership produces external benefits to a group that is connected with the owner, but which the owner cannot capture, then tax policy can influence who will receive those positive externalities. For example, if residents of the country where a multinational corporation is based receive positive externalities when that corporation owns certain foreign businesses, then the tax authorities in that corporation's home country have a rationale for using tax policy to encourage such ownership. Assuming that the externalities accrue to residents of whatever country owns these businesses (and are of the same size), then the tax authorities of many countries have the same incentive to encourage their own businesses at the expense of competing foreign businesses. In this case, a tax system that is not competitively neutral is (largely) zero sum. Whatever one country gains comes at the expense of another country.

The third reason is the possibility that competitors might be engaged in a race where there is an economic advantage to the first party to reach a particular milestone. Patents, although the most obvious such example, are not the only example. When parties race against one another, taxes, by encouraging or discouraging investment, can affect the results. Because the welfare effects of races are complicated and uncertain, a competitively neutral tax system can be negative sum, zero sum or positive sum.

### III. Two Models of How Taxes Affect Competitiveness

This Part presents the basic theory of how taxes affect competitiveness. I offer two different models – (1) the new money or conduit model and (2) the old money or investor model. Both models are valid, but they apply in different circumstances. Recognizing when to apply each model is one of the keys to understanding how taxes affect competitiveness. In this Part, I describe the two models. In Part IV, I discuss when each one applies. In Part V, I extend the basic models to cover substitutes for ownership. And in Part VI, I use the insights developed in Parts III through V to examine two areas where concerns with competitiveness have shaped the tax law – the taxation of not-for-profit entities's unrelated business activities and the taxation of cross-border transactions.

#### A. New Money (Conduits)

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<sup>6</sup> The reverse – shifting ownership from a less efficient to a more efficient organization – will only happen when there is some non-tax non-neutrality that the tax system offsets and exceeds.

Consider a simple example. Andrew is looking to invest \$1000 in a project that will pay \$1100 in one year. Andrew can make the investment through either one of two entities. If he makes the investment through entity A, he will pay tax on his income from the project at 20 percent;<sup>7</sup> if he makes the investment through entity B, he will be taxed at 40 percent. Obviously, assuming all else were equal, Andrew will choose entity A, which will leave him with \$1080, over entity B, which will leave him with only \$1060.

In this situation, where an investor is choosing between conduits,<sup>8</sup> the investor would prefer to invest through the conduit that minimizes taxes. Of course, there might be other, non-tax reasons that would cause an investor not to use the most tax-efficient vehicle. However, looked at solely from a tax perspective, we would expect the investor to choose the vehicle that minimizes taxes.<sup>9</sup>

In choosing a conduit that minimizes taxes, an investor should consider all taxes that are ultimately borne by the investor. Thus, an investor is concerned not only with the taxes that she herself pays, but also with the taxes that a corporation pays on her behalf. Under a classical corporate tax system, such as the one employed by the United States, interest payments are deductible by the corporate payor, but dividends and redemptions are not. Thus, an equity investment in a corporation attracts two levels of tax – the corporation and the investor. In contrast, an investment through debt attracts only one level of tax – the investor. In addition, the investor should consider the timing of the taxes. Taxes paid at different times need to be compared by reducing them all to their present value (PV).

Moreover, returning to the example, the project is worth more to Andrew if he holds it through entity A than if he holds it through entity B. Assume Andrew can earn 6 percent after tax on his money (without incurring any risk). Andrew then will value the investment if he holds it through entity A at \$1018.87,<sup>10</sup> and if he holds it through entity B at \$1000.<sup>11</sup> That result can

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<sup>7</sup> Income from the project [\$100] is the difference between revenues received [\$1100] and expenses [\$1000].

<sup>8</sup> I use the term conduit to mean an investment vehicle rather than the ultimate investor. Specifically, I am not using the term conduit, as it is often used in the tax literature, as a synonym for an investment entity that is not obligated to pay taxes itself. I refer to an entity that does not have an obligation to pay tax on its own behalf as a pass-through entity.

<sup>9</sup> More generally, investors will trade-off tax and non-tax considerations in selecting conduit entities.

<sup>10</sup> The value of the investment to Andrew if he holds it through entity A is calculated as follows:  $\$1018.87 = \$1080/1.06$ .

<sup>11</sup> The value of the investment to Andrew if he holds it through entity B is calculated as follows:  $\$1000 = \$1060/1.06$ .

also be expressed in terms of hurdle rates – the minimum before-tax return an investment must generate in order to have a positive net present value (NPV). The hurdle rate is just the required after-tax return grossed up for taxes.<sup>12</sup> Thus, Andrew’s hurdle rate for a one-year investment to be made through entity A is 7.5 percent<sup>13</sup> and through entity B is 10 percent.<sup>14</sup>

Looked at from the perspective of the entities, we would expect to see entity A attracting new capital and making new investments while entity B fails to attract new capital and contracts. Entity A enjoys a tax-driven competitiveness advantage when competing for investments that require new financing because investments made through entity A are taxed less heavily than those made through entity B. In order to eliminate that advantage, either the tax rate on investments made through entity A would have to be raised or the tax rate on investments made through entity B lowered until the tax rates across the two entities were the same. If, for example, the tax rates on investments through both entities were set at 40 percent, Andrew would have \$1060 after tax regardless of through which entity he choose to invest. This is all obvious and pretty much the standard way of thinking about the issue.<sup>15</sup>

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<sup>12</sup> That is to say, the hurdle rate is the required after-tax return divided by one minus the tax rate.

<sup>13</sup> The hurdle rate for the investment if Andrew holds the investment through entity A is calculated as follows:  $7.5 \text{ percent} = 6 \text{ percent} / (1 - 20 \text{ percent})$ .

<sup>14</sup> The hurdle rate for the investment if Andrew holds the investment through entity A is calculated as follows:  $10 \text{ percent} = 6 \text{ percent} / (1 - 40 \text{ percent})$ .

<sup>15</sup> There is an invalid argument that yields a result similar to the result reported in the text – a higher tax rate disadvantages a competitor by an amount that is in proportion to the difference in rates – that should not be confused with the argument in the text. That invalid argument is also the basis for much of the legal and policy-based literature on taxes and competitiveness. That argument is the standard *static* argument from economic textbooks about taxes. In the traditional argument, an *ad valorem* or fixed dollar value per unit tax is imposed on the supplier. If such taxes differ across suppliers, it will raise the marginal cost curves of some suppliers relative to others. Those suppliers who see their marginal cost curves shifted further up will experience a larger decline in sales and so are competitively disadvantaged by their higher tax burden.

There are several problems with carrying this analogy over to investments in markets with income taxes. First, the standard textbook exposition is about sales taxes, not income taxes. When the tax is on income the differential effect on sales disappears. That is because taxes operate at the margin and in the simple example without investment, the profit at the margin is zero (and hence so is the marginal tax.) Of course, the differential tax rates have a differential impact on profits (which are measured by producer surplus), but that is not the same as having an effect on sales. Second, the standard model does not include a temporal component. When such a component is added the model changes drastically and we are in the situation described in the

More generally, in order for taxes not to affect investors' choices across different conduits, the tax burden on an investment through different conduits must be the same. We measure the tax burden on an investment by the effective marginal tax rate (EMTR) on the investment.<sup>16</sup> The EMTR is the present value of all future taxes on an investment divided by the present value (PV) of the return on the investment.<sup>17</sup> That leads to the first requirement for tax neutrality. In order for a tax system to be competitively neutral the tax cost (measured by the EMTR) across conduits competing for new funds is equal. That will ensure that no conduit has a tax-induced competitiveness advantage over any other conduit in attracting capital.

It is worth mentioning that when the competing entities are pass-through entities, then the choice of entity will be a competitively neutral decision on tax grounds. For example, if we are looking at different partnerships or comparing partnerships, S corporations and limited liability companies (LLCs), then none of the entities will have a tax-induced competitiveness advantage.<sup>18</sup> That is because the tax consequences are passed on to investors and there is no entity level tax. That is obvious.

There is another less obvious situation. Taxable entities, such as corporations, can be pass-through entities with respect to certain kinds of investments. Because interest on debt is tax deductible by the payor, the taxable income on debt-financed corporate investment are not taxed to the corporation. Thus, even in the presence of different tax rates across corporations, a corporation with a low EMTR does not have a tax-induced competitiveness advantage over one with a high EMTR on debt-financed investments. Instead, the corporations are competitively neutral with respect to their debt-financed investments, although they are not competitively neutral with respect to investments that use equity financing in whole or part.<sup>19</sup>

## B. Old Money (Investors)

Assume that Andrew will be taxed at 20 percent if he makes the investment.<sup>20</sup> Consider a second potential investor, Betty, who is also looking at the same investment. Betty is taxed at 40

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text.

<sup>16</sup> See Myron Scholes et al., *Taxes and Business Strategy* chapter 7 (3d ed. 2005).

<sup>17</sup> See Myron Scholes et al., *Taxes and Business Strategy* 192 (3d ed. 2005).

<sup>18</sup> There are some tax differences across these entities that could lead to tax-induced advantages and disadvantages in some situations. For the most part, the differences in tax treatment are small, but not always.

<sup>19</sup> For further discussion of debt and debt substitutes, see Part V, *infra*.

<sup>20</sup> Entity A might be on a personal account; entity B might be through a corporation.

percent.<sup>21</sup> Assume further that there is only one unit of the investment available and that the unit cannot be divided. If Andrew acquires the investment for \$1000, he will end up with \$1080 after paying taxes; if Betty acquires the investment for \$1000, she will end up with \$1060 after paying taxes.

It might be thought that Betty is at a tax-induced competitive disadvantage relative to Andrew because she is taxed at a higher rate (40 percent as opposed to 20 percent). After all, Andrew ends up with \$1080, whereas Betty ends up with only \$1060 from that same investment. Furthermore, it is often implicitly assumed, and sometimes explicitly stated, that Andrew will outbid Betty because he ends up with more than she does after paying taxes. That, however, does not follow.

To begin, Betty is not willing to pay up to \$1060 and Andrew up to \$1080 to make the investment. Each party's after-tax return if he or she were to buy the asset for \$1000 is not that party's maximum bid price for the investment. As Andrew and Betty each increase their bid price above \$1000, each one increases his or her basis in the investment, and so decreases his or her taxable income from the investment. As incomes decrease, so do tax liabilities. If Andrew and Betty are both willing to accept an after-tax return of zero from the candidate investment, then each would be willing to pay the full \$1100. In that case, neither one pays any tax and both bid the same amount – \$1100. Andrew's lower tax rate then would not provide him with a competitive advantage (or disadvantage) relative to Betty.

Of course, unless the investment pays off immediately, it is unlikely that either Andrew or Betty would be willing to pay the full \$1100. There are other investments that Andrew and Betty can make with their funds. Thus, Andrew and Betty should only raise their bid for the candidate investment as long as their after-tax rate of return on the candidate investment is greater than what they could earn on their other alternative investments.<sup>22</sup> If the candidate investment takes time to payoff, then Andrew and Betty will each want to receive a return that compensates for what they could otherwise earn on their money.<sup>23</sup>

Let us assume that Andrew and Betty each have in excess of \$1000 available in bank accounts that pay 10 percent annually. If either Andrew or Betty purchases the investment, he or she must withdraw that money from the bank to pay for the investment.

Consider Andrew first. In one year, \$1000 in his bank account will grow into \$1100.

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<sup>21</sup> These tax rates are assumed to be flat and fixed; no distinction is made between ordinary income and capital gain.

<sup>22</sup> The investments should be appropriately adjusted for risk.

<sup>23</sup> In this Section, I assume that Andrew and Betty are each investing their own money. In the previous Section, I considered the possibility of financing the investment with outside sources. In that case, the return must be sufficient to cover the cost of financing the investment.

Assuming that interest is taxed each year as it is earned, then Andrew will have to pay \$20 in tax and so he will be left after paying taxes with \$1080 at the end of the year. Now look at Betty. In one year, \$1000 in her bank account will also grow into \$1100. Assuming that Betty is subject to the same tax rules as Andrew, she will also report \$100 income. However, because Betty is taxed at 40 percent, not 20 percent, she will owe \$40 tax, and so she will be left at the end of the year after paying taxes with only \$1060.

What then is the maximum amount that Andrew and Betty each would be willing to pay for the candidate investment? Andrew would be willing to pay up to (but no more than) \$1000 for the investment. After taxes, the investment pays Andrew \$1080, which is what \$1000 in the bank will leave him in one year after taxes. Betty, however, would also be willing to pay up to (but no more than) \$1000 for the investment. That is because, after taxes, the investment will pay her \$1060, which is the same amount that \$1000 in the bank will leave her. How is it that the investment has the same value to both Andrew and Betty in spite of their different tax rates?

The answer comes from recognizing that the tax operates at two levels. The first and most obvious effect of the tax is that it reduces the return from the candidate investment. For Andrew, it reduces the return by \$20 from \$100 to \$80; for Betty, it reduces the return by \$40 from \$100 to \$60. This first effect operates in Andrew's favor and is the most salient effect of the tax.

There is, however, also a second effect. The tax also reduces the return on the alternative investments that the parties would otherwise make. For Andrew, his 20 percent tax reduces the return he would receive if he kept his money in the bank by \$20 from \$100 to \$80. For Betty, her 40 percent tax rate reduces her return on her alternative investment by \$40 from \$100 to \$60. This second effect operates in Betty's favor. Because Betty will end up with less than Andrew if she keeps her money in the bank, she will value the investment more than otherwise.

The two effects described above operate in opposite directions. A higher tax rate means a smaller return from the investment under consideration; it also means that the candidate investment has to achieve a lower after-tax hurdle rate to be accepted. In the simple example discussed above, these two effects precisely offset each other so that the investment is worth exactly \$1000 to both Andrew and Betty.<sup>24</sup>

Although the first effect is obvious, the second effect is easily overlooked. The obscurity of the second effect frequently leads policymakers, commentators and others to conclude that a party is at a tax-induced competitive disadvantage because it would pay tax at a higher rate on the cash flow generated by an investment than would another potential investor. As the example of Andrew and Betty illustrates, Betty's higher tax rate does not necessarily place her at a tax-induced competitive disadvantage. Thus, the effect of different EMTRs on old funds is the reverse of that on new funds. When investors are investing their own funds, different EMTRs

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<sup>24</sup> See discussion of clientele effects in this Section, *infra*..

across investors have no effect on competitiveness.

Several results follow from the observation that Andrew and Betty, in spite of facing different tax rates, would each be willing to pay up to \$1000 (but no more) to purchase the candidate investment. First, if one or the other party was a more efficient manager of the investment, then he or she would be able to outbid the other. For example, if either Andrew or Betty (but not both) could squeeze an additional \$1.10 out of the investment, then that party would value the investment at \$1001, and so could outbid the other party by \$1. Thus, when each party is investing its own money only, there is no need to eliminate differences in tax rates in order to level the playing field. In other words, a difference in tax rates among the ultimate investors does not translate into a difference in competitiveness among them.<sup>25</sup>

Second, at least in the simple example described above, there is no effect on the ownership of assets from having different tax rates applied to different investors. The allocation of assets across owners depends on their relative efficiencies in managing different properties and the amount of money that they each have to invest. That allocation does not depend on what tax rate each party faces.<sup>26</sup>

Third, also in the simple example, taxes do not affect the relative ability of competitors to reduce their prices. Competitors with the same cost structure, but subject to different tax rates, will see the same relative decrease in value when they reduce their prices by the same amount.<sup>27</sup>

There is an important and implicit assumption that led to the conclusion that [relative tax rates across potential investors do not affect their relative competitiveness because] the value that an investor places on an investment is independent of her tax rate. That assumption is that the candidate and benchmark investments are both taxed in the same way – specifically, that the

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<sup>25</sup> One way to think of the difference between the two models is that the taxing authorities have an additional degree of freedom in designing a competitively neutral tax system when the competition is between investors that they do not have when the competition is between conduits. When the competition is between investors, they can assign each investor a different tax burden (EMTR) without compromising competitiveness neutrality. However, when the competition is between conduits they do not have this freedom and so must assign the same tax burden (EMTR) to each conduit if they want to preserve competitiveness neutrality.

<sup>26</sup> This result assumes that the each party's investment capital is given and fixed. If taxes affect the decision whether to save and invest, then there can be consequences from facing differential tax rates. In other words, although there can be consequences on the saving side from differential tax rates, there are no direct consequences on the investment side.

<sup>27</sup> For example, if Andrew and Betty are both considering reducing their sales price to a level that would reduce their payoff from the investment to \$1089, then both would value the investment at \$990. In other words, the present value cost of reducing price in this way is \$10 for both Andrew and Betty.

EMTRs on the benchmark and candidate investment are the same for all competitors.<sup>28</sup> That is not always the case. There is a wide range of investments and many receive special tax treatments. These special treatments can impact competitiveness. The rest of this section extends the model to situations where the candidate investment has a different EMTR than the benchmark. This extension enriches and complicates the analysis.

In the example above, both Andrew and Betty valued the one-period investment at \$1000 even though they were taxed at different rates – Andrew at 20 percent and Betty at 40 percent. In that example, the candidate investment and the benchmark asset both had the same EMTR. That is to say, the income on both investments was taxed at 20 percent when owned by Andrew and at 40 percent when owned by Betty. As a result, neither party had a tax-induced competitiveness advantage or disadvantage in bidding for the candidate investment. Assume, however, that the candidate investment is taxed under different rules than is the benchmark (alternative) asset and so has a different EMTR.

Start with a very simple example. Assume that the income from the candidate one-period investment is untaxed. Thus, if either Andrew or Betty undertakes the investment, he or she will end up with \$1100 after paying tax. That is substantially more than either will end up with from investing \$1000 in the bank and paying taxes. Thus, Andrew and Betty will both be willing to spend more than \$1000 to acquire the project. In order for Andrew to have \$1100 at the end of the year after paying taxes, Andrew must deposit \$1018.52 in the bank.<sup>29</sup> Thus, that amount – \$1018.52 – is the maximum Andrew will pay for the project. If Andrew pays less than \$1018.52, he is better off with the project; if he pays more, he is better off with his money in the bank.

Consider Betty now. The most Betty will spend for the project is \$1037.74. That is because if Betty deposits \$1037.74 in the bank, it will grow in one year after paying taxes into \$1100.<sup>30</sup> Therefore, if there is only one project available and it is being auctioned between Andrew and Betty, we would expect Betty to buy the project for at least \$1018.52, but for no more than \$1037.74.<sup>31</sup> Thus, when the project is untaxed, Betty has a tax-based competitiveness

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<sup>28</sup> To be clear, in the old money model, competitiveness neutrality requires that for each investor the EMTR on the candidate investment equal the EMTR on the benchmark investment. Competitiveness neutrality does not require that the candidate (or benchmark) investment have the same EMTR across investors.

<sup>29</sup> That is calculated as follows:  $\$1018.52 = \$1100 / 1.08$ .

<sup>30</sup> That is calculated as follows:  $\$1037.74 = \$1100 / 1.06$ .

<sup>31</sup> The same logic applies although the numbers are different if Andrew and Betty can use outside financing for part of their investment. For example, if Andrew's and Betty's investors can both enjoy the benefit of tax exemption, they will offer Andrew and Betty funds at 6 percent. Assuming that Andrew and Betty are each willing to devote \$80 a year to paying

advantage over Andrew.<sup>32</sup>

It is also possible that an investor might have a tax-based competitiveness advantage over another investor even though the first investor would pay more tax than the latter on an investment. To see this assume that the acquirer of the candidate project will be taxed on only half the income (which is equivalent to reducing the tax rate on the income from the project to half of the statutory tax rate). As in the previous example, assume that alternative investments pay 10 percent a year before tax and are fully taxable. Under these circumstances, Andrew is willing to pay up to \$1010.20.<sup>33</sup> If he purchases the investment at this price, he reports \$44.90 in income and pays \$8.98 in tax.<sup>34</sup> Andrew however will be outbid by Betty, who is willing to pay as much as \$1023.26.<sup>35</sup> At her maximum price, Betty reports \$38.37 in income and pays \$15.35

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these investors, then the outside funding will allow them each to bid up to \$1333.33. Andrew will value the remaining cash flow at \$266.67. (Andrew would be worse off if he funded the investment himself. The outside financing is cheaper than his internal financing.) Thus, his maximum bid is \$1600. In contrast, Betty will value the remaining cash flow at \$333.33, and so her maximum bid is \$1666.67. (Betty would be no better or worse off if she funded the investment herself. Both sources of funds have the same cost.) Thus, Betty will outbid Andrew.

<sup>32</sup> If the asset is available at a cost of \$1000 and the competition takes the form of reducing price (and hence revenue), then Betty would be willing to accept as little as \$1060, whereas Andrew will be willing to accept no less than \$1080.

<sup>33</sup> The formula for the maximum amount a taxpayer in the  $t$  bracket will pay for an investment in one year that yields \$1100, with the fraction  $a$  of economic income included in taxable income, and when alternative investments yield  $r$  before tax is given by the following formula:

$$P = \$1100[1-at]/[1+r(1-t)-at].$$

Thus, Andrew's maximum bid price of \$1010.20 is calculated as follows:

$$\$1010.20 = \$1100 (1 - .5 \times .2) / [1 + .1 (1 - .2) - (.5 \times .2)].$$

<sup>34</sup> Andrew pays tax on half of his \$89.80 of income from the project, which is \$44.90. At 20 percent, his tax on this income is \$8.98. Thus, he is left with \$109.02, which is an after-tax rate of return of 8 percent on his maximum bid price of \$1010.20.

<sup>35</sup> Betty's maximum bid price of \$1023.26 is calculated as follows:

$$\$1023.26 = \$1100 (1 - .5 \times .4) / [1 + .1 (1 - .4) - (.5 \times .4)].$$

tax.<sup>36</sup> Thus, Betty will outbid Andrew, even though she will pay more tax than he will.<sup>37</sup> To summarize, the high-bracket taxpayer has a tax-induced competitiveness advantage when the project is taxed more heavily (has a higher EMTR) than the benchmark asset.

In the circumstances described above, tax considerations provide Betty with a tax-induced competitiveness advantage over Andrew in bidding for the candidate investment because the candidate investment is taxed less heavily (lower EMTR) than the benchmark asset. The candidate investment is worth more to Betty than to Andrew not because Betty can get more before-tax cash flow out of the investment. By hypothesis, Andrew and Betty both receive the same before-tax cash flow – \$1100. It is worth more to Betty because ownership of the asset is a tax-advantaged investment. The value of receiving the investment's untaxed or undertaxed income is greater to Betty than to Andrew because Betty pays more tax on the baseline alternative investment (40%) than does Andrew (20%). However, Betty will not always outbid Andrew for investments that are taxed differently than the benchmark asset.

Assume that the entire payoff from the project, both income and return of investment, is taxed at the taxpayer's statutory tax rate. In that case, the investment will be worth much less than \$1000 to both Andrew and Betty because whoever acquires the investment pays taxes on \$1100. Thus, if Andrew bought the investment, he would end up with only \$880 after paying taxes. In order to have \$880 after taxes, Andrew must deposit \$814.81 in the bank at the start of the year. Thus, \$814.81 is the most he would pay for the project. If Betty owned the project, she would only receive \$660 after taxes and therefore the most she would pay is \$622.64. Thus, Andrew will outbid Betty for the project, paying at least \$622.64, but no more than \$814.81. Hence, Andrew has a tax-induced competitiveness advantage over Betty.<sup>38</sup>

The above results are well known in the tax literature. They are examples of clientele effects. If all assets are taxed in the same way, there are no clientele effects. If, however, some assets are taxed less heavily than the benchmark, those assets will be bid up by competition. Such increases in price and decreases in rates of return are called implicit taxes. High-bracket taxpayers gravitate towards assets with implicit taxes because they trade-off more explicit tax

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<sup>36</sup> The result – that Betty has a tax-driven competitiveness advantage over Andrew – also holds when the competition takes the form of reducing price and hence net revenue. Betty is willing to accept as little as \$1075 in net revenue. (She pays \$15 tax and is left with \$1060.) Andrew is not willing to accept less than \$1088.89. (He pays \$18.89 in tax and is left with \$1080).

<sup>37</sup> If Betty acquires the property at Andrew's maximum price – \$1010.20 – Betty reports \$49.40 in income, the same as Andrew, pays \$19.76 in tax (twice as much as Andrew), and still pays less than her maximum bid price.

<sup>38</sup> Once again, the result can be expressed using prices assuming the asset cost \$1000. Andrew needs to earn at least \$1350. (He pays \$270 tax, leaving him with \$1080.) Betty needs to earn at least \$1766.67. (She pays \$706.67 tax, leaving her with \$1060.)

than low-bracket taxpayers for the same increase in implicit tax. Conversely, those assets that are taxed more heavily than the benchmark asset are bid down by competition. Bidding down the price of the asset causes the rate of return to increase. Low-bracket taxpayers will gravitate towards implicitly subsidized assets because they incur less explicit tax for the same increase in implicit subsidy. Although the tax literature contains many references to clientele effects, the connection between clientele effects and competitiveness has largely been ignored in the academic literature. As a result, that same connection is often overlooked by policymakers and commentators.

Furthermore, it is clear from the tax literature how to provide investment incentives and disincentives through the tax system without affecting competitiveness. Differentially taxed assets produce clientele effects because the dollar value of the differential tax treatment differs across taxpayers. The dollar value to a given taxpayer of undertaxing (or overtaxing) an asset by a given amount is greater the higher is that taxpayer's tax rate. Thus, to eliminate such tax-induced competitiveness effects while maintaining tax incentives requires that the dollar value of tax incentives be equal across investors. The way most incentives work – a constant reduction in income across investors – has a larger dollar value to taxpayers taxed at a higher rate. As others have noted, the use of refundable tax credits eliminates the differential effect while maintaining investment incentives.<sup>39</sup> For example, the untaxed one-period investment is worth \$1037.74 to Betty. An investment incentive in the form of a tax credit at purchase of \$37.74 and regular income tax treatment of the asset would raise everyone's bid price by \$37.74, thereby eliminating any tax-induced competitiveness advantage.

It therefore follows that in order to maintain competitiveness neutrality across competitors who are taxed at different rates while simultaneously providing tax incentives (or disincentives) for some investments, these incentives (and disincentives) should have the same dollar value to all investors. That leads to the second requirement for competitiveness neutrality. In order for a tax system to be competitively neutral, tax incentives (and disincentives) must have the same dollar value to all investors is the second requirement for competitiveness neutrality. This second requirement for competitiveness neutrality ensures neutrality across investors by preventing clientele effects.

At least two conclusions follow from the requirement that the dollar value of tax incentives/disincentives be equal across competitors. First, proportional decreases/increases in the discounted value of income, such as those that occur from noneconomic depreciation,<sup>40</sup>

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<sup>39</sup> CITES

<sup>40</sup> See IRC Section 168 (setting forth modified accelerated cost recovery system)

amortization<sup>41</sup> or depletion,<sup>42</sup> and exclusions from income<sup>43</sup> violate competitiveness neutrality. In contrast, refundable tax credits are likely to satisfy competitiveness neutrality. Second discriminatory tax rules are likely to violate competitiveness neutrality. Thus, nondiscrimination is an important element of competitiveness neutrality.

### C. Summary

This Part has described two models of how taxes can influence who makes what investments – the new money or conduit model and the old money or investor model. When the investment is to be financed by outside sources, the conduit entity through which the tax burden (as measured by the EMTR) is the lowest will have a competitiveness advantage. Thus, when the competition is among conduits, competitiveness neutrality requires that the tax cost of funds to all conduits is equal. In contrast, when the competition occurs between investors, the relative tax burdens (EMTRs) on these investors does not affect competitiveness when the candidate investment is taxed the same (has the same EMTR) as the benchmark investment (for all investors). If, however, the candidate investment does not have the same EMTR as the benchmark asset, then high-bracket investors will have a competitiveness advantage in acquiring assets taxed less heavily than the benchmark asset and low-bracket investors will have a competitiveness advantage in acquiring assets taxed more heavily than the benchmark asset. Thus, when the competition is among investors, competitiveness neutrality requires that the dollar value of investment incentives and disincentives be equal across investors.

## IV. When One or the Other Model Applies

The previous Part has described two models of competitiveness – the investor model and the conduit model. This Part describes how those models should be applied by focusing on when each model should be used. However, before delving into the details, it is worth emphasizing that both models can be reduced to the same number – the maximum bid price for a given investment. Thus, it is possible to talk about how taxes affect competitiveness between competitors within each model as well as across the two models.

### A. When the Conduit or New Money Model Applies

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<sup>41</sup> See IRC Section 197 (authorizing 10-year straight-line depreciation for goodwill and other intangibles acquired in the acquisition of a business).

<sup>42</sup> See IRC Section 613 (authorizing percentage depletion for specified commodities).

<sup>43</sup> See, e.g., IRC Section 1014(a) (step up in basis at death).

The crucial difference between the two models is the source of funding for the candidate investment. If the funding is coming from outside sources, so that the competitors must compete against each other for funds and for the investment, then the conduit or new money model is appropriate. This model views the issue as what is the most tax efficient (lowest tax cost) method for the outside investor to make the investment. In that case, the analysis of how taxes affect competitiveness simplifies into a simple comparison of the relative tax burdens.

Expressed in terms of the language of corporate finance, each entity has a cost of capital, which is a function of taxes. The cost of capital establishes the hurdle rate for the candidate investment through each entity. If, by virtue of a difference in taxes, one entity has a lower cost of capital for the same investment than another entity, then the former has a tax-induced advantage in competitiveness over the latter.

Of course, the most tax efficient method of making an investment is not necessarily the way the investment will be made. Non-tax considerations might outweigh tax considerations. For example, partnerships, limited liability companies, and other pass-through entities are probably the most tax efficient methods of producing automobiles,<sup>44</sup> but we do not see any such companies. That is because the non-tax benefits of corporate status, which include liquidity, marketability, and legal certainty, more than compensate for the tax disadvantages. However, corporations are still at a tax disadvantage when it comes to competing for investments that require outside equity financing.<sup>45</sup> And it is identifying tax-based competitiveness advantages and disadvantages that is the focus of this paper.

## B. When the Investor or Old Money Model Applies

In contrast, if the funding is coming from the investor directly, then the investor or the old money model is the right model to use. This model views the issue as what the investor should do with her funds. In that case, each investor calculates her maximum bid price by discounting the after-tax cash flows on the candidate investment by the after-tax return on the alternative (benchmark) investment. If each investor is taxed the same on the candidate and alternative investment, then each investor's maximum bid price depends only on how much she can earn before tax on the candidate investment. In that case, different tax rates across investors have no impact on competitiveness. Alternatively, if the candidate and benchmark asset are taxed differently, then high-bracket taxpayers will have a competitiveness advantage when

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<sup>44</sup> A pass-through entity does not pay tax. Instead, the tax attributes pass through to the investors. As a consequence, there is one level of tax only – the investor level.

<sup>45</sup> Equity investments in the corporation generate two levels of tax. The corporation pays tax on its income after allowing a tax deduction for interest, but not for dividends and redemptions. Thus, with equity investments in corporations there are two levels of tax – both corporate and individual taxes.

competing for low-taxed or untaxed assets and low-bracket taxpayers will have an advantage when competing for high-taxed assets.

It might be thought that competition between entities should always be assessed using the first model. That however is incorrect as is easy to illustrate with corporations. Corporations rarely issue new equity, but they frequently reinvest their retained earnings. Thus, when the competition is between corporations over a project that will be financed through retained earnings, and the earnings would not be returned to the shareholders if the corporation did not make the investment, then the second model would be appropriate to use.

The factors that determine which model is appropriate in any particular circumstance are many. The list includes the size of the project, the cash on hand, dividend and redemption policy, the tax treatments of dividends and redemptions, and agency costs (shareholder control of management). Ultimately, which model to use will often depend upon how a firm treats its retained capital. If managers see retained earnings as belonging to the firm and to be used as they see fit, and if they are determined not to distribute the money to shareholders through dividends or redemptions, then the first model will apply when there is no need for outside financing. On the other hand, if the managers view retained earnings as belonging to their shareholders, and if there is no toll charge on dividends,<sup>46</sup> then the conduit model will be appropriate (even if there is no need for outside financing).<sup>47</sup>

The above analysis suggests that the appropriate model depends less on the nature of the investors than on the circumstances. Competition between corporations can be assessed using either model depending upon the circumstances. Similarly, competition between individuals might sometimes also involve the first model. For example, when individuals are competing to purchase rental real estate using 100 percent financing, the first model is appropriate.<sup>48</sup>

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<sup>46</sup> Bank; Arlen & Weiss; etc.

<sup>47</sup> In effect, the two models converge to the new money model when the managers of the firm can and will return excess cash to their shareholders if they have no investments available with an expected return in excess of the cost of capital.

<sup>48</sup> The old and new money models can also be understood in relation to traditional economic models from other areas. For example, the new money model is an application of the standard discounted cash flow (DCF) model from finance. Viewed as an application of DCF models, the old money model assumes new capital cannot be raised. The two models can also be viewed as applications of David Ricardo's model of comparative advantage. In the standard Ricardian model, production and trade is determined by comparative not absolute advantage since one of the factors of production (typically, labor) is assumed to be fixed. The old money model is an application of the standard Ricardian model of comparative advantage (see discussion of clientele effects) because capital, which is the only factor of production, is assumed to be fixed. In the new money model, absolute advantage determined production because capital is mobile. Both analogies make clear that the old money model approaches the new money

Moreover, which model is appropriate to use will also depend on the question that is being asked. If the question is about who will be the beneficial owners of an investment, then the old money model is appropriate. On the other hand, if the question is through what entity will the investment be made, then the new money model is appropriate.

### C. When Both Models Apply

In many cases, both models will be applicable. For example, many corporations with ready access to capital markets also have substantial retained earnings in the form of cash. If external funds are more expensive than retained cash,<sup>49</sup> the firm should use the old money model for projects financed out of cash on hand and the new money model for projects financed with external capital.<sup>50</sup> In the extreme, when the cash is not locked into the firm (either through agency costs or taxes), the two models converge to the cost of raising outside capital (the conduit model).

Both models also apply when an investor is considering an investment that it will finance using both retained earnings and external financing. In that case, the new money model should be used for external financing and the old money model for retained earnings. An example might be helpful. Assume Andrew and Betty are both bidding on a parcel of real estate. The investment will return \$100 in perpetuity after expenses and Andrew and Betty are each looking to finance the investment by devoting 80 percent of the investment's annual cash flow to paying a return to the outside investors and by keeping the other 20 percent for themselves, which portion each will finance out of cash on hand. Assume outside investors are looking for an after-tax return of 6 percent. If Andrew's investors are taxed at 20 percent, they will be willing to provide Andrew with financing at a before-tax return (cost of capital) of 7.5 percent. Because Andrew is willing to devote 80 percent of the cash flow to paying his outside investors, their commitment will allow him to bid up to \$10,667.<sup>51</sup> On the \$200 return Andrew will earn each year, Andrew will pay tax of \$40, and have \$160 left. Assuming a 10 percent before-tax return

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model as capital becomes more mobile.

<sup>49</sup> Agency costs are one reason to expect that new funds, especially new equity, are more expensive than retained earnings.

<sup>50</sup> Because money is fungible, the projects should be ordered by internal rate of return (IRR) and if the cash on hand is not sufficient to undertake all projects with an IRR above the hurdle rate for old capital, then the remaining projects with an IRR above the hurdle rate for new capital should be undertaken. If the cash on hand is sufficient to fund all such projects, then only those projects should be funded.

<sup>51</sup> The amount that outside funding will allow Andrew to bid is calculated as follows:  
 $\$10,667 = \$640 / 6 \text{ percent.}$

on the benchmark asset and a 20 percent tax rate, that cash stream is worth \$2000 to Andrew.<sup>52</sup> Thus, he can bid up to \$12,667.

Consider Betty. Assume her investors are also looking for an after-tax return of 6 percent. Assuming her investors would also be taxed at 20 percent, they would require a before-tax return of 7.5 percent, and so their commitment would also allow her to bid up to \$10,667. Betty is taxed at 40 percent and requires an after-tax return of 6 percent. Thus, on the remaining \$200 cash flow, she would pay \$80 tax and be left with \$120. Discounted at 6 percent, this cash flow is worth \$2000 to Betty,<sup>53</sup> which takes her maximum bid to \$12,667, the same as Andrew's. Thus, for investments that are funded through a mix of internal and external financing, taxation does not affect bid prices so long as the external capital is taxed at the same rate regardless of the bidder, even if the bidders are not taxed at the same rate.<sup>54</sup>

Conversely, if the external capital is not taxed at the same rate, the conduit entity through which the external capital is taxed at a lower rate will enjoy a competitive advantage in bidding for investments. For example, if Betty's investors were taxed at the same 40 percent tax rate as she is when they finance her investment, they would then require a before-tax rate of return of 10 percent. They would then be willing to advance only \$8000<sup>55</sup> and so Betty's maximum bid would be \$10,000. That is \$2667 below Andrew's maximum bid, and so Andrew would be able to outbid Betty for the investment.

There is another point to make about the issue which model applies. Sometimes the model that applies depends on the question we are trying to answer. Consider a simple world where all investments occur through corporations, which are taxed on all of their income without a deduction for interests or dividends or redemptions. Individuals are also taxed on their incomes. If we are interested in what conduits will make the investment, we would apply the first model. The answer then will depend on their relative EMTRs of the candidate conduits. If,

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<sup>52</sup> The amount that Andrew's own funding will allow him to bid is calculated as follows:  
 $\$2000 = \$160 / .08$ .

<sup>53</sup> The amount that Betty's own funding will allow her to bid is calculated as follows:  
 $\$2000 = \$140 / .07$ .

<sup>54</sup> That assumes that the investment is taxed consistently with an income tax. If the investment is undertaxed, the high bracket investor – Betty in the example – will have an advantage; if it is overtaxed, the low-bracket investor – Andrew in the example – will have an advantage. Thus, if the revenue from the investment is excluded from income, but the interest expense can be deducted against other income, thereby generating a more valuable deduction for Betty than for Andrew, then Betty will outbid Andrew. This is discussed in Section III.B., *supra*.

<sup>55</sup> The amount that outside funding will allow Betty to bid is calculated as follows:  
 $\$8000 = \$480 / 6 \text{ percent}$ .

instead, we are interested in which individuals will be the beneficial owners of the investments, we will apply the second model. If not all individuals have access to all conduits, then the second question will require that we use both models.

## V. Ownership and Competitiveness

The discussion, so far, has tacitly equated ownership with use. Whoever bids the most to purchase an asset was assumed to have a tax-induced competitiveness advantage in using that asset. However, using an asset in business is not the same as owning that asset. In most cases, competitiveness concerns are focused on who controls and enjoys the risk and rewards from an asset, and not simply on who holds title to that asset. For example, if we wanted to understand how taxes affect competition between state-run and private air carriers it would be incorrect to conclude not at all solely and simply because most airlines lease their aircraft and so do not hold title. Looked at from the perspective of modern finance, ownership is just one method of financing an asset. There are other, alternative financing techniques. This Part, thus, extends the basic analysis to allow for other methods of using an asset in business besides holding title. In general, such options when they are legally and economically feasible tend to promote neutrality. They accomplish this by tending to equalize both the tax cost of new investment funds across conduits and the dollar value of tax incentives across investors.

A capital lease is one obvious method of separating legal ownership (title) from the use of an asset. There are also other techniques. Other examples include securitization and other forms of asset-based financing, research and development partnerships and movie development partnerships.<sup>56</sup> In the extreme, legal ownership can be completely severed from economic ownership. For example, an owner-lessor by leasing property to a lessee for the property's entire useful life transfers the use of the property and the economic risk associated with owning that property to that lessee. In such cases, the lease is effectively a form of 100 percent financing.

Furthermore, a capital lease is a very effective way for a low-tax competitor – whether an investor or a conduit – to enjoy the tax benefits from a tax-favored asset. Because the tax shield generated by economically accelerated depreciation, and other tax incentives, is likely to have little value to such taxpayers, they can avoid what otherwise would be a tax-induced competitiveness disadvantage by shifting the tax benefits to another party that cannot use the asset in its business, but nonetheless highly values the tax benefits generated by the asset.

Assume for example, a candidate perpetual investment pays \$100 annually and that the

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<sup>56</sup> Many of these techniques involve partnerships because partnership tax provides partners with much flexibility in making allocations among the partners.

income from owning the asset is untaxed.<sup>57</sup> Such a perpetual investment is worth \$1250 to Andrew and \$1667 to Betty.<sup>58</sup> That same investment would be worth even more – \$2000 – to a taxpayer in the 50 percent bracket (assuming that the investments generated \$100 annually to such a taxpayer).<sup>59</sup> If it were possible to enter into a lease for the entire investment both Andrew and Betty would value the asset more highly if he or she leased the property from an investor in the 50 percent tax bracket than if either one owned it directly. The lease arrangement would allow Andrew and Betty each to bid up to \$2000 for the asset.<sup>60</sup> In effect, Andrew and Betty are each willing to pay up to \$100 annually in lease payments. For a taxpayer in the 50 percent tax bracket, she earns 5 percent after tax on the benchmark asset. Thus, such a taxpayer needs to earn an after-tax return of 5 percent from owning and leasing the investment. If she purchases the investment for \$2000 and leases it for \$100 a year, then she is generating a 5 percent untaxed return. Moreover, both Andrew and Betty would be willing to bid this amount in spite of their different tax rates because the tax benefit is worth more to third party lessors than to either Andrew or Betty. Andrew and Betty, thus, benefit indirectly by transferring the tax benefit to a party that values the benefit more highly than either one of them does and receiving the benefit indirectly through a reduced cost of financing.<sup>61</sup>

If the entire tax benefit from an undertaxed investment can be transferred in a lease, then neither Andrew nor Betty has a tax-derived competitiveness advantage from the undertaxation of that asset and their differential tax rates. That situation is a special case where in spite of the presence of differentially taxed assets clientele effects do not translate into tax-induced

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<sup>57</sup> The income from using the asset if the asset is not used by the owner is subject to tax.

<sup>58</sup> The value to Andrew (who is taxed at 20 percent and so earns 8 percent [= 10 percent (1 - 20 percent)] after-tax on his marginal investments) of a \$100 perpetuity that is exempt from tax is calculated as follows:  $\$1250 = \$100 / .08$ . The value of the same \$100 untaxed perpetuity to Betty, who is taxed at 40 percent and so earns 6 percent [= 10 percent (1 - 40 percent)] after-tax on her marginal investments, is calculated as follows:  $\$1666.67 = \$100 / .06$ . If the competition takes the form of reducing price and hence revenue from the asset, Andrew would need to earn at least \$80 [=  $\$1000 \times .08$ ], whereas Betty would need to only earn \$60 [=  $\$1000 \times .06$ ].

<sup>59</sup> The value of a \$100 untaxed perpetuity to a taxpayer in the 50 percent bracket, who therefore earns 5 percent [= 10 percent (1 - 50 percent)] after-tax on marginal investments, is calculated as follows:  $\$2000 = \$100 / .05$ . Such an investor would need to earn only \$50 [=  $\$1000 \times .05$ ] if the asset cost \$1000.

<sup>60</sup> Alternatively, if competition took the form of reducing prices and hence revenues, Andrew and Betty would be willing to earn as little as \$50 a year to cover the lease payment on a \$1000 asset.

<sup>61</sup> In effect, Andrew and Betty are receiving financing at an annual after-tax cost of 5 percent.

competitiveness advantages. Because the tax benefits can, in effect, be transferred to the investors who value the asset's tax benefits most, but cannot use the asset to generate as much revenue, no one has a tax-induced competitiveness advantage.

In these circumstances, the tax authorities have more flexibility in designing competitively neutral tax rules. When all of the assets can be leased, then the party who is running the business is not taxed on any portion of the return to capital. All of that return is taxed to outside financiers. Instead, the party running the business is taxed only on the return to its entrepreneurship. As long as that return is taxed the same across the different projects available to an entrepreneur, how heavily that party is taxed relative to other parties will not affect competitiveness.

If, however, only some of the tax benefit can be transferred to third parties, either because the tax law will not respect a transaction that transfers all of the incidents of ownership to a party that does not hold title or because agency costs or other problems make it costly (perhaps prohibitively so) to make the transfer, then competitiveness neutrality will not be achieved. In that case, we would still expect to see clientele effects. Thus, more heavily taxed parties are likely to still have a tax-driven advantage when competing for undertaxed investments, and conversely. However, that advantage is smaller the larger the portion of an investment's total cost that can be transferred. Nonetheless, in those circumstances, competitiveness neutrality requires either equal tax burdens across investors or the use of refundable credits only.

Thus, for example, assume that the investment is untaxed and that it was possible to lease 80 percent of the assets, but that 20 percent of the assets have to be self-financed. In that case, Andrew and Betty could each devote \$80 of the annual cash flow to making lease payments. That would allow Andrew and Betty each to bid \$1600.<sup>62</sup> The remaining \$20 of cash flow is worth \$250 to Andrew, so he can bid as much as \$1850.<sup>63</sup> To Betty, the remaining \$20 is worth \$333.33, so she can bid as much as \$1933.33.<sup>64</sup> Thus, Betty will outbid Andrew as a result of taxes.

When then is ownership equated with competitiveness? When it is not feasible to separate ownership and use. That might occur for several reasons. The separation of ownership and use has the potential to create sizeable agency costs that cannot be cheaply reduced through contracting. Alternatively, if tax considerations give one party an advantage in purchasing an

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<sup>62</sup> Expressed in terms of price competition, Andrew and Betty would need to earn \$40 [= \$800 x .05] to meet their lease payments.

<sup>63</sup> Expressed in terms of price competition, Andrew would need to earn \$16 [= \$200 x .08] on his own investment. Thus, he would need to earn at least \$56.

<sup>64</sup> Expressed in terms of price competition, Betty would need to earn \$12 [= \$200 x .06] on his own investment. Thus, he would need to earn at least \$52.

asset and those advantages disappear if the property is not used by the owner, then a lease is costly. An example would be owner occupied housing because the benefit of nontaxation of the imputed rent cannot be transferred to a renter. In some cases, the tax laws limit the effectiveness with which ownership and use can be separated. For example, the IRS will not respect all purported lease transactions as a lease.<sup>65</sup> If the lessor does not have enough economic risk, the Service will treat the transaction as a sale. The purported lessee will then be taxed as the owner and the purported lessor as a lender. Because those tax treatments are usually undesirable, one effect of these rules is to increase the cost of leasing by increasing the agency costs in lease transactions.

## VI. Applications

This Part discusses two important areas where concerns with competitiveness have shaped the tax law – tax-exempt organizations and foreign direct investment/cross-border transactions. In both areas, previous commentators have recognized the existence of competitiveness issues. Indeed, the literature is filled with such discussions. However, previous commentators have generally failed to recognize the relevance of both the new and old money models and the role played by each one. Not surprisingly, then, previous commentators have reached different conclusions than a systematic analysis of the rules in these areas through the lens of competitiveness neutrality yields.<sup>66</sup>

### A. Tax exempt organizations

When a thankful alumnus bequeathed the C.F. Mueller Co., then the nation's largest manufacturer of noodles and macaroni, to New York University (NYU), for the benefit of its law school, competitors cried foul. Because NYU was not subject to the federal income tax,<sup>67</sup> Mueller's competitors argued that NYU had an unfair competitive advantage.<sup>68</sup> Congress

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<sup>65</sup> See Rev. Proc. 2001-28 setting forth guidelines that the IRS will use in granting advance letter rulings respecting certain purported leveraged lease transactions.

<sup>66</sup> In a series of papers, I intend to examine competitiveness in a range of markets using the concept of competitiveness neutrality. For now, I want to undertake a tentative and preliminary analysis of the competitiveness issues in only two areas.

<sup>67</sup> Because NYU is a not-for-profit entity listed under Section 501(c)(3) it is exempt from the federal income tax on the money that it earns.

<sup>68</sup> Although Mueller was the best know of NYU's commercial holdings, it was not their only such venture. In addition to Mueller, NYU also owned Howes Leather Company, American Limoges China, and Ramsey Corporation, which manufactured piston rings. James

agreed, and in 1950 enacted the unrelated business income tax (UBIT).<sup>69</sup> The UBIT imposes tax on many otherwise tax-exempt charitable institutions, including private universities, on the incomes they earn on activities that are unrelated to their charitable functions.<sup>70</sup> The UBIT is imposed at the same tax rates that apply to corporations.<sup>71</sup>

The rationale for the UBIT was and is that without such a provision charities would enjoy an unfair tax-derived competitiveness advantage over their taxable competitors. The argument, which is usually stated as obvious and self-evident, is simply that untaxed competitors will displace their tax-paying competitors. Thus, Representative John Dingell, in support of the UBIT bill, warned his colleagues that unless appropriate action is taken “the macaroni monopoly will be in the hands of the university . . . and eventually all the noodles produced in this country will be produced by corporations held or created by universities.”<sup>72</sup> Similarly, both the House and Senate Reports accompanying the final bill underscored the problem of unfair competition:

The problem at which the tax on unrelated business income is directed is primarily that of unfair competition. The tax-free status of [Section 510(c)(3)] organizations enables them to use their profits tax-free to expand operations, while their competitors can expand only with the profits remaining after taxes.<sup>73</sup>

And to this day, the Treasury Regulations continue to sound the same theme:

[T]he primary objective of [the UBIT] was to eliminate a source of unfair competition by placing the unrelated business activities of certain exempt organizations upon the same tax basis as the non-exempt business endeavors with

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Fishman & Stephen Schwartz, *Taxation of Nonprofit Organizations: Cases and Materials* 566 (2003).

<sup>69</sup> IRC Section 511 et seq.

<sup>70</sup> IRC Section 511(a)(1). Unrelated trade or business is defined in Section 513 as any trade or business that is not substantially related to the exercise or performance by such organization of its charitable, educational or other exempt function.

<sup>71</sup> IRC Section 511(a)(1). The corporate income tax schedule is set out in IRC Section 11.

<sup>72</sup> Hearings before the House Committee on Ways and Means, 81<sup>st</sup> Cong., 2d Sess. 579-80 (1950).

<sup>73</sup> H.R. Rep. No. 2319, 81<sup>st</sup> Cong., 2d Sess. 38 (1950); S. Rep. No. 2375, 81<sup>st</sup> Cong., 2d Sess. 28-29 (1950).

which they compete.<sup>74</sup>

So much for the rhetoric. What about the academic literature?

Although law-and-economics scholars are divided on the desirability of the UBIT, they accept as true the proposition that tax exemption provides covered not-for-profit entities with an advantage in competitiveness. For example, Professor Henry Hansmann argues that the UBIT should be retained because without it universities and other not-for-profit entities would have a strong incentive to invest in wholly-owned businesses and avoid the income tax.<sup>75</sup> He argues that not-for-profit entities are likely to be much less efficient managers of these assets than their for-profit rivals and so there is a real resource cost to society from the exemption.<sup>76</sup> In contrast, Professor Susan Rose Ackerman argues that the UBIT should be eliminated because it causes charities to concentrate their investments in related activities in order to avoid the tax.<sup>77</sup> That she argues is unfair to competing for-profit entities because the additional competition in these areas decreases the profits of the for-profit entities.<sup>78</sup>

Thus, although Professors Ackerman and Hansmann disagree over the desirability of the UBIT, they both agree with the proposition that tax exemption advantages tax-exempt entities relative to their taxable competitors. However, when looked at through the lens of competitiveness neutrality, the claim that underlies the existing literature on and debates surrounding the UBIT – that without the UBIT, not-for-profit firms would have a tax-driven competitiveness advantage over their for-profit rivals – is questionable. The discussion above of competitiveness neutrality suggests that we need to consider two scenarios depending upon whether the not-for-profit entity can finance the investment with outside financing or is forced to use inside financing.

Start with the possibility of outside financing. NYU cannot raise equity – whether to invest in Mueller, other for-profit businesses, or for any other purpose. The statutory provision that prohibits private benefits inuring to any individual prevents not-for-profit entities from

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<sup>74</sup> Treas. Reg. Sec. 1.513-1(b).

<sup>75</sup> Henry B. Hansmann, *Unfair Competition and the Unrelated Business Income Tax*, 75 *Virginia Law Review* 605 (1989).

<sup>76</sup> Henry B. Hansmann, *Unfair Competition and the Unrelated Business Income Tax*, 75 *Virginia Law Review* 605 (1989).

<sup>77</sup> Susan Rose-Ackerman, *Unfair Competition and Corporate Income Taxation*, 34 *Stanford Law Review* 1017, 1019-21 (1982).

<sup>78</sup> Susan Rose-Ackerman, *Unfair Competition and Corporate Income Taxation*, 34 *Stanford Law Review* 1017, 1019-21 (1982).

issuing equity.<sup>79</sup> NYU can, however, issue debt, and it can use the proceeds to finance business investments at least indirectly. Moreover, NYU can issue tax-exempt debt – debt the interest on which the recipient does not have to include in income.<sup>80</sup> Because tax-exempt debt pays a lower rate of interest than equally risky taxable debt, charitable institutions with excess tax-exempt borrowing capacity will have a lower cost of capital than their competitors. That lower cost of capital has the potential to translate into higher bid prices for productive assets (or lower sales prices to customers).<sup>81</sup> In other words, charities will have a tax-based competitiveness advantage in investments that can be financed with tax-exempt bonds.<sup>82</sup>

There are, however, several reasons to believe that at the margin most charities cannot use tax-exempt debt to invest in businesses. First, charities cannot issue tax-exempt debt themselves, but must do so through a state agency.<sup>83</sup> The requirement to work through a state agency effectively excludes many smaller charities from using tax-exempt funding.<sup>84</sup> It also adds a level of oversight. Second, there are limits placed on the amount of tax-exempt debt that a charitable organization can issue.<sup>85</sup> Those charities that are at their limit can only borrow additional funds by issuing taxable debt. Third, charities are taxed on the income they earn from debt-financed property.<sup>86</sup> Fourth, the anti-arbitrage rules take away the tax exemption on debt

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<sup>79</sup> Section 501(c)(3) (charitable and educational institutions are exempt from the income tax only if “no part of the net earnings . . . inures to the benefit of any private individual or shareholder”).

<sup>80</sup> IRC Section 103. Such private activity bonds (IRC Section 141) are often called “qualified 501(c)(3) bonds.”

<sup>81</sup> The benefit of a low cost of capital can be illustrated using the perpetuity. A for-profit entity needs to earn  $\$1000 \times r_t$  (where  $r_t$  is the before-tax interest rate). In contrast, a not-for-profit entity that finances the asset with tax-exempt debt needs to earn only  $\$1000 \times r_{te}$  (where  $r_{te}$  is the tax-exempt interest rate).

<sup>82</sup> The more debt the asset can support, the greater the advantage.

<sup>83</sup> IRC Section 141.

<sup>84</sup> See Statement of Steven Simons, House Committee on Ways and Means, March 16, 2006, available at <http://waysandmeans.house.gov/hearings.asp?formmode=printfriendly&id=4843> (arguing that it is easier for wealthy charities to issue tax-exempt revenue bonds than it is for less wealthy institutions, yielding substantial inequity in treatment).

<sup>85</sup> There is a \$150 million limitation on “qualified 501(c)(3) bonds” other than hospital bonds.

<sup>86</sup> IRC Section 514. See discussion in this Section, *infra*.

that is used to acquire higher yielding investments.<sup>87</sup> Thus, at the margin, it is likely that few tax-exempt entities will have a competitiveness advantage because taxes provide them with a lower cost of external debt financing than their for-profit competitors.<sup>88</sup>

Accordingly, for most charities, the argument that tax-exempt investors have a competitiveness advantage when they compete with for-profit entities because their exemption from tax allows them to outbid tax-paying investors boils down to a straightforward application of the old money model. When a tax-exempt entity invests its own money, it makes its investment decisions by comparing rates of return across investments. Thus, a tax-exempt entity will pay less tax on income earned on the candidate investment than will a taxable competitor (an advantage), but it will also earn more on its alternative investments than will a taxable competitor (a disadvantage). These two effects will offset one another if the EMTRs for both the candidate investment and the benchmark asset are the same for all investors.<sup>89</sup>

In fact, if the candidate investment is undertaxed (low EMTR), as is likely the case with unincorporated businesses because of economically accelerated depreciation of tangible assets and the immediate expensing of many expenditures that produce long-term benefits (e.g., advertising), the taxable investors will actually have an advantage in bidding for the assets.<sup>90</sup> Thus, there is likely to be little or no need for a UBIT on the grounds that tax-exemption confers a competitiveness advantage on tax-exempt entities. Indeed, in many instances, the advantage is in the opposite direction – for-profit entities have a tax-induced competitiveness advantage because they are more heavily taxed.

One of the few areas where tax-exempts enjoy an advantage (ignoring the UBIT) is with corporate investments that are financed with new equity.<sup>91</sup> When competing against corporations that need to raise new equity, tax-exempt entities enjoy an advantage because the new corporate equity is subject to two levels of tax, not just the one level that individual investors pay on their own account or when investing through a pass-through entity. As a result, the EMTR on new

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<sup>87</sup> IRC Section 148(a).

<sup>88</sup> Also, covered not-for-profit entities will not be able to price their products lower than for-profit competitors because of their tax advantage since the income tax is zero at the margin.

<sup>89</sup> That will occur if the candidate investment and benchmark asset are both taxed in line with the income (or consumption) ideal. See discussion in Section III.B., supra.

<sup>90</sup> Some of that benefit can be ameliorated by leasing. As described in Part V, a capital lease can be used to separate the tax benefits that the assets generate, but which presumably have little or no value to the tax-exempt organization, from use of the assets in a venture.

<sup>91</sup> The corporate finance literature has long recognized that because of agency costs, bankruptcy costs, volatility and other reasons assets can support proportionately different amounts of debt.

corporate equity investments likely exceeds the EMTR on the benchmark asset. The incremental tax that for-profit investors pay when they invest through corporations over what they pay on their other investments is likely to be, at most, only the tax on capital gains and dividends – 15 percent. That incremental tax, by reducing the cash flow to the corporation’s new equity investors, reduces the corporation’s bid price relative to the not-for-profit entity’s bid price. Thus, in these circumstances, there is a justification for collecting some tax from tax-exempt entities in order to eliminate their tax-driven competitiveness advantage over competing for-profit entities.<sup>92</sup>

The UBIT, however, goes too far, and thereby gives taxable firms a competitiveness advantage over tax-exempt firms. The UBIT more than makes up for the incremental tax paid by the new equity investors in corporations in three ways. First, the incremental tax rate by equity investors through corporations is only 15 percent – the tax rate on dividends and redemptions – which is substantially lower than the UBIT tax rate – 35 percent. Second, there is an incremental tax liability only on to that portion of the investment financed by new equity. In contrast, the UBIT subjects the entire investment to the tax.<sup>93</sup> Third, the UBIT is imposed when the income is earned by the covered entity, whereas the second level of tax is collected only when the investor receives cash, which is often later.

#### B. Foreign direct investment/Cross-border transactions

Perhaps more than any other area of the tax law, the tax treatment of cross-border transactions is informed by concerns with competitiveness. For example, the Foreign Investment in Real Property Tax Act was aimed at eliminating a perceived tax advantage enjoyed by Japanese investors who purchased U.S. real estate at “fire sale” prices in the late 1970's.<sup>94</sup> A similar concern with leveling the playing field lies behind the branch profit tax provisions that were part of the Tax Reform Act of 1986 and the earning stripping limitations on the deductibility of interest enacted in 1989.<sup>95</sup> More recently, even the names of some tax bills, such

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<sup>92</sup> The most obvious adjustment – to integrate the corporate and individual income taxes so that individuals’ equity investments in for-profit corporations are taxed no more heavily than other investments – would obviate the need for a UBIT in these circumstances by eliminating the disadvantage facing for-profit investors.

<sup>93</sup> There is also a timing difference because the personal level tax is only triggered when a dividend or exchange occurs. The UBIT must take that timing difference into account in order to equalize the tax treatments between for-profit and not-for-profit entities.

<sup>94</sup> Reuven S. Avi-Yonah, *All of a Piece Throughout: The Four Ages of U.S. International Taxation*.

<sup>95</sup> Reuven S. Avi-Yonah, *All of a Piece Throughout: The Four Ages of U.S. International Taxation*.

as the American Jobs Creation Act of 2004,<sup>96</sup> evidence Congress's intention to use the tax system to improve U.S. competitiveness.<sup>97</sup>

The general discussion above suggests several principles when the concept of competitiveness neutrality is applied to cross-border transactions. First, neutrality requires that the tax cost of new funds to U.S. competitors should equal the tax cost of new funds to foreign competitors. Second, it generally does not matter whether U.S. competitors are taxed more or less heavily than foreign competitors when they invest their own funds. Third, any tax incentives/disincentives should have the same dollar value across all taxpayers. Fourth, the tax laws should not discriminate among taxpayers.

One implication of these principles is that the United States acting alone cannot enact a tax law that will ensure that taxes will never place U.S. firms at either a competitive advantage or disadvantage relative to foreign firms in any market. That is because neutrality depends upon how one party is taxed relative to another party. The United States might be able to determine how its nationals are taxed and how transactions occurring within its borders are taxed, but it cannot determine the tax treatment of foreign nationals investing in other countries. Accordingly, designing a globally neutral tax system requires coordinating the tax policies of many sovereign nations. Such coordination will make implementation difficult, but which policies must be coordinated and which ones can be set independently? In other words, how much freedom remains for local taxing authorities in a competitively neutral tax regime?

The subject of international taxation is usually divided into two broad categories. From a U.S. perspective, those categories are the U.S. taxation of foreign source income earned by U.S. persons (including corporations) and the U.S. taxation of U.S. source income earned by foreign persons (including corporations). Within each category, the United States has a series of extensive and elaborate rules that have developed over time in response to changing business practices and the rapid growth in cross-border transactions. The systematic evaluation of so many complex rules is too much to undertake this far into this paper.<sup>98</sup> Instead, in this section of the paper, I will focus on two issues that straddle the two areas – the choice between a territorial or a worldwide tax system and the setting of tax rates.

A territorial tax system is one where domestic citizens and residents, including multinational corporations, pay tax to their home country only on the income they earn within its borders. Their income earned abroad might be taxed in the country where it is earned, but it will not be taxed in any other country (including the home country). In a worldwide tax system,

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<sup>96</sup> Pub. L. No. 108-357, 118 Stat. 1418.

<sup>97</sup> Reuven S. Avi-Yonah, *All of a Piece Throughout: The Four Ages of U.S. International Taxation*.

<sup>98</sup> I hope to evaluate a wider range of international tax laws using the concept of competitiveness neutrality in other papers.

domestic taxpayers pay tax to their home country on their entire worldwide income, regardless of where they earn it. To prevent double taxation, domestic taxpayers receive a foreign tax credit (FTC) on the taxes they pay to foreign sovereigns on income earned abroad.<sup>99</sup> That credit, however, is limited to the U.S. tax that would otherwise be due on foreign source income.<sup>100</sup>

The discussion in the rest of this Part will first look at direct investments by individual investors using the old money or investor model. I will then look at direct investments by conduits using the new money or conduit model.<sup>101</sup>

## 1. Direct Investments by Individual Investors: The Old Money or Investor Model

The purchase by a British investor of an office building in New York City is an example of a direct investment by an individual investor. The discussion in this section also applies to the purchase of such a building by a group of British and other foreign investors located outside of the United States through a pass-through entity such as a partnership. As long as the entity through which the investment is made is untaxed and does not change the tax treatment of the investors,<sup>102</sup> then the old money model will continue to apply.

In this section, I will first look to see if global adoption of a territorial tax system is consistent with competitiveness neutrality, and if so, whether countries must harmonize their tax rates or can set them independently. I will then ask the same questions for global adoption of a worldwide tax system. In each case, I will start by assuming the candidate investment is first taxed the same as the benchmark asset and then that it is taxed differently.

### a. Global Adoption of a Territorial Tax System

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<sup>99</sup> IRC Section 901 grants U.S. taxpayers a credit for income taxes paid to foreign sovereigns on foreign source income.

<sup>100</sup> IRC Section 904. The U.S. foreign tax credit is not unlimited. In theory, the credit cannot eliminate or reduce tax on U.S. source income, only on foreign source income.

<sup>101</sup> Throughout this Part, I assume that portfolio and direct investments are taxed the same, except where a specific direct investment is assumed to be taxed differently.

<sup>102</sup> That will occur when each investor is taxed as if he or she personally owned a fractional share of the entire investment. Of course, one of the tax advantages partnerships provide is that they permit the partners to make special allocations that are inconsistent with pro-rata ownership.

Because foreign direct investment is dwarfed by foreign portfolio investment,<sup>103</sup> the latter is generally assumed to set equilibrium rates of return across national borders. In a world where every country employs a territorial tax system, the after-tax rate of return is equal across countries, but the before-tax rate of return varies with the local tax rate. In such an environment, everyone pays the same tax on any candidate investment and earns the same after-tax return on the benchmark asset.<sup>104</sup> Thus, any series of before-tax cash flows is worth the same amount to all investors. In such circumstances, relative tax rates do not affect competitiveness.

An example might be helpful. Consider three countries – A, B and C – with tax rates of 25 percent, 40 percent and 50 percent. Assume that the after-tax rate of return on the benchmark asset in a world where all countries adopt territorial tax systems is 6 percent. Thus, the before-tax rate of return on the benchmark asset in country A is 8 percent, in country B is 10 percent, and in country C is 12 percent. Consider a simple one-period, direct investment that will pay \$1100 located in country B. Any investor who acquires that investment for \$1000, whether located in country A, B or C, will receive \$1060 in one year after paying \$40 of taxes to country B. Therefore, since all investors have an after-tax discount rate of 6 percent, all investors will value the investment at \$1000. Since all investors place the same value on the candidate investment, no competitor has a tax-driven competitiveness advantage in acquiring the investment, even though the competitors are located in different countries with different tax rates.

The discussion above assumes that the candidate investment was taxed at the same EMTR as the benchmark asset. What if that is not the case? Returning to the example of a one-period direct investment in country B, assume that country B provides a tax incentive for that investment that reduces the effective marginal tax rate (EMTR) to half of the statutory rate, or 20 percent. An investor in country B, where the after-tax return is 6 percent, is willing to pay up to \$1023.26 for such an investment.<sup>105</sup> If countries A and C have adopted territorial tax systems – because investors located in those countries will earn 6 percent after tax on the benchmark asset and pay tax at 20 percent on the candidate investment – the investors from those countries are also willing to pay up to \$1023.26 for the candidate investment. Thus, country B's tax incentives have not advantaged investors from one country over those from any other country.

Therefore, as demonstrated above, when the competition for direct investment is between the investors, not conduits, then competitiveness neutrality is satisfied when all countries adopt territorial tax systems. In this case, each country is free to set its own tax rates on economic activity within its borders. Moreover, the tax system will satisfy competitiveness neutrality even

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<sup>103</sup> Provide some statistics.

<sup>104</sup> The before-tax rate of return from holding the benchmark asset varies with the asset's location; the after-tax return is independent of the asset's location and who owns it.

<sup>105</sup> The value given in the text was calculated in Section III..B., supra.

when countries grant tax incentives in the traditional way of reducing taxable income.<sup>106</sup>

## b. Global Adoption of a Worldwide Tax System

Assume now that all countries adopt worldwide tax systems (with unlimited foreign tax credits). In that case, equilibrium implies that the before-tax rate of return on the benchmark asset will be equal across countries. Because the foreign tax credit is fully refundable, an investor from any country will value a series of before-tax cash flows the same regardless of where the cash flow arises. Moreover, for investments that have the same EMTR as the benchmark asset, the investor will value such investments as much as an equivalent amount of the benchmark asset. Since that equivalence holds for investors based in all countries, it therefore follows that all investors will value a given asset the same regardless of where they themselves are located. Thus, in a world where all countries employ worldwide tax systems (with fully refundable credits), relative tax rates do not affect competitiveness.<sup>107</sup>

Returning to the example of three countries – A, B and C – with tax rates of 25 percent, 40 percent and 50 percent. Assume now that all three countries adopt worldwide tax systems with fully refundable tax credits. In such a world, before-tax rates of return will be equal across countries. Assume the before-tax rate of return is 10 percent everywhere. Thus, an investor located in country B earns 6 percent after taxes on investments in the benchmark asset.<sup>108</sup> An

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<sup>106</sup> If tax rates vary across individual taxpayers within a country, then traditional tax incentives will create clientele effects across investors from that country. These clientele effects will carry over to cross-border transactions.

<sup>107</sup> In addition, if all investments can be financed using debt or other capital that produces pass-through tax treatment, such as capital leases, then how the firms that make the investments are taxed is irrelevant. In those circumstances, the conduit pays no tax and so its tax treatment has no effect on the relative competitiveness of the various entities. However, because of agency costs and other concerns, it is not feasible to finance investments entirely with debt and debt substitutes. Thus, for conduits, how they are taxed matters.

<sup>108</sup> For example, an investor in country B will earn \$100 on a \$1000 domestic investment in the benchmark asset, pay \$40 taxes and be left with \$60. That same investor will also earn 10 percent, or \$100 on a \$1000 investment in the benchmark asset if it is located in country A. The investor will pay \$25 to country A, report \$100 income to country B, be assessed a tax liability of \$40, receive a foreign tax credit of \$25, and so will be left owing \$15 to B's tax authorities. Thus, an investor from country B will earn 10 percent on the benchmark asset located in country A, pay total tax at a rate of 40 percent and so be left with an after-tax return of 6 percent. If that same investor invests \$1000 in the benchmark asset when it is located in country C, then the one year return of \$100 attracts \$50 of tax. The investor reports \$100 income to country B and is assessed a tax liability of \$40. Having paid \$50, the investor will receive a refund of \$10. Thus, again, the investor located in country B will earn 10 percent on the benchmark asset in country

investor based in country A earns 7.5 percent after tax, whereas an investor based in country C earns 5 percent.

Consider a candidate one-period direct investment in country B that will return \$1100 in one year. If that investment is purchased for \$1000 by an investor located in country B, the investor will receive an after-tax return of \$1060 (because the \$100 income attracts \$40 tax). Such an investment is in fact worth \$1000 to the investor because the benchmark asset also yields an after-tax return to that investor of 6 percent. An investor from country A who purchased the same investment for \$1000 would also report \$100 income, but such an investor would pay only \$25 in tax, and thus be left with \$1075.<sup>109</sup> Nonetheless, the investment is worth no more to an investor from country A because such an investor earns 7.5 percent after-tax on the benchmark asset. For such an investor, \$1000 in the bank will grow to \$1075, and thus the candidate investment is worth \$1000 – exactly what it was worth to the investor based in country B. For an investor based in country C, the investment, if purchased for \$1000, will return \$1050 after paying taxes.<sup>110</sup> However, because such an investor uses an after-tax discount rate of 5 percent, the investment is again worth \$1000. Therefore, since all investors will value the investment the same, no one has a tax-driven competitiveness advantage, even though they are located in different countries with different tax rates.

The discussion above assumed that the candidate investment was taxed the same as the benchmark asset. What if that is not the case?

Assume that country B adopts a tax incentive that has the effect of reducing the tax rate on the investment from 40 percent to 20 percent. In that case, investors from countries A and C still will not be willing to pay any more than \$1000 to make the investment. Specifically, they will not be willing to pay as much as investors from country B – \$1023.26 – to make the investment.<sup>111</sup> Start with investors in country A. If they purchased the asset for \$1023.26, they would report \$77.74 income and pay \$15.35 tax to country B. Such an investor would report a tax liability to country A of \$19.19, receive a tax credit of \$15.35, and so owe an additional \$3.84. That will leave the investor with \$1080.81 after paying taxes. In order to have \$1080.81

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C, pay total tax at a rate of 40 percent, and be left with an after-tax return of 6 percent. The same logic applies to investors based in countries A and C, except that their after-tax rates of return are different – 7.5 percent and 5 percent.

<sup>109</sup> The investor pays \$40 in taxes to country B and receives a \$15 refund from country A.

<sup>110</sup> The investor pays \$40 in taxes to country B and pays \$10 in taxes to country C.

<sup>111</sup> The maximum price that an investor from country B is willing to pay to make the investment is the same as with universal adoption of a territorial system because for such an investor the transaction is purely domestic and because the before-tax rate of return is assumed unchanged.

in one year after paying taxes, the country A investor has to deposit \$1005.40 in the bank. That is then the most an investor from country A will bid to make the investment. Thus, taxes will discourage investors from country A from making the investment and therefore will place them at a tax-induced competitiveness disadvantage relative to investors from country B.

Similarly, an investor in country C would report \$77.74 in income if the investment was acquired for \$1023.26, pay \$15.35 tax to country B, report a tax liability to country C of \$38.87, receive a tax credit of \$15.35, and so would owe an additional \$23.52 in tax to country C. Thus, the investor will be left with \$1061.13 after paying taxes. To have the same amount in one year after paying taxes, the investor must deposit \$1010.60. Thus, an investor from country C will also be competitively disadvantaged relative to investors from country B.

The reason why investors from countries A and C are disadvantaged relative to investors from country B is because the FTC does not credit implicit taxes, only explicit taxes. Accordingly, a foreign investor from a country with a worldwide tax system is at a disadvantage when competing for a tax-advantaged investment. Such an investor will pay both implicit and explicit taxes, whereas a domestic investor will pay only implicit taxes.<sup>112</sup>

### c. A Mixed System

In the two preceding subsections, I looked at competitiveness when countries coordinated their decision whether to adopt a territorial or worldwide tax system. Specifically, in Section VI.B.1.a., all countries were assumed to use a territorial tax system; and in Section VI.B.1.b., all countries were assumed to use a worldwide tax system. What happens if, as in the world today, some countries use a territorial tax system and other countries use a worldwide tax system?

If countries do not harmonize their choice of a territorial or worldwide tax regime, then there is no choice that a country can make that will guarantee competitive neutrality with respect to all competitors for candidate investments in all possible different locations.<sup>113</sup> Moreover, because competitiveness depends on relative advantage, if an investor enjoys a tax-induced competitiveness advantage somewhere relative to another investor, then that same investor will be at a disadvantage elsewhere relative to that same investor.

## 2. Direct Investments by Conduits: The New Money or Conduit Model

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<sup>112</sup> In a related paper, I intend to describe this problem more fully, emphasizing how a worldwide tax system exposes the United States to the possibility of seeing its competitors disadvantaged by local tax incentives, and then show how to reform the FTC to eliminate the disadvantage. The key is to have the FTC credit implicit as well as explicit taxes.

<sup>113</sup> This is true even for candidate investments with the same EMTR as the benchmark.

The discussion, so far, has looked at competition between investors. The results then apply to direct investments by individual investors and to direct investments by individual investors through wholly transparent pass-through entities. The result will also apply to corporations and other entities that treat retained cash as their own. This section expands that discussion to look at competition across conduits. Thus, this section will draw upon the new money or conduit model.

The old money model ignores the possibility and, in many circumstances, the need to raise funds in order to invest. When competitors need to raise capital, competitiveness increases as the tax burden on such funds decreases. In these circumstances, a competitor with a low EMTR on new capital is likely to have an advantage in competitiveness over competitors with a higher EMTR.

Start easily. If firms do not have to own any of the assets used in the operation of a business, but can lease all of the assets they need, then as long as the tax rules respect the form of these transactions, domestic tax policies, including the decision whether to adopt territorial or worldwide taxation and the setting of tax rates will probably not affect the competitiveness of domestic firms. In effect, if multinational corporations can obtain all of their capital through leases and other financial arrangements that shift taxable income outside of the firms, they will only be taxed on their economic profits.<sup>114</sup> Because such profits are above and beyond an ordinary return, taxing them will not put domestic firms at a competitive disadvantage.<sup>115</sup> Accordingly, whether a country adopts a territorial or a worldwide tax system and the tax rates that it imposes will have little effect on the competitiveness of its corporations.<sup>116</sup>

Few firms, however, can finance all of their investments through arrangements that shift all of the taxable income from new investment outside of the firm. To the extent that firms are looking to finance foreign investment with new equity,<sup>117</sup> then how that investment is taxed will affect competitiveness. If equity investments through a country's firms are taxed more heavily than investments through the firms of other countries, then domestically based multinationals will find themselves at a competitive disadvantage relative to foreign-based multinationals.

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<sup>114</sup> The same argument applies with debt financing.

<sup>115</sup> See discussion in Part V, *supra*.

<sup>116</sup> The same logic and results apply not only to firms that can lease their property. They also apply to firms that can borrow (because interest payments are deductible) or otherwise finance new investment in a manner that shifts the taxable income from the new investment outside of the firm to investors who provide the capital. The conclusion assumes that the cost of such financing, including taxes, is no higher than other available forms of financing.

<sup>117</sup> This includes not only new equity offerings by mature firms, but also initial public offerings (IPOs), stock-for-stock acquisitions and cash acquisitions by private equity investors.

Viewed in this way, the United States' emphasis on worldwide taxation, whereby U.S. multinationals pay tax on their worldwide income and receive a foreign tax credit, increases the cost of capital for U.S. multinationals relative to a system of territorial taxation, whereby the home country exempts foreign income from tax. Because foreign capital providers pay some tax when they invest through U.S. multinational corporations that they do not pay when they invest through foreign multinational corporations based in countries with territorial tax systems, the United States' adoption of a worldwide tax system threatens to reduce the competitiveness of U.S. multinational corporations relative to foreign multinational corporations. Similarly, interest allocation rules that treat some debt as foreign-based raise the cost of debt capital to U.S. firms implicitly by increasing the tax liability of U.S. firms.<sup>118</sup> Also, the United States's 30 percent withholding tax on dividends paid to foreign equity investors raises the cost of equity raised from abroad.<sup>119</sup> The combined effect of these rules is to reduce the competitiveness of U.S. multinational corporations relative to that of foreign multinational corporations by raising the cost of capital to U.S. firms by taxing some of that return.

### 3. Relationship to Capital Ownership Neutrality

For many years, the tax law and policy literature has been filled with discussions of the impact of U.S. cross-border taxation on the competitiveness of U.S. firms relative to their foreign rivals. In contrast, economists writing about cross-border taxation have all but ignored issues of competitiveness. However, in a series of recent articles, Professors Mihir Desai and James Hines, two economists, have proposed Capital Ownership Neutrality (CON) as a welfare benchmark to be used in international tax law.<sup>120</sup> Whether offered as a substitute for or supplement to the old standard bearers of capital export neutrality (CEN) and capital import neutrality (CIN), Desai and Hines argue that CON has important welfare implications and can be satisfied by global adoption of either territoriality or worldwide taxation with the choice of tax rates left up to the home country.

Looked at from the perspective of competitiveness neutrality, Professors Desai and Hines focus on only one of the two models of competitiveness neutrality and therefore not on all of the requirements for competitiveness neutrality. Their argument is an application of the investor or old money model. They further assume that for all investors the candidate investment is subject to tax at the same effective marginal tax rate (EMTR) as the benchmark asset. Such an argument does not establish that universal adoption of either territorial or worldwide tax systems (regardless of tax rates) ensures competitiveness neutrality because it ignores the possibility of

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<sup>118</sup> IRC Section 864(e).

<sup>119</sup> IRC Sections 871(a)(1) and 881(a)(1) (imposing a 30 percent tax on dividends from U.S. sources paid to foreign individuals and corporations).

<sup>120</sup> E.g., Mihir A. Desai & James R. Hines, Jr., Evaluating International Tax Reform, 41 National Tax Journal 487 (2003).

financing investments and the use of tax incentives.

First, the claim by Professor Desai and Hines that CON is satisfied by universal adoption of either a territorial or worldwide tax system ignores the possibility and, in many circumstances, the need to raise (equity) funds in order to invest.<sup>121</sup> When competitors need to raise (equity) capital, competitiveness increases as the tax burden on such funds decreases. In these circumstances, a low EMTR on new (equity) capital is likely to provide an advantage in competitiveness. Thus, universal adoption of a territorial tax system can satisfy CON regardless of tax rates; universal adoption of a worldwide tax system can satisfy CON only if tax rates are harmonized.

There is a second problem with the claim by Professors Desai and Hines that a worldwide tax system can satisfy CON. That problem arises when the country where an investment is located provides a tax incentive. In such a case, because the FTC does not credit implicit taxes, only explicit taxes, the home country investor (whether a conduit entity or an investor investing its own funds) is disadvantaged. Such an investor will pay both implicit and explicit taxes, whereas a domestic investor (or one based in a country with a territorial tax system) will pay only implicit taxes. In such a case, CON requires revising the FTC to credit implicit taxes.

#### 4. Summary

When looked at through the lens of competitiveness neutrality, neutrality requires the same EMTR across competitors on new investment funds. Accordingly, a conduit entity that can provide investors with a lower EMTR than its competitors will have a tax-induced competitiveness advantage. Absent the universal (or at least widespread) adoption of worldwide taxation, countries that want to be sure that their multinational corporations are not competitively disadvantaged by their own tax policies will tend to favor territorial taxation over worldwide taxation (especially with a limited FTC). They will also tend to favor low tax rates, either generally or on income that will be paid out to foreign investors. Such countries will also want to take steps to ensure that foreign tax incentives are not offset by domestic taxes. That can be achieved either through a territorial tax system or with a worldwide tax system by revising the FTC to credit implicit taxes.

## VII. Conclusion

The language of competitiveness, which includes such well worn phrases as “a level playing field” is powerful and persuasive. Because that language appeals to widely held and deeply-seated intuitions it frequently influences policy, especially tax policy. My goal in this

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<sup>121</sup> Professor Mitchell Kane has also made this observation.

paper is to bring more economic rigor to the study of how taxes affect competitiveness.

Accordingly, in this paper, I have examined the relationship between taxes and competitiveness. I develop two models for assessing whether a party enjoys a tax-induced advantage (or disadvantage) in competitiveness: the conduit or new money model and the investor or old money model. The conduit or new money model applies when competitors raise the money to invest; the investor or old money model applies when competitors invest their own money. When competitors raise the money that they invest, competitiveness neutrality requires that the tax cost of new investment funds are equal. When competitors raise the money that they invest, it is not necessary that the tax cost be equal across investors. Instead, the dollar value of tax incentives and disincentives must be equal across competitors.

The failure to recognize the existence of these two models and to understand the relationship between them has produced misguided policies in important areas of the tax law, including the taxation of not-for-profit entities and the taxation of cross-border transactions. For example, the UBIT is based on the mistaken belief that not-for-profit entities have a tax-induced competitiveness advantage over for-profit entities because of the former's exemption from tax. Such a belief can be viewed as incorrectly applying the conduit model instead of the investor model to not-for-profit entities. The investor model applies to not-for-profit entities because they cannot raise equity. Similarly, Professor Hines and Desai's concept of capital ownership neutrality (CON) and their argument that universal adoption of either a territorial or a worldwide tax system with any rate structure will satisfy CON also confuses the two models, but in the opposite direction. Their argument is derived solely from the investor model without considering the conduit model. Thus, in a world, such as ours, with relatively open capital markets, their analysis ignores, for example, the competition between multinational corporations based in different countries.

A better understanding of the relationship between taxes and competitiveness will do more than allow academics to recognize past policy mistakes. It can also help policymakers to develop policies. By recognizing that there are two different and distinct models of how taxes impact competitiveness, by familiarizing themselves with the key differences between the models, and by understanding when each one is appropriate, policymakers should be able to produce better and more balanced tax policies in these and other important areas of the tax law.

Finally, much work remains to be done. The two most obvious gaps to me are the lack of empirical work on how taxes affect competitiveness and the systematic working out the relationships between existing tax doctrines, popular transactional structures, and competitiveness.