

WHAT YOU SEE IS NOT WHAT YOU GET: COST SHARING BUY-IN PAYMENT ISSUES IN THE IRS APA TRAINING MATERIALS

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INTRODUCTION

In October 2002, the Internal Revenue Service (the “Service”) reissued its revised Advanced Pricing Agreement (APA) training materials.¹ In these materials, the Service offers a detailed discussion of various methods used for estimating cost sharing buy-in payments.

The training materials say very little, however, about (1) the type of value these methods actually measure and (2) the context in which these methods should be applied. The methods are presented based on the premise that they accurately estimate the price that unrelated parties would negotiate in a transfer of intangible assets under conditions that are similar to cost sharing agreements.²

To put this presentation of the Service in the proper context, this article summarizes (1) the major components of a qualified cost sharing arrangement and (2) the methods the Service suggests can be used to value intangible property for the purpose of computing a buy-in payment.

As each method is discussed, the key valuation issues—and their respective analytical implications—are highlighted.³

COST SHARING OVERVIEW

A “cost sharing arrangement” or a “cost contribution arrangement” is the formal structure of an intercompany relationship entered into by two or more related parties in which the parties agree to share the costs of developing valuable property, usually intangible property.⁴

Cost sharing arrangements enable related parties to pool their financial resources to develop the covered intangible property. The intangible property, in turn, can be exploited by each cost sharing participant in accordance with the terms and conditions of the agreement.

A cost sharing arrangement is implemented through a formal agreement among the participants that delineates each participant’s obligations and rights. Typically, the cost sharing agreement also specifies:

1. the development efforts that will be collectively funded,
2. the monetary contributions of each participant, and
3. the rights to the resulting intangible property that are assigned to each participant.

In the United States, “qualified” cost sharing arrangements are governed by Treasury Regulation Section 1.482–7. According to Regulation Section 1.482–7(a)(1), the participants in a qualified cost sharing arrangement must share the development costs of the covered intangible property “in proportion to their shares of reasonably anticipated benefits from their individual exploitation of the interests in the intangibles assigned to them under the arrangement.”

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REASONABLY ANTICIPATED BENEFITS

In a qualified cost sharing arrangement, a participant’s share of costs must be calculated on a basis that reasonably reflects the participant’s share of the anticipated benefits. According to Regulation 1.482, “anticipated benefits” are defined as the expected incremental revenues generated—or costs saved—from the use of the intangible property developed under a cost sharing arrangement.

A participant’s share of anticipated benefits, therefore, is equal to (1) its individually anticipated benefits divided by (2) the sum of the anticipated benefits of all the parties bound by the cost sharing arrangement.

The anticipated benefits of a cost sharing arrangement can be measured directly or indirectly.

The direct method of analysis is less frequently used by analysts due to forecasting constraints. The direct method of analysis involves directly estimating (1) the additional income to be generated or (2) the costs to be saved by the use of the covered intangible property.

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The more common indirect method of analysis estimates anticipated benefits by reference to certain benchmarks. These benchmarks, which are reasonably related to the revenue generated by—or the costs saved from—the exploitation of intangible property, include the following:⁵

1. units used, produced, or sold by each participant;
2. volume sales or operating profit earned by each participant; and
3. other bases of measurement that are reasonably related to the revenue generated or costs saved from the use of the covered intangible property, such as gross profit or number of employees.⁶

BUY-IN PAYMENTS

As part of a cost sharing arrangement, intangible property already developed and owned by one participant is often made available to the other participants. In this case, the cost of this “pre-existing” intangible property is not included in the pool of costs to be shared on an ongoing basis. Rather, the rights to the pre-existing intangible property are purchased through a “buy-in payment.”⁷

A buy-in payment is compensation for a cost sharing participant’s ownership interest in intangible property developed by the participant prior to entry into the cost sharing arrangement. That is, the rights to this pre-existing intangible property are purchased by the other cost sharing participants through the buy-in payment.

In contrast, any intangible property developed collectively through the cost sharing arrangement is funded through the sharing of development costs on an ongoing basis.

According to Regulation 1.482-7(g)(7), the buy-in payment can be structured as a lump sum payment, installment payments, level royalties, or declining royalties. The regulations do not dictate the specific form in which the buy-in payment must be paid. Rather, any of the four structures set forth by Regulation 1.482-7(g)(7) are acceptable as long as the net present value of the total payments under each structure are equivalent.

METHODS OF ANALYSIS

The Service training manual presents the following five methods to value pre-existing intangible property for the purposes of calculating a buy-in payment:

1. the market capitalization/acquisition price method,
2. the discounted future benefits method,
3. the residual profit split method,
4. the declining royalty method, and
5. the capitalized expenditures method.

All of these valuation methods are commonly used. However, within the context of the Service’s training materials, they present certain analytical shortcomings from the perspective of valuation theory. These shortcomings become apparent when the following questions are asked:

1. Are the methods, as presented by the Service, vague about (a) the property being valued and (b) the bundle of property rights being valued?
2. Do the methods promote the use of financial data in a consistent manner?

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MARKET CAPITALIZATION METHOD AND ACQUISITION PRICE METHOD

The market capitalization and acquisition price methods⁸ are, in principle, ways of arriving at a “CPM-like” result. Thus, these two “cookbook approaches,” if applied generically, could materially overstate the value of the buy-in payment.

According to the Service training materials, the market capitalization method begins with the total market value of a company, calculated as the market value of the company’s equity (i.e., the company’s market capitalization). This total market value is a function of (1) the company’s stock price plus (2) the value of the company’s liabilities.

Next, the value of the company’s tangible assets is subtracted from the total value of the company. The difference results in the total value of the company’s intangible assets.

Finally, the value of any intangible assets that are not transferred (or not transferable under Regulation 1.482)⁹ is subtracted from the total value of the company’s intangible assets.

The final result represents the lump-sum value of the company’s pre-existing intangible property that, in principle, will be contributed to the cost sharing arrangement.

One variation of the market capitalization method, as presented in the training materials, is the acquisition price method of analysis. The acquisition price method can be applied whenever a cost sharing participant (1) acquires a “target” company and (2) subsequently makes some or all of the target

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company's pre-existing intangible property available to the other participants of the cost sharing arrangement.

In such a case, the value of the target company is reasonably represented by the purchase price of the transaction, provided that the transaction was negotiated on an arm's-length basis.¹⁰ This value can, therefore, be used as the starting point of the analysis—in lieu of the target company's market capitalization.

The market capitalization method and the acquisition price method have several analytical advantages over other methods of analysis. For instance, unlike other methods of analysis, the market capitalization method does not rely on subjective assumptions regarding the company's cost of capital, financial projections, or the useful life and amortization schedule of the pre-existing and in-process intangible property.

Moreover, these methods share in some of the comparability advantages of a comparable uncontrolled transaction (CUT) method. This is because the company's stock price is essentially a price paid by unrelated parties for the pre-existing intangible property (along with the company's other assets).

The market capitalization method, however, also has several drawbacks:

- First, at any given moment of time during the useful life of the contributed property, the taxpayer must determine if the earnings capacity of the company is sufficient to support the value of the assets in the balance sheet.
- Second, some valuation analysts believe that the market price of a company's stock does not necessarily reflect the value of the company's assets.¹¹ Rather, the stock price reflects expectations about (1) the future performance of a company or (2) other speculative factors unrelated to the company's financial performance, such as future price movements.

This problem can be somewhat mitigated (but not solved) by "smoothing out" stock price fluctuations. The smoothing out procedure uses an average stock price over a reasonable time period around the buy-in date.

The acquisition price method circumvents some of these issues. This is because the acquisition price method does not rely on a company's stock price behavior in computing the value of the company.

However, the acquisition price of a target company does not necessarily represent the value of the target company's

assets within the context of a cost sharing arrangement. This is true unless a transfer to the cost sharing arrangement was envisioned for these assets during the acquisition process. Rather, the acquisition price in a transaction usually reflects, in part, the value of the unique strategic and synergistic benefits gained by the acquiring company.

- Third, estimating the market value of a company's tangible and monetary assets, especially if some of these assets are in foreign jurisdictions, could create some measurement problems. Since the book value of a company's tangible assets are a statement of accounting value rather than a representation of economic value, the market value of a company's tangible assets is often grossly understated on the company's balance sheet. This issue is discussed in greater detail in an article on the DHL case also presented in this issue of *Insights*.

According to generally accepted valuation principles, there are several asset-based, income, and market approach methods that can be used

to estimate the market value of tangible assets. While a discussion of these methods is beyond the scope of this article, these methods should be evaluated to ensure that they are consistently applied.

- Fourth, it is difficult to isolate and separately value the pre-existing intangible assets that are not contributed to the cost sharing arrangement.

For instance, companies do not typically contribute trade secrets to a cost sharing arrangement. Furthermore, certain intangible assets, such as a trained and assembled workforce, goodwill, and going-concern value, are not considered intangible property pursuant to Regulation 1.482-4(b). Therefore, these intangible assets cannot be transferred among participants in a qualified cost sharing arrangement.

However, in using the market capitalization/acquisition price method to value intangible property, it is difficult to differentiate (1) the value of the intangible assets that are not contributed from (2) the value of the pre-existing intangible property to be purchased. This is because intangible assets used in the ordinary course of business tend to complement each other, and a portion of their value belongs to that complementary relationship.

To arrive at an accurate estimate of value for the contributed intangible property, therefore, the value of the complementary relationship between (1) the contributed intangibles and (2) the noncontributed intangibles has to be quantified.

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In summary, the market capitalization method and the acquisition price method arrive at an estimate of value for pre-existing intangible property. However, this estimate of value could be fundamentally imprecise if key adjustments are not applied during the valuation process.

DISCOUNTED FUTURE BENEFITS METHOD

The Service training manual presents the discounted future benefits method (also known as the foregone profits method or the discounted cash flow method) as another method to calculate an arm's-length buy-in payment.

This method begins with the projected revenues and expenses of the cost sharing participant intending to purchase the pre-existing intangible property from another participant—that is, the buy-in payer. The financial projections should be prepared for each year during the expected life of the pre-existing intangible property.

Next, an appropriate return to the cost sharing participant's routine functions should be estimated. These routine returns should be determined by reference to the returns earned by functionally comparable, third-party companies. The company's "residual profit," which equals the company's projected revenues, minus projected expenses, minus imputed routine returns in each year, can then be calculated.

According to the Service training materials, the resulting stream of residual profits reasonably represents the value of the pre-existing intangible property. The buy-in payment, therefore, can be defined as this stream of annual residual profits.

Alternatively, residual profit can be divided by projected sales in each year to calculate annual buy-in royalty rates.

Moreover, a lump sum buy-in payment can be calculated by computing the net present value of the stream of residual profits. In this case, the appropriate discount rate should reflect the level of risk associated with the stream of residual profits.

The discounted future benefits method, however, also has several notable disadvantages:

- First, it is often very difficult to accurately project the financial results of the cost sharing participants. This is especially true if the pre-existing intangible property transfer at issue includes in-process research and development.

- Second, if the buy-in payment is expressed in the form of a lump sum payment, then the result of the analysis will be highly dependent on the assumed discount rate. When performing a discounted future benefits analysis, transfer pricing analysts often rely on the company's overall weighted average cost of capital (WACC).

Under very specific circumstances, the discount rate of certain intangible property in the mature stages of its life-cycle will approximate the business enterprise WACC. However, this is not always the case.

Sole reliance on the business enterprise cost of capital, therefore, can be a significant concern for the following reasons:

- First, a company's overall WACC reflects the risk profile of all its projects in the aggregate. A cost sharing arrangement, however, is usually riskier than a company's overall operations. This is because the cost sharing arrangement involves cross-border business transactions, with non-U.S. entities centered on in-process research and development (IPR&D) and other pre-existing intangible property.

Therefore, a discount rate that reflects the cost sharing project's risk—rather than the risk of the company's business operations in the aggregate—should be used.

- Second, if the pre-existing intangible property (1) is at the early stages of its life-cycle or (2) has a significant portion of IPR&D, reliance on a single discount rate may be inappropriate to value the cash flows through the remaining useful life of contributed property. In this case, the risk of IPR&D "varies inversely as the IPR&D moves along the technology development life cycle."¹²

It is, therefore, inappropriate to apply a uniform risk-weighted discount rate during the economic useful life of the contributed property.¹³ Rather, a different discount rate should be used during each stage of the life cycle. The different discount rates should properly reflect the different risk profiles of the property at each stage.

RESIDUAL PROFIT SPLIT METHOD

The residual profit split method, as set forth in Regulation 1.482-6(b)(3), is another method often used to value buy-in payments.

The residual profit split method yields a royalty in each projected year based upon the pre-existing intangible property

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owner's (i.e., the donor's) contribution to the recipient's residual profit (the profit after the extraction of routine profits). This contribution can be determined by reference to the relative "stocks," or capitalized historical outlays, of intangible development costs.

The procedures, as presented in the Service training materials, for applying the residual profit split method include the following:

- The donor's stock of intangible development costs is equal to the sum of the expenses incurred in developing the intangible property prior to the buy-in date, capitalized and amortized¹⁴ to the buy-in date. This amount is then multiplied by the recipient's estimated share of benefits from the cost sharing arrangement.

This procedure provides the value of the donor's stock that relates to the portion of the intangibles enjoyed by the recipient. This procedure effectively allocates a portion of the buy-in receiver's research and development expenses to the buy-in payer's operations.

- The recipient's stock of intangible development costs is equal to the sum of the expenses incurred under the cost sharing arrangement, capitalized and amortized to a given year. It is not necessary to multiply this amount by the recipient's estimated share of benefits from the cost sharing arrangement. This is because only the recipient's own cost contributions have been considered in this calculation.

This contribution equals the amount of the cost sharing arrangement's intangible development expenses that would be allocated to the buy-in payer's use.

The donor's relative contribution to the recipient's residual profit, in a given year, equals the donor's stock, divided by the sum of (1) the donor's stock and (2) the recipient's stock. This fraction of the recipient's residual profit is the basis of the buy-in royalty.

Under the residual profit split method, the buy-in payer's share of the residual profit will increase over time as the value of the pre-existing intangible property is amortized. The buy-in payer's share will increase more quickly when short useful lives are used to amortize the pre-existing intangible property, resulting in a lower overall buy-in payment.

Like the other methods of analysis presented, the residual profit split method has several shortcomings. This is due to the number of assumptions upon which this method is based.

For instance, since the calculations of the stocks of intangible development costs are based on capitalization and present value computations, the result of a residual profit split method is highly dependent on the assumed discount rate. The implications of selecting an inappropriate discount rate were discussed previously.

The residual profit split method also relies on (sometimes subjective) assumptions regarding the useful life of the pre-existing intangible property. The taxpayer, therefore, can reduce the magnitude of the buy-in payment by manipulating the length of the useful life for any given discount rate.¹⁵

This is a dangerous practice since it distorts the discount rate, which represents the price of the inherent risk of an asset. In short, (1) the discount rate and (2) the useful life become functions of the expected value of a buy-in payment—and not of the nature of the investment in the asset. Additionally, the expected value of the transferred intangibles to the recipient may not be accurately reflected.

Finally, typical to the cost approach to valuing intangible assets, the calculation of the stocks of intangible development costs implicitly assumes a direct and linear relationship between (1) intangible development expenses and (2) residual profits. This assumption, however, may not be true if, for instance, the donor of the pre-existing intangibles contributes property with high value while the value of the newer, cost shared intangible property

has yet to be determined.¹⁶

Furthermore, assuming a linear relationship between the cost and the value of the intangible property in this manner does not allow for a life-cycle evaluation of the pre-existing intangible property for the purpose of estimating an appropriate discount rate.¹⁷

DECLINING ROYALTY METHOD

The Service training materials present the declining royalty method as a procedure to compute a royalty stream of payments during a specified period of time.

The following procedures relate to the estimation of a declining royalty:

1. A royalty rate can be estimated for the period immediately after the buy-in, when no cost-shared intangibles are in service. This royalty could be based on a CUT analysis if such third-party comparables exist.

Alternatively, the initial royalty could be computed by applying an excess return analysis. In an excess return

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analysis, a routine profit level is extracted from the actual profit just before the time of the buy-in. This procedure provides an estimate of the residual profit due to the intangibles.

To estimate the declining royalty, the residual profits could be decreased according to an estimated useful life and amortization schedule (e.g., declining balance or straight line) for the intangible assets transferred to the cost sharing agreement.

2. A royalty could be calculated by multiplying the initial residual profit by the donor's intangible development costs, capitalized and amortized to the buy-in period. This amount is divided by the sum of (1) the donor's and (2) the recipient's intangible development costs, each capitalized and amortized to the date of the buy-in.

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Although the declining royalty method may seem reasonable, it shares in the shortcomings of the previously discussed methods. In particular, the declining royalty method is highly dependent on determining the effect of the bundle of exclusive rights created by the related parties under the cost sharing arrangement for the mutual exploitation of property. All of the following factors affect the determination of the declining royalty rate:

1. the value of the intangible property on a worldwide basis,
2. the selection of the appropriate discount rate for each related party,
3. the stage in the intangible property life-cycle in each jurisdiction, and
4. the relationship of the intangible property being contributed to the cost sharing arrangement with other property.

CAPITALIZED EXPENDITURES METHOD

The Service training materials describe the capitalized expenditures method as follows:

- First, the donor's historical expenses incurred in creating the pre-existing intangible property are capitalized and amortized to the buy-in date.¹⁸

- Second, a benchmark ratio of intangible asset value to capitalized/amortized intangible development expenditures is developed by reference to the financial results of comparable, third-party companies.
- Third, the benchmark ratio is multiplied by the recipient's capitalized/amortized intangible development expenses, resulting in the value of the pre-existing intangible property as of the buy-in date.

As indicated in the review of the residual profit split method, a shortcoming of cost-based methods is that the true economic value of the research and development activities at issue may be significantly higher than the capitalized/amortized cost of these activities.

SUMMARY AND CONCLUSION

As stated above, the shortcomings in the Service training materials become apparent when the following questions are asked:

1. Are the methods, as presented by the Service, vague about (a) the property being valued and (b) the bundle of property rights being valued?
2. Do the methods promote the use of financial data in a consistent manner?

Our review of the Service's discussion of these methods indicates that several key issues can arise in the valuation of buy-in payments if the methods are applied in a "cookie cutter" manner.

First, a large number of taxpayers experience challenges to their cost sharing arrangements. This is because (1) the property valued and (2) the rights associated with the property transfer were defined in vague terms.

Second, financial information may not be used consistently in the manner for which it was intended. For example, discount rates are sometimes set to conclude expected or desirable values for buy-in payments—and not to serve as gauges of the inherent risks of the intangible property.

Therefore, a careful consideration of the nature of the intangible assets valued, the rights associated with the property, and a consistent application of financial information are important in determining defensible buy-in payments.

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Notes:

1. BNA Tax Management, *Transfer Pricing Report*, Volume 11, No. 11, October 2, 2002.
2. Unrelated parties do not enter into cost sharing agreements in the manner described under Regulation 1.482-7. The closest transaction between unrelated parties would be development joint ventures. However, (1) the terms and conditions enabling those transactions and (2) the exploitation rights of the participants in a joint venture are fundamentally different from those governing qualified cost sharing agreements. Therefore, comparisons are not enlightening.
3. Although a number of jurisdictions also have rules governing (1) cost sharing or (2) cost contribution arrangements, a review of the methods explicitly suggested or implied in those rules is outside the scope of this study.
4. Regulation 1.482-4(b) defines intangible property as:

[A]n asset that comprises any of the following items and has substantial value independent of the services of any individual:

1. Patents, inventions, formulae, processes, designs, patterns, or know-how;
 2. Copyrights and literary, musical, or artistic compositions;
 3. Trademarks, trade names, or brand names;
 4. Franchises, licenses, or contracts;
 5. Methods, programs, systems, procedures, campaigns, surveys, studies, forecasts, estimates, customer lists, or technical data; and
 6. Other similar items. For purposes of section 482, an item is considered similar to those listed in paragraph (b)(1) through (5) of this section if it derives its value not from its physical attributes but from its intellectual content or other intangible properties.
5. Regulation 1.482-7(f)(3)(ii).
 6. Regulation 1.482-7(f)(3)(iii)(A)-(D).
 7. Issues relating to the valuation of in-process R&D are outside the scope of this article. However, in-process R&D transfers in cost sharing agreements pose methodological issues that are not entirely addressed by the Service's understanding of the buy-in payments valuation methods.
 8. In the discussion below, the owner of pre-existing intangible property is referred to as the donor while the counterparty to the transaction is referred to as the recipient. Although the presentation assumes one donor and one recipient, it is important to recognize that the existence of several recipients entering the cost sharing arrangement at different periods raises a key number of buy-in payment valuation and royalty setting issues. However, these issues are outside the scope of this article.
 9. Examples of intangible property that is "not transferable" include trained and assembled workforce, goodwill, and going-concern value. It is commonly accepted that these intangible assets are not allocable under Regulation 1.482. This is because they do not fit

the definitions of "intangible" property presented in Regulation 1.482-4(b) and Regulation Section 1.482-7(a)(2).

10. In the case of a stock purchase, the value of the target company is equal to (1) the purchase price of the transaction plus (2) the target company's liabilities.
11. Copeland, Tom, Tim Koller, and Jack Murrin, *Valuation: Measuring and Managing the Value of Companies*, 3d ed. (New York: John Wiley & Sons, Inc., 2000), p. 51.
12. Mandell, Dennis M., and Robert F. Reilly, "Current Issues in the Valuation of Purchased IPR&D," *Willamette Management Associates Insights*, Special Issue 2003, p. 18.
13. Boer, Peter F. *The Valuation of Technology: Business and Financial Issues in R&D* (New York: John Wiley & Sons, Inc., 1999), p. 114.
14. To determine the future value of past expenditures in a given year, the following calculations are performed.

First, the past expenses are "capitalized"—that is, they are increased in value each year at an appropriate rate of return on investment that is commensurate with the risk of the expenses.

Second, after the intangible property resulting from these expenses is placed in service, the capitalized value of the expenses is amortized. This means that the capitalized value is decreased in each year to reflect the fact that the intangible property becomes obsolete over time.

The amortization schedule is a function of (1) the intangible property's estimated useful life and (2) the rate of amortization (i.e., straight-line, double declining balance, etc.).

Amortization normally reduces the intangible property's value to zero after a finite period of time. However, it is possible for the intangible property to retain some portion of its value indefinitely.

15. In the United States, qualified cost sharing arrangements often involve U.S.-owned, pre-existing intangible property being transferred to a low tax jurisdiction overseas. Therefore, the U.S. taxpayer (i.e., the buy-in receiver) typically prefers to minimize the buy-in payment.
16. The Service suggests that in such a situation, it may be possible to perform a corrective adjustment. This adjustment is made by weighting the buy-in receiver's expenditures more heavily than the buy-in payer's expenditures when calculating the stocks of intangible development costs.
17. Although several procedures exist for estimating arm's-length royalties under this method a full discussion of the merits of each procedure is outside the scope of this article.
18. Since these expenses are typically related to research and development activities, this method is sometimes called the "capitalized R&D" method.

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