



# Tax Management Transfer Pricing Report

Vol. 5, No. 4

A biweekly update on transfer pricing and related issues

June 19, 1996

## HIGHLIGHTS

**First §6662 Penalty Imposed Under Lower Thresholds, Lyons Says:** Assistant Commissioner (International) John Lyons says the Internal Revenue Service has imposed the first §6662(e) transfer pricing misstatement penalty since reduced thresholds became effective in 1994 and added that the penalty was reviewed by the Penalty Oversight Committee. Lyons also says the panel would convey its concern to a District director if it believed a penalty was imposed inappropriately, but would not reverse the penalty. [p. 79]

**Guidance Sought on Hybrid Methods Following Komatsu APA:** Practitioners are seeking guidance on using hybrid transfer pricing methods to resolve transfer pricing issues before U.S. and Japanese tax authorities following reports that a Komatsu Ltd. subsidiary's U.S.-Japanese advance pricing agreement used a method that combines the comparable profits method (CPM) with a profit split method. [p. 79]

**Japan To Make Pre-Confirmation System Law To Expedite Accords:** The Japanese government is planning to codify its Pre-Confirmation System into law to encourage greater use of the program and to expedite processing of agreements, according to Finance Ministry and National Tax Administration sources. [p. 94]

**Survey Shows Governments Requesting More Documentation:** An Ernst & Young survey shows that companies are having to prepare more transfer pricing documentation because of foreign tax authority requests, although the compelling force behind their documentation efforts remains fear of U.S. §6662 transfer pricing penalties. [p. 94]

**Court Says Privilege Test Applies to Each Part of Document:** Ruling in favor of Chevron Corp., a federal court says communications within a document must be evaluated separately to determine whether they are protected under the attorney-client privilege. The documents at issue were summonsed in connection with an audit of Chevron's 1985-87 tax years. [p. 86]

**Economist Examines Transfer Pricing Methods, Ranges, Data Sets:** Brian C. Becker, an economist with Economic Consulting Services Inc. in Washington, D.C., examines three technical aspects of transfer pricing: distinguishing methods, using statistical ranges, and developing data sets. [In Practice, p. 97]

## IN THIS ISSUE

### At the IRS [p. 79]

Lyons says the IRS is exploring ways to review taxpayer returns so that examiners will not necessarily have to demand the software used to prepare the return. [p. 80]

Foreign-controlled U.S. firms in 1992 paid about half as much in net taxes as U.S.-controlled firms when the amount paid is measured against receipts, Treasury Department statistics show. [p. 82].

Treasury economist says consumption tax would minimize but not eliminate transfer pricing woes. [p. 83]

### Journal [p. 85]

### In the Courts [p. 86]

PepsiCo and the IRS agree that the company was not entitled to a correlative adjustment the company had sought for a \$1.5 million undisputed \$482 allocation for blocked income from a related Argentine company. [p. 87]

The Tax Court denies a motion by Square D Co. to shift the burden of proof to the IRS after the Service explained that a more thorough analysis caused it to determine different royalty rates in different years. [p. 87]

### Pending Cases [p. 90]

### In Congress [p. 93]

### Around the World [p. 94]

### In Practice [p. 97]

### Directory [p. 104]



## Three Technical Aspects of Transfer Pricing Practice: Distinguishing Methods, Using Statistical Ranges, and Developing Data Sets

by Brian C. Becker\*  
Economic Consulting Services Inc.  
Washington, D.C.

Previous research in transfer pricing has analyzed the underlying economic principles of the regulations, specific cases, and general methods of approach.<sup>1</sup> The specific and difficult situations that practitioners encounter when analyzing transfer prices, however, have received little public comment.<sup>2</sup> This article focuses on three areas in which further economic research, discussion, and analysis is warranted:

- 1. The distinction between and applications of different methods.
- 2. The use of the interquartile and other statistical ranges.
- 3. The use of small data sets (comparables).

### Method Distinction

The §482 transfer pricing regulations distinguish between the different prescribed transfer pricing methods for tangible and intangible property.<sup>3</sup> Most of these distinctions portray a clear difference between methods (*i.e.*, the profit split and cost plus are clearly distinct methods). The one exception to this rule appears to be in the tangible property area, where some practitioners have interpreted the resale price method to show the same result (*i.e.*, imply the same transfer price) as a comparable profits method (CPM).

Under a resale price approach, the resale margin (gross income/sales) that the taxpayer earns on its

resales to unrelated parties of products purchased from related parties is set to equal the resale margin earned on resales of similar products sold between unrelated parties. This is referred to as the "arm's-length resale margin."

To more precisely compare the related and unrelated transactions, the §482 regulations allow for "operating expense" adjustments (among other adjustments) when performing such a resale approach.<sup>4</sup> While there is no example or specific rule in the §482 regulations describing when or how such an adjustment should be performed, practitioners often make such adjustments in a manner that makes the resale price approach *mathematically equivalent* to performing a CPM using either a Berry ratio (gross income/operating expenses) or an operating margin (operating income/sales). Under a CPM, the profits<sup>5</sup> of one of the entities involved in the intercompany transaction (the "tested party") are set to be equal to the profits earned by independent companies that perform similar functions and incur similar risks to the tested party.

### Multiplicative Adjustment—Berry Ratio

To determine the "arm's-length" resale margin, one must first begin with the resale margins earned in unrelated transactions, and then adjust for differences between those transactions and the taxpayer's intercompany transactions under analysis. Some practitioners have adopted an "operating expense" adjustment which calculates the *arm's-length resale margin* as:

Resale Margin for the Unrelated Transaction × (Taxpayer's operating expenses/sales ÷ Unrelated Transaction's operating expenses/sales).

This "multiplicative" adjustment to the "unrelated resale margin" is based on the premise that profits are proportional to a company's level of operating expenses<sup>6</sup>—the same premise as a Berry ratio. As shown

<sup>1</sup> See, for instance, Clark Chandler and Irving Plotkin, "Economic Issues in Intercompany Transfer Pricing," *Transfer Pricing Special Report No. 8* (2 *Transfer Pricing Report* 10/20/93).

<sup>2</sup> Some papers have addressed certain of the technical concepts. See, for example, Lawrence Olson, Stephen Blough, and David DeRamus, "The Impact of Foreign-Exchange Fluctuations on U.S. Prices: Japanese Photographic Equipment, Video Equipment, and Office Machinery" (4 *Transfer Pricing Report* 20, 2/14/96).

<sup>3</sup> Final Regs. §1.482.

\*Brian C. Becker, Ph.D., is an economist with Economic Consulting Services Inc. in Washington, D.C. The opinions expressed in this article are his alone.

<sup>4</sup> Final Regs. §1.482-3(c).

<sup>5</sup> Profits can be defined in many ways, including the Berry ratio, operating margin, and return on assets (operating income/operating assets).

<sup>6</sup> That is, if the tested party has twice the operating expenses (as a percentage of sales) as in the unrelated transaction, it should earn twice the resale margin.

Table 1  
Adjusting the Resale Price Method to Mimic the Berry Ratio (Gross Profit/Operating Expenses)

		Reported Income Statements	
		Taxpayer	Unrelated (Comparable)
<b>1. Berry Ratio (CPM) Method</b>			
a	Net Sales	\$100.00	\$100.00
b	Cost of Goods Sold (Transfer Price)	\$70.00	\$70.00
c=a-b	Gross Profit	\$30.00	\$30.00
d	Operating Expenses	\$15.00	\$20.00
e=c-d	Operating Profit	\$15.00	\$10.00
f=c/d	Berry Ratio	2.00	1.50
g=d*f(comp.)	Adjusted Gross Profit using Berry Ratio	\$22.50	
h=a-g	Adjusted COGS using Berry Ratio	<b>\$77.50</b>	
<b>2. Adjusted Resale Price--Multiplicative Method</b>			
i=c/a	Resale Margin (Gross Profit/Net Sales)		30.0%
j=d/a	Operating Expenses/Net Sales ("OPX/SALES")	15.0%	20.0%
k=j(tax.)/j(comp.)	Ratio of Taxpayer's/Comparable's Level of OPX/SALES	75.0%	
l=i(comp.)*k	Adjusted ("Arm's Length") Resale Margin--Multiplicative Method	22.5%	
m=l*a	Adjusted Gross Profit using Adjusted Resale Margin	\$22.50	
n=a-m	Adjusted COGS using Adjusted Resale Margin	<b>\$77.50</b>	

\*: "tax." refers to the taxpayer/tested party and "comp." refers to the unrelated comparable.

in the bottom section of Table 1 (above), under this multiplicative adjustment procedure, the unrelated resale margin is multiplied by 75% ( $15\% \div 20\%$ ) to compute an arm's-length resale margin of 22.5% ( $30\% \times 75\%$ ). As the example shows, a resale margin of 22.5% implies a cost of goods sold (transfer price<sup>9</sup>) of \$77.50 for the taxpayer.

The same transfer prices are implied when using a Berry ratio in the application of a CPM, as seen in the top section of Table 1. Under this type of CPM analysis, the taxpayer's (tested party) transfer prices are adjusted so that it will earn a Berry ratio of 1.50, which is equivalent to that of the unrelated company.<sup>8</sup>

### Additive Adjustment—Operating Margin

Under similar circumstances, some practitioners have adopted an "additive" operating expense adjustment which calculates the arm's-length resale margin as:

Resale Margin for the Unrelated Transaction + [(Taxpayer's operating expenses/sales) - (Unrelated Transaction's operating expenses/sales)].

This "additive" adjustment is based on the premise that a company's "net" resale margin is calculated after subtracting out its operating expenses<sup>9</sup>—the same premise as an operating margin analysis. As shown in the bottom section of Table 2, this procedure decreases the resale margin for the unrelated transaction by 5 percentage points ( $15\% - 20\%$ ) to compute an *arm's-length resale margin* of 25% ( $30\% - 5\%$ ). As the example shows, a resale margin of 25% implies a cost of goods sold (transfer price) of \$75 for the taxpayer. The same transfer prices are implied when using an operating margin in the application of a CPM, as seen in the top section of Table 2. Under this type of CPM analysis, the tested party's transfer prices are adjusted so that it will earn an operating margin of 10%, which is equivalent to that of the unrelated company.<sup>10</sup>

<sup>7</sup> In this example, the tested party was the purchaser in the intercompany transaction. Thus, its cost of goods sold would include the transfer price.

<sup>8</sup> With a Berry ratio of 1.5, the tested party must earn a gross profit of \$22.50. After subtracting this gross profit from net sales of \$100, a cost of goods sold (transfer price) of \$77.50 is computed. While this is only an example, the implied transfer prices from these two methods will always be equivalent. A formal mathematical proof (available from the author) shows this relation in a general case.

<sup>9</sup> A company with operating expenses of 50% of sales would need to earn a larger resale margin than a company with operating expenses of 10% of sales. This adjustment assumes that the increased resale margin would merely be those 40 percentage points difference.

<sup>10</sup> With an operating margin of 10%, the tested party must earn an operating profit of \$10, which implies a gross profit of \$25. After subtracting this gross profit from net sales of \$100, a cost of goods sold (transfer price) of \$75 is computed. While this is only an example, the implied transfer prices from these two methods will always be equivalent. A formal mathematical proof (available from the author) shows this relation in a general case.

**Table 2**  
**Adjusting the Resale Price Method to Mimic the Operating Margin (Operating Profit/Net Sales)**

		<u>Reported Income Statements</u>	
		Taxpayer	Unrelated (Comparable)
<b>1. Operating Margin (CPM) Method</b>			
a	Net Sales	\$100.00	\$100.00
b	Cost of Goods Sold (Transfer Price)	\$70.00	\$70.00
c=a-b	Gross Profit	\$30.00	\$30.00
d	Operating Expenses	\$15.00	\$20.00
e=c-d	Operating Profit	\$15.00	\$10.00
f=e/a	Operating Margin	15.0%	10.0%
g=a*f(comp.)	Adjusted Operating Profit using Operating Margin	\$10.00	
h=g+d	Adjusted Gross Profit using Operating Margin	\$25.00	
i=a-h	<b>Adjusted COGS using Operating Margin</b>	<b>\$75.00</b>	
<b>2. Adjusted Resale Price--Additive Method</b>			
j=c/a	Resale Margin (Gross Profit/Net Sales)		30.0%
k=d/a	Operating Expenses/Net Sales ("OPX/SALES")	15.0%	20.0%
l=k(tax.)-k(comp.)	Difference Between Taxpayer's and Comparable's OPX/SALES	-5.0%	
m=j(comp.)+l	Adjusted ("Arm's Length") Resale Margin--Additive Method	25.0%	
n=m*a	Adjusted Gross Profit using Adjusted Resale Margin	\$25.00	
o=a-n	<b>Adjusted COGS using Adjusted Resale Margin</b>	<b>\$75.00</b>	

\*: "tax." refers to the taxpayer/tested party and "comp." refers to the unrelated comparable.

These examples show that one can inadvertently apply a CPM when intending to perform a resale price analysis or vice versa. In fact, many practitioners would argue that the "resale price" applications described above should properly be classified as applications of a CPM.

Additionally, it should be mentioned that the resale price applications described above were based on the reported resale margins of an entire "comparable" corporate entity, and not on the resale margins earned on specific "comparable" transactions.<sup>11</sup> Unlike the resale margins of specific transactions, "corporate" resale margins are affected by many non-price factors.

### Method Application

In addition to the attention needed to distinguish between methods, it is also important to properly apply

a chosen method. While in most cases the application is straightforward, there are some situations in which the application of a method can be quite complex.

When applying the CPM, a profit level indicator (PLI) is employed to set the taxpayer's (tested party) profit equal to that of a comparable company. The functions performed, risks incurred, and data available for the tested party will often dictate the appropriate PLI(s) to use and the choice of comparable companies. When actually applying this methodology, however, one must be extremely cautious when using *a PLI with the transfer price in its denominator*.<sup>12</sup> While this may not seem important, the naive application of such a CPM will produce results in which the taxpayer does not earn the same profit as the comparable companies.

As an example, consider a taxpayer that manufactures widgets that it sells to unrelated parties. In its production, the taxpayer purchases raw materials from a related party, such that the "transfer price" at issue

<sup>11</sup> Since resale price is classified as one of the so-called transactions-based methods for tangible property (along with the comparable uncontrolled price and cost plus methods), it is not clear that even looking at the *unadjusted* corporate resale margins would qualify as a resale approach. Many practitioners believe that *any* method which relies upon reported corporate financial statements is an application of the CPM.

<sup>12</sup> For instance, this would be the case when operating margin was used, and the transfer price was in the taxpayer's net sales (*i.e.*, the taxpayer was the "seller" in the intercompany transaction). Essentially, the rationale is that one cannot set a transfer price by a "markup" to a transfer price because that transfer price will be changing.

is recorded as a cost of goods sold. Further suppose that when analyzing this transfer price, the practitioner decides to use a CPM with the manufacturer as the tested party. In the application of a CPM for a manufacturer, many PLI's could be considered, but this practitioner chooses to use a "manufacturing cost plus," that is, operating income divided by total costs.<sup>13</sup>

After finding one comparable manufacturer,<sup>14</sup> Table 3 shows that the arm's-length manufacturing cost plus is equal to 11.11%. Since the taxpayer currently earns a manufacturing cost plus that is 6.54 percentage points above arm's length, it must adjust its prices such that its manufacturing cost plus will be reduced by 6.54 percentage points. Since its operating profit was 6.54% of its total costs "too high", one might think that the taxpayer need only decrease its operating profit by 6.54% of its total costs (i.e., \$5.56).<sup>15</sup> To accomplish

this decrease to operating profit, the taxpayer must increase its cost of goods sold (transfer price) by \$5.56.

Upon closer inspection, however (lower section of Table 3), this adjustment forces the taxpayer to earn a manufacturing cost plus that is *less* than (10.43%<sup>16</sup>) the comparable company. This result comes about because when increasing its transfer price by \$5.56 to reduce its operating profit, the taxpayer was also *increasing its total costs* by \$5.56, to \$90.56. That is, if the taxpayer had decreased its original operating profit by \$5.56 *without increasing its total costs*, it would have earned an arm's-length manufacturing cost plus.<sup>17</sup> Since the transfer price was part of total costs (the denominator in the PLI), the taxpayer would always be changing its total costs when changing its transfer prices.

Table 3  
Potential Problem with a Manufacturing Cost Plus Analysis

		Reported Income Statements	
		Taxpayer	Unrelated (Comparable)
a	Net Sales	\$100.00	\$100.00
b	Cost of Goods Sold (Transfer Price)	\$70.00	\$70.00
c=a-b	Gross Profit	\$30.00	\$30.00
d	Operating Expenses	\$15.00	\$20.00
e=c-d	Operating Profit	\$15.00	\$10.00
f=e/(b+d)	Operating Profit/Total Costs	17.65%	11.11%
g=a*f(tax.)-f(comp.)	Difference	6.54%	
h=b+d	Total Costs	\$85.00	
i=g*h	Transfer Pricing Adjustment (Added to COGS)	\$5.56	
		Adjusted Income Statements	
		Taxpayer	Unrelated (Comparable)
j=a	Net Sales	\$100.00	\$100.00
k=b+i	Cost of Goods Sold (Transfer Price)	\$75.56	\$70.00
l=j-k	Gross Profit	\$24.44	\$30.00
m=d	Operating Expenses	\$15.00	\$20.00
n=l-m	Operating Profit	\$9.44	\$10.00
o=n/(m+k)	Operating Profit/Total Costs	10.43%	11.11%

\*: "tax." refers to the taxpayer/tested party and "comp." refers to the unrelated comparable.

<sup>13</sup> Total costs consist of operating expenses and cost of goods sold.

<sup>14</sup> In most cases, a number of comparable companies will be found, but this example is simplified for illustrative purposes.

<sup>15</sup> \$5.56 = Total Costs of \$85 × 6.54%. As shown in Table 3, this would have the effect of increasing its cost of goods sold to \$75.56.

<sup>16</sup> \$9.44 ÷ \$90.56 = 10.43%.

<sup>17</sup> Under such circumstances, the manufacturing cost plus would equal 11.11% = \$9.44 ÷ \$85.

This problem, which may occur for most PLIs,<sup>18</sup> can often have significant effects. There are, however, two general ways to deal with or avoid this situation:

■ 1. *Keep adjusting the taxpayer's transfer prices until its relevant PLI is equivalent to that of the unrelated company.* In the example described in Table 3, one could keep "plugging in" different values into the taxpayer's cost of goods sold (transfer price) until its manufacturing cost plus equaled 11.11%.<sup>19</sup>

■ 2. *Use another PLI that will yield a mathematically equivalent result.* Some PLIs have "corresponding" PLI's whose application will imply the same transfer prices. As an example, for any manufacturing cost plus value, there is a specific operating margin value and vice versa.<sup>20</sup> Thus, for comparison to any unrelated company, the use of an operating margin will yield the *same arm's-length transfer prices* as when using a manufacturing cost plus.<sup>21</sup>

It should also be pointed out that this problem is not restricted to PLIs in CPM computation. The same problem may also occur when making capital adjustments (e.g., inventory, payables, and receivables) between the tested party and the comparables. When making these adjustments, most practitioners compare the tested party's and comparables' inventory, payables, and receivables as a percentage of their cost of goods sold and net sales. Since these comparisons, which lead to financial adjustments, are made as part of the transfer pricing analysis, any comparison based upon a "transfer price in the denominator" will not be accurate. This is due to the fact that the taxpayer's denominator value will be changing as part of the transfer pricing adjustment.<sup>22</sup>

<sup>18</sup> This problem would not occur for any return on assets measures and would rarely occur when using a Berry ratio.

<sup>19</sup> Most commercial spreadsheet packages feature a "solver" program which can save significant time from such a "trial and error" method. Such iterations, or the use of a "solver" program, will yield an arm's-length transfer price of \$75 (i.e.,  $\$10 \div \$90 = 11.11\%$ ) in this case.

<sup>20</sup> For example, the following operating margins *always* correspond to the following manufacturing cost pluses:

Operating Margin	Manufacturing Cost Plus
2%	2.04%
4%	4.17%
6%	6.38%
8%	8.70%
10%	11.11%
12%	13.64%

A mathematical proof that documents this relationship will not be a part of this paper. The interested reader may contact the author for a copy of this proof.

<sup>21</sup> A similar correspondence exists between a resale margin and a cost plus (gross profit/cost of goods sold). There are, however, other PLIs without "corresponding" PLIs.

<sup>22</sup> For example, for a taxpayer that purchases products from a related party, any adjustment based on its "payables as a percent of

## Interquartile and Other Ranges

The §482 regulations stipulate that the taxpayer's transfer prices may be considered arm's length if its results fall within the full range (between the minimum and maximum values) of the "comparables,"<sup>23</sup> if all adjustments for differences between the taxpayer and the comparables have been made. When all adjustments for differences between the comparables and the taxpayer are not made, the §482 regulations suggest using the interquartile range of the comparables to determine arm's-length pricing. The §482 regulations stipulate, however, that, "... a different statistical method may be applied if it provides a more reliable measure."<sup>24</sup>

The purpose in establishing these ranges is to determine whether the taxpayer's results have been generated by the same distribution which determines the comparables' results. That is, since the comparables are selected because of similarities to the taxpayer, it is assumed that the results of the comparables would come from the same underlying distribution as the one generating the taxpayer's results. Put more formally, the purposes in establishing ranges for transfer pricing are:

- 1. To determine a data set which is indicative of the underlying distribution of the comparables; and
- 2. Therefore, to establish bounds from which outliers<sup>25</sup> can be detected.

To accomplish the above two goals, the §482 regulations stipulate using *either* the interquartile range or a different, more reliable measure. In any event, the interquartile range<sup>26</sup> provides a legally established "safe harbor."<sup>27</sup>

Any statistical measure, especially for small samples, is dependent upon the nature of the underlying distribution. For example, measures designed to capture normal, bell-shaped distributions are not always

cost of goods sold" will not be accurate, as its cost of goods sold (transfer price) will be changing. While this "problem" is much more common than the PLI problem, the effects are almost always de minimis.

<sup>23</sup> The term "comparable" refers to the results of independent parties partaking in arm's-length transactions. Depending on the type of transfer pricing method employed, such results could include prices, royalty rates, margins, markups, or measures of overall profitability.

<sup>24</sup> Final Regs. §1.482-1(e)(2)(iii)(C).

<sup>25</sup> Outliers are observations that are significantly above or below the typical observations in that sample.

<sup>26</sup> There is no single, authoritative definition for the calculation of the interquartile range. The §482 regulations' definition of the interquartile range differs from that of most spreadsheet packages, both of which differ from many textbook definitions. For example, the lower quartile value of the set of observations (1, 2, 3, 4, 5, 6) would be 2, using the §482 definition, while the lower quartile value would be 2.25, using most spreadsheet packages.

<sup>27</sup> Situations exist, however, in which a taxpayer may fall (1) within the interquartile range without having arm's-length prices and (2) outside of the interquartile range and still have arm's-length prices. By definition, 50% of the comparables (with presumably arm's-length prices) are outside of the interquartile range.

Observations	Lower Quartile	Upper Quartile	Median	Mean
(1,2,2,2,2,7,8)	2	7	2	3.4

appropriate for skewed or bi-modal distributions. The interquartile range, which is intended for normal situations, would be less appropriate for a sample which included comparables that either adopted one technology (*i.e.*, VCR) and performed well, as well as comparables that adopted a rival technology (*i.e.*, Betamax) and performed poorly.<sup>28</sup>

In addition, the interquartile range itself is often skewed around the mean or median, as its upper bound—the upper quartile value—may be significantly farther away from or closer to the median or mean than its lower bound. For example, the set of observations above (1, 2, 2, 2, 2, 7, 8) would have a lower quartile value (using the §482 definition) of 2 and an

upper quartile value of 7. The median of this set of observations would be 2, while the mean would be 3.4. Thus, the lower quartile is much closer to the mean and median than the upper quartile.

The interquartile range may also be so skewed that the *entire* range may be either below or above the mean of the distribution. For example, the set of observations below (1, 2, 2, 2, 2, 3, 18) would have a lower quartile value (using the §482 definition) of 2 and an upper quartile value of 3. The median of this set of observations would be 2, while the mean would be 4.3. Thus, the entire interquartile range is lower than the mean of this sample.

Observations	Lower Quartile	Upper Quartile	Median	Mean
(1,2,2,2,2,3,18)	2	3	2	4.3

As the above discussion shows, while the interquartile range is appropriate in most transfer pricing applications, there are some cases (*e.g.*, bi-modal and skewed distributions) in which the interquartile range may not provide an accurate range from which to describe the data's underlying distribution and to detect outliers. More fundamentally, the first and most important step in establishing a reasonable range lies in the selection of the sample and understanding the shape of the distribution of the sample.

---

### Small Data Sets

---

Under all of the §482 regulations' prescribed methods, it is incumbent upon the taxpayer or practitioner to locate "comparables" to use as benchmark prices, margins, profits, or royalty rates. Determining what is "comparable" is clearly an inexact science, and it is rare when two practitioners agree on a "set" of comparables. In fact, some practitioners tend to use a small, refined set of the "best" comparables, while others use a relatively large group of "reasonably good" benchmarks. While there is no correct number

of comparables, there can be some potential problems with using a very small number.

Economic and psychological studies have shown that people tend to infer characteristics about large groups or "populations" from both (1) very small groups and (2) groups that are not representative of the population.<sup>29</sup> Economists and other tax practitioners may be just as likely to suffer these "biases" as anyone else. Both of these biases could have significant effects in transfer pricing analyses.

For example, suppose that one did not know the probability of flipping a "Head" on a coin toss. As an estimate, it was decided to infer this probability from the result of 3 flips. The following table shows that none of the potential results would be indicative of the true probability of 50%.

<sup>28</sup> Some "problems" like these can be avoided by a prudent choice of comparables, but the detail to make such analyses about an industry may not be available. Even when the detail about an industry is available, the underlying distribution of comparables may be bi-modal (*e.g.*, large distributors earning low resale margins and small distributors earning high resale margins) or skewed (*e.g.*, an emerging industry with many poor performing companies and a small number of highly profitable companies).

<sup>29</sup> These biases are respectively referred to as "The Law of Small Numbers" and a "Selection Bias."

Result of 3 Tosses	Inferred Probability of Head
0 heads	0 percent
1 head	33.3 percent
2 heads	66.7 percent
3 heads	100 percent
True Probability	50 percent

That is, regardless of the results of the 3 flips, the “sample probability of heads”—the proportion of the 3 flips that were heads—would be far different from the true probability of 50%. Similarly, in transfer pricing, the results from a small set of comparables may not be indicative of the general results in that industry.

Regarding the “representativeness” of the sample, suppose one were attempting to estimate the average years of education for citizens of the United States. If one used only the data acquired from a survey of graduate students, the resulting “sample mean” would likely be above the population average. Most of today’s surveys would not make such a glaring error, as survey techniques have become quite sophisticated, and the estimates are fairly reasonable. Similarly, a well reasoned comparable search, with objective criteria for inclusion/exclusion, should ensure that a selec-

tion bias does not occur and that the sample is representative of the population.<sup>30</sup>

---

### Conclusion

---

The preceding article has attempted to identify some of the technical issues that arise in transfer pricing analyses. While some solutions to these issues are advocated, this article was primarily designed to increase the level of awareness of these issues and encourage further papers that enhance the discussion of other technical aspects of transfer pricing.

---

<sup>30</sup> On a related topic, the choice of the “1 or 2 best” comparables in the exact same industry as the taxpayer may be inappropriate, as their

---

fortunes/profits may be inversely related. For instance, while Burger King and McDonald’s may be functionally comparable, a high profit earned by Burger King might imply that McDonald’s would be earning a low profit (*i.e.*, Burger King was taking away its market share).





This section contains names and addresses for companies, organizations, and officials referred to in this issue.

**Robert E. Ackerman**  
**Charles Triplett**  
 Mayer, Brown & Platt  
 2000 Pennsylvania Ave. N.W.  
 Suite 6500  
 Washington, D.C. 20006  
 (202) 463-2000  
 Fax (202) 861-0473

**Robert H. Aland**  
**Baker & McKenzie**  
 1 Prudential Plaza  
 130 E. Randolph Drive  
 Chicago, Ill. 60601  
 (312) 861-8000  
 Fax (312) 861-2899

**Brian C. Becker**  
 Economic Consulting Services Inc.  
 1225 19th St. N.W.  
 Washington, D.C. 20036  
 (202) 466-7720  
 Fax (202) 466-2710

**Robert T. Cole**  
 Cole Corette & Abrutyn  
 805 15th St. N.W., Suite 900  
 Washington, D.C. 20005  
 (202) 310-5720  
 Fax (202) 296-8238

**Robert Culbertson**  
 Caplin & Drysdale  
 1 Thomas Circle N.W.  
 Washington, D.C. 20005  
 (202) 862-5000  
 Fax (202) 296-2866

**William G. Dodge**  
**Steven Wrappe**  
 Deloitte & Touche LLP  
 Suite 350N  
 1001 Pennsylvania Ave. N.W.  
 Washington, D.C. 20004-2594  
 (202) 879-5610  
 Fax (202) 879-5309

**M. Carr Ferguson Jr.**  
 Davis Polk & Wardwell  
 450 Lexington Ave.  
 New York, N.Y. 10017  
 (212) 450-4840  
 Fax (212) 450-4800

**Paul A. Halpern**  
 Guardian Industries Corp.  
 2300 Harmon Rd.  
 Auburn Hills, Mich. 48326-1714  
 (810) 340-2264  
 Fax (810) 340-2258

**Alson R. Kemp**  
 Pillsbury Madison & Sutro  
 225 Bush St.  
 P.O. Box 7880  
 San Francisco, Calif. 94120-7880  
 (415) 983-1000

**Howard Liebman**  
 Morgan, Lewis & Bockius  
 7 Rue Guimard  
 Brussels 1040, Belgium  
 32-2-512-55-01  
 Fax 32-2-512-58-88

**James R. Mogle**  
 Coopers & Lybrand LLP  
 1800 M St. N.W.  
 Washington, D.C. 20036  
 (202) 822-4000  
 Fax (202) 296-6247

**Carl A. Nordberg Jr.**  
 Groom and Nordberg  
 1701 Pennsylvania Ave. N.W.  
 Washington, D.C. 20006  
 (202) 857-0620  
 Fax (202) 659-4503

**James D. O'Donnell**  
 1648 Osceola St.  
 Jacksonville, Fla. 32204  
 (904) 387-4963  
 Fax (904) 384-7329

**Martin A. Schainbaum**  
 The Pacific Bank Building  
 351 California St., Suite 800  
 San Francisco, Calif. 94104  
 (415) 777-1040  
 Fax (415) 981-1065

**Robert D.M. Turner**  
 Ernst & Young  
 P.O. Box 251  
 Toronto Dominion Centre  
 Toronto, Ontario M5K 1J7  
 (416) 943-3513  
 Fax (416) 864-1174

**Michael Quigley**  
 Akin, Gump, Strauss, Hauer & Feld  
 1333 New Hampshire Ave. N.W.  
 Washington, D.C. 20036  
 (202) 887-4000  
 Fax (202) 887-4288

**E. Miller Williams**  
 Arthur Andersen LLP  
 133 Peachtree St. N.E., Suite 2500  
 Atlanta, Ga. 30303-1846

(404) 658-1776  
 (404) 223-7155

## Government Directory

**Carole Gouin**  
 Director General  
 International Tax Programs Directorate  
 Revenue Canada  
 123 Slater St., Room 700  
 Ottawa, Ontario  
 Canada K1A 0L8  
 (613) 952-7470  
 Fax (613) 941-9673

**Anne Hintermeister**  
 Special Trial Attorney  
 7 World Trade Center, 25th Fl.  
 New York, N.Y. 10048  
 (212) 264-0262  
 Fax (212) 264-8423

**Lawrence C. Letkewicz**  
 Regional Counsel  
 200 W. Adams St., Suite 2400  
 Chicago, Ill. 60606  
 (312) 886-5171  
 Fax (312) 886-0549

**John Lyons**  
 Assistant Commissioner (International)  
 Internal Revenue Service  
 950 L'Enfant Plaza South S.W.  
 Room 4401, IN  
 Washington, D.C. 20024  
 (202) 874-1900  
 Fax (202) 874-1782

**William R. McCants**  
 Internal Revenue Service  
 Suite 564 Stop C  
 400 West Bay St.  
 Jacksonville, Fla. 32202  
 (904) 232-2788

**Scott Newlon**  
 Department of the Treasury  
 Office of Tax Policy  
 International Taxation Division  
 1500 Pennsylvania Ave. N.W.  
 Washington, D.C. 20220  
 (202) 622-2657  
 Fax (202) 622-2969

**Robert Stoddart**  
 Department of Justice, Tax Division  
 P.O. Box 26  
 Ben Franklin Station  
 Washington, D.C. 20044  
 (202) 307-6445  
 Fax (202) 514-9440