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Transfer Pricing and the Pharmaceutical Industry: Finding a Coherent Approach to Valuing Difficult-to-Value Intangible Assets

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Thesis completed in partial fulfilment for MSc. in International Business

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Contents

Abstract

The pharmaceutical industry relies heavily on intangible assets to drive their economic returns. As pharmaceutical companies have become increasingly global, with complex supply chains across multiple countries it has led to challenges for tax authorities and practitioners in the context of transfer pricing.

The Organisation for Economic Development (OECD) introduced their latest set of guidelines in 2017 which sets out the categorisation of difficult-to-value intangible assets. There is considerable evidence in previous literature to the complexity surrounding such intangible assets and incoherent approaches to valuing them, together with a lack of guidance from the OECD transfer pricing guidelines. The purpose of this research is to seek further clarity on what is the most utilised method of valuing a difficult-to-value intangible asset, how best to value trade secrets given the lack of comparable unrelated transactions, the preferred method of the OECD, and to determine whether transfer pricing practitioners have found the OECD transfer pricing guidelines to be pragmatic and useful.

The research finds that an income approach valuation methodology is the favoured method by transfer pricing practitioners with some dispute as to which method is the most favourable, the profit split or discounted cashflow method. The research further finds that due to a lack of comparable unrelated transactions, the most utilised method for valuing trade secrets is the discounted cashflow methodology. Both methodologies were favoured by transfer pricing practitioners due to their reliability and reduction of subjectivity inherent in their calculations. Finally, this research shows that transfer pricing practitioners are in favour of the OECD transfer pricing guidelines, however with some suggestions for enhancement.

Further gaps within the literature and current research have been identified to provide recommendations for further research.

Declaration

Name: Niall Boland

Student Number: 17149231

Degree for which thesis is submitted: MSc. in International Business

Material submitted for award

(a) I declare that the work has been composed by myself.

(b) I declare that all verbatim extracts contained in the thesis have been distinguished by quotation marks and the sources of information specifically acknowledged.

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Signature of research student: _____

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Chapter 1 - Introduction

1.1 Research Objective

The primary objective of this research is to determine the optimal method of valuing intangible assets in the context of transfer pricing and the efficacy of existing transfer pricing methods. Currently, there is unclear guidance provided from the Organisation for Economic Co-operation and Development (OECD) in valuing intangible assets (Linnell, 2015; Stojanova, 2013; Pankiv, 2017). However, the OECD guidelines are the primary framework used for most jurisdictions' transfer pricing policy as there are no coherent international regulations in place.

1.2 Research Sub-Objectives

Due to an increasing number of companies relying heavily on intangible assets for economic returns, it poses a difficulty for transfer pricing practitioners in multi-national enterprises (MNEs) to realize the value of the asset across various jurisdictions.

The first sub-objective relates particularly to a specific type of intangible asset; trade secrets. There is currently no coherent method to value such intellectual property assets. By their very nature they are secrets, there is no standard method in which a transfer pricing professional can apply comparable and functional analysis to determine an arm's length transfer price.

The second and final sub-objective is to provide an answer to whether the OECD Guidelines on valuing intangible assets has been a useful guide to transfer pricing practitioners. As most countries adopt a framework around the OECD Transfer Pricing Guidelines (OECD, 2018), it is important to determine that these principles are guiding transfer pricing practice. As will be outlined below, there are currently regulatory differences in a number of jurisdictions; perhaps stricter international regulations would assist MNEs more than the current ambiguous guidelines.

Chapter 2 - Literature Review

2.1 Introduction

In this chapter I will discuss the key themes surrounding transfer pricing and the pharmaceutical industry. First, I will provide some background of the pharmaceutical industry; its economic model and drivers, the key players, differentiate the different products on offer, inherent issues with the industry and future challenges.

Second, I will provide some background on transfer pricing; what it is, its origins and historical developments, the principles underpinning the area, the OECD guidelines and their impact, and the arm's length principle.

Third, I will outline the current methodologies for determining a transfer price for both tangible and intangible assets. Following this, I will solely discuss intangible assets, their importance and the the issues that arise in relation to intangible assets especially, difficult-to-value intangible assets. Finally, I will summarise the chapter prior to moving onto the research questions that this research will attempt to answer.

2.2 The Pharmaceutical Industry

The pharmaceutical industry is highly regulated and very competitive. The global market for pharmaceutical products reached $1.2 trillion in 2018 with expected combined annual growth for 2019 to be between 4% and 5% (Pharmaceutical Commerce, 2019). It is made up of a number of companies ranging from the large research-based companies known as 'big pharma', smaller biotechnology companies, generic companies and manufacturers of non-drug related products such as supplements (Schweitzer, 2007). Big pharma refers to companies focusing on brand name drugs such as; GlaxoSmithKline, Pfizer and Johnson & Johnson, who hold substantial market share of 41.7% as per 2012 figures (Jörn, 2016). Biotechnology companies would include the likes of Amgen, Gilead Sciences and Allergen, whilst generic companies refer to Mylan, Teva Pharmaceuticals and Sandoz.

The pharmaceutical industry covers a broad spectrum of products ranging from research-based small molecule products such as oncology, immunology, rare diseases and vaccines to generics and biosimilars. The research-based products typically are prescribed through the healthcare system whether through hospitals or a doctor's practice. Generic drugs are a copy of a

prescription patent-protected drug that has come off-patent or lost exclusivity (Jörn, 2016), therefore they can be manufactured by third parties for significantly lower costs. However, generics will be unable to use the brand name as this will be protected by a trademark held by the big pharma company. Biologics and biosimilars refer to pharmaceutical products derived from a living organism. There is a lack of competitors following a loss of exclusivity on a patent due to the complexity surrounding their manufacturing in comparison to chemical-based pharmaceuticals (Sanchez and Scott, 2013). Big pharma companies will typically have a range of products across their portfolio, including primarily chemical-based products but also off-patent drugs to compete with generics and biosimilars.

The pharmaceutical industry relies heavily on intangible assets to create value. The industry uses patents and other intellectual property mechanisms to invest heavily in research and development to bring economic returns (Sanchez and Scott, 2013). Drug development and its commercialization is a capital intensive and inherently risky endeavour for companies. Estimates predict that the cost of bringing a drug to market increased from $802 million in 2003 to $2.6 billion in 2014 (Pilon and Hadjielias, 2017). The increased cost of bringing a drug to market has highlighted why research and development costs dropped in the preceding years, in 2010 the global pharmaceutical research and development funding came to an estimated range between $120 billion and $133 billion (Sanchez and Scott, 2013). However, this was expected to drop by more than 25% between 2010 and 2014 because of the increased costs (Hirschler, 2011).

The result has been a preference for pharmaceutical companies to increase their involvement in mergers and acquisitions and the market becoming more concentrated, with a further resulting concentration of top-selling 'blockbuster' drugs i.e. those that generate over $1 billion dollars in sales annually (Schweitzer, 2007). Instead of opting for a long protracted and expensive research and development process, pharmaceutical companies have opted to purchase competitors instead. Examples include; Medtronic's acquisition of Covidien for $45 million in 2015 (Coyle, 2015), Actavis' acquisition of Allergan for $66 billion in 2015 (Chen, 2015), Pfizer's acquisition of Array Pharmaceuticals for $10.64 billion in 2019 (Hopkins and Chin, 2019), and Takeda Pharmaceuticals acquisition of Shire for £46 billion in 2019 (Inagaki, 2019).

In the next section I will begin to provide background to transfer pricing and its issues before discussing how it plays an integral role in the tax strategies of the pharmaceutical industry.

2.3 Transfer Pricing

Transfer pricing relates to the pricing of a product or service that is transferred between two affiliates or subsidiaries of a MNE (Lai, Muzairi and Tan, 2013; Gao and Zhao, 2015; Pankiv, 2017). Historically, transfer pricing was seen as a method for strengthening a MNEs competitive position within a market by maximising profits (Hirschleifer, 1956; Shulman, 1969). Transfer pricing was a core component to the benefits associated with a decentralised organisation by optimising each division of a firm (Enzer, 1975).

Transfer pricing should be coherent with the 'arm's length principle' whereby prices of intra-group transactions should reflect prices as if the transaction had taken place between independent companies (Lai, Muzairi and Tan, 2013; Plesner Rossing, Cools & Rohde, 2017). The transfer price should be at fair market value and reasonable in the circumstances (Mathewson and Quirin, 1979). The OECD guidelines (OECD, 2018) provide MNEs and tax authorities with guidance suggesting MNE group companies to use transfer prices that are in accordance with the arm's length principle (Plesner Rossing, Cools & Rohde, 2017).

Issues arise in transfer pricing for a plethora of reasons. MNEs have the ability to shift profit from affiliates and subsidiaries in high tax jurisdictions to low tax jurisdictions, leading to difficulties for tax authorities attempting to collect a fair share of tax in their jurisdiction (Mathewson and Quirin, 1979; Lai, Muzairi and Tan, 2013; Avi-Yonah, 2016). This can also be done through artificially deflating profits in high tax jurisdictions through aggressive transfer pricing (Taylor, Richardson and Lanis, 2015). However, guidance on the arm's length principle, which underpins transfer pricing, has been inadequate with a lack of suitable commentary provided by the OECD to support their model (Pankiv, 2017).

The OECD released guidelines (2010) covering the pricing of intangible assets in respect of the international debate on tax base erosion and profit shifting ("BEPS") through the publication of their revised Chapter IV in their Transfer Pricing Guidelines for MNEs and Tax Administrations (Lagarden, 2014).

These guidelines were on foot of concerns regarding abuse and the magnitude of tax revenues of intangible property transfers which lead the OECD to initially introduce specific transfer pricing guidelines in 1996 which were specifically aimed at targeting intangible property issues (Borkowski, 2001).

According to the OECD guidelines, intangible assets which are transferred from a MNE's subsidiaries must be compensated on an arm's length basis (United Nations, 2016). However, the methods in which the subsidiaries contract with each other are subject to the exploitation technique of the relevant asset. Methods of exploitation include internal use, licensing or sale (Perdue, 2014).

2.4 Methods for determining a Transfer Price

There are a number of methods used to determine a product's transfer price (Elmore, 2015). These methods are subjective in nature and include several variables which affect the overall transfer price for an organisation (United Nations, 2016).

As of 2017, these methodologies have been expanded to five methods, to include, (i) the comparable uncontrolled price method (CUP), (ii) the resale price method (RP), (iii) cost plus method (CP), (iv) transactional net margin method (TNMM) and (iv) profit split method (PS). The CUP method is based on the observation of comparable market prices which can then be applied to intragroup transactions. The other methods focus on comparable market-based profit margins from which a transfer price can be determined (Plesner Rossing, Cools & Rohde, 2017). These methods however might only provide for a transfer price range of what might be acceptable (Shulman, 1969; Noga, Wilkinson & Ford, 2007).

The CUP method is the preferred method as per the OECD guidelines as a comparable market price substantiates the transfer price. When comparable market prices are not available, preference is given to the RP and CP methods which focus on gross margins. In circumstances where these methods cannot be applied due to unavailable comparisons, the TNMM and PS methods should be applied (Plesner Rossing, Cools & Rohde, 2017). The CUP method also poses difficulties as in order to determine the arm's length principle in respect of the transfer or exploitation of intangible assets, the comparability and functional analysis must also include; (i) the identification of specific intangibles, (ii) identification of the party(ies) that should be entitled to a return derived from the use of that asset, (iii) the nature of the transactions and

whether they involve the use or transfer of the intangible asset between affiliates; and (iv) the compensation that would be paid if the two parties were independent and unrelated (Stojanova, 2013).

According to two Ernst and Young studies (1997) (1999), the usage of the preferred OECD method of calculating transfer prices; the CUP method, dropped from 35% to 28% in MNEs. Most notable, was that even if the current guidelines were relaxed, a 23% of MNEs would still use a non-standard method in calculating the transfer price of an intangible asset (Borkowski, 2001). Moreover, the use of the PS method dropped to 15% from 17% and the usage of other methods increased to 57%. Faiferlick et al. (2005) recommended using a 'Real Options' pricing model to value assets as it provides related parties the ability, but not the obligation, to receive the benefit of a good or service. Whilst Clausen and Hirth (2016) recommend a new earnings-based method for valuing intangibles such as factoring in the R&D expenses incurred, potential market exploitation and the capital structure of the firm.

Past recommendations for valuing intangible assets include calculating the value through lost profits, unjust enrichment or transaction-specific royalty rates (Hoffman, Ewing and Thompson, 2014). These variables are based on damages or loss of a trade secret or trademark; therefore, it is important for MNEs to value such intangibles prior to this point. Without a reliable methodology, it is difficult for MNEs to maximize their return on such assets (Kim, Linton and Semanik, 2016). Others recommend looking at the negative impact to a company if the confidential information was disclosed, including damage to reputation, loss of time due to disruption, direct or indirect loss of customers, reactive costs of regulatory actions and the cost of proceedings and litigation (Yelle et al., 2018).

2.5 Intangible Assets

Definitions of intangible assets in the context of transfer pricing vary throughout the literature reviewed. There is little agreement between authors of a concise definition of an intangible asset.

The OECD guidelines currently do not contain a definition of "intangibles" rather they list items to include; rights to use industrial assets such as patents, trademarks, trade names, designs or models, literary and artistic property rights, and intellectual property rights specifically know-how and trade secrets (Stojanova, 2013; Linnell, 2015). Others suggest intangible assets

can be defined for transfer pricing purposes as having a lack of physical substance, non-monetary character, identifiability, separability, controllability, future economic relevance / utility and difference conceivable forms of ownership (Lagarden, 2014).

Intangible assets are increasingly important drivers for a MNEs success (Clausen and Hirth, 2016). They can be classified in numerous ways, some in respect of their legal protection and some in respect of their economic purpose. The first categorises them as those that can be registered, such as patents and trademarks and those that cannot be registered, such as copyright and trade secrets (United Nations, 2016). The other categorises them as (i) commercial or tradable intangible assets and (ii) marketing intangible assets. The first group relates to patents, know-how, designs and models. The second group includes trademarks and trade names that have an impact on the exploitation of the product or service sold by a MNE (Linnell, 2015).

2.6 Importance of Transfer Pricing of Intangible Assets

Taxation of intangible assets is perhaps the most important issue in the intercompany transfer pricing world today. Where a series of products are highly profitable, there is almost always some key intangible property involved (Mentz & Carlisle, 1997). It was noted that 8% of economic growth can be attributed to the traditional bricks and mortar investment however intangible investment expenditure rose from circa 4% of U.S. GDP in 1977 to 9-10% in 2006 (Corrado, Hulten and Sichel, 2009; Nakamura, 2010).

The U.S. Chamber of Commerce estimates the value of U.S. owned trade secrets at $5 trillion, with several MNE's building businesses around them (Kim, Linton and Semanik, 2016). The pharmaceutical industry, in particular, highlights this. From 1992 to 2001, gross sales of Pfizer's Premarin in the U.S. grew from over $500 million to $2 billion (Faegre and Benson, 2005). Additionally, the 'Google' trademark was listed as the most valuable trademark at over $44 billion which exceeds most country's GDP (Elmore, 2015). As more than 60% of world trade takes place within MNE's the importance of transfer pricing relating to intangible assets is evident. (Gao and Zhao, 2015).

Increased scrutiny has been placed on transfer pricing for intangible assets with estimates of individual tax evasion ranging between $40 billion and $70 billion (Gravelle, 2015). US MNEs in the technology and pharmaceutical industry have been noted to accumulate profits offshore through the transfer of intangibles assets to foreign affiliates for non-arm's length consideration

(Taylor, Richardson and Lanis, 2015). This has resulted in increased reporting requirements on behalf of MNEs. The International Accounting Standards have requirements under IAS 24 that a corporation must disclose on all related party transactions and relevant outstanding balances (Iasplus.com, 2019).

Under Category E of the DAC6 rules, the EU Council has directed mandatory reporting on all transfers of difficult-to-value intangible assets where no comparable exists or where the assumptions used in the valuations are uncertain (Norton Rose Fulbright, 2018). There has been increased pressure on US MNEs by US authorities to increase the flow of capital back to the US (Mathewson and Quirin, 1979). The increase in cross-border trade of high value intangible assets and the realisation of ineffective transfer pricing audits has led to further criticism of transfer pricing practice (Taylor, Richardson and Lanis, 2015). The recent US Tax Cuts and Jobs Act tackled this through the introduction of a minimum tax on all intangible assets on a US controlled foreign subsidiary (DeNovio et al., 2018).

2.7 Difficulties in Relation to Transfer Pricing of Intangible Assets

An intangible assets' substantial value poses difficulties for Google and other MNEs trying to capitalise and exploit them for financial returns. Measuring the value of intangible assets is extremely difficult and there is no clear answer in sight on how to do so, as the definition of value itself has not been defined (Sullivan and Wurzer, 2009).

Chapter VI of the OECD Guidelines focuses on how a transaction between affiliates of a MNE computes the transfer price of intangible assets. The OECD's attempt to define an intangible asset merely lists types of assets rather than defining them (Stojanova, 2013). Historically, transfer prices of intangible assets relied heavily on the use of unrelated licensing methods such as the comparable method of benchmarking intercompany royalty rates (Faiferlick et al., 2005).

Comparable transactions of a firm's intangible assets are difficult, or near impossible, to find (Taylor, Richardson and Lanis, 2015). This is especially the case for patents, trademarks and intellectual property (Gravelle, 2015). The computation of an intangible asset's transfer price is complex and poses a number of difficulties. Environmental factors play a significant role in determining the transfer price which include; economic stability of the MNE, economic stability of the subsidiary, relationship between the MNE and host government and the audit history with the home and foreign tax authorities (Borkowski, 1997).

Additionally, the OECD guidelines focus on a comparability analysis of similar products in a given industry and base pricing off of that, which in turn provides a justification of the applied transfer price. A lack of guidance by the OECD has led to transfer prices being dependent on facts and circumstances of each individual case resulting in a reliance on professional judgment to determine a reasonable transfer price (Pankiv, 2017). However, one difficulty is the lack of comparable transfer prices from which to develop an arm's length price (Borkowski, 2001). In the case of *Wyeth v Natural Biologics* the courts relied on the loss of revenue and jobs in determining the value of the intangible asset where there was no comparable data available. Importantly, the subject matter of the case was Pfizer's Premarin product offering which had been a recognised trade secret since it came off patent in 1975 (Faegre and Benson, 2005).

Moreover, transfer prices will be further determined based off of the function of a MNEs subsidiary. For instance, there is a significant difference in how the legal ownership, contractual ownership, economic ownership and beneficial ownership are treated in the context of cross-border transactions (Lagarden, 2014). These specific relationships will determine the return on the asset to the relevant subsidiary. The investment from human capital, know-how, the ownership of the brand name and physical manufacturing property (i.e. production facilities) will all play a role in determining the transfer price (Williamson, 1991). Therefore, it is imperative that tax practitioners take into account the value chain of the intangible asset in tandem with the various locations of the entities involved and the value-add they provide when calculating their return (Cecchini, Leitch & Strobel, 2013). The pharmaceutical industry in particular utilises a sophisticated value chain structure and value is derived from three main functions; research and development, manufacturing and sales, and marketing (Novis, Minnear and Ashan, 2014).

The sophisticated value chain and inherent subjectivity in difficult-to-value intangible assets has resulted in a significant amount of transfer pricing litigation occurring. GlaxoSmithKline Plc. (GSK) settled its case with the Internal Revenue Service (IRS) for $3.4 billion wherein it was alleged that GSK underpaid their tax on circa $30 billion of sales from 1989-1999 (Gujarathi, 2007). Similar cases can been seen in the case of Eli Lilly & Co. (Mathewson and Quirin, 1979; Noga, Wilkinson & Ford, 2007; Avi-Yonah, 2016), Medtronic, G.D. Searle & Co., Merck Sharpe & Dohme (Avi-Yonah, 2016), and Marks Pharmaceuticals (Noga, Wilkinson & Ford, 2007) with varying degrees of success for the MNE or the IRS.

The OECD and IRS both maintain an arm's length principle should be upheld when pricing intangible assets; however the burden of proof in respect of the transfer price in the US lies with the taxpayer, while in Europe, the burden of proof lies with the tax administration. In the US, the relationship with the respective tax authorities is often adversarial whether in Europe MNEs work in close cooperation with tax authorities to arrive at compromised solutions (Borkowski, 2001). Due to these differences it is evident that the OECD guidelines are only advisory in nature and are not applicable to all circumstances in all jurisdictions.

2.8 Summary

It is clear that the area of transfer pricing, particularly intangible assets, is an ever-growing concern for MNEs, specifically the pharmaceutical industry, and global tax authorities. There are numerous questions to be asked in order to clarify the existing OECD guidelines. Transfer pricing practitioners must take into account the ownership complications of the intellectual property, where the entities are located that have an ownership claim, the competing tax rates of different jurisdictions and the function and risk they have taken on in the supply chain in order to determine an adequate return in line with the OECD guidelines. I aim to investigate the key issues and challenges currently facing the MNEs situated in the pharmaceutical industry solely in respect to the computation of a transfer price for difficult-to-value intangible assets.

Chapter 3 – Research Questions

3.1 Introduction

In this section, I will critique the literature reviewed in chapter two and identify gaps that require further research. The gaps identified will be used as a basis of my research objectives with key questions to be answered distilled from said gaps, especially in light of the requirement for further research to be done in respect of the application of transfer pricing legislation and the choice of transfer pricing methodologies used by companies (Taylor, Richardson and Lanis, 2015).

3.2 Research Question

There are several difficult factors in valuing intangible assets, which has a credible impact on both MNEs, specifically pharmaceutical companies, and global economies due to the difficulties associated with exploiting them. It is evident from the literature reviewed above that the transfer pricing and the valuation of intangible assets are under increased scrutiny from tax authorities but are also key contributors to the financial performance of a MNE. Given the number of different methodologies for determining a transfer price and subjective nature of the inputs into those methodologies, the objective and focus of this dissertation will be to determine what is the optimal method for determining the transfer price of a difficult-to-value intangible asset within the pharmaceutical industry?

3.3 Research Sub-Objectives

The first sub-objective will be to determine how does one value a trade secret? As noted above, there is no clearly defined method for trade secrets. By their very nature, they are secrets and therefore are not comparable to any other product in a particular market or industry. The court in *Wyeth v Natural Biologics* used loss of revenue and loss of jobs to calculate the value of Premarin. However, how do transfer pricing practitioners value such an intangible asset before this date? An MNE will have to add some value in order to determine the correct transfer price when the drug is sold in order to satisfy tax authorities in line with the OECD guidelines.

The second and final sub-objective is to provide an answer to whether the OECD Guidelines on valuing intangible assets has been useful to transfer pricing practitioners. As most countries adopt a framework around the OECD Transfer Pricing Guidelines, it is important to determine that these principles are having a positive impact on transfer pricing practice. As evident above, there are clear distinctions between how the US and Europe apply these guidelines. Perhaps it

could be more beneficial to MNEs if there were national laws in place to assist with transfer pricing.

3.4 Summary

In summary, this research will aim to address one main research question and two sub-questions. These are;

1. What is the optimal method for determining the transfer price of a difficult-to-value intangible asset within the pharmaceutical industry?
2. How do transfer pricing practitioners value trade secrets where there are no comparable unrelated transactions?
3. Have the OECD Guidelines (2017) been useful in guiding transfer pricing practitioners?

In the next section I will outline my research methodology with a focus on what the best research instrument is to answer the above questions.

Chapter 4 – Research Methodology

4.1 Introduction

In this chapter I will outline my research methodology. I will use a Saunders, Lewis and Thornhill's (2009) 'research onion' model to outline the research philosophy, approaches, strategy, choices, time horizons, techniques and procedures. I will discuss each layer and why I have chosen one method over another culminating in a summary of the focused research approach that I will take and the rationale behind same.

4.2 Research Methodology

It is evident from chapter two that transfer pricing is a subjective area with a variety of methods that can be used when quantifying difficult-to-value intangible assets. Existing literature has focused primarily on reviewing secondary sources from academic journals, OECD guidelines, EU Legislation and existing industry studies. From the literature reviewed, no author has interviewed private sector transfer pricing practitioners to determine the best approaches to valuing intangible assets. It has been further highlighted that there is no clear evidence of how frequently or thoroughly the valuation methodologies are applied in practice (Cecchini, Leitch & Strobel, 2013).

Saunders, Lewis and Thornhill (2009) developed a model in which researchers could determine the most appropriate method for a given project, called the 'research onion'. The application of the model enables researchers to highlight the appropriate methods to be applied to one's

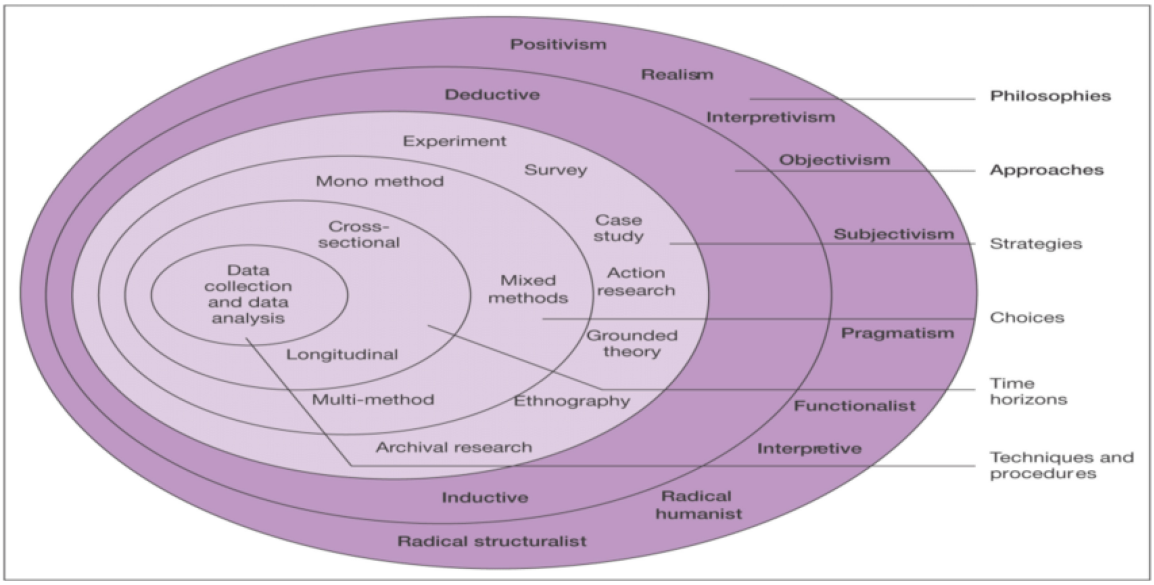

Figure 1. Saunders, Lewis and Thornhill's 'Research Onion' (2009, p. 108)

research from philosophy to method of data collection. Above, in Figure 1, is an illustrated example of the model.

4.3 Philosophy

Saunders et. al. (2009) described research philosophy as 'an over-arching term relating to the development of knowledge and the nature of that knowledge'. Maxwell (1996) notes that it is important to have a clear purpose to one's research stating that there is the 'practical purpose' of what one wishes to accomplish and also the 'research purpose' of what one wishes to understand. The former is to answer the research questions presented in this paper in order to provide some guidance and advance the industry's coherency when approaching how to value intangible assets. The latter is to understand the inherent difficulties behind the valuations, and why particular methodologies are chosen over others across the industry.

Selection of a research philosophy, therefore, is important in determining the nature of the research as a result of the research questions that require answering. Two key philosophies are the positivist and subjective approaches. The positivist approach argues that objectivity is the main benefit to quantitative research due to the distance maintained by the researcher and is therefore more fact based, whereas the subjective approach favours the flexibility and unanticipated findings associated with the research (McGovern, 2009). The interpretivist approach relies more on the subjectivity of social action and how that influences individuals.

The positivist approach will be used for one of the research questions herein, namely, which is the preferred method when calculating the worth of difficult-to-value intangible assets. The method chosen by individuals should lead to a fact-based approach of one method being chosen over the others. The remaining research sub-objectives will require an interpretivist approach in examining answers of individuals. Their rationale and methods for choosing one approach over another will be determined by the experience of the individual and the availability of data. Therefore, this author will adopt both a positivist and subjective philosophy to their research.

4.4 Approach

Once the correct research philosophies have been chosen, one can then move onto the next layer of the 'research onion' which is to determine the research approach. There are two approaches one can take; the deductive approach wherein one tests an existing theory or the inductive approach wherein one attempts to understand a given phenomenon (Saunders et. al.,

2009). Zalaghi and Khazaei (2016) state that the inductive approach logically generalises the observations of the researcher with the rules and assumptions being verified. Conversely, the deductive approach is based on existing theories with a research plan being formed to test the assumptions.

Horn (2012) goes further and illustrates the inductive approach as a 'bottom up' approach whereby one starts with the research question and works their way up through the collecting of data and observation until one comes to a theory. The deductive approach can then be viewed as the opposite or a 'top down' approach whereby one starts with the existing rule and works their way down to determine whether or not it is valid.

The research which is the subject of this thesis does not have existing theories per se. The variability and somewhat 'loose' and subjective nature of the transfer pricing methodologies applied to difficult-to-value intangible assets fit a more inductive approach to the study. The deductive approach is unsuitable due to its focus on testing an existing theory or methodology which is not the case in this instance.

4.5 Strategies

A self-administered survey will be used to determine if there are any trends or similarities between the target group's approaches to valuing intangible assets. Questions will vary from focused to broad in nature to allow for adequate feedback depending on the question asked. The purpose of this, as Silverman (2010) states, is to understand the astute reasons and rationale behind the data. For the purposes of this research, instead of just finding out what is the most common methodology for valuing intangibles, the author also wishes to understand why this is the case and what are the main influencers for this.

Although the targeted sample size will be kept small, the target group will come from a diverse range of backgrounds from industry and practice. The responses from the survey will be used to extrapolate trends and thematic views will be gathered, these will then be cross compared against existing literature to determine the most appropriate method for valuing intangible assets.

4.6 Time Horizons

Saunders et. al. (2009) observe that research can be conducted in either a cross-sectional manner in which it takes a short period of time and determines the view based on a broad analysis of that moment. Or, it can be longitudinal wherein the research involves a long-term endeavour to collect vast amounts of data and come to more rounded longer lasting conclusions. For the purpose of this research, this author will use a cross-sectional view. Transfer pricing has advanced significantly since Hirschliefer's original article in 1956, however one of the most problematic questions in recent decades has been what is the most appropriate methodology as highlighted by Cecchini, Leitch and Strobel (2013). As a result of this, cross-sectional research would be more appropriate to determine the current methods used and propose what might therefore be the most adequate standard methodology to use going forward.

4.7 Summary

Overall, this is a cross sectional, qualitative study implementing in-depth surveys using non-probabilistic sampling techniques. The research approach is interpretivist in nature, through the analysis of the sample group's comments and rationale in choosing one valuation methodology over the other and gathering subjective data from transfer pricing professionals in both the pharmaceutical industry and private practice.

The research methodology has its limitations, the subjective nature of several of the transfer pricing methodologies results in subjective answers being given from transfer pricing practitioners. Furthermore, the sample size will be between ten and twenty participants. A result of this might be a lack of coherent approaches in valuing intangible assets. Moreover, there will be a degree of bias as the sample group will all work in the private sector and will not include individuals from policy makers or tax authorities. To date, transfer pricing is a very niche area of taxation even though it has played an increasing role in organisations since the 1950s. There is no professional qualification in transfer pricing, therefore experience is the most important benchmark in transfer pricing professionals.

Data collected from the sample group will be compared with existing literature and guidelines as well as publicly available data on MNEs will provide a framework for this dissertation.

Chapter 5 - Findings

5.1 Introduction

This chapter will review and outline the findings of this research. The methodology outlined in the previous chapter was followed to identify and survey a number of transfer pricing practitioners in both private practice and the pharmaceutical industry. The target sample were identified through a targeted search on LinkedIn to identify key groups to receive a diverse range of respondents. Individuals surveyed, work both in companies and firms such as; Pfizer, Johnson & Johnson, Gilead Science, PricewaterhouseCoopers, Deloitte, Ernst & Young to name a few. The purpose of which was to obtain as broad a response as possible to obtain valuable insightful data on transfer pricing practices, whilst also insuring a high response rate given the small sample size. Notably, pharmaceutical companies and firms where no suitable contact details for transfer pricing practitioners were available were excluded from the survey.

In total, 20 individuals were selected to complete the survey, 17 of which have completed the online survey as of the week ending August 26th, 2019. Survey responses were completely anonymous through the utilisation of a common hyperlink to the online survey with no connection to the email sent. This allowed the respondent complete freedom and anonymity to share their personal views on the transfer pricing methodology.

5.2 Findings

In response to the invitation to participate, one individual completed the survey however noted that their experience was more related to the tax planning side of transfer pricing rather than that valuation of assets. Overall, there was a successful 86% response rate with 47% of participants working in the pharmaceutical industry and 53% of participants working in private practice.

5.2.1 Respondents' Demographic

Nearly two thirds of respondents have zero to five years of experience of working in transfer pricing, with one individual having between six and ten years of experience, four individuals having between eleven and fifteen years of experience, one with between sixteen and twenty years and finally, one with over twenty years of experience in transfer pricing. Although all respondents had experience with transfer pricing to some degree, three respondents had no experience with valuing intangible assets due to working in either tax planning, as outlined above, or had yet to have such work arise in their day to day business.

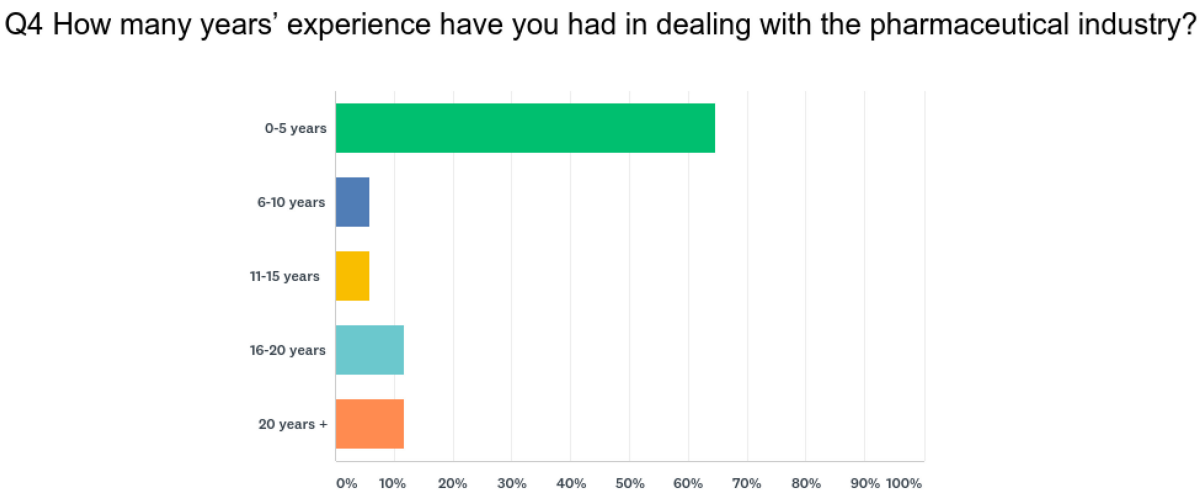

Figure 2. Breakdown of respondent's experience of working with the pharmaceutical industry

Almost two thirds of respondents have zero to five years of experience working with the pharmaceutical industry, one respondent with six to ten years, one respondent with 11 to 15 years of experience, two respondents with between sixteen and twenty years, and two further respondents with over twenty years' experience with the pharmaceutical industry.

5.2.2 Valuing Difficult-to-Value Intangible Assets

As per the survey instrument enclosed under Appendix 1, respondents were asked to provide from their experience the most utilised valuation methodology to value a difficult-to-value intangible asset.

From the responses received, two valuation methodologies appear the most popular; the profit split method or the discounted cashflow method. These methods are two specific methods which come under the umbrella term of the income approach methodology where income/profit is used as a basis to determine the transfer price. This in tandem with one respondent's recommendation of using comparable unrelated transactions to value intangible assets, which is also a model under the income approach methodology, made up eighty-eight (88%) percent of the responses received. Twenty-nine percent (29%) of respondents chose the profit split method, twenty-four percent (24%) chose the discounted cashflow method whilst twenty-nine

percent (29%) chose the more all-encompassing description of the income approach method, with one respondent choosing the comparable unrelated transactions method.

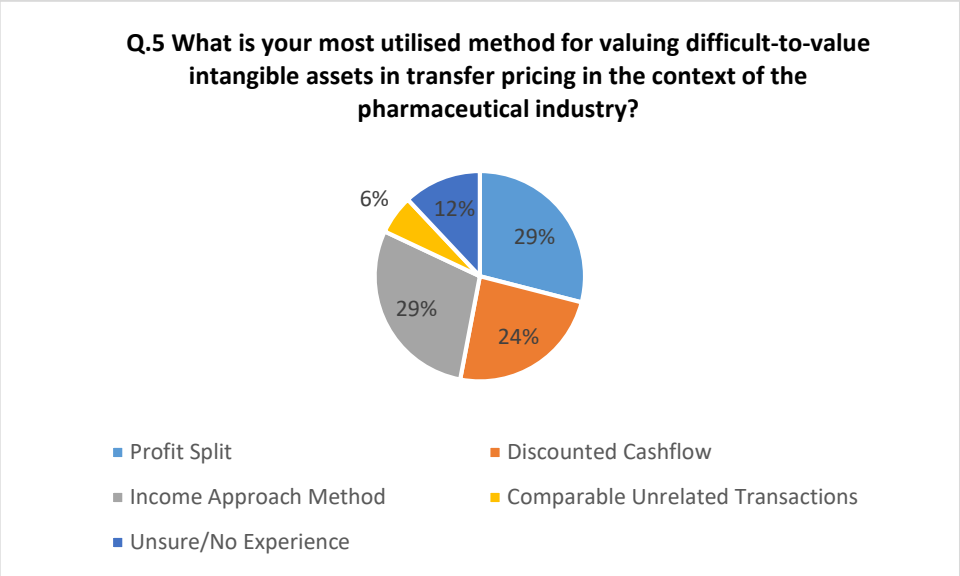

Figure 3. Breakdown of methodologies utilised by practitioners when valuing intangible assets.

The rationale provided by respondents for the use of an income approach method has been coherent with the reliability of the data at hand and the ability to get the most accurate and evidence-based transfer price. Evidence is important here as one respondent noted that a transactional methodology is the preferred method of the courts whenever a dispute arises between a company and tax officials. Another respondent went further stating that the results of the income approach methodology are 'highly sensitive to a number of variables' including; reliability of the income projections, the discount rate, the ability to reliably determine a licensing alternative using the comparable unrelated transactions methodology or comparable profits method.

Furthermore, one respondent acknowledged that in the pharmaceutical industry, instances arise whereby two pharmaceutical companies can co-develop the intellectual property rights of a drug or pharmaceutical product. In this instance it is not suitable to use the controlled unrelated transactions methodology as both parties have contributed intellectual property assets to the transaction hence compounding the difficulty in locating comparable unrelated transactions. Although, one respondent acknowledged that the OECD discourages the use of the cost approach for commercial assets therefore ruling out that methodology.

The remaining respondents had not valued intangibles yet therefore their responses have been discounted from the survey.

5.2.3 Valuing Trade Secrets

Following on from above, questions seven and eight of the survey instrument surrounded the valuation of trade secrets. With a slight majority, thirty-five percent (35%) of respondents opted to use the discounted cashflow methodology to value a trade secret. The most commonly accepted rationale amongst these respondents is that it is the most widely used method by practitioners and would be the best method to reliably and accurately represent the true value of the asset itself. One respondent went further and stated that given the more reliable and less subjective nature of the methodology, it leaves less to tax officials to interpret and therefore dispute. Finally, one respondent stated that it was 'practically impossible' to defend a comparable unrelated transaction in respect of this type of intellectual property, therefore the discounted cashflow methodology was the most appropriate.

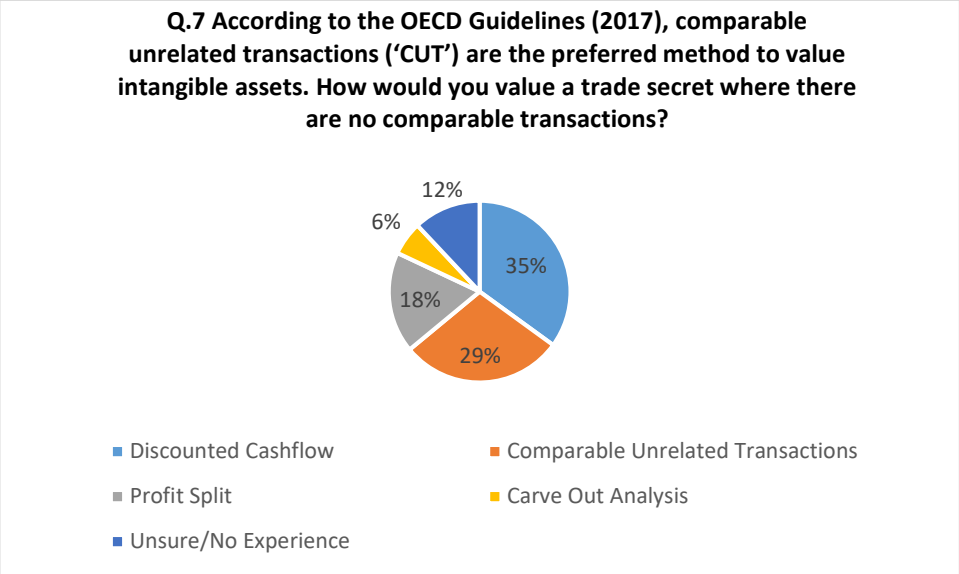

Figure 4. Respondent's preferred valuation methodology when CUT is unavailable.

The second most preferred methodology was the comparable unrelated transactions method, with twenty-nine percent (29%) of respondents recommending its use even though this was unavailable as per the question posed. Like the respondents above, the reasoning behind choosing this method was both for its reliability and accuracy in determining a fair valuation with less assumptions required when carrying out the valuation. One of these respondents noted however that this method would only be utilised depending on the availability of relevant data of comparable unrelated transactions.

The third most relied on methodology was the profit split method with eighteen percent (18%). Respondents highlighted that most other methodologies do not factor in the intellectual property value and are more suitable where any party does not own any intellectual property.

The fourth and final methodology put forward by respondents was of a carve out analysis with six percent (6%) favouring this method. The respondent recommending this method stated that this would be the best method for valuing the intellectual property as one would determine the total value of the business less the value of the known intangible assets, once completed, one could then determine the value of the trade secret(s).

The final twelve percent (12%) of respondents had either not valued a trade secret to date and therefore acknowledged they were unsure of the correct methodology to use. One final respondent noted that it depended solely on a case by case basis, therefore they could not reliably recommend any particular methodology.

5.2.4 The Utility of the OECD Transfer Pricing Guidelines

Most respondents, seventy-six percent (76%), stated that they found the OECD guidelines useful in guiding their choice in methodology for valuing difficult-to-value intangible assets. Eighteen percent of respondents found the guidelines not to be useful, with one individual noting they had not utilised the guidelines for the purpose of valuing intangibles. Their answer has been discounted.

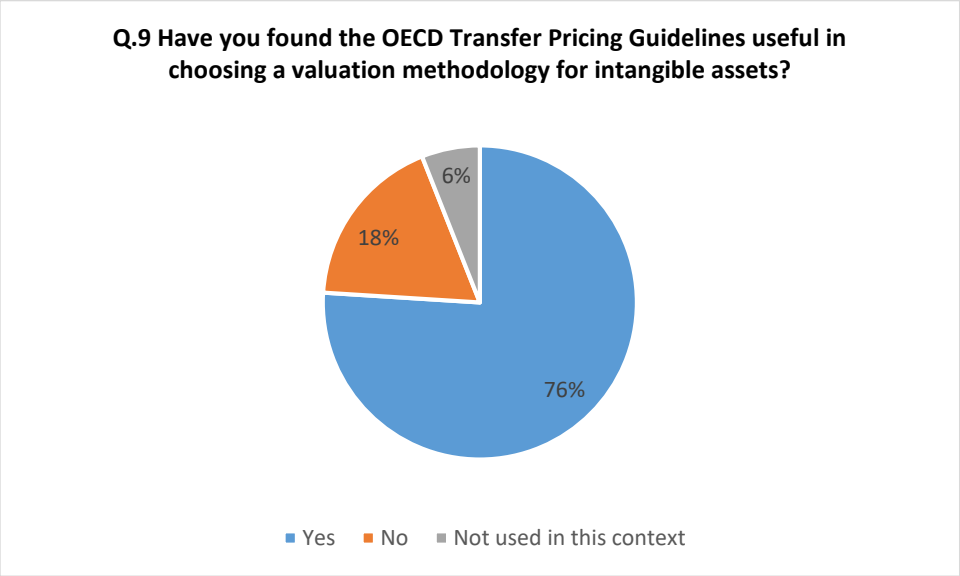

Figure 5. Sample Groups views on the value of the OECD Guidelines.

Of the eighteen percent who stated they did not find the guidelines useful, one respondent was unsure of how to provide more guidance, whilst another suggested more common practice should be outlined rather than providing vague but all-encompassing guidelines. One respondent who was not in favour with the OECD Guidelines would like to see improvement to the guidelines went into more detail stating that there should be more clear recommendations for practitioners on the use of the comparable unrelated transactions method or at least the need to develop more reliable profit and loss statements for the applicable products/intangible. Another, who was in favour, stated that the OECD should narrow the scope of instances where an asset would be determined to be a difficult-to-value intangible assets. They went further and requested better guidance and protection to tax payers with the 'rebuttable presumption' given to tax authorities. The presumption provides the benefit of hindsight when they are assessing the valuation of a difficult-to-value intangible asset. Finally, this respondent wanted further guidance on purchase price adjustment clauses focusing on how and when they should be used.

5.3 Summary

In summary, the respondents appeared to show a coherent approach to valuing difficult-to-value intangible assets, trade secrets and the usefulness of the OECD guidelines. There were consistently one or two main valuation methodologies opted for, with the majority of respondents viewing the OECD guidelines positively. Throughout the survey there were outliers who did not have the requisite experience to comment confidently on some areas due to a lack of knowledge and experience. These individual's answers were discounted from any relevant questions that were answered in this way. In the next chapter I will discuss the respondents' answers with reference past research and findings whilst also discussing the relevant themes that arose.

Chapter 6 – Discussion & Analysis

6.1 Introduction

In this chapter, I will discuss the findings of my research whilst linking it to previous studies and existing literature as outlined in chapter four. I will divide the section into each of the research questions with a discussion, analysis and summary of each.

6.2 Valuing Difficult-to-Value Intangible Assets

As noted in chapter five, the overwhelming consensus of the sample group was that two income approach methods were the most utilised models in valuing difficult-to-value intangible assets. The two most popular valuation methodologies chosen were the income approach method and the profit split method, each with 29% of the sample group, followed by the discounted cashflow methods each with 24% respectively, and finally 6% opting for the comparable unrelated transactions method. Interestingly, those who opted for the discounted cash flow method come from a wide range of experience from zero to five years, right up to twenty plus years practicing transfer pricing. However, the majority of those who opted for the profit split method had more substantial experience practicing over sixteen years.

Plesner Rossing, Cools & Rohde (2017) stated that the preference where there are no comparable unrelated transactions, the preferred method of the OECD, is to use the profit split method which conversely does not appear to be the preferred method amongst the practitioners interviewed. This is especially noteworthy, when 76% of the respondents had stated that they had found the OECD transfer pricing guidelines as useful but have contradicted the guidelines. However, in the context of the sample size, the slight difference between the profit split method (29%) and the discounted cashflow method (24%), creates difficulty in definitively determining one preference over another especially in light of a further 29% of respondents using the umbrella term of the income approach method as the preferred valuation methodology. It would be an area worth following up with for further study. It would be worth conducting in-depth interviews with a select group of individuals in both private practice and industry to determine each parties' motivation behind choosing one methodology over the other. The research strategy used here has limited follow up, therefore the use of in-depth interviews would allow for further exploration of ideas and concepts, with the more open format allowing for greater freedom of discussion.

The income approach methods as used above are important as they highlight the need to have some substantial evidence behind a transaction. The reasoning for the sample group's answers relied primarily on the reliability and accuracy of the data to hand, acknowledging that they must get the most accurate data possible even though there is still subjectivity. This sentiment is one of the primary issues with transfer pricing. It was highlighted by both Shulman (1969) and Noga, Wilkinson & Ford (2007) wherein the authors stated that the methodologies put forward by the OECD only provide for a transfer price range of what might be acceptable and not a definitive answer of a finite transfer price.

One respondent recommended the use of the comparable unrelated transactions method to determine the firm's value of their intangible asset. The rationale for this was to have more substantive evidence and benchmark against existing firms. However, it has been noted that such comparable transactions are lacking (Borkowski, 2001), or difficult, and near impossible, to find (Taylor, Richardson and Lanis, 2015). This, in particular, applies to cases surrounding patents, trademarks and intellectual property (Gravelle, 2015). As discussed in chapter two, the pharmaceutical industry derives value through the use of intangible assets such as patents, trademarks and trade secrets (Mentz and Carlisle, 1997). Without a reliable methodology to value the economic drivers of a pharmaceutical company then it is difficult for them to derive the maximum return on the exploitation of their assets (Kim, Linton, Semanik, 2016). Therefore, because of the lack of available data, this author would rule out the use of comparable unrelated transactions to value difficult-to-value intangible assets as there is a lack of available data to readily apply to the valuation methodology.

In summary then, the respondents agree that the income approach to valuing difficult-to-value intangible assets is the preferred method. However, the parties do not agree on the desired valuation methodology to apply whether to use the OECD preferred profit split method or the practitioner's preference of the discounted cash flow model. Both methods have been supported by the literature, with their failings also being called out due to inherent subjectivity in each methodology. It is evident however, that the use of comparable unrelated transactions is not a practical option in practice which has been conveyed both by the parties surveyed, previous literature and research around transfer pricing.

6.3 Valuing Trade Secrets

Outlined in chapter five is the sample groups answers to identifying a valuation methodology for trade secrets where the comparable unrelated transactions method, preferred by the OECD, is not available. At this juncture, it should be worth noting that the 29% of respondents who chose comparable unrelated transactions will be discounted as they do not further the objective of this research or answer the question posed.

The most common methodology chosen by transfer pricing practitioners was the discounted cashflow methodology with 35%, following by the profit split method (18%) and the carve out analysis (6%). Notably, the OECD guidelines specify that where comparable unrelated transactions cannot be used, preference would be that practitioners use either the residual profit method or the cost-plus method, then if those are unavailable, then use the profit split method or the transactional net margin method (Plesner Rossing, Cools & Rohde, 2017).

Interestingly, practitioners stated that their preference to use the discounted cashflow method supports two old Ernst and Young studies (1997) (1999) wherein it was found that practitioners preferred non-standard valuation methods where there were unavailable comparable transactions (Borkowski, 2001). What adds to this research is the reasons received back from this study, practitioners viewed the discounted cashflow method as a more reliable and accurate method of determining the true value of the trade secret. It allowed for practitioners in industry and practice to leave less subjectivity in the valuation, therefore allowing for more substantive evidence to be presented to tax authorities on their valuations. This limits tax disputes and allows pharmaceutical companies to maximise the return on any given trade secret assets supporting the argument put forward by Kim, Linton and Semanik (2016).

Furthermore, the use of the discounted cashflow method, although contrary to the OECD guidelines, provides ammunition to transfer pricing practitioners through its reliability and minimising of subjectivity. With increase pressured from US authorities to increase the flow of capital back to the US (Mathewson and Quirin, 1979) because of President Trump's economic plan (Rao and Carvalho, 2018), the reliability of the discounted cashflow method would prove exceedingly beneficial to US based pharmaceutical companies in the context of transfer pricing. Additionally, as there is no clear answer in sight of how to value trade secrets (Sullivan and Wurzer, 2009) it becomes increasingly important to have an agreed upon methodology which provides as reliable a framework as possible, both for practitioners and tax

authorities. Moreover, the OECD guidelines do give bandwidth to practitioners to use the facts and circumstances in particular cases to use their own professional judgement to determine the most appropriate transfer price (Pankiv, 2017).

The profit split method was preferred by 12% of the sample group which is on the list of preferred methodologies in line with the OECD transfer pricing guidelines. This is a logical method, that through the assessment of the related parties' contributions to the intangible asset and its profit or loss, one can determine the appropriate return for each party. For instance, in the case of a new drug, the party who took on more risk or provided more capital would be entitled to a greater reward. The investor model, so to speak, has been recommended especially in relation to intangible-related returns (Pankiv, 2017).

The profit split method is supported by Williamson (1991) wherein he states that the relationship between and asset and party will determine the return. Factors of which include, human capital, know-how, ownership of the trademark or brand name and the manufacturing or production facilities. Cecchini, Leitch and Strobel (2013) support the views of the respondents and Williamson (1991) stating that it is imperative that transfer pricing practitioners take into account the value chain of the intangible asset when calculating the return. Moreover, Pankiv (2017) affirms that transfer pricing outcomes should be aligned with the value created.

As outlined above, pharmaceutical value chains can be incredibly complex given a pharmaceutical companies global presence. Active pharmaceutical ingredients can be produced in one country such as Japan, but require shipping to its manufacturing facility in Puerto Rico, and then shipping to another factory in Italy for finishing and packaging, before being sent to a supply point in Belgium, before being shipped to the final country where it will be sold e.g. Ireland. Complexity arises at each step as each party must earn an appropriate arm's length return dependent on the risk and value-add that the party is contributing in the supply chain. Further complexity arises when one takes into account that any residual profit must be pushed back through the supply chain to the residual profit earner i.e. the party who owns the intellectual property. These are the main functions of the supply chain that add value, research and development, manufacturing and sales, and marketing, and can therefore earn a party a greater return (Novis, Minnear and Ashan, 2014).

Evidently the supply chain is an intricate part of transfer pricing and issues arise when tax authorities in any of the countries, at any level of the supply chain begin to challenge the transfer price. Therefore, the profit split method is a valuable methodology to use in determining the value of a trade secret as it addresses the issues inherent in the valuing of intangible assets, is preferred by the OECD which in turn is relied upon by tax authorities when assessing transfer prices. This can be highlighted by the number of litigation occurring in the space of transfer pricing between firms and companies as discussed in chapter two, with settlements reaching the billions of dollars (Mathewson and Quirin, 1979; Gujarathi, 2007; Noga, Wilkinson and Ford, 2007; Avi-Yonah, 2016).

As highlighted above, both transfer pricing practitioners and tax authorities rely on the OECD transfer pricing guidelines for guidance in a variety of complex areas. In the next section I will discuss the feedback from respondents in respect of research question number three which is how useful the guidelines have been in practice and areas where they would like to see some improvement.

6.4 The Utility of the OECD Transfer Pricing Guidelines

In this section I will discuss the feedback received and reported on in chapter five relating to the practical usefulness of the OECD transfer pricing guidelines and link the respondents' answers to relevant academic literature.

As stated in chapter five, 76% of respondents found the transfer pricing guidelines to be helpful on a day to day basis. Only one respondent of the 76% percent highlighted some areas in which the OECD transfer pricing guidelines could be improved. The respondent recommended a number of changes; i) the narrowing of the range of instances when an intellectual property asset should be considered a difficult-to-value intangible asset, ii) provide clearer guidance around the use of the 'rebuttable presumption' granted to tax authorities under the OECD guidelines to protect tax payers and, iii) provide greater clarity and guidance around how and when purchase price adjustment clauses should be utilised. This view directly correlates to the arguments made by Gujarathi (2007) and Pankiv (2017) wherein they note that commentary and guidance provided by the OECD is brief and not helpful when interpreting the guidelines which poses issues on a global level as most tax jurisdictions, at the exclusion of the United States, have adopted the guidelines as law.

The 18% of the sample group who specified they have not found the OECD transfer pricing guidelines useful can be viewed in tandem with the above sentiment. The respondents particular noted that there should be further emphasis placed on the use of the comparable unrelated transaction method when valuing difficult-to-value intangibles assets which appeared to be a common complaint amongst those surveyed. Another respondent suggested the development of a profit and loss statement for the applicable pharmaceutical products/intangibles that could then be relied upon to value the asset. Furthermore, it was highlighted that trade secrets are unique by nature with a lot of emphasis being given to the facts and circumstances in each case. The introduction of a standardised profit and loss statement of intangibles that has been agreed upon by the OECD, tax authorities and tax payers would mitigate disputes between tax authorities and tax payers by reducing the lack of subjectivity.

It is difficult to recommend one method over another as the guidelines cannot account for every eventuality. Borkowski (2001) emphasised the difficulties in obtaining a comparable unrelated transaction for the purpose of valuing difficult-to-value intangible assets. It is evident therefore that a common theme amongst respondents both in favour and those not of the OECD transfer pricing guidelines, is the basis of which tax authorities can make adjustments where there is no reliable comparable intangible data to support the adjustments.

6.5 Limitations of the Research

Although this research took a targeted approach to reaching out to transfer pricing practitioners and receiving a good response rate for a survey of 85%, there are limitations to the survey instrument used. As discussed above in the previous sections, the survey instrument was a useful tool for collecting data that could be easily quantified and themes extrapolated from. However, given the subjective nature of transfer pricing and the limited ability to follow up, it restricted the researcher the ability to follow up on responses and delve deeper into the crux of the issues at hand.

Responses relating to the rationale of decisions made presented further questions to be answered. For instance, one respondent noted that their choice of valuation methodology of a trade secret would depend entirely on the circumstances to hand. The lack of follow up results in the researcher being unable to further examine what factors influence the choice of one valuation methodology over another. It is accurate then that Cecchini, Leitch & Strobel (2013)

would recommend the use of interviews with transfer pricing practitioners. If this was the case, then further and more in-depth research could be conducted.

A further limitation of this research is the respondents' demographic. As discussed in the methodology chapter, transfer pricing is a niche area of taxation. There are no formal exams and transfer pricing practitioner's skills, ability and knowledge have a close relationship with their experience. From the survey, two thirds of respondents only had zero to five years' experience in transfer pricing, whilst only twenty-six percent (26%) had over sixteen years. This presents a lack of long term experience in the transfer pricing practitioners interviewed, and therefore some respondents had not valued trade secrets. In furtherance of this, although the anonymity allowed for 'good faith' disclosures from the respondents, it further hampered any follow up due to a lack of linkage between the respondent's answers and their identification.

Finally, the small sample size may not be indicative enough to determine definitively the most coherent answers to the research questions as the sample size may not accurately represent the views of the wider transfer pricing community.

6.6 Summary

In summation, it is clear that there are defined links between the academic literature reviewed and the sample group's answers. However, there were also several developments including the pragmatic suggestion to develop an agreed profit and loss statement to assist when valuing intangible assets and the narrowing the scope of the OECD transfer pricing guidelines applications of the difficult-to-value intangible asset nomenclature. In the next chapter I will provide my concluding comments.

Chapter 7 - Conclusion

7.1 Introduction

In this section I will outline a summary of the research conducted together with what developments were made in relation to each of the research questions posed at the outset of this body of work.

7.2 Conclusions

The findings of this research highlight the ongoing subjectivity and inherent issues associated with difficult-to-value intangible assets. At the outset, the main aim of this research was to find a coherent approach to valuing difficult-to-value intangible assets in the context of the pharmaceutical industry. This issue has been at the forefront of transfer pricing issues since the sixties and seventies as companies began to decentralise. Whilst it has been determined that a valuation model under the income approach methodology is the most preferred method for valuing a difficult-to-value intangible asset, it is not definitively clear which model is the best. The ongoing subjectivity of such assets in tandem with the brief yet broad language in the OECD transfer pricing guidelines leads transfer pricing practitioners to use their own knowledge and experience to choose the best methodology.

In regard to the valuation of trade secrets, it is important to emphasise that they are becoming increasingly popular with pharmaceutical companies in the context of biologic drugs, the complexity surrounding them means that they are difficult to replicate with biosimilars being unable to return the same efficacy. The issue arises with the transfer pricing valuation of the intangible asset. Trade secrets are inherently difficult to quantify or find a comparable unrelated transaction, this has been recorded in academic literature, prior studies and also from the sample group surveyed. Importantly, this research can conclude that the preferred valuation methodology is the discounted cashflow model with over a third of respondents choosing it. However, this should be caveated that 29% of respondent's answers had to be discounted due to the failure to omit the comparable unrelated transactions method from their repertoire.

In respect of research question three and the utility of the OECD transfer pricing guidelines to practitioners, it is evident that the majority of practitioners found the guidelines to be useful. However, there were a number of respondents who found them to be lacking in certain areas and would like some further clarification. This follows a litany of academic opinion which

highlights the need for greater guidance as the guidelines underpin a significant number of countries' transfer pricing legislation and rules. Therefore, I think it is acceptable to determine that the OECD transfer pricing guidelines have been useful to transfer pricing practitioners, however there are several areas where they could be improved upon.

7.3 Recommendations for Future Research

This author has identified several areas for further research. As outlined in chapter six, although the survey instrument used was beneficial for the purpose of quantifying the valuation methodologies used by practitioners, it limited this author's ability to follow up and obtain a better understanding behind transfer pricing practitioner's motivations for choosing one methodology over another. Furthermore, this has been supported by Cecchini, Leitch & Strobel (2013) wherein they recommend the use of interviews with transfer pricing practitioners due to a lack of work completed in this area. Such work would identify the factors that contribute to the choice of methodology and potentially lead to a greater framework around applying a valuation methodology to difficult-to-value intangible assets.

It would be of further interest to carry out research in other industries heavily reliant on intellectual property and intangible assets for economic returns. By carrying out such research, one could cross compare and determine whether there is any positive relationship between the valuation methodologies used in those industries in comparison to the pharmaceutical industry. Once again, this might garner a greater collective knowledge around the valuation of difficult-to-value intangible assets and lead to a more robust valuation framework.

Finally, it would be worth involving both the OECD and tax authorities in any further research. This research has been conducted only through the views of pharmaceutical companies i.e. tax payers and their associated consultants in the big four accounting firms. By including members of the OECD and tax authorities further research would provide a more holistic view of the inherent issues and motivations behind the parties dealing with difficult-to-value intangible assets.

Appendix 1

Transfer Pricing and the Pharmaceutical Industry: Finding a Coherent Approach to Valuing Difficult-to-Value Intangible Assets

* 1. Do you work in Industry or Private Practice?

- [ ] Industry
- [ ] Private Practice

* 2. How many years' have you worked in transfer pricing?

- ◯ 0-5 years
- ◯ 6-10 years
- ◯ 11-15 years
- ◯ 16-20 years
- ◯ 20+ years

* 3. Have you valued difficult-to-value intangibles assets?

- ◯ Yes
- ◯ No

* 4. How many years' experience have you had in dealing with the pharmaceutical industry?

- [ ] 0-5 years
- [ ] 6-10 years
- [ ] 11-15 years
- [ ] 16-20 years
- [ ] 20 years +

* 5. What is your most utilised method for valuing difficult-to-value intangible assets in transfer pricing in the context of the pharmaceutical industry?

* 6. Please briefly outline why have you chosen this method over others.

* 7. According to the OECD Guidelines (2017), comparable unrelated transactions ('CUT') are the preferred method to value intangible assets. How would you value a trade secret where there are no comparable transactions?

1

* 8. Please briefly outline why you have chosen this method over others.

* 9. Have you found the OECD Transfer Pricing Guidelines useful in choosing a valuation methodology for intangible assets?

- ◯ Yes
- ◯ No
- ◯ Other (please specify)

* 10. If not, what further guidance or advancement would you like to see made to them?

2

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