Bootstraping accounting variables to obtain the fair value of a brand

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Abstract

The brand is one of the main parts of the intangible assets of the companies, but accounting rules usually underestimate its value. In this study a model for obtaining the fair value of brands is proposed. The model combines bootstrap techniques applied on financial and accounting information with the differential margin approach. A case study on food brands is presented showing how both tools can make a new model that provides a reliable value. Using the bootstrap allows obtaining the brand value distribution and also confidence intervals. The model can be very easy to standardize in order to define a brand fair value.

Keywords: brand fair value, food brands, bootstrap, differential operating margin, price premium method.

Introduction

ISO10668 defines a brand as marketing-related intangible asset including, but not limited to, names, terms, signs, symbols, logos and designs or a combination of these, intended to identify goods, services or entities, or a combination of these, creating distinctive images and associations in the minds of stakeholders, thereby generating economic benefits/values. For Bonet (2011) the brand is the real value added offered by the company to their customers. According to Garcia (2000) there is not any valuation method that can be widely applied to all the companies. The income approach is the most used although there are other approaches as cost or comparative, Salinas (2007). But there can be several methods using an income approach. Damodaran (2006) proposes the generic operating method which is based on replacing the operating margin of the brand name firm with the operating margin of generic companies in the same business. It is assumed that the power of a brand name allows charging higher prices. The ISO10668 names this method as the price premium method.

The brand is one of the main parts of the intangible assets of the companies, but as Damodaran (2006) states traditional accounting rules either underestimate its value or completely ignore it. Accounting rules encourage to seek the fair value of the assets, according to the International Accounting Standards Board (2011) “the price that would be received to to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date”.

The main objective of this study is to develop a model to quantify the fair value of a brand using accounting information. The model is developed by adding the variability of the accounting variables to the generic operating method by means of bootstrap techniques.

Methods

The generic operating method for pricing brands needs the sales and operating margin of the company. It also needs the operating margin of a generic company. Moreover the cost of capital of the company and the corporate tax have to be taken into account. Equation [1] shows the basic model, it estimates the differential flows attributed to the brand and then carries out a perpetual discount process. Despite the simplicity of the model the practical application implies making many decisions about the parameters.
Decisions as whether to use last year data or average data, how to determine the cost of capital and the capital structure.

\[ V_{brand} = \frac{Sales \times (1 - \tau) \times \text{Differential margin}}{WACC} \]  

[1]

In order to consider the available information and its variability bootstrap techniques can be integrated into the model. The bootstrap is a resampling technique, it takes several Monte Carlo samples of size \( n \) with replacement from the original observations (Chernick and Labudde, 2011). Figure 1 shows the procedure to integrate the bootstrap with the operating margin method for valuing brands. It implies gathering a sample of the variables instead of taking one single value. Specifically 4 bootstrap procedures have to be carried out for the sales, differential margins, unlevered betas of the industry and also on the capital structure of the company.

**Figure 1. Brand valuation bootstrapping process**

A case study has been carried out to value the brand of the ten major companies of the Spanish food sector. For each company the sales, the operating margin and the capital structure (book values) of the 2007-2011 period have been gathered. For computing the industry average margin the operating margin of all the industry companies with sales between 2 and 10 million € has been gathered for the same period. In order to avoid outliers the harmonic mean of each year has been calculated as the generic margin. It is assumed that companies of that size do not own any recognizable brand. At the same time the Betas of 146 companies of the European food industry for the year 2012 have been gathered.

Four (one for each of the previously explained variables) bootstrap procedures of resampling have been carried out 10,000 times. For each variable the average of each resample has been calculated and by combining each variable resample mean 10,000 values of each brand have been obtained. For computing the beta it is necessary to leverage the industry beta with the capital structure of the owner of the brand.

Table 1 shows the brand values obtained and also percentage of that value on the EBIT, sales and Assets of the company. As can be seen Danone is the most valuable brand in the Spanish food industry and it is the only one whose value is greater than the value of its assets. The operating margin of Danone is much greater than the industry one causing a great differential EBIT. Nevertheless in the case of brands owned by multinational corporations operating margins can be strongly determined by internal decisions on transfer prices and this fact can introduce some bias in the value of the brand. The same can happen with the Nestle brand.
Table 1. Brand values

<table>
<thead>
<tr>
<th>Nº</th>
<th>Brand</th>
<th>Brand Value</th>
<th>Brand Value/EBIT</th>
<th>Brand Value/Sales</th>
<th>Brand Value/Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Danone S.A.</td>
<td>2,337,552,000</td>
<td>935%</td>
<td>213%</td>
<td>436%</td>
</tr>
<tr>
<td>2</td>
<td>Nestle España S.A.</td>
<td>746,635,000</td>
<td>660%</td>
<td>52%</td>
<td>45%</td>
</tr>
<tr>
<td>3</td>
<td>Corporación Alimentaria Guissona S.A.</td>
<td>404,852,000</td>
<td>736%</td>
<td>31%</td>
<td>76%</td>
</tr>
<tr>
<td>4</td>
<td>Campofrío Food Group S.A.</td>
<td>359,296,000</td>
<td>666%</td>
<td>41%</td>
<td>20%</td>
</tr>
<tr>
<td>5</td>
<td>El Pozo Alimentación S.A.</td>
<td>248,662,000</td>
<td>582%</td>
<td>34%</td>
<td>53%</td>
</tr>
<tr>
<td>6</td>
<td>Puleva Food S.L.</td>
<td>181,701,000</td>
<td>416%</td>
<td>40%</td>
<td>84%</td>
</tr>
<tr>
<td>7</td>
<td>Casa Tarradellas S.A.</td>
<td>162,066,000</td>
<td>470%</td>
<td>24%</td>
<td>47%</td>
</tr>
<tr>
<td>8</td>
<td>Martínez Loriente S.A.</td>
<td>133,195,000</td>
<td>691%</td>
<td>27%</td>
<td>53%</td>
</tr>
<tr>
<td>9</td>
<td>Miguel Gallego S.A.</td>
<td>79,727,000</td>
<td>346%</td>
<td>16%</td>
<td>32%</td>
</tr>
<tr>
<td>10</td>
<td>Lípidos Santiga S.A.</td>
<td>60,717,000</td>
<td>403%</td>
<td>14%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Figure 2 shows the annual differential operating margin of the assessed brands, as can be seen the differential margin of Danones is much greater than the margin of the rest of the companies and leads to a very high value. Observing the ratios computed in table 1 all the companies besides Danone show ratios Brand Value/Sales and Brand Value/Assets below 100%.

Figure 2. Differential Operating Margins

Nine of the ten brand values are from companies known by the final consumer. Only the 10th brand, LIPSA owned by Lípidos Santiga SA do not sells a consumer product. In this case it could be considered whether the brand value is including some other factors, a deeper study of the company and the brand would be necessary.

Although table 1 only shows the average brand value for each brand a distribution of the brand value is obtained allowing to determine the interquartile range, the minimum and maximum value of the brand and also the standard deviation of the that distribution, figure 3 shows the brand value distribution of Nestle Spain.
Conclusions

Applying bootstrap techniques on financial and accounting data together with income valuation models can be a useful tool to determine the fair value of brands. Brand value distributions and confidence intervals are obtained improving the information and reducing the uncertainty on the value of brands.

A specific and standardized procedure can be set to obtain a reliable and comparable value. This would allow analyzing the evolution of the brand value providing more real accounting information.

References


