TAX MANAGEMENT

MEMORANDUM

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Xilinx, Stock-Based Compensation and the Realistic Alternatives Principle

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INTRODUCTION

The majority opinion of the United States Court of Appeals for the Ninth Circuit in *Xilinx v. Comr.*[2] found that the arm's-length requirement of Regs. §1.482-1(b)(1) [3] and the requirement in Regs. §1.482-7(d)(1) that, in an intercompany cost sharing arrangement (CSA), all costs relating to the development of intangibles be shared are irreconcilable.[4] The majority ruled in favor of the IRS based on the finding that in such instances, the more specific of the two regulations (in this case, Regs. §1.482-7(d)(1)) controls. In coming to its conclusion, the Ninth Circuit took as given the uncontested factual finding in the August 2005 Tax Court opinion that unrelated parties do not — and, in fact, would not — share employee stock option costs. The Tax Court and Ninth Circuit opinions both extended this finding to mean that sharing of employee stock option costs in intercompany CSAs would be contrary to the arm's-length principle enunciated in Regs. §1.482-1(b)(1).

If this finding is correct, the current temporary cost sharing regulations, embodied in Regs. §1.482-7T, appear to be at odds with the arm's-length standard. Needless to say, if this finding were true, it could be problematic with respect to CSAs between U.S. taxpayers and their affiliates that reside in countries that have tax treaties with the United States and could lead to increased risk of double taxation.

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[1] The views expressed in this paper are those of the author only, and do not necessarily reflect the views of Ceteris US, LLC or any of its employees other than the author.

[2] 567 F.3d 482 (9th Cir. 2009), *rev'g* 125 T.C. 37 (2005).

[3] Except as otherwise provided, all statutory references are to the Internal Revenue Code of 1986, as amended; and all regulatory references are to the regulations issued thereunder by the Treasury Department.

[4] I will, for the remainder of this discussion, refer to the views expressed in the majority opinion as being those of the Ninth Circuit. There was a strong dissent from the majority opinion that was written by Judge Noonan. When I refer to the opinions expressed by the Ninth Circuit, it should be understood that I do not mean to circumscribe such opinions to Judge Noonan.

Without weighing in on the specific merits of the evidence in the *Xilinx* case, it is erroneous to conclude that some sharing of employee stock option (ESO) costs is inconsistent with the arm's-length standard in many cases. My thoughts on this matter are contrary to the findings of the Tax Court and the Ninth Circuit for two reasons:

- I believe that great care should be taken when one tries (as the Ninth Circuit — and indeed the Tax Court — did) to infer that *behavior* between third parties in very broadly similar (but not comparable) agreements is indicative of what an arm's-length *result* would be in an intercompany CSA.
- I believe that the arm's-length standard would require the inclusion of some measure of ESO costs in a ''standalone''[5] CSA, though in typical cost sharing structures (which involve not only cost sharing transactions, but compensation for previously developed intangibles that are important to the intangible development activity covered by the CSA) one could structure arrangements that would meet the arm's-length standard but nonetheless did not share ESO costs.

COMPARABLE BEHAVIOR VERSUS RESULTS FROM A COMPARABLE TRANSACTION

In coming to the conclusion that the sharing of ESO costs is at odds with the arm's-length standard, the Ninth Circuit, like the Tax Court, relied heavily on the following clause in Regs. §1.482-1(b)(1):

> A controlled transaction meets the arm's length standard if the results of the transaction are consistent with the results that would have been realized if uncontrolled taxpayers had engaged in the same transaction under the same circumstances . . . However, because identical transactions can rarely be located, whether a transaction produces an arm's length result *generally will be determined by reference to the results of comparable transactions under comparable circumstances*. (Emphasis added.)

The language in Regs. §1.482-1(b)(1) offers explicit recognition that identical agreements will likely not be available. Therefore, the test of whether or not a controlled transaction meets the arm's-length standard will generally be determined by reference to *results* of *comparable* transactions under *comparable* circumstances. It is important to note that Regs. §1.482-1(b)(1) specifies that whether a transaction or arrangement satisfies the arm's-length standard is tested by comparing intercompany and unrelated-party results and not — as the Ninth Circuit asserted — by comparing intercompany and unrelated-party behaviors.[6]

In thinking about the factors that would be important for determining whether a transaction is comparable to a controlled cost sharing transaction, the following considerations (among others) are relevant:

1. When examining a cost sharing transaction in isolation (i.e., as a transaction separable and separate from a buy-in transaction), the only consideration exchanging hands is the cost sharing payment. This is important because in an isolated cost sharing transaction, no other mechanism (besides the cost sharing payment) exists for recovery of the allocable value of services provided by the party or parties undertaking the development. For the sake of simplicity, the analysis going forward will be restricted to a controlled CSA that relates to ''green field'' development. Green field development means the development of completely new intangible assets (i.e., not based on pre-existing intangibles or other non-routine contributions).[7] In a green field CSA, the cost sharing transaction is the only transaction between the related parties that is relevant to the analysis.

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[5] When this article refers to a ''standalone'' CSA, it simply means a CSA that is an isolated transaction (i.e., a transaction that is not an integrated part of an overall transaction that also includes other elements such as a licensing agreement that grants rights to pre-existing intangibles).

[6] The majority opinion incorrectly stated ''Section 1.482-1(b)(1) specifies that the true taxable income of controlled parties is calculated based on how parties operating at arm's length would behave.'' 567 F.3d at 488.

[7] I certainly recognize that few, if any, intercompany CSAs cover green field development. Most intercompany CSAs require a simultaneous agreement granting rights to intangibles already developed by one or more of the parties to the cost sharing agreement. Therefore, most CSAs involve not only cost sharing payments, but also payments to compensate for access to pre-existing intangibles (''buy-in payments'' under the prior cost sharing regulations, ''Platform Contribution Transaction Payments'' or ''PCT payments'' under the temporary cost sharing regulations). If one considers a cost sharing transaction combined with a buy-in transaction, one could potentially capture value associated with services provided under the cost sharing transaction through the buy-in payment. One easy illustration of this can be constructed under the income method specified as a method for PCT payments in Regs. §1.482-7T(g)(4). Under this method, inclusion of stock option expense in projected cost sharing payments (and therefore as a reduction to projected residual income) would decrease the buy-in payment. Theoretically, one could construct a position where both the PCT payor and PCT payee would be indifferent to the inclusion of stock option expense because total consideration paid would, on an expected net present value basis, be identical with or without the inclusion of stock options in the intangible development cost base. For purposes of this paper, I am going to

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2. Most intercompany CSAs cover development efforts where one party performs a preponderance of the work. This certainly appears to be the case in *Xilinx* given the relative number of employees at Xilinx and Xilinx International that were engaged in R&D activities (Xilinx had 300-400 employees engaged in R&D activities during the years at issue, Xilinx International had less than 20). This is important because it means that in typical intercompany CSAs, one party bears a preponderance of employee stock option expense. Suppose that development efforts were shared equally among cost sharing participants (and, more specifically, stock option expense burden associated with development efforts were incurred as an initial matter equally among the parties to the CSA). Assume also that parties are equally sharing in the benefits derived from the intangibles generated by cost sharing. In this situation, parties might not care about sharing employee stock option expense because the end result of sharing such expense would be identical (in expectation) to the end result of not sharing the expense. [8]

Regs. §1.482-1(d)(2) provides a standard for comparability:

> In order to be considered comparable to a controlled transaction, an uncontrolled transaction need not be identical to the controlled transaction, but must be sufficiently similar that it provides a reliable measure of an arm's length result. If there are material differences between the controlled and uncontrolled transactions, adjustments must be made if the effect of such differences on prices or profits can be ascertained with sufficient accuracy to improve the reliability of the results.

Regs. §1.482-1(d)(3)(i) and (ii) note that functional comparability and comparability in contractual terms (including the presence or absence of collateral transactions) are important considerations in determining comparability between the controlled and uncontrolled transactions.

Given this background, in order to establish comparability for purposes of evaluating a green field CSA where one party performs the preponderance of the development work, one would need to find joint development agreements between unrelated parties that involve the sharing of costs and benefits of green field intangible development between unrelated parties where one party does the preponderance of the development work. If purportedly comparable agreements include collateral transactions or involve situations where parties share in the development effort more equally, one cannot take the observed behavior that unrelated parties do not share stock option expense in such agreements as evidence that not sharing ESO costs in intercompany CSAs meets the arm's-length standard.

Xilinx was able to present undisputed evidence showing that unrelated parties do not share ESO costs in collaborative development arrangements. There may be compelling reasons (which were put forth by Xilinx's experts) that unrelated parties might not do so, including:

- The inability to manage or control the cost associated with the options (particularly when the measure of cost is established at exercise based upon the spread between market and exercise price), and
- The difficulty of valuing the options (particularly when value is determined at the grant date), which might make it hard for parties to agree on a value.

The fact that unrelated parties do not enter into contracts that explicitly address the sharing of ESO expense does not mean that the ESO expense would not affect the terms to which those parties agree. As long as the companies granting the ESOs view them as a cost to the company, ESOs would likely be taken into account in coming to agreement on the terms of the deal. The lack of any contract terms explicitly dealing with ESO costs could simply reflect the parties' preference to base the contract on variables that do not have the problems inherent in attempting to grapple with some of the issues relating to ESO expense.

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treat the buy-in transaction as completely separable from the cost sharing transaction at least as it relates to the stock option expense issue. If the full value of expected employee stock option expense borne by the party undertaking the development activity is conveyed through a buy-in or PCT payment, I would certainly agree that those expenses would not enter the CSA. I do not know the structure of Xilinx's buy-in payment. Based on my experience with cost-sharing arrangements during the period of time covered in the *Xilinx* case, I think it is safe to assume that most buy-in payments were not designed to be a mechanism for addressing the value of stock options given to employees that were undertaking the development effort. Therefore, while my use of a green field CSA is inconsistent with typical intercompany CSAs, it is merely a way of illustrating a point that would likely apply more generally even in the presence of pre-existing intangible contributions.

[8] For example, assume that USP and its subsidiary FS, each of which had an R&D workforce, entered into a CSA to develop an intangible that was likely to generate an equal amount of income to each on a projected present value basis. Assume also that each incurred $100 of salary and $30 of other intangible development costs each year and that ESO costs for each entity were calculated to be approximately 15% of direct salary costs. Whether the ESO costs were included in the CSA cost pool or not would not affect the ultimate amount that each party would bear in connection with the CSA.

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As a simple illustration ("Example 1"), suppose that two companies ("ABC Corp" and "XYZ Corp") decide to undertake a collaborative development agreement. Assume, for ease of argument, that the project covered by the agreement will be green field research. Assume also that all of the R&D effort will be undertaken by XYZ Corp. XYZ Corp pays its employees in both cash and ESOs. XYZ Corp and ABC Corp could enter into a contract that required each party to fund 50% of the development costs (not including the cost of ESOs). In such a case, however, XYZ Corp would require an interest in the developed intangibles that was greater than its 50% of the (non-ESO) costs in order to bring the benefit shares (i.e., the profit shares) into line with the percentage of the development effort funded by each company. Suppose that XYZ Corp estimates that the allocable value of ESOs given to personnel associated with the joint development project was equal to the non-ESO costs. In this case, XYZ Corp would believe that the value of the stock options given to the employees involved in the project would have caused it to bear 75% of the overall project costs (given that it was bearing 50% of the non-ESO costs and 100% of the ESO costs). By entering into a contract that gives 75% of the profit rights to XYZ Corp while requiring it to pay only 50% of non-ESO costs, the parties have "contracted around" the ESO cost issue — the contract does not share ESO costs between XYZ Corp and ABC Corp. The contract could also have required ABC Corp to bear 100% of the non-ESO costs, but divided the profit equally. Needless to say, there are infinite combinations of contractual terms that would yield an allocation of benefits that are equal to the allocation of the cost burden (including options). Many of these combinations would not require an explicit split of the cost of ESOs, but would nonetheless reflect the value of ESOs implicitly. If, as a management matter, it is preferable to contract around ESOs, and if the tools are available to do so (in this case, by adjusting the profit share), unrelated parties will do just that. If one accepts that there are practical reasons to avoid attempting to deal directly with ESO costs and if one takes as given that the contracting parties agree that ESOs have some non-zero costs to the granting parties, parties will have contracts that (i) do not share ESO costs but (ii) nonetheless reflect these costs implicitly.

Example 1 shows a situation where this third-party agreement meets the important comparability criteria spelled out above — it is a green field arrangement, and one party performs the preponderance (in this case all) of the development effort. If this agreement were being evaluated as a comparable, one might be tempted to conclude, based strictly on the observed behavior of not sharing ESO costs in the agreement, that the comparable demonstrates that parties do not share ESO costs at arm's length. However, such observed behavior does not mean that not sharing ESO costs yields an arm's-length *result* in a typical intercompany CSA. Under both the new and the old cost sharing regulations, CSA participants are supposed to split the intangible development cost pool in proportion to the reasonably anticipated benefits (RAB) that each will derive from exploiting the intangible. The metrics used to determine RAB share would not allow for the type of split agreed to between ABC Corp and XYZ Corp in Example 1. Therefore, the form of the intercompany CSA makes it so that the behavior reflected in the intercompany agreement is different from that observed in the third-party agreement in order to ensure that the results of the intercompany transaction meet the arm's-length standard. In the comparable agreement, explicit sharing of ESO costs is not arm's-length *behavior*, but sharing (or, alternatively, incorporating into the profit split) the ESO cost is reflected in the arm's-length *result*.[9]

Dr. Scott Newlon, the IRS's expert economist in *Xilinx*, argued just this point — that unrelated parties would negotiate terms that implicitly compensate development costs not directly shared or reimbursed. The Tax Court noted that Dr. Newlon "did not present any credible evidence that unrelated parties implicitly share the spread or grant date value related to ESOs." In my experience, publicly available joint development agreements would rarely, if ever, allow one to test this theory. Agreements like the arrangement in Example 1 are, in my experience, non-existent. In my experience, the vast majority of collaborative agreements that are accessible publicly involve situations in which one or both of the following are present:

- One or more of the parties makes valuable non-routine contributions to the agreement. The compensation (or lack thereof) for these contributions provides another mechanism by which parties could implicitly compensate the developing party for the value of ESOs granted to the developing party's (or parties') workforce. Suppose that Example 1 is modified so that ABC Corp. makes a non-routine contribution that is equal in value to

[9] Appreciating the difference between an arm's-length result and arm's-length behavior is extremely important when analyzing transfer pricing issues — firms frequently engage in intercompany transactions that do not occur in nature. This is not simply a matter of empirical observation. Ronald Coase's seminal 1937 article "The Nature of the Firm" posited that corporations exist, in part, to avoid high transaction costs that would be associated with entering into certain types of transactions in an open market. Under this construction, one would necessarily expect to see intercompany transactions that are not observable in the open market. *See* Ronald Coase, "The Nature of the Firm," *Economica* 4(16), 386-405 (1937).

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ISSN 0148-8295

the expected value of ESO compensation that XYZ Corp provides to the development workforce. In this case, ABC and XYZ might come to an agreement that splits non-ESO costs equally and which splits profits equally. Once again, however, the ESO costs have been taken into account implicitly; and

- Both parties to the agreement perform material amounts of development. As discussed previously, as the share of the development activity moves towards alignment with the benefit shares or profit splits under the agreement, and if both parties use ESOs to a similar extent to compensate personnel engaged in the development effort, the results when ESO costs are shared moves toward alignment with the results when they are not.

Based upon my brief review of Table 1 from Dr. Scott Newlon's rebuttal report in the Tax Court case, it certainly appears as though the agreements advanced by Xilinx's expert Dr. Mukesh Bajaj exhibited these characteristics.[10] This is certainly consistent with my experience of the types of agreements that are available in the public domain. Given the paucity of data available with respect to agreements in the public domain, I would not expect anyone to be able to test the theory of implicit inclusion advanced by Newlon. The fact that the theory is untestable does not make it untrue.

I believe that, given the nature of agreements and information available in the public domain, one likely cannot use publicly available information to affirm or to rebut the hypothesis that ESO costs should be shared in an intercompany CSA under the arm's-length standard.

One useful tool that is available is the realistic alternatives principle.

FAILURE TO SHARE ESOs IN INTERCOMPANY COST SHARING AGREEMENTS COULD VIOLATE THE REALISTIC ALTERNATIVES PRINCIPLE WHEN ONE PARTY PERFORMS A DISPROPORTIONATE AMOUNT OF THE DEVELOPMENT EFFORT

Under Regs. §1.482-1(f)(2)(ii), the IRS is required to evaluate the results of a transaction as actually structured by the taxpayer unless the structure lacks economic substance. In making this evaluation, the IRS

> . . . may consider the alternatives available to the taxpayer in determining whether the terms of the controlled transaction would be acceptable to an uncontrolled taxpayer faced with the same alternatives and operating under comparable circumstances. In such cases, the district director may adjust the consideration charged in the controlled transaction based on the cost or profit of an alternative as adjusted to account for material differences between the alternative and the controlled transaction . . .

''The realistic alternatives principle'' (as it is called in the temporary cost sharing regulations) reflects a basic tenet of economic theory — economic entities will select the course of action that is expected to provide the greatest benefit among the potential alternatives. The purported arm's-length result (i.e., not sharing ESO costs in CSAs) violates this fundamental economic principle in many instances as long as we accept that ESOs are a cost to the issuing company.[11]

Unless conditions exist that would make parties indifferent to sharing or not sharing ESO costs, failure to share these costs in some manner would fundamentally violate the realistic alternatives principle.

In order to illustrate this point, consider Example 2. Suppose that a firm (''Corp 123'') is contemplating a new research project. Assume for this purpose that the project is green field intangible development. Further assume that Corp 123 has no particular advantages in

[10] Dr. Newlon presented several dimensions of comparability that he believed important for evaluating the comparability of the 11 agreements used by Dr. Bajaj. This paper focuses on only two factors (collateral transactions and preponderance of efforts) because I believe these factors can be used to easily illustrate my point. It is not meant to imply that these are the only important comparability factors.

[11] Please note that in this paper, I am assuming that ESOs are a cost to the issuing company. If one believes that stock options were truly costless, then it would of course follow that ESOs with a cost of zero would not require sharing. It is true that many business people publicly professed this belief in the years leading up to the years at issue in the *Xilinx* case. During these years, there was a fierce battle over whether or not the Financial Accounting Standards Board (FASB) should require companies to include an estimate of stock option expense in their reported income. The professed belief that stock options were costless was generally advanced by professionals that had a vested interest in the outcome of this issue. It is hard to see how these options could have been seen as costless given that they had a non-zero probability of being exercised and given that their exercise would have negative cash flow or opportunity cost implications for the issuing corporation. ESOs would have negative cash flow implications if the corporation paid out the spread on the exercise date (rather than delivering the stock). If, instead, the corporation provides a share to the employee upon exercise of the ESO, and if the strike price set in the ESO is less than the market price at exercise, then the ESO has had an opportunity cost to the corporation, as the corporation could have received a higher price for the share of stock in the marketplace than it received from the exercising employee.

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ISSN 0148-8295

identifying or executing the intangible development project. Under this set of assumptions, and under an assumption of a perfectly competitive marketplace for development opportunities, one might expect the development project to have expected cash flows (which would include expected cash flows or opportunity costs associated with ESOs that were granted to the development workforce) and risks such that the net present value (NPV) of expected cash flows is zero for the project.

Now suppose another company (''Corp 789'') offers to enter into a joint development agreement with Corp 123. Corp 789 offers to fund 50% of the Corp 123's development effort (excluding any measure of cost or cash outlays associated with ESOs that Corp 123 gives the development employees) in exchange for 50% of the project cash flow.

Corp 123 now has three alternatives available to it:

1. Do nothing (NPV=0);
2. Do the project on its own (NPV=0); or
3. Enter into the joint development agreement with Corp 789 (where ESO cash flows or opportunity costs will not be shared).

Under the assumption that the overall project is a zero-NPV opportunity, option three is necessarily a losing proposition for Corp 123. As a profit maximizing entity, Corp 123 would not pick alternative three — alternatives one and two are preferable. The blanket statement that ESOs should never be shared in intercompany cost sharing agreements is analogous to requiring Corp 123 to pick alternative three. Such an arrangement is fundamentally at odds with any result that would come out of an arm's-length arrangement between profit maximizing entities under the circumstances I have set forth in this example. This example can be amended to relax the green field restriction and other assumptions (so that, for instance, the value of alternative two is non-zero). In any case, if Corp 123 is funding all of the ESO costs under alternative three (and is not implicitly compensated for such costs under a collateral transaction), alternative three will always be inferior to alternative two.

There may be ways in which intercompany CSAs (in concert with agreements associated with PCTs) could be structured so that an arm's-length result would obtain even in the absence of an explicit sharing of ESO costs. When entering into CSAs and simultaneous buy-in or PCT transactions, one should be careful to conclude that the results of the totality of transactions failed to meet the arm's-length standard merely by virtue of the fact that ESO costs were not shared. In much the same way that third parties may have structured their agreements to exclude ESO costs but nonetheless may have implicitly included them in determining other terms, taxpayers may have (implicitly or explicitly) done the same in structuring their arrangements.

In any case, if one party performs a disproportionate amount of the development effort and if ESOs indeed have negative cash flow or opportunity cost implications (with some non-zero probability) the realistic alternatives principle holds that the net result of the CSA arrangement (perhaps in concert with the PCT transaction) would need, at least implicitly, to reflect some sharing of the value of the ESO costs.

For these reasons, I believe that the regulations in the existing cost sharing guidance under Regs. §1.482-7T need not necessarily be viewed as being contrary to the arm's-length standard. Some ESO cost sharing can be part of a transaction that meets the arm's-length standard (and, in fact, under certain assumptions, such inclusion would be required by the realistic alternatives principle).

One final point to make is that I am not endorsing (or refuting) the measure of stock-based compensation costs that is embedded in the temporary regulations as meeting the arm's-length standard. Under Regs. §1.482-7T(d)(3), taxpayers are expected to include stock-based compensation costs in cost sharing pools in the same amount and at the same time that deductions are taken on the tax return. Companies with publicly traded stock are permitted alternatively to include option expense at the time that the options are granted at the same amount that is included in the companies' income statement for GAAP purposes. I do not know whether or not this measure of expense would be the amount shared in a green field CSA between unrelated parties. This is an important area that is worthy of further investigation and analysis. With respect to grant date valuations for public companies, typical models employed in GAAP-based valuation may not correctly value the true opportunity costs of ESOs.[12]

CONCLUSION

Although the Ninth Circuit did not review the Tax Court's factual finding in *Xilinx* that, at arm's length, uncontrolled parties that jointly develop intangibles

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[12] Consider the case of Zions Bancorporation, which in 2006 and 2007 auctioned instruments (Employee Stock Option Appreciation Rights, or ''ESOARS'') intended to mimic employee stock options. Zions Bancorporation ESOARS sold at considerable discounts relative to the values derived from common pricing models used for GAAP reporting purposes. *See* Mazumdar, Sumon, Vikram Nanda, and Rahul Surana, 2007, ''Using Auctions to Price Employee Stock Options: The Case of Zion's Bancorporation ESOARS,'' working paper available at http://ssrn.com/abstract=967477.

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ISSN 0148-8295

would not share relevant ESO costs, that finding is certainly questionable from an economic standpoint. The lack of empirical evidence of explicit sharing of ESO costs by unrelated parties may simply reflect that the practical difficulties in measuring ESO costs as they relate to a given intangible development project has led uncontrolled parties to use more manageable methods or more easily negotiable formulas to share the ultimate economic burden of those costs. Application of the realistic alternatives principle in the §482 regulations leads to the conclusion that, for most intercompany CSAs, ESO costs need to be taken into account either explicitly or implicitly (through the buy-in or PCT transaction). Nonetheless, further thought and analysis are necessary to determine whether the measure of stock-based compensation costs used in the cost sharing regulations is consistent with the arm's-length standard.

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ISSN 0148-8295