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REPORT

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HIGHLIGHTS

APA Program's Spreadsheet Model Draws Mixed Reviews from Economists

A spreadsheet model designed to calculate a series of adjustments under the comparable profits method, released by the U.S. Advance Pricing Agreement Program in March, draws mixed reviews from economists in the private sector, with some commending the IRS for its transparency and others worrying that the model would lead to a rigid approach. Page 931

Germany Official Outlines Application of New Price Adjustment Clause

Germany's head of international tax staunchly defends the introduction of a controversial price adjustment clause similar to the U.S. commensurate-with-income standard and outlines the government's thinking on how the new provision will be implemented. Page 927

Shott Says Cases in Competent Authority Should Not Accrue Hot Interest

A taxpayer that receives a 30-day letter from the Internal Revenue Service examiner, causing the accrual of interest at a 2 percent higher rate, after its case has been accepted in competent authority should elevate the case through the rules of engagement or seek assistance from his office, IRS Director, International Barry Shott says. Page 931

Departing U.S. Official Hedgpeth Discusses Arbitration, Other Issues

Former Deputy Director, International Elvin Hedgpeth discusses procedural issues to be worked out on arbitration under recent treaties and also tells how practice in the U.S. Competent Authority has changed since the 1980s. Page 933; Interview, Page 943

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Brian Becker of Precision Economics LLC in Washington, D.C., addresses several new theories and valuation approaches that have arisen in the area of cost sharing buy-ins through a question-and-answer format. Page 950

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The Kyoto Protocol: An Overview of Transfer Pricing Issues

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ALSO IN THE NEWS

UNITED STATES: The Joint Committee on Taxation is conducting interviews with transfer pricing practitioners, questioning them about their experiences with cost sharing and APAs. Page 936

FRANCE: A draft decree would increase fines to €50,000 (US\$79,000), plus 5 percent of any adjustment, for failing to provide requested documentation. Page 938

OECD: The Organization for Economic Cooperation and Development April 21 releases a draft update to the Model Tax Convention that includes an alternative provision that could reduce the permanent establishment threshold for cross-border services. Page 940

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# In Practice

## The Economics of Cost Sharing Buy-Ins: Questions and Answers

BY BRIAN C. BECKER\*

**C**ost sharing buy-in valuation has been one of the major issues in U.S. transfer pricing for a number of years. With the increased emphasis, several new theories and valuation approaches have been applied, which have added to the overall knowledge of this subject.

The increased attention also has added some levels of confusion to the topic. The intent of this article is to allay some of this confusion through a question-and-answer format covering some of the primary topic areas in this field from the perspective of an economist that has valued buy-ins in a number of contexts.<sup>1</sup>

### 1. What Valuation Methods Are Being Used Now?

Perhaps no single topic has caused as much confusion as this presumably simple question. In particular, some of the methods are identified by different names in different publications and/or by different practitioners. In addition, some publications refer to steps within a method as a "method," while other publications only identify the name of the method itself. For the common buy-in fact pattern,<sup>2</sup> one (or more) of four methods is typically applied.

#### A. Declining Royalty

One of the most common methods determines annual royalty rates for the buy-in purchaser to make to the buy-in seller for a specified number of years. Typically, this approach requires three steps:

<sup>1</sup> For review of the author's previous research on cost sharing, please see "Valuing In-Process R&D for Acquisitions: Economic Principles Applied to Accounting Definitions" (9 *Transfer Pricing Report* 323, 9/20/00); "Cost Sharing Buy-Ins," *Corporate Business Taxation Monthly*, Vol. 3, No. 3, December 2001, pp. 26-35; "Further Thoughts on Cost Sharing Buy-Ins: A Review of the Market Capitalization and Declining Royalty Methods" (10 *Transfer Pricing Report* 195, 7/11/01); "Cost Sharing Buy-Ins" chapter in *Transfer Pricing Handbook*, 3rd Edition, and *Transfer Pricing International*, John Wiley & Sons, 2002, pp. A-3-A-16.

<sup>2</sup> Commonly, buy-ins cover technology intangibles. In many cases, they cover all intangible profits within a particular geography. Other fact patterns can exist, and the valuation would consider any such relevant facts in its quantification. This section is also focused only on initial buy-ins. Acquisition buy-ins are addressed later in this article.

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- **Initial Royalty:** The approach determines the arm's-length royalty/value of the intangible (as a percentage of sales) as of the date of the buy-in. Economists often calculate such rates using the royalty rates in comparable uncontrolled transactions (CUTs). The other common way to calculate this initial royalty is the difference between total profits earned in the geographic area and the routine profits determined through a comparable profits method (CPM) approach.<sup>3</sup> Thus, CUT and CPM calculations result in a single value—a royalty rate. In that sense, they cannot realistically be described as buy-in valuation methods, but rather as a first step in applying a declining royalty method.<sup>4</sup>
- **Useful life:** The economist practitioner must estimate the number of years in which arm's-length parties would expect the transferred intangibles to have some value.<sup>5</sup>
- **Decline Schedule:** In addition to quantifying the initial intangible value and the date when the intangible would decline in value to zero, the economist must determine the pattern/speed of the decline. Economists have adopted various approaches for this, including:
  - (a) studies on declines of intangible value;
  - (b) straight-line depreciation schedules; and
  - (c) relative cost-based declines.

These three steps result in a buy-in that specifies a royalty rate for each year of the useful life. For example, the result of this method could be: 25 percent royalty in Year 1, 20 percent royalty in Year 2, 17 percent royalty in Year 3, 14 percent royalty in Year 4, 12 percent royalty in Year 5, 10 percent royalty in Year 6, 8 percent royalty in Year 7, 6 percent royalty in Year 8, 4 percent royalty in Year 9, and 2 percent royalty in Year 10.<sup>6</sup>

#### B. Market Capitalization Method

Another common valuation approach—the "market capitalization method"—adjusts the arm's-length mar-

<sup>3</sup> Economists typically apply this CPM step when all of the intangible/residual profits within a geographic area are being transferred from the buy-in seller to the buy-in purchaser.

<sup>4</sup> As discussed below, these calculations leading to a royalty rate can also be used as a step in the forgone profits approaches.

<sup>5</sup> This step incorporates the specific facts at issue, judgment, available benchmarks, etc. As such, there is no single consistent way that economists approach this task.

<sup>6</sup> None of the data or fact patterns used as examples in this paper are intended to reflect any specific taxpayer.

ket value of a company in order to value the intangibles being transferred in the buy-in. There are often slight variations in application, but in general, it requires five steps to implement:

1. **Market Capitalization:** Locate the market capitalization of the company on the date of the buy-in as the product of the price per share and the number of shares outstanding.<sup>7</sup> This defines the value of the company's equity.
2. **Asset Valuation:** Add the value of the company's liabilities to its market capitalization to define its asset (or enterprise) value.
3. **Intangible Asset Valuation:** From the company's asset value, subtract the value of its tangible assets. The result is the worldwide value of the intangible assets.
4. **Geographic Intangible Asset Valuation:** Multiply the intangible asset value by the share of the world being accessed by the buy-in purchaser. Often, this is simply the initial "RAB" share in the cost sharing arrangement. At this point, the economist has calculated the value of (all of) the company's intangibles within the geography of the buy-in.
5. **Buy-In Valuation:** Some buy-ins cover all intangibles, while others only cover a subset thereof.<sup>8</sup> In the latter case, the value of the non-transferred intangibles must be removed from the geographic intangible asset valuation before the buy-in valuation is finalized.

At the conclusion of these steps, the market capitalization approach will result in a lump-sum dollar amount for a buy-in. That is, it might conclude that the buy-in would be made at \$350 million at arm's length, for example.

### C. Forgone Profits Discounted Cash Flow (DCF) Method

Perhaps more than any other approach, this method has taken on a large number of names. In addition to forgone profits, it is often referred to as an income method or simply a DCF method. The various names, however, all tend to refer to a similar three-step valuation approach:

1. **Determine Forgone Profits:** The economist determines the first year expected loss to the buy-in seller from transferring the intangibles at issue. In particular, the seller loses the profits from such intangibles—often computed using a similar CUT or CPM process to the declining royalty method above. However, the seller gains by not having to spend money on R&D or other intangible development costs. In that sense, first-year forgone profits are lower than the first-year royalty/intangible

<sup>7</sup> There can be slight differences in these calculated values using different data sources based upon timing of data, determination of the number of outstanding shares, etc.

<sup>8</sup> For example, a CPM analysis may have determined that all intangibles were equivalent to 20 percent of sales, but the transferred intangibles were valued at 12 percent of sales (using a CUT). If those calculations were accurate, it would imply that only 60 percent of the intangible value would be transferred.

value, as they focus on intangible profit instead of intangible revenue.

2. **Forecast Future Forgone Profits:** As with typical asset valuations, the economist forecasts the results out as far as possible before incorporating a terminal value to estimate later year values. In this case, the economist may have explicit forecasts for 2-5 years of forgone profits, depending on the data available.
3. **Discount to Present Value:** The stream of forecasted future forgone profits—including the terminal value—can be converted to a lump-sum equivalent with an appropriate discount rate.<sup>9</sup> Economists employ various approaches (firm cost of capital, project cost of capital, CAPM, interviews of the taxpayer, etc.) in setting these discount rates.

Similar to the market capitalization approach, the forgone profits DCF most naturally results in a lump-sum format. That is, it might convert annual streams of \$10 million, \$20 million, \$25 million, \$35 million, and a terminal value of \$90 million to a lump sum of \$130 million, for example.

### D. Forgone Profits Price Multiple Method

Among the four common methods described in this paper, the forgone profits price multiple method appears to be the least commonly applied and/or commented upon. Having some similarities with its DCF cousin,<sup>10</sup> this approach is also often identified as a price-earnings (or PE) type of approach. It uses slightly different benchmarks, however, in its three step approach:

- **Determine Forgone Profits:** This step is identical to the first step in the DCF approach above.
- **Determine Market Capitalization/Profit Ratio:** The economist calculates the ratio of the company's market capitalization (on the buy-in date) to its first year (post-buy-in) total worldwide operating profits.
- **Compute Buy-In Value:** The economist takes the product of the first-year forgone profits at issue (in the geographic area being bought in) and the market capitalization/profit ratio.

With this approach taking the product of a dollar amount and a multiple, the result is a single lump sum payment. For example, it might multiply forgone profits of \$10 million by a multiple of 12.5 to result in a buy-in of \$125 million.

## 2. How Can Valuations in Different Formats Be Compared?

Buy-ins can generally be paid in lump sums, installment payments, or pre-specified royalty rates over pre-specified time periods. With money being fungible over time, one can convert valuations between different for-

<sup>9</sup> In general, the terminal value calculation itself requires a discount rate. That is, its denominator represents the difference between the estimated discount and growth rates.

<sup>10</sup> It also shares some commonality with the market capitalization approach.

mats using discount rates and contemporaneous sales projections using net present value techniques. In this sense, two methods within the same economic report can be compared on an "apples to apples" basis with these techniques.

### 3. Do All Methods Result in Arm's-Length Values?

Question 1 above described the commonly applied methods, but did not comment on whether they apply appropriate economic/financial principles to result in arm's-length values. In point of fact, all of these methods do have economic/valuation foundations that would lead to arm's-length results, if appropriately applied. Some methods are more precise than others—depending on the facts at issue and the data available. However, as with any valuation approach (for buy-ins, other transfer pricing analyses, or other economic valuations), an incorrect interpretation of the facts and/or use of an inappropriate input could skew the results.

### 4. Economically, Is One Method Considered Superior to Others?

No single method is ex-ante considered to be consistently better than the others in all circumstances. Thus, the choice of an appropriate method depends on the facts/circumstances of the transfer as well as the available benchmark data to consider.

While some economists tend to rely more heavily on arm's-length transactional data than arm's-length profitability data, this application decision is dependent on the facts available. In addition to comparing methods using different types of arm's-length data (transactions and profitability), economists may also contrast methods that largely rely on objective, arm's-length data as opposed to a heavy reliance on subjective estimates. In this way, buy-ins are no different from other transfer pricing (or other) valuation problems where one might, for example, prefer a CUP over a CPM in one case, but a CPM over a CUP in another.

### 5. What Is the Difference Between the Market Capitalization and Acquisition Price Method?

The acquisition price method values acquisition buy-ins from the perspective of the acquisition price. In these situations, the parent and a foreign related party have previously entered into a CSA that is ongoing. A CSA generally covers all internally developed intangibles, but often has different provisions for externally acquired intangibles. In particular, some CSAs require the participants to ratably split the acquisition costs as part of their ongoing cost sharing payments. However, other CSAs require the foreign related party to make a new buy-in for each acquisition at an arm's-length price.

The acquisition price method determines the arm's-length buy-in by reference to the acquisition price. In particular, it sets the buy-in as the ratable share of the portion of the acquisition value related to intangibles that will be shared. In this way, it largely places the CSAs that choose to create acquisition buy-ins on the same level as CSAs that simply choose to ratably share

externally acquired intangibles through cost sharing payments. That is, it ensures that the cost of this type of intangible development (via acquisition) will be shared ratably.

Like the market capitalization approach, the acquisition price approach also removes liabilities, tangible assets, and non-transferred intangibles from the market value of the company. The two methods are also alike in that they both take the product of the transferred intangibles' worldwide value and the geographic share of the world being transferred to the foreign related party. In this sense, the two methods follow similar logic.

The one primary difference in the methods focuses on control or acquisition premiums. In particular, the acquisition price of a company is nearly always greater than its market capitalization (if it is publicly traded), as the acquirer pays a premium. In that sense, the resulting acquisition price method buy-in will generally be somewhat greater than a corresponding market capitalization buy-in—all else being equal.

### 6. Economically, How Is a Buy-In Similar to or Different From Selling the Rights to the Intangibles in a Geographic Area?

This particular question can be thought of in many ways, and this answer is not intended to be exhaustive. Rather, it provides perspective from the consideration of the intangible owner.

When an intangible owner sells the rights to its intangibles in a given geographic area (say Europe), it does so with the knowledge that:

(a) it will receive a purchase price payment for those intangibles from the buyer;

(b) it will receive no other profit from those intangibles in the future; and

(c) the performance of future intangible development or R&D associated with these intangibles will be funded by the buyer.

In that sense, the payment from the buyer must compensate the owner for the profits it otherwise would have projected to receive in the future. It also must adjust for the risks/uncertainties associated with that stream of profits.

In many ways, the intangible seller in a buy-in faces similar issues. As a result of the buy-in/CSA, the parent realizes that it will receive no other profit from the transferred intangibles in the future within the specified geographic area and it will no longer fund intangible development/R&D associated with the transferred geography. In this sense, the buy-in similarly serves as the only compensation to the parent/intangible owner for the intangible profit it would expect in the future. Put another way, the parent/intangible owner essentially gives up a stream of forecasted (intangible) profits in the future that it would realistically consider in accepting a buy-in payoff.

### 7. How Does Payment Form Impact Buy-In Payments?

Payment form impacts buy-ins in two primary ways. First, different payment forms have different risk profiles to the buyer and seller. A royalty stream offers the buyer less risk in that it would not have to pay a large amount (if anything) if the business failed within the

geographic area at issue. By contrast, a lump sum provides the seller with the most certainty.

Payment form also determines how future events impact the buy-in payment. Buy-ins for lump sum and installment payments are not impacted at all by future events. That is, if a buy-in is structured as a \$300 million lump-sum payment, it will not change whether the business succeeds or fails. Similarly, a buy-in structured as payments of \$50 million per year for 10 years is also unaffected by future revenue and/or profitability. By contrast, royalty-based buy-ins are explicitly tied to future events. They vary proportionately based upon future sales levels.

### **8. Economically, Does it Matter Whether the Buyer Is a 'Cash Box' or a Routine Operating Entity Owning No Intangibles?**

Buy-ins and cost sharing arrangements focus exclusively on the transfer/valuation of intangible assets.

Whether a buyer owns tangible assets or not should have no influence in valuing intangibles and/or buy-in payments that it would be expected to make to a seller. An intangible owner at arm's length would not charge different prices to cash box or routine operating purchasers that were each interested in the same assets. Similarly, it would not be economically logical for an intangible owner to price discriminate (e.g., charge a cash box more than an operating company) for different types of entities negotiating in a buy-in transaction at arm's length.

The above discussion does not apply to an operating company with its own valuable intangibles. If such intangibles are contributed to the CSA, they would influence buy-in pricing.