WIPO NATIONAL SEMINAR ON THE VALUATION OF INDUSTRIAL PROPERTY ASSETS

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THEME III: METHODOLOGIES FOR DETERMINING THE VALUE OF INDUSTRIAL PROPERTY ASSETS - VIEWPOINT OF A PROFESSIONAL CONSULTANT ENGAGED IN VALUATING INDUSTRIAL PROPERTY ASSETS

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The Valuation of Intangible Assets
Structure of Presentation

- Description of intangible assets
- Background to the valuation debate
- Importance of valuing intangible assets
- How intangible assets are valued
Description of Intangible Assets

- Intangible assets possess the following attributes:
  - non-physical in nature;
  - capable of producing future economic benefits;
  - protected legally or through a *de facto* right; and
  - for valuation purposes, the asset must also be readily identifiable and capable of being separated from the other assets employed in the business

- The most common intangible assets encountered are:
  - Brands - consumer goods brands, trademarks, corporate names
  - Publishing rights - magazines, books, mastheads, film and music rights
  - Intellectual property - patents, copyrights, technology, know-how
  - Licences - TV and radio, airline slots, franchises, distribution rights
Debate Over the Valuation of Intangible Assets

- Concerns are expressed over whether intangible assets can sensibly be valued
- Factors highlighted include
  - the *subjectivity* of the valuation process;
  - the *separability* of intangible assets from the underlying business; and
  - the *consistency* of valuation methods applied
Debate Over the Valuation of Intangible Assets

- In 1992 Arthur Andersen completed a major study which concluded
  - many intangible assets are identifiable, separable and capable of being valued
  - there was considerable consensus over valuation methodologies
  - valuation of intangible assets may be subjective, but no more than the valuation of unquoted companies, pension funds, or emerging markets
The Importance of Intangible Assets Valuation

- The ability to value intangible assets is of increasing importance to the business and financial community
- Intangible asset valuations are frequently performed in the areas of
  - licensing arrangements
  - mergers and acquisitions
  - fund raising
  - taxation, including transfer pricing and purchase price allocation
  - financial reporting
  - litigation
Methodologies for Valuing Intangible Assets

- The valuer must choose from existing methodologies according to
  - conceptual superiority of the methodology
  - availability of information

- The main approaches are
  - cost
  - market value
  - economic approaches
    - net present value of cash flows deriving from the intangible assets
    - brand contribution
    - royalty method
    - asset approach
Measuring the Value of Intangible Assets - Assessing the Components

Value = quantity \times \left[ \text{price} - \text{cost} \right] \times \text{capitalisation factor}

The key is determining the incremental value or cost contributed by the intangible assets. The proportion will differ depending on the intangible assets under consideration.
Cost-Based Approach

• May be used to assess the replacement cost of the intangible assets or the costs of creating an equivalent asset (e.g. pharmaceutical compounds, brands, software)

• Requires accumulation of costs invested in the intangible assets (e.g. R&D, marketing support)

• Costs are adjusted for
  – inflation, using a suitable cost index
  – the required rate of return on the investment
### Example of Cost-Based Approach

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>£'000</td>
<td>£'000</td>
<td>£'000</td>
<td>£'000</td>
<td>£'000</td>
<td>£'000</td>
</tr>
<tr>
<td>Total estimated gross expenditure</td>
<td>5,355</td>
<td>5,299</td>
<td>6,306</td>
<td>6,387</td>
<td>6,394</td>
<td>29,741</td>
</tr>
<tr>
<td>Tax rate</td>
<td>33%</td>
<td>33%</td>
<td>33%</td>
<td>33%</td>
<td>33%</td>
<td></td>
</tr>
<tr>
<td>Less: tax benefit</td>
<td>(1,767)</td>
<td>(1,749)</td>
<td>(2,081)</td>
<td>(2,108)</td>
<td>(2,110)</td>
<td>(9,815)</td>
</tr>
<tr>
<td>Total relevant value</td>
<td>3,588</td>
<td>3,550</td>
<td>4,225</td>
<td>4,279</td>
<td>4,284</td>
<td>19,926</td>
</tr>
<tr>
<td>Inflation index (based on RPI)</td>
<td>20.6%</td>
<td>12.8%</td>
<td>7.5%</td>
<td>3.0%</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Relevant value adjusted for inflation</td>
<td>327</td>
<td>4,005</td>
<td>4,542</td>
<td>4,408</td>
<td>4,284</td>
<td>21,565</td>
</tr>
<tr>
<td>Rate of return p.a.</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td>Risk return factor (compound)</td>
<td>1.46</td>
<td>1.33</td>
<td>1.21</td>
<td>1.10</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Risk adjusted relevant cost</td>
<td>6,335</td>
<td>5,330</td>
<td>5,496</td>
<td>4,848</td>
<td>4,284</td>
<td>26,294</td>
</tr>
</tbody>
</table>
Limitations of Cost-Based Approach

- No correlation between expenditure and subsequent value
  (Biotech and pharmaceutical R&D, Sinclair C5, Betamax video system)

- Lack of relevant cost information on the intangible assets and indices to adjust historic to current costs

- Difficulty in separating expenditure that enhances value (R&D, marketing) and expenditure that maintains value (marketing!)
Market-Based Approach

- The intangible assets are valued by reference to recent market transactions for comparable assets
- Provides credibility and objectivity
- Terms of most intangible assets transactions are not disclosed. Values may have to be estimated from the sale of companies owning substantial intangible assets
Economic-Based Approaches

- Two components
  - identification, separation and quantification of cash flows (earnings) attributable to the intangible assets
  - capitalisation of those cash flows (earnings) attributable to the intangible assets

\[
\text{Cash flow/earnings generated by intangible assets} \times \text{Capitalisation factor} = \text{Value}
\]

- Various methodologies exist: despite apparent differences, all methodologies seek to quantify these parameters
Discounted Cash-Flow Approach Is Preferred

- Discounted cash flow ("DCF") requires
  - projection of expected future cash flows
  - estimates of risk-adjusted rate of return (discount rate)
    to express future cash flows in present day terms

- Approach is generally preferred to the price-earnings multiple approach as it is conceptually superior, focusing on:
  - the future, as reflected in financial projections
  - the risks associated with the intangible assets and its related cash flows
  - the useful economic life of the intangible assets

Limited market data exist on intangible asset transactions
The Brand Contribution Methodology

- The brand contribution may be separated from the profit contribution generated by other elements of the business in a number of ways:
  - by identifying a normal or "utility" (i.e. unbranded product) cost charged by manufacturers and distributors of unbranded products
  - by deducting an appropriate return on capital employed in respect of the product, thus eliminating the value added by other assets (e.g. physical distribution systems, fixed assets)
  - by comparing the profitability, or rate of return, of the business with the brand to the profitability of a comparable unbranded business (the "premium profits" method)
  - by identifying the premium price commanded by the brand over and above the retail price obtained for a comparable unbranded or "generic" equivalent (the "retail premium" method)
## Brand Contribution - Example of Utility Cost Method

As an example, brand contribution under the utility cost method is calculated as illustrated below:

<table>
<thead>
<tr>
<th>Item</th>
<th>Effect</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turnover generated by the product/service</td>
<td>£ x</td>
<td>(i) Cost of subcontracting the manufacture (and distribution) of the unbranded product to a third party, or the full cost of internal manufacture including an industry average profit mark up</td>
</tr>
<tr>
<td>Less utility cost of manufacture (i)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Contribution</td>
<td>£ x</td>
<td></td>
</tr>
<tr>
<td>Marketing costs (ii)</td>
<td>(x)</td>
<td>(ii) Sufficient marketing support to maintain the brand</td>
</tr>
<tr>
<td>Other overheads (iii)</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Brand contribution before tax</td>
<td>£ x</td>
<td>(iii) Fair allocation of central overheads (before interest)</td>
</tr>
<tr>
<td>Taxation</td>
<td>(x)</td>
<td></td>
</tr>
<tr>
<td>Brand contribution after tax</td>
<td>£ x</td>
<td></td>
</tr>
</tbody>
</table>
Royalty Method

- Value intangible assets by capitalising estimated annual post-tax royalty payable under a licensing arrangement
- Valuation parameters may be estimated using details of arm’s length licensing arrangements for comparable intangible assets
- “Reasonable royalty” approach often used in the estimation of damages arising from patent infringement
- There are many different sources of royalty data
Example of Royalty Calculation Method

<table>
<thead>
<tr>
<th></th>
<th>Residual Value 19X0</th>
<th>19X1</th>
<th>19X2</th>
<th>19X3</th>
<th>19X4</th>
<th>19X5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turnover/qualifying revenue</td>
<td>100,000</td>
<td>15,000</td>
<td>32,250</td>
<td>52,088</td>
<td>74,901</td>
<td>92,301</td>
</tr>
<tr>
<td>Royalty income @ 5%</td>
<td>5,000</td>
<td>5,750</td>
<td>6,613</td>
<td>7,604</td>
<td>8,745</td>
<td>9,620</td>
</tr>
<tr>
<td>Taxation @ 33%</td>
<td>1,650</td>
<td>1,898</td>
<td>2,182</td>
<td>2,509</td>
<td>2,886</td>
<td>3,174</td>
</tr>
<tr>
<td>Royalty income after taxation</td>
<td>3,350</td>
<td>3,853</td>
<td>4,430</td>
<td>5,095</td>
<td>5,859</td>
<td>6,445</td>
</tr>
<tr>
<td>Discount factor @ 10%</td>
<td>1</td>
<td>0.91</td>
<td>0.83</td>
<td>0.75</td>
<td>0.68</td>
<td>0.62</td>
</tr>
<tr>
<td>Net Present Value</td>
<td>62,363</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Asset Approach

- Hybrid methodology

- Difference between the value of a business and the value of its net tangible assets is attributable to intangible assets and goodwill

- Difference is allocated to
  - Intellectual property (e.g. licences, patents, trade marks and copyright)
  - Intangible assets (quality of workforce, distribution networks)
  - Goodwill
Quantification of Future Cash Flows

- The future cash flows and risk profile attributable to the intangible assets will be determined by an assessment of a number of factors, including:
  - remaining economic life of the intangible assets e.g. patent life
  - market position
  - market and economic trends
  - maturity and life cycle of the intangible assets and the market
  - pricing
  - volume growth
  - marketing support
  - cost of development of competing technology
  - extent of protection (legal or otherwise) from competitors
**Purpose of Valuation**

<table>
<thead>
<tr>
<th>Valuation Basis</th>
<th>Description</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing use value</td>
<td>Value to the owner under the existing marketing, operational and financial strategies. This ignores unexecuted plans to develop the patent in new areas.</td>
<td>License agreements, Merger/acquisition, Financial reporting, Litigation</td>
</tr>
<tr>
<td>Market value</td>
<td>Amount that would be paid by a willing, but not anxious, buyer to a willing, but not anxious, seller adequately informed and acting in an open market.</td>
<td>License agreements, Merger/acquisition, Transfer pricing</td>
</tr>
<tr>
<td>Liquidation value</td>
<td>Assumes that the intangible assets are not operating as part of a going concern and that the assets will be sold in a forced sale situation.</td>
<td>Security for debt finance</td>
</tr>
</tbody>
</table>