When Could the Berry Ratio Be Used in Transfer Pricing Analyses?

The author considers the Berry ratio in tax literature and jurisprudence, and discusses circumstances in which its application might be appropriate in a transfer pricing context.

1. Introduction
The Berry ratio is a profit level indicator (PLI) that has existed for quite some time. It is also an option that is mentioned by the OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations (OECD Guidelines) and has been the subject of numerous articles. However, in practice, it is relatively seldom seen when compared to the default PLI for remunerating sales-related transactions, namely the operating margin.

This article will (i) summarize what the Berry ratio is and offer general comments on its application in transfer pricing analyses, (ii) consider what types of transactions might be best suited to the application of a Berry ratio, especially in light of more globalized and internationally integrated sales activities and a post-BEPS world and (iii) provide a non-exclusive list of points that could be considered when applying the Berry ratio in practice.

2. Background to the Berry ratio and Its Application

2.1. History and background
The Berry ratio has existed as a PLI for transfer pricing services since the end of the 1960s and early 1970s. It is named in honour of Dr Charles Berry, then professor of economics at Princeton University, who was consulted by the US Internal Revenue Service (IRS) and Justice Department to evaluate the economic circumstances underlying a dispute between the IRS and the E.I. DuPont de Nemours & Co. of Wilmington, Delaware (DuPont).1

The key question in the DuPont case concerned what the appropriate level of profitability for a related-party distributor should be. Berry utilized the ratio of “gross profit/operating expenses” as a PLI, to compare the profitability of the distributor with the profitability of the comparable third-party distributors. Berry’s key insight was that the related-party distributor in the DuPont case was, in effect, a service provider (providing distribution services to the manufacturer) and not a trader. He then compared the related-party distributor with third-party service providers, such as third-party market research and management consultants, third-party advertisers and third-party distributors.

In the analysis involving market research and management consultants, Berry compared the related-party distributor’s ratio of gross profit to operating expenses to the ratio of total income earned to total costs of service provision (in essence, the markup on total costs). In the analysis involving advertisers, the related-party distributor’s ratio of gross profit to operating expenses was compared to the ratio of billed commissions that can be considered analogous to the gross profit (excluding the costs of advertising placement, as such services were performed by the media rather than the advertisers themselves) to total operating costs of the advertising agencies. In the third case (distributors), the related-party distributor’s ratio of gross profit to operating expenses was compared to the third-party comparables’ ratios of gross profits less interest and extraneous income to operating costs (excluding interest costs and depreciation).

The concept behind these comparisons is that the related-party distributor should earn a return that compensates it for the distribution services performed and irrespective of the sales value of the products being distributed. The assumption thereby is that the value of those distribution services is effectively reflected in the operating expenses. Thus, such a limited-risk distributor merely needs to earn a gross profit that is sufficient to cover its operating costs and provide an adequate return on those costs. In effect, the Berry ratio is a variant of the cost-plus method.

As a variant of the cost-plus method, the Berry ratio can have quite a significant impact on the profitability of a tested party as compared to the operating margin, which is most likely commonly applied when remunerating sales-based activities. Thus, great care should be taken in deciding whether to apply the Berry ratio in practice. The following (simplified) example illustrates the problem that may arise in such a scenario should a sales-based transactional net margin method (TNMM) be applied to a high volume/low margin business, and how using the Berry ratio may be a more appropriate measure of an arm’s length return for the functions performed.

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Example

<table>
<thead>
<tr>
<th>Scenario A</th>
<th>Scenario B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1A</td>
<td>Case 2A</td>
</tr>
<tr>
<td>Revenue</td>
<td>1,000</td>
</tr>
<tr>
<td>COGS</td>
<td>930</td>
</tr>
<tr>
<td>Gross profit</td>
<td>70</td>
</tr>
<tr>
<td>OPEX</td>
<td>50</td>
</tr>
<tr>
<td>Operating profit</td>
<td>20</td>
</tr>
<tr>
<td>Berry ratio</td>
<td>1.40</td>
</tr>
<tr>
<td>OM</td>
<td>2.00%</td>
</tr>
<tr>
<td>OPEX/Revenue</td>
<td>0.05</td>
</tr>
</tbody>
</table>

In this example, three cases with increasing sales volumes are presented for each of two scenarios. In Scenario A, the cost of goods sold (COGS) is adjusted in each case to achieve a 2% operating margin. In Scenario B, the COGS is adjusted in each case to achieve a Berry ratio of 1.40. Under both scenarios, sales volumes are increased tenfold, while operating expenses are assumed to double, reflecting the fact that operating expenses for (limited-risk) distributors do not increase simply due to, and linearly with, sales volumes.

In Scenario A, the sharp increase in the Berry ratio illustrates one potential problem that may arise when using operating margins as a measure of profitability. Despite the 2% target margin’s appearing reasonable at the lower sales volume, the distributor’s return can be seen to be increasingly divorced from its operating expenses as sales volumes increase. This is illustrated by reference to the significantly declining operating expenses (OPEX) to revenue ratio as one moves from Case 1 to Case 3. If one assumes, as in the fact pattern analysed by Berry, that the operating expenses best reflect the distributor’s value contribution, the link between the distributor’s efforts and its return can be maintained.

The example is obviously extreme. But it does serve to illustrate the key aspect of the Berry ratio, namely its focus on the (operating) costs of the tested party as opposed to revenues – or indeed any other denominator – and what this can mean in practice.

**2.2. The Berry ratio in practice**

In light of the preceding example, it is interesting to consider the extent to which the Berry ratio is actually applied in practice. Verloove, Antoshina, Bane and Dineen conducted an informal analysis of the Berry ratio in practice in a number of European countries, as well as in Canada. The key conclusions of this study were that:

- the Berry ratio is a PPI that is recognized by the OECD Guidelines and in the United Nations Practical Manual on Transfer Pricing (UN Transfer Pricing Manual);
- in the countries covered in their analysis, there is generally no specific provision for the Berry ratio in local transfer pricing legislation or regulations. However, in most cases it is indirectly permitted under broader provisions such as “a method similar to” or an “any other method” approach, or by mere endorsement of the OECD Guidelines (2010); and
- the Berry ratio has been applied in practice by most of the participants in the survey – in some cases, even within APAs. Nevertheless, the authors noted a certain reticence in the application of the Berry ratio in practice. Two possible reasons for this reticence were mentioned. First, there are possible comparability issues due to the non-uniform accounting treatment (the Berry ratio is, of course, highly dependent on the definition of gross profit and operating expenses). Second, there is a perceived misapplication of the Berry ratio in many instances, for example where the Berry ratio is applied to distributors that perform other value-adding functions (e.g. manufacturing) or hold non-routine intangible assets.

Spoken, Midzio, Loh and Wenke published an article in 2010 that considered the application of the Berry ratio to the consumer electronics industry, and included comments on the perspectives of five large European countries. In congruence with the previous study, none of the countries’ tax authorities would reject the Berry ratio outright. However, in a number of them, there may be some reluctance to accepting it in practice. For example, they note that in the United Kingdom, the tax authorities tend to consider that a sales-based approach to remunerating sales is more appropriate than a cost-based one. In France, it was the authors’ experience that the tax authorities generally do not like PLIs that are based on gross profit, and prefer net profit. With regard to Germany, the authors noted that, at least for service-like transactions, the Berry ratio could be applicable.
There are some national court decisions that support the application of the Berry ratio in certain circumstances. For example, the 2014 Mitsubishi case in India concluded that the Berry ratio may be applied to intermediary activities.8

Several other authors have also commented on the appropriate application of the Berry ratio. The general tone of these comments matches those above, in that the Berry ratio is best applied only in limited circumstances. Typical examples of such circumstances are intermediaries, service providers and simple distributors.

2.3. Application of the Berry ratio in transfer pricing analyses

The question then arises as to what features of the Berry ratio lead to its restricted application in practice. A starting point for addressing this question is the criteria defined by the OECD. Paragraph 2.101 of the OECD Guidelines (2010) also outlines three criteria for the application of the Berry ratio:

- the value of the functions performed in the controlled transaction (taking account of assets used and risks assumed) is proportional to the operating expenses;
- the value of the functions performed in the controlled transaction (taking account of assets used and risks assumed) is not materially affected by the value of the products distributed, i.e. it is not proportional to sales; and
- the taxpayer does not perform, in the controlled transactions, any other significant function that should be remunerated using another method or financial indicator.

The first criterion is clearly relevant, as in the Berry ratio the denominator is operating expenses. Thus, it is essential that the value created in the transaction be reflected in just these expenses. This is the reason why integrated distributors (i.e. those that also manufacture) are usually not considered appropriate candidates for the Berry ratio, as at least some of their value creation (i.e. the manufacturing activity) is likely to be included within cost of goods sold. One could also consider whether a fully fledged distributor’s control and management of its own inventory might also mean that a focus purely on its operating expenses might not reflect all of its contribution to value creation. Similarly, if the related-party transaction involves significant non-routine IP, it is at best questionable whether that IP’s contribution could be adequately reflected in merely the operating expenses.9 Such functional considerations are also relevant to the third-party benchmarking data to be used in any active application of the Berry ratio. Further, using operating expenses as the denominator often has the advantage that these are not significantly influenced by transfer pricing, as the major source of such expenses is employees and third parties.

The second criterion is, in some respects, the opposite of the first, in that it excludes those cases where sales or revenues reflect the value created. The assumption behind it is that, in a transaction where the Berry ratio is appropriate, at least one of the factors that drive revenue (price and volume) is out of the hands of the distribution entity. The third criterion can be interpreted as a requirement to ensure that the quality of a transfer pricing analysis using the Berry ratio not be unduly influenced by a mix of different activities.

When distilling the preceding discussion to its essence, one can reach the following conclusions:

- the Berry ratio is most likely to be successfully applied to sales functions in cases where revenues (contrary to the general understanding) do not reflect the value created by that sales function – or, in other words, cases where, based on the functional and risk profile, the price and volume risks do not lie with the tested party;
- no significant intangible property is involved;
- adequate benchmarking data are available (with respect to both the classification of costs within operating expenditure and functional comparability); and
- in light of the relatively restricted requirements for, and experience of, its application in practice, the appropriateness of the Berry ratio in a particular context needs to be especially well explained and demonstrated.

3. Application in Practice

3.1. Scenarios where a Berry ratio might be appropriate

What does this mean on the front line? In other words, in what circumstances could a Berry ratio be applied in practice (or, indeed, has a Berry ratio been applied in practice)? Based on the criteria outlined above, it seems that the following situations may well be ones in which a Berry ratio could be applied, at least as one of a number of PLIs.

Intermediary activities (i.e. where the tested party both purchases from and sells to related parties).10 In such a case, the revenues clearly do not meet one of the primary characteristics of any PLI, namely that the denominator be independent of any transfer prices. Trading houses and other high volume/low margin activities where very large sales volumes are moved by a relatively small sales function. In particular, in low margin businesses a standard return on sales value of 2% to 5% can quickly represent an inordinate proportion of the total system profit available.11,12 Indeed, a sales-based remuneration in such cases might lead to the situation where, when

11. Sporken et al., supra n. 6.
12. Strictly speaking, this ought to be an industry-wide issue so that a return on sales of even, for example, 0.002% ought to be defendable if third parties operating in the same industry earn equally low returns on sales. However, in practice, it may be difficult to identify sufficiently comparable third parties operating in the same industry under the same conditions. Furthermore, optically such values look and “feel” extremely small, and because of this may attract otherwise undue tax authority attention.
one steps back from a one-sided TNMM analysis to consider the overall profit allocation vis-à-vis value contributions of the individual parties, the sales function earns an obviously inordinately high proportion of the available system profit. Such a line of argumentation may become more frequent in a post-BEPS environment, with increased transparency with regard to the entire value chain and country-by-country reporting.

The focus of the sales function’s activities is actually not on maximizing revenues or the sales company’s efforts to not largely or solely drive the level of revenues.\footnote{The two main components of revenue are, of course, price and volume.} For example:

- prices are determined elsewhere (e.g. via a standardized pricing model [algorithms], centrally negotiated framework agreements, exchange traded products [commodities],\footnote{Supra n. 3; Sporken et al., supra n. 6.} highly regulated industries such as defence);
- volumes are determined elsewhere, e.g. by end customers’ requirements or regulations;\footnote{Enterprise resource planning.}
- raw material price fluctuations are a significant component of revenues;\footnote{Select Scenario 4 in the example above.}
- the tested party performs only a limited range of sales-related activities, such as a classical sales service provider and/or cases where key aspects of the transaction such as exact specifications are negotiated by the customer directly with the manufacturer and not the sales entity in between;\footnote{Selling, general and administrative expenses.}
- the primary activity is to ensure other aspects, such as having the right products from the right vendors at the right time at the right volumes (inventory).

The sales process is conducted in a highly integrated cross-border manner, such that teams in multiple locations are involved in generating a sale and it is then not possible to reliably allocate revenues to individual sales locations (without performing some sort of potentially subjective or arbitrary allocation key, which in turn could be questioned in a tax audit). This may be the case for industries where customers – and, in turn, the own sales processes – no longer follow a strict classical country-by-country structure, but are regionally or even globally organized.

A variation of this may be in cases where the level of profitability for such an integrated sales operation (e.g. Europe) has been determined, such as via an operating margin applied at the regional rather than the national level, and this international profit needs to be allocated to the individual tax jurisdictions involved in the region. The use of each location’s operating expenses as a key to allocate the available profit would, in effect, be an application of the Berry ratio.

Similar function and risk profiles, but different approaches to invoicing. The various sales locations have comparable functional and risk profiles, except that some also invoice the customers on a flash title basis, while others do not invoice directly, and one wishes to ensure comparable profitability for the comparable function and risk profiles.

Difficulties in accurately demarcating the relevant revenues. This refers to cases where the tested party is an agent or commissionaire and it is difficult (e.g. due to limitations in the ERP\footnote{US Internal Revenue Service, APA Study Guide (1999), available at http://www.irs.gov/pub/irs-apa/apa_study_guide_.pdf.} systems) to accurately and reliably demarcate the relevant solicited sales revenue. Alternatively, if it is possible to find only third-party buy-sell distributors in a benchmarking study, an application of the Berry ratio may be an alternative to the use of asset intensity adjustments.

3.2. Additional points for consideration in a practical implementation of the Berry ratio

The preceding discussion has touched upon the requirements for, and application of, the Berry ratio. A practical implementation of the Berry ratio would also require adequate benchmarking data. As a consequence, there are a number of factors that may be worth taking into account when performing a Berry ratio analysis.

The Berry ratio is very sensitive to the classification of costs between operating expenses and COGS. Thus, a practical implementation should ensure congruity between the calculations of the tested party’s Berry ratio and those of the comparable companies. Indeed, it may also be wise to restrict the search for comparable companies to one database, in order to reduce the scope for different classifications to distort the final results.

The IRS APA Study Guide\footnote{Select Scenario 4 in the example above.} comments that various studies have shown that uncontrolled wholesale distributors with relatively low operating expense to sales levels (i.e. below 10 to 15%) report much higher Berry ratios than companies with higher operating expense to sales levels.\footnote{Select Scenario A in the example above.} This result suggests caution in using the Berry ratio PLI to compare companies with low operating expense to sales ratios, to companies with higher operating expense to sales ratios. Indeed it may be worth introducing an additional criterion into the search strategy of the benchmarking study to ensure that the comparable companies identified have a ratio of operating expenses to sales that is close to that of the tested party – or at least cross-checking where the final set of comparable companies’ SG&A to sales ratios lies vis-à-vis the tested party.

The preceding points acknowledge that functional comparability and the intensity of operating expenses are key. This may mean that there should be a higher degree of significance placed on the industry or product comparability when performing benchmarking studies, in order to ensure that the final set of comparable companies is, in fact, sufficiently comparable.\footnote{Select Scenario 4 in the example above.}
Another practical dimension that might be relevant when applying the Berry ratio could be the question as to whether to include depreciation costs. In light of the potentially subjective nature of depreciation costs and individual companies’ differing approaches to the definition and quantification of depreciation costs, it has been argued that when applying the TNMM, depreciation should be excluded. 23

4. Conclusion

The Berry ratio is a PLI that has been around for quite some time, but is not applied frequently in practice. There are good reasons for this, which lie in the Berry ratio’s focus on operating costs as opposed to revenue when remunerating sales activities. Nevertheless, the Berry ratio is certainly a PLI that can be applied if the circumstances of a particular case fit. Examples might include cases where the sales activity is more service like and revenue does not, in fact, reflect the value contribution or cases where the sales activities of individual locations have become so integrated that an allocation of the resulting sales revenues to individual locations could be somewhat arbitrary. In any case, in light of the rarity of the PLI in practice, an application of the Berry ratio should be supported by a well-founded transfer pricing analysis. The increased focus on a multinational enterprise’s overall value chain and the contributions of individual entities within that overall context in a post-BEPS world will likely mean an increased emphasis on determining what are the true drivers behind the creation of that value. Consequently, there may be more cases in the future where the Berry ratio could be applied.