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What Drives the Tax Avoidance Strategies Adopted by US MNEs?

Understanding the Heterogeneity of Approaches to Corporate Tax Planning in US Multinational Enterprises

THESIS SUBMITTED FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

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International Business and Strategy

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DECLARATION

I confirm that this is my own work and the use of all material from other sources has been properly and fully acknowledged.

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ABSTRACT

'Beside the great issues of progress, sovereignty and economic justice that swirl around the MNE, taxation sounds like a matter for petty minds that warm to accountancy. That instinct is squarely wrong, because it turns out that arrangements for taxing corporate net incomes constitute the dominant factor in the division of spoils between source and host country' Caves (1982).

In recent years tax avoidance has come under scrutiny from the public, the media and the government. Tax planning is the way in which companies efficiently manage the payment of taxes using a variety of methods to reduce tax legally. It is a key function of multinational enterprises (MNEs), yet little is known about the way in which it is implemented.

Internalization theory underpins the research contained in this thesis which argues that early International Business (IB) theory had a more explicit focus on tax and the opportunities that it confers on the MNE. Tax, it is argued, gives MNEs a financial advantage over domestic companies. The development of IB theory more recently has failed to build on this early understanding and consequently tax has become a neglected topic within the field of IB.

This study aims to enhance our understanding of tax planning phenomena and the way in which US MNEs are able to manage their Effective Tax Rate (ETR). It is an innovative study, considering the importance of tax planning to the MNE as well as providing new insight into the way in which tax planning is conducted within the MNE.

Mixed methods of qualitative and quantitative research are used in this study which helps to examine the MNE's tax planning in a holistic and systematic manner. This includes in-depth and detailed analysis from the parent-firm level to the subsidiary-level, and interviews with subsidiary managers and tax experts to obtain their insights and views. Specifically, a series of interviews with senior tax executives from UK subsidiaries of US MNEs and experts from tax advisory firms is conducted, focusing on the experience of the MNE subsidiary operating in the UK. The study shows the

importance of the people within the business in terms of setting the tone for tax planning and strategy and the risk that the organisation is prepared to take.

A quantitative study examines 94 large US MNEs from the group perspective. The analysis uses two different measures of the ETR and a measure of the cash held by the company to improve the understanding of the ways in which tax-planning strategies are implemented. The analysis unpicks the impact of different characteristics of the companies to add to our understanding of what drives the heterogeneity of approaches in place.

A series of six case studies is used in the final section to reconcile the findings from the two empirical studies – the interviews and the parent-level data analysis. Using published accounting data and other company information (e.g. management discussion, disclosure notes, and organizational structure and business configuration) the case studies make a clear contribution by providing detailed analysis of the companies involved over a ten year time horizon.

Key Findings and Contributions

This study makes a new key theoretical contribution by extending knowledge about the motivations and abilities of MNEs to plan their tax affairs efficiently. Early work within IB considered transfer pricing alone and this subject has then been neglected in recent years. This study demonstrates that transfer pricing is only one part of the complex tax (and tax planning) interactions between governments and MNEs. It highlights the need to distinguish between the value appropriation (rent seeking) aspirations of MNEs, which are the primary concern of governments, and the value creation (efficiency based) internalization activities of MNEs as they use internal prices to overcome exogenous market imperfections (Rugman, 1980). Furthermore, findings from the interview research suggest the importance of aspects, such as the experience of the individuals' and the company's overall attitude to risk that the development of theory must take into account. This thesis reaffirms the centrality of financial planning (an in particular tax planning) to internalization theory.

Early theoreticians could not test the economic models that they developed. The quantitative research in this thesis builds an economic model which is then tested empirically. The importance of the size of a firm, the use of intellectual property, the use of small tax havens and the proportion of women on the board are found to be important factors in determining the aggressiveness of the tax stance adopted by US MNEs.

The findings from this research have important implications for policy makers by providing new and useful insights into the way in which MNEs plan their tax strategies. The research will also be of interest to managers within the firm, adding to their understanding of the role of tax in corporate strategy.

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List of Abbreviations

AJCA	American Jobs Creation Act (2004)
ALS	Arms' Length Pricing Standard
BEPS	Base Erosion and Profit Shifting
BLS	Bureau of Labor Statistics
CBCR	Country by Country Reporting
CEO	Chief Executive Officer
CFO	Chief Finance Officer
COO	Chief Operating Officer
CFC	Controlled Foreign Corporation
CSA	Country Specific Advantage
DT	Deferred Tax
ETR	Effective Tax Rate (corporate tax)
FSA	Firm Specific Advantage
EU	European Union
FDI	Foreign Direct Investment
GAAP	Generally Accepted Accounting Practices (US Accounting Standards)
HMRC	Her Majesty's Revenue and Customs (the UK tax authority)
IB	International Business
IP	Intellectual Property
IPO	Initial Purchase Offering
IRS	Internal Revenue Service (the US tax authority)
JIBS	Journal of International Business Studies
KPI	Key Performance Indicator
LSA	Location Specific Advantage
M&A	Mergers and Acquisitions
MC	Marginal Cost
MNE	Multinational Enterprise
NOL	Net Operating Loss
OA	Ownership Specific Advantage

OECD	Organisation for Economic Cooperation and Development
OFC	Offshore Financial Centre
P&L	Profit and Loss Account
PE	Permanent Establishment
PRE	Permanently Reinvested Earnings
R&D	Research and Development
RoW	Rest of the World
SPE	Special Purpose Entities
TNMM	Transactional Net Margin Method
TP	Transfer Price / Pricing
UNCTAD	United Nations Conference on Trade and Development
YoY	Year on Year

GLOSSARY

Accrual accounting	An accounting method that records revenues and expenses when they are incurred, rather than when cash is exchanged. An 'accrual' is an individual accounting entry that records revenue or expense in the absence of a cash transaction. E.g. charging annual accounts for only 12 months of a bill relating to services for a 13 month period.
Affiliate / affiliated company	A company in a group of companies.
Arm's length price	The price for an internal transaction between two unrelated companies that is equivalent to that reached through bargaining in a competitive market.
Check the box	A US tax regulation meaning that a US company can choose for the tax authorities to treat subsidiaries as divisions of the same company rather than as separate companies. Called 'check the box' as it is implemented simply by ticking a box on IRS form 8832.
Consolidated Accounts	Accounts which encompass the earnings and assets of all group companies.
Country by country reporting	Proposal that companies should disclose their earnings and performance on a country-by-country basis rather than reporting on subsidiary and consolidated basis.
Deferred tax	Deferred tax is defined by IAS 12 as being the amount of income tax payable in future periods in respect of taxable temporary differences. Temporary differences are the differences between the carrying amount of an asset or liability, within the annual report and its tax base i.e. the

	amount at which the asset or liability is valued for tax purposes by the relevant tax authority.
Effective tax rate	Measure of tax charged as the numerator with a measure of income as the denominator.
Entity	A company that exists as a legal entity; a legally incorporated company.
GAAP / Generally Accepted Accounting Principles	The standard framework of guidelines for financial accounting used in a particular jurisdiction.
Going concern	A company is defined as being a 'going concern' if it is able to function for at least 12 months without the threat of liquidation.
Hybrid entity	A company that from a tax perspective is 'transparent' in one taxing jurisdiction, meaning that it is deemed part of another company (usually the parent) but from the point of view of another taxing jurisdiction is a taxable entity.
Internal Revenue Service	The US government agency responsible for tax collection and tax law enforcement.
Initial Purchase Offering (IPO)	When shares in a company are sold for the first time. The company becomes publicly listed, rather than being a private company and has to adhere to stricter rules in relation to disclosure as well as to the management of the company.
Inversion / invert	MNE buys a subsidiary of a foreign company and then inverts the company. This makes the newly purchased subsidiary the new parent company, with the former US parent company becoming a subsidiary. The new parent

	company is based in the country of the purchased subsidiary.
Patent Box	A tax incentive enabling companies to apply a lower rate of corporation tax to profits from its patented inventions. This tax scheme is available in a number of European countries (Ireland, The United Kingdom, France, Belgium, Hungary, Luxembourg, the Netherlands, and Spain); however, it is not available in the US tax system.
Permanently reinvested earnings	Overseas earnings which US Companies deem to be permanently reinvested overseas. Consequently no tax is payable in the US on these earnings.
Permanent establishment	A fixed place of business that generally gives rise to tax liability in a particular jurisdiction. The OECD sets out what constitutes a PE for corporation tax purposes.
R&D Tax Credits	Tax credits available to set off against investment in R&D.
Subpart F income	Income that is generated from passive investments or from income '*split off from the activities that produced the value in the goods or services' Office of Tax Policy (2005).*
Subsidiary	A company that is more than 50 per cent owned by parent.
Transactional Net Margin Method	One of the approved methods set out by the OECD for calculation of transfer prices.
Transfer price	The price charged to account for intra-firm trade, intra-firm loans or knowledge flows between affiliates of the MNE.
Transfer price manipulation	The deliberate setting of the price paid by one company to another in the group located in another taxing

	jurisdiction, usually for the purpose of reducing the aggregate ‘tax’ burden of the company and its affiliates.
Valuation allowance	A valuation allowance is an item in the balance sheet that offsets all or part of the value of a company's deferred tax assets because the company doesn't expect it will be able to realize this value.

1 Introduction

Tax affects every business. For many companies it is the single largest bill that they will pay each year. The implications for corporation tax liabilities are considered when firms formulate and implement their strategy. Where investments are made, how much is invested, how that investment is funded and where profits are recorded are decisions facing the multinational enterprise (MNE) that will have significant implications for its tax liability. This introductory chapter argues that tax is an important driver of MNE behaviour. In recent years, however, academic International Business (IB) research has not focused adequately on the corporate income tax of MNEs (Nebus, 2016), and the development of relevant theory. This thesis argues that understanding the approach adopted towards tax is key to understanding the behaviour of the MNE. Thus, the central overarching research question of this thesis is: *'what drives the adoption of tax avoidance strategies by MNEs?'*

Tax avoidance by MNEs has been headline news, particularly since the global financial crisis of 2008. The press, the UK's House of Commons Select Committee enquiries and the US' Congressional Committees have identified this as a key issue for governments, consumers and business. The Organisation for Economic Cooperation and Development (OECD) is undertaking a major programme under its Base Erosion and Profit Shifting (BEPS) work stream (OECD 2017).

Work by individual governments, the OECD and the European Union (EU) all consider the issue of tax avoidance. There is a growing understanding that the current tax system fails to deal adequately with the modern business environment and with digital companies in particular. A key feature of tax avoidance is the ability to shift profits between different tax jurisdictions, with MNEs choosing to book a greater share of their profits in low tax countries. In this way MNEs are able to take advantage of tax differentials across countries. As MNEs become more proficient at shifting parts of their value chains in order to take advantage of location specific advantages (LSAs), tax has become a more prominent instrument of MNE strategy. Tim Cook, Chief Executive Officer (CEO) of Apple has claimed that the US tax system is flawed: *'This is a tax code that was made for the industrial age, not the digital age'* (Brinded 2016).

Public scepticism towards globalisation and hostility towards MNEs increased as a direct consequence of the global financial crisis. Governments, stimulated by the need to increase fiscal revenues post financial crisis, are focusing more on the tax affairs of large MNEs which have consequently become a political issue. Governments are also motivated by the perceived threats to their economic sovereignty from large MNEs with the ability to shift elements of their global value chains, economic activity or simply profits, between locations.

Whilst tax may not drive the fundamental strategic direction of an MNE, it is likely to be considered as a key factor in the implementation of strategic plans. Cases such as the failed Pfizer / Allergan merger (Financial Times 2016) have demonstrated clearly the importance of corporate tax planning as a driver for the actions of MNEs. The proposed $160 billion Pfizer / Allergan merger was driven by the proposal to 'invert', to shift the combined company headquarters out of the US and into Ireland. As a consequence Pfizer would face an Irish corporate tax rate of 12.5 per cent, a significant reduction from the US statutory rate of 35 per cent. The importance of tax as a driver for the merger was made clear when changes to US tax regulations were implemented which would have prevented Pfizer from inverting following the merger. Without the draw of inversion and the ability to take advantage of the low Irish tax rates, the merger was not sufficiently attractive to go ahead and Pfizer withdrew.

In 2016 the European Commission concluded that Apple's tax agreements with the Irish tax authorities in 1991 and 2007 artificially lowered Apple's tax liability. Apple was ordered to pay the Irish government €13billion in additional tax and interest. Although Apple was not found to have broken the law, the agreement was in breach of EU state-aid rules that prevent member states from offering preferential treatment to specific firms (The Economist 2016). The ruling reveals the size of the savings that MNEs are able to make by carefully selecting the tax jurisdiction where profits are booked. The ability to make savings on this scale indicates the importance of considering tax-planning mechanisms as a driver for MNE behaviour and strategy.

MNEs are able to plan their tax affairs using a multitude of strategies to reduce their tax bill, largely through shifting their profits between jurisdictions. Tax competition

between countries has intensified in recent years as countries compete to attract inward FDI (Devereaux, Lockwood and Redoano 2008; Altshuler and Grubert 2006). The resulting low corporate tax rates, combined with the continued availability of tax havens have increased the opportunities for MNEs' profit shifting.

The tax liability of an MNE relates to the location where profits are recorded. The MNE therefore has an incentive to shift profits to subsidiaries in low tax locations. MNEs can take measures to increase their profits in lower tax jurisdictions and decrease them where taxes are higher. This can be done through overcharging (undercharging) subsidiaries in high (low) tax locations for intermediate goods or the use of intellectual property, consequently reducing (increasing) profits, and therefore the tax payable in high tax regimes (Samuelson 1982; Rugman and Eden 1985; Zucman 2014).

1.1 Example: Profit Shifting

In the example below, a company with two subsidiaries is able to reduce its overall tax bill by increasing the profits recorded by Subsidiary B in a low tax jurisdiction and reducing them in Subsidiary A in a high tax jurisdiction. Subsidiary A must make a payment to Subsidiary B which is a cost to Subsidiary A and is revenue for B. This payment could be a royalty payment to B for the use of intellectual property (IP) by A. Alternatively, it could be an interest payment to B on a loan it has made to A. It could also reflect the choice of a higher cost (transfer price) for the sale of goods or knowledge from B to A.

At first the company's overall tax bill is 150, made up of 100 paid by A and 50 by B. Profits are then shifted by increasing A's costs by 200 which it must pay to B, increasing B's revenue. Overall profits remain the same at 800 but the tax payable is reduced from 150 to 125.

Figure 1 Profit Shifting Example

Subsidiary A		**Subsidiary B**	
(High tax jurisdiction)		(Low tax jurisdiction)	
Revenue	1000	**Revenue**	1000
Costs	600	**Costs**	600
Profits	400	**Profits**	400
Tax (25%)	**100**	**Tax (12.5%)**	**50**

Overall profits: **800**

Overall tax bill: **150**

Subsidiary A		Subsidiary B	
(High tax jurisdiction)		(Low tax jurisdiction)	
Revenue	1000	**Revenue**	1200
Costs	800	**Costs**	600
Profits	200	**Profits**	600
Tax (25%)	**50**	**Tax (12.5%)**	**75**

Overall profits: **800**

Overall tax bill: **125**

Eden (2009) suggests that tax and transfer pricing (TP) are at the core of an MNE's successful financial strategy. MNEs can gain an advantage over domestic firms through the use of tax arbitrage. In general, MNEs plan their tax affairs to ensure that they are paying only what they need to. The approach taken and the degree of aggression with which tax planning is executed differs between MNEs. Many MNEs create complex structures to avoid tax (UNCTAD 2016).

Global value chains are becoming increasingly complex, providing more opportunities for profit shifting. Similarly, corporate structures are becoming more complex, often driven specifically by tax planning. The World Investment Report by the United Nations Conference on Trade and Development (UNCTAD) (2016) report that over 40 per cent of foreign affiliates worldwide have multiple 'passports'. These affiliates have cross border links with, on average, three different jurisdictions. UNCTAD also highlight that larger MNEs have more complex ownership structures with a surge in cross border

mergers and acquisitions (M&As) ($721 billion in 2015; $432 billion in 2014) driven by corporate reconfigurations including tax inversions. Deal making in certain industries such as pharmaceuticals also grew with tax considerations thought to be a key motivator[1].

The scale of tax motivated profit shifting appears to be growing. Between 2003 and 2008 income booked through holding companies accounted for an average of 4 per cent of income for US Foreign Direct Investment (FDI). By 2015 this had increased to an average of 52 per cent (UNCTAD 2016). UNCTAD concludes that due to their predominance in jurisdictions with low tax rates, the use of these companies and structures is largely tax motivated. There is, however, some evidence that the use of tax havens and offshore financial centres (OFC) may be starting to fall. Changes to government policies in Luxembourg and the Netherlands[2] appear to have led to a reduction in the volume of financial flows through these countries (UNCTAD 2016). Similarly investment in Caribbean Offshore Financial Centres (OFCs) slowed in 2015 (UNCTAD 2016). The proportion of investment coming from the US and the EU into these centres fell, whilst investment from Hong Kong, China, Brazil and the Russian Federation increased (UNCTAD, 2016).

Against this background, tax planning is also rising up the academic agenda. Zucman (2014) calculates that subsidiaries with little or no economic activity in seven low or no tax countries[3] account for 18 per cent of total US corporate profits. He estimates that profit shifting enables US companies to reduce their total tax liabilities by about $13billion a year. The increasing scale of the current problem is driving academics to consider the use of tax havens and profit shifting, with work addressing this issue published recently, after a period of neglect (Muller and Kolk 2015; Brajcich, Friesner, and Schibik 2016; Jones and Temouri 2016). The following chapter: Literature Reviews

[1] UNCTAD (2016) quotes the acquisitions of Allergan (United States) by Actavis (Ireland) for $68 billion, of Sigma (United States) by Merck AG (Germany) for $17 billion, and of the Oncology Business of GlaxoSmithKline PLC (United Kingdom) by Novartis (Switzerland) for $16 billion as examples of tax driven deals.

[2] The Government in Luxembourg changed their TP and 'substance' rules whilst in the Netherlands new substance rules for group financing and licensing companies were brought in (UNCTAD 2016 p.20).

[3] The Netherlands, Bermuda, Luxembourg, Ireland, Singapore, Cayman Islands and Switzerland.

discusses the position of corporation tax and tax avoidance within the academic literature in detail.

The international tax regime is governed by a complex system of tax treaties. Inconsistencies have developed in the way that treaties govern various aspects of corporation tax. MNEs exploit these differences and choose the locations of their subsidiaries carefully (treaty shopping) to generate opportunities to minimise taxes (see Google Case Study in Chapter 6). The ability of MNEs to select the locations where their subsidiaries are based has been enhanced by changes emerging from the growth of the digital economy. Whilst many companies continue to base their location decision on LSAs and their ability to generate economic value, many are also free to base subsidiaries in low or no tax jurisdictions and shift profits between them in a manner that does not reflect the flows of economic value within the company.

Defining the abstract concepts of tax planning and avoidance is difficult. The next section sets out the scope of this thesis and the definitions used in this research. The following sections then set out the features of the international tax regime and the US system in particular, that contribute to the ability of MNEs to take measures to reduce their tax bills. The research methods employed in this thesis are discussed in Chapter 3. Although every effort has been made to make the tax related language clear to the non-specialist IB reader, because of the highly specialist nature of tax a glossary has been included at the start of the thesis.

1.2 Definitions of tax avoidance and tax planning

Tax avoidance is often defined as the 'legal' measures taken by companies to reduce their tax bill, with evasion considered as more extreme 'illegal' measures. This simplistic duality does little to explicate the reality of the options facing the modern MNE. The MNE will adopt a strategic posture in relation to its tax planning that positions it on a continuum of possible measures. Some tax planning measures are relatively straightforward; such as the application of Research and Development (R&D) tax credits, patent box/innovation box, or depreciation allowances. Other measures, such as corporate management fees charged by the headquarters to foreign subsidiaries may be acceptable to tax authorities in some jurisdictions, but

unacceptable in others. The scale and scope of possibilities facing the MNE are vast. The MNE will adopt an overall position that reflects its understanding of the legality of the stance and the risk that it is prepared to take that a tax authority may challenge them at a later date, potentially resulting in back payments, fines or legal cases (Wall Street Journal 2006; Financial Times 2016).

Hanlon and Heitzman (2010, p. 137) define tax avoidance as activity that results in: *'the reduction of explicit taxes'*. This definition is broad, encapsulating any activity that reduces the tax bill. Some activities may be undertaken for operational reasons but may still have the effect of reducing the tax bill. For example, a company may invest in R&D for reasons of creating competitive advantage; however, under this definition, if the R&D attracted government tax credits it would be labelled as a tax avoidance activity.

The term 'tax planning' has become used fairly recently and incorporates the activities undertaken by a firm implementing a strategic approach to the tax bill. Measures included within tax planning could be straightforward tax avoidance or reduction schemes, or could relate to the timing of payments. Corporation tax planning will include measures that focus on the tax payable on annual income but will also concentrate on the tax implications of other corporate activities, such as the structure of the business, particularly around M&A activity.

Publicly listed companies in most countries have to report their annual earnings and expenditures in Annual Reports that are audited by an external, independent auditor. These reports must conform to the local or international accounting standards, referred to as Generally Accepted Accounting Practices (GAAP) in the US, whereas companies in Europe and Asia Pacific follow the International Financial Reporting Standards (IFRS).

The Effective Tax Rate (ETR) is a key measure used in tax research to compare the tax paid by companies over a period of time or in a specific location. It is calculated by taking a measure of the tax paid as the numerator over a measure of income as the denominator. A full discussion of this measure is included in section 5.4.

1.3 The International Tax System

The international tax system is based on a series of bilateral and multilateral treaties. The purpose of these treaties is to ensure that businesses are not hampered by 'double taxation', where profits are taxed in both home and host countries. In 1922 The League of Nations established a panel of four economists to consider the issue and devise a system for the avoidance of double taxation. They defined three principles (League of Nations 1923) which have been at the foundation of international taxation ever since:

- Corporate tax is to be paid in the source country;
- Arm's length pricing; and
- International issues should be addressed by bilateral rather than multilateral tax treaties.

Whilst many of the problems that would emerge with the establishment of this system could be immediately foreseen (Coates 1925), it was quickly implemented and has subsequently been the basis for the international tax system.

Developed country MNEs are expected to price goods and services when transferred internally using the 'Arm's Length Standard' (ALS) as set out in the OECD Transfer Pricing Guidelines (OECD 2010). The MNE must price goods and services in a manner comparable to that which they would use to price goods to an independent third party. In reality, however, there are two key problems with the ALS: 1) MNEs can intentionally misprice goods and services to shift profits; 2) in many circumstances it is very difficult to determine a comparable price as there may be no similar transaction in the external market particularly when the transaction involves royalty payments or IP (Eden 2016).

MNEs must provide significant, costly documentation to tax authorities in the relevant countries to justify the use of the TP that they have selected. This must be based on research into the external market. There are many occasions, however, particularly around the use of IP, where no external price exists (Eden, 2009; 2016). It is then very difficult for the tax authorities to determine whether the TP in use is a 'fair' price equivalent to that which would be charged to a third party.

Corporate tax is calculated based on the profits earned by individual subsidiaries within a MNE. Establishing the profits of an individual subsidiary is now considered by many to be unfeasible, particularly because of the role of proprietary IP and as digital delivery is the norm for many MNEs. This has led to campaign groups calling for the adoption of 'Country by Country Reporting' (CBCR) where MNEs would be required to submit information pertaining to their profits and tax payments on an individual country basis. Whilst it seems likely that this will be adopted by OECD countries in some form in the near future, it is unlikely that this information will be publicly disclosed, instead it will be reported confidentially to countries' tax authorities (OECD 2015; Murphy 2016).

Conflicts are inevitable. Headquarters (HQs) of MNEs incur overheads and costs that must be allocated between subsidiaries in different tax jurisdictions. How this should be done and what is a 'fair' recharge to different subsidiaries has led to many of the large disputes with tax authorities (Wall Street Journal 2006). Differences in national tax systems allow for the possibility of tax arbitrage, in essence, the shifting of profits between different jurisdictions with different tax rates and systems. The growth of global value chains has exacerbated this issue. Different economic activities undertaken by different parts of the MNE mean that knowledge and intermediate goods are shifted between tax jurisdictions and these transfers must be accounted for using a system of transfer prices (Dicken 2011).

1.4 The US Tax System

This thesis, like much extant research on the topic of corporation tax focuses on US companies. This is partly because of the dominant position of US companies in the global economy but interest also emerges from the consequences of the US tax system itself. This section gives an overview of the US tax system and the elements that facilitate tax planning by US MNEs. Particular routes for tax avoidance are also highlighted in detail in the case studies[4] presented in Chapter 6.

MNEs based in the US are taxed on their worldwide income. This means that global US earnings must be declared in the US for tax purposes. There are two ways, however, in

[4] See for example the Google Case Study in section 6.4 for an explanation of the Irish Double Dutch Sandwich and the Ford Case Study in section 6.2 for the use of deferred tax and valuation allowances.

which a US company can reduce its tax bill, at least temporarily: cross crediting and deferral. To avoid double taxation US companies can obtain a credit for the tax that they have paid abroad, up to the US rate of tax. When companies have paid more tax overseas than they would have been liable to in the US they are in a 'credit' position. Tax paid in a higher rate country can be offset against the lower tax paid in others (cross crediting). Companies therefore have an incentive to invest in low tax countries to offset against taxes paid in countries with higher taxes than the US. If the US tax rate of 35 per cent is higher than a given firm's average foreign tax rate for example, 20 per cent in the UK in 2016, the MNE will pay US tax on any repatriated foreign earnings at a rate equal to the difference between the US tax rate and the foreign tax rate, here 15 per cent.

As the rates in other countries have fallen over recent years whilst rates in the US have remained static, the incentive for US MNEs to cross credit has theoretically fallen. In 1981, the US tax rate was 49.7 per cent against 52 per cent in the UK and an OECD average of 47.5 per cent. By 2013, the average US rate had fallen to 39.1 per cent but the UK had fallen to 23 per cent (and reduced down to 20 per cent by 2015) and the OECD average was 25.5 per cent (Tax Foundation 2013). Cross crediting was limited by the 1986 Tax Reform Act so that income can be averaged only with other similar types of income, that is, taxes paid on active and passive income[5] cannot be cross credited.

Whilst tax is payable annually on earnings generated in the US, worldwide income is only liable for tax in the US when it is repatriated, that is, when the subsidiary company pays a dividend to the parent in the US. If a MNE invests in a low tax country and defers repatriation it can continue to reinvest the profits earned without incurring any US liability (Clausing 2009; Graham, Hanlon and Shevlin 2010; Kleinbard 2011). If the US MNE chooses not to repatriate earnings in order to defer tax payments it can deem them to be 'permanently reinvested earnings' (PRE). As the MNE is essentially saying that these earnings will never be returned to the US the audited annual report does not need to include any accrual for tax to be paid in the US despite including the foreign earnings in the reported pre tax income. If this income has been earned in a lower tax country the MNE will have a lower GAAP ETR and higher after tax GAAP earnings than if the income had been earned in the US or not deemed as PRE.

An exception is made for Subpart F[5] income, that is, passive income generated by investments and from business service industries abroad. It is treated as if repatriated immediately and therefore subject to US taxes. The aim is to reduce the incentive to shift these highly mobile forms of income to low tax countries. However, cross crediting is still possible within Subpart F income so there may still be an incentive to shift income if the MNE is in a 'credit' position. Clearly the advantages from deferral and cross crediting are mutually exclusive (Hines and Rice 1994). One can be used when income is repatriated and the other applies when it is not repatriated.

Subpart F rules also distinguish between payments made to related parties from those made to external third parties. Transfers to related parties are included, as it is believed that they are more easily manipulated than payments to external parties. Hybrid entities (see Glossary) however, are often used by US MNEs so that these payments become invisible to the IRS (Altshuler and Grubert 2006).

An alternative to the worldwide tax system used in the US is the territorial system, where foreign source income is (either wholly or partially) exempt from taxation in the home country. The UK has moved away from a system of worldwide taxation to a system where foreign source income is largely exempt from corporation tax. Germany exempts 95 per cent of foreign source income of German MNEs from taxation (Graham, Hanlon and Shevlin 2010).

A specific feature of the US tax system for international companies is the 'check the box' regulations, introduced by the Internal Revenue Service (IRS) in 1997 (Grubert and Mutti 2007; Mutti and Grubert 2009). This simplified the use of hybrid entities by US companies. Hybrid entities are treated by one country as a fully incorporated subsidiary

[5] Joint Committee on Taxation 2003 definition of Subpart F (passive) income:
'Subpart F income consists of foreign based company income, insurance income, and certain income relating to international boycotts and other violations of public policy. Foreign based company income consists of foreign personal holding company income, which includes passive income (e.g. dividends, interest, rents and royalties) as well as a number of categories of non passive income, including foreign base company shipping income and foreign base company oil related income.'

but by another country as simply a transparent branch of another company. Hybrid companies therefore allow US MNEs to avoid the taxation of payments that flow from one subsidiary to another that would otherwise be taxable. In essence, hybrid structures enable US MNEs to avoid having income that falls in the category that makes tax immediately payable.

Opportunities exist for MNEs from the US and other countries to take advantage of differences between the tax systems of different countries. Whilst a low statutory rate of tax can make a country attractive to MNEs seeking to reduce their overall tax expenses the regulations in place and the stringency with which these are enforced can also be attractive to the MNE. This thesis explores some of the different mechanisms that are used by MNEs to reduce their tax bills but the key issue under consideration is the differences between companies – why some take a more aggressive approach to planning their corporate tax affairs than others.

An overview of the potential mechanisms that can be used to shift profits is included in the empirical literature review in section 2.2.4. The case studies in Chapter 6 provide in depth analysis of number of mechanisms used by specific companies to avoid tax.

1.5 Overview of Research

Mixed methods of qualitative and quantitative research are used in this study to examine the heterogeneity of approaches to corporate tax planning by US MNEs in a holistic and systematic manner.

The area under investigation dictates the choice of method. A qualitative approach is taken for planning, conducting and interpreting the results from a series of interviews with senior tax executives presented in Chapter 4. The work explores tax planning from the perspective of the individual and explores the role of the interviewees and their experience of tax avoidance.

In Chapter 5, statistical regression techniques are employed to examine a database of 94 US MNEs. The quantitative approach allows for a clear investigation of the different

company characteristics and the impact that these have on the propensity of the MNE to plan their tax affairs.

The final piece of research uses a combination of qualitative and interpretive techniques to provide detailed analyses of the tax planning approaches employed by six large US companies. The case studies presented in Chapter 6 largely rely on the analysis of data taken from audited annual reports to provide a clear overview of the means by which the companies plan their tax affairs and the impact that this has on their disclosed financial performance. Chapter 3, Research Methods, discusses the selection of the appropriate methods involved in the research in this this and includes a discussion of the theoretical purpose of the type of research and how it contributes.

1.6 Contribution of this Research

This study contributes to IB theory by revisiting early work and demonstrating the importance that was initially attached to TP as a driver of MNE activity. It argues that new theoretical development (or the extension of existing theories) with a broader focus on international taxation and the tax planning of MNEs is needed within the field of IB, to counter the more recent neglect of the impact of corporation tax and TP on MNE activity and performance. The demonstration of the original importance attached to tax within internalization theory and its subsequent neglect is one of the key theoretical contributions of this thesis.

This thesis presents both qualitative and quantitative work, which together contribute to the understanding of what drives MNEs to avoid corporation tax. The series of interviews presented in Chapter 4 provides an important new data source. The findings from these interviews make a significant contribution to enhance our understanding of the decision making processes within the firm, and the concerns and motivations of those who are making key decisions (Rugman and Verbeke, 2008). A theoretical model of the drivers of tax avoidance is developed in this chapter as a mechanism to frame the findings from the interview. This is an important new theoretical contribution.

The quantitative analysis reported in Chapter 5 provides significant new findings. The analysis considers the characteristics of companies and their Effective Tax Rates (ETR).

It finds important roles for the size of the company, the role of women on the board and the use of tax havens.

The case studies presented in Chapter 6 make a new contribution both to research methodology and to empirical findings. The case studies provide a rich source of information that illuminates the activities of MNEs and demonstrate the key mechanisms used by MNEs to reduce taxes that make a new empirical contribution. It also highlights some important methodological issues, such as the content analysis method of company documents and publicly available documents as well as the conventional methods of interviews for qualitative research and regression tests for quantitative research

It is clear that corporation tax drives the behaviour and tax planning of MNEs in a number of areas and that a theoretical and empirical understanding of this behaviour is necessary if IB scholars are to engender a comprehensive understanding of the activities of MNEs. A full discussion of the contribution of this thesis is made in section 7.1. This research clearly demonstrates the importance of this subject to the field of IB: it is therefore vital that work in IB generates a clear theoretical and empirical understanding of the ways in which corporation tax drives MNE investment and behaviour.

1.7 Structure of this Research

This thesis contains seven chapters. Chapter 2 provides an overview and analysis of the existing research literature on this subject. It commences with a discussion of the theoretical literature. It considers the evolution of IB theory and the integration of corporate taxation from a theoretical perspective. It argues that early theoreticians considered taxation and TP as a key part of the potential advantages for the existence of the MNE. Over time this advantage has been ignored as work has focused on other, more knowledge related advantages of the MNE.

The review then turns to the empirical literature. Research work has been conducted across a number of academic disciplines and this chapter reports on the key findings from the fields of IB, accountancy and economics. It presents research findings that take

an aggregate or macro approach to the issue, concluding that tax avoidance appears to have grown over recent years. Research into specific tax avoidance mechanisms is also presented: looking at the different approaches used by MNEs and the impact of these mechanisms on their overall ETRs. This research adds to our understanding of the key company characteristics that affect a MNE's motivation and ability to shift profits and reduce their taxes paid. This systematic literature leads to the development of specific hypotheses that are then tested in Chapter 5.

Chapter 3 presents the research methods used: the reasons for their adoption and the details of their employment.

Chapter 4 presents the findings from the first of the primary research studies conducted for this thesis. It reports on the conclusions drawn from a series of interviews with senior tax executives. The chapter makes a new key theoretical contribution by extending knowledge about the motivations and abilities of MNEs to plan their tax affairs efficiently. This research adds significantly to knowledge about the experience of the individuals' and the importance of the company's overall attitude to risk that the development of theory must take into account. These new findings make important extension to internalization theory as well as providing new empirical data.

Chapter 5 presents findings from the statistical analysis of a database of 94 US MNE. Certain aspects of the MNEs under consideration such as size, IP ownership, use of tax havens and the proportion of women on the board of directors are found to have a significant relationship to the taxes paid by the MNE as measured by their cash and GAAP ETRs over a ten year period. The work also adds to the understanding of the measurement of ETRs and the factors driving the differences between the two key measures employed.

A series of case studies are detailed in Chapter 6. The case study format allows for the explicit interrogation of the companies' strategies and tax payments based on publicly available information. The case study format also allows for detailed examination of the variety of approaches undertaken by the different companies selected.

The discussion and conclusions in the final chapter, Chapter 7 demonstrate the importance of tax as a topic for IB research. This chapter also discusses the limitations of the research presented within this thesis and suggests areas for future research.

2 Literature Reviews

2.1 Theoretical Literature Review

2.1.1 Introduction

This chapter sets out the way in which IB theory has evolved and the role played by corporation tax within IB theory. Within IB, TP is often considered to be synonymous with tax. Whilst TP is one of the key elements of the complex tax and tax planning interactions between government and MNEs, this thesis is not solely about TP. The research focus of this thesis is broader, encompassing a holistic view of corporation tax and the tax planning strategies of MNEs.

Corporation tax is an issue that affects every business and impacts company behaviour in terms of where and how much investment is made, how it is made and where profits are recorded within the MNE. Tax and the consequent TP issues for the MNE were seen as a core issue by early scholars considering the MNE, but were later disregarded by IB scholars. Today, it should be noted that TP is just one fractional part of the complex tax planning activities of the MNE and its interactions with international governments.

Despite the lack of research in this area, academics have argued that an understanding of corporation tax, from a multidisciplinary angle is an essential part of a complete analysis of the MNE (Caves 1982). This paper contributes to IB theory by revisiting early work and demonstrating the importance that was initially attached to TP as a driver of MNE activity. It argues that new theoretical development or the extension of existing theories is needed to underpin much needed empirical research into the impact of corporation taxation on tax planning, locations of business activities and performance. This is particularly important due to the intensified tax competition between countries attempting to attract FDI from MNEs.

Early explanations for the existence of the MNE, particularly internalization theory, emphasise the key role played by internal financial transfers in enabling the MNE to overcome the liability of foreignness and external capital market imperfections (Rugman, 1980; Lessard 1979; Hymer 1976). Over time, however, internal financial

transfers within the MNE came to be seen as less central to the overall theory of the MNE. TP has been viewed simply as a mechanism employed by MNEs to avoid taxes rather than as a core, innate part of the advantage of the MNE.

The lack of available data for research due to issues of confidentiality has led to difficulties in conducting empirical work in this area. Early research work took an alternative approach, focusing instead on the modelling of TP, rather than providing direct empirical evidence of TP or how tax-planning systems are structured. The difficulties involved in testing theoretical models as they were developed, combined with a positive assessment of the contribution of MNEs to the global economy since the late 1980s, also reduced the impetus to perform research in this area.

Following the global financial crisis of 2008, however, tax avoidance has risen up both the political and academic agendas. The financial crisis drove greater public scepticism of globalisation and free trade, as well as hostility towards MNEs. Stimulated by the financial crisis and the perceived threats to economic sovereignty by large MNEs with global value chains, governments are attempting to increase their corporation tax revenue by reducing the ability of MNEs to shift their profits to lower tax jurisdictions.

Work by individual governments, the OECD and the EU have all considered the issue of tax avoidance, including work to look specifically at the methods employed by MNEs to reduce overall corporate income tax bills legally. There is a growing understanding that the current tax system fails to deal adequately with modern digital companies in particular and that as MNEs become more proficient at shifting parts of their value chains to take advantage of location specific advantages (LSA) tax has become a more prominent part of MNE strategy. It is important that IB theory can contribute to this debate and to the promotion of efficient national and international policies. Without a firm theoretical foundation, understanding of the behaviour of MNEs and the implications of government policies will be limited.

Whilst academic research focusing on tax avoidance has taken place across a range of disciplines: public economics, accounting, finance and law there has been a dearth of research from within IB. Tax avoidance is now, however, beginning to rising up the IB

agenda. The scale of the current problem is driving academics to consider the use of tax havens and profit shifting with empirical work addressing this issue published recently (Muller and Kolk 2015; Brajcich, Friesner, and Schibik 2016; Jones and Temouri 2016).

Given the importance of corporate taxation, this thesis makes a timely contribution. This chapter sets out how tax and TP can be treated within the scope of internalization theory. It argues that early writers considered TP and finance to play key roles, fundamental to the existence of the MNE. More recent scholars have largely overlooked the importance of TP for the MNE. This thesis argues that the importance of this area for understanding the behaviour and strategies of the MNE should be acknowledged and considered to be a fundamental part of IB theory.

The rest of this chapter is organised as follows: Section 2.1.2 provides details of a key literature review conducted specifically for this chapter. Section 2.1.3 then considers internalization theory and how taxes were treated during its development. Section 2.1.4 examines MNE motivations for FDI and assesses the extent to which this can inform our understanding of tax avoidance. The following section (section 2.1.5) then takes a step back and considers early academic work that modelled TP, in relation to tariffs and taxes. The subsequent sections cover the economic models that establish the advantages to the MNE from TP and the impact of TP on global efficiency and welfare. The final sections consider the development of research over time and conclude.

Section 2.2 presents a separate review of the empirical literature on this topic. Within this review, specific hypotheses are developed and presented within the relevant sections of literature review. The testing of these hypotheses is presented in Chapter 5. The research methods used for the testing are described in detailed in Chapter 3.

The next section gives the details of a literature search that was conducted to give a comprehensive picture of the work that has been conducted on corporate tax avoidance and in particular the work undertaken within the field of IB.

2.1.2 Literature Search and Analysis

A literature search was conducted to locate and analyse the relevant academic

publications in relation to corporation tax. The search was conducted in an inductive manner, adapting the methodology used by previous researchers (Nguyen 2016; Jormanainen and Koveshnikov 2012). The methodology is presented clearly to demonstrate the reliability of the search. Searches were made for peer reviewed, full-length academic journal articles published in English.

In the first stage a search was made using the Business Source Complete database compiled by EBSCO Industries, Inc. The Boolean search terms used were 'tax avoidance' OR 'tax planning' OR 'transfer pricing'. Search terms related to this topic are difficult to define as the language and focus of articles has changed over time. Tax planning is a term that has come into use only relatively recently, referring to the ability of MNEs to plan and structure their tax affairs involving a range of potential mechanisms to reduce tax legally other than transfer pricing. Yet, early work focused on TP as it was believed to be the only important mechanism by which profits could be shifted to facilitate tax avoidance. Early theoretical work also focused on the optimization of TP. Tax is a very broad term and digitized searches tend to provide articles that relate to other forms of tax than just corporation tax, (VAT, inheritance tax, etc). These articles were identified and removed from the search findings.

Table 1 Journals Containing More Than 13 Articles on Corporation Tax

Journal	Number of articles	Stars	Subject	Practitioner focused?
International Tax Review	1,774			Practitioner
Journal of Accountancy	440			Practitioner
National Tax Journal	165	2	Economics	
International Tax Journal	158			Practitioner
Journal of the American Tax Association	146	3		Practitioner
CPA Journal	129		Accounting	
Journal of Financial Service Professionals	118			Practitioner
Journal of Financial Planning	112			Practitioner
Accounting Review	111	4*	Accounting	
International Financial Law Review	69			Practitioner
Journal of Accounting Research	61	4*	Accounting	
Financial Executive	58			Practitioner
Journal of Tax Practice and Procedure	57			Practitioner

Journal of Finance	50	4*	Finance	
Journal of Passthrough Entities	46			Practitioner
Contemporary Accounting Research	44	4	Accounting	
Public Finance Review	42			Practitioner
Tax Lawyer	35			Practitioner
American Economic Review	33	4*	Economics	
OECD Observer	33		Economics	
International Executive	31			Practitioner
Journal of State Taxation	30			Practitioner
Annals of the University of Ordea	28		Economics	
Journal of Business Ethics	28	3	Management	
Australian Tax Forum	25		Tax and Law	
Harvard Law Review	24		Law	Student published
American Journal of Economics and Sociology	23		Sociology	
ATA Journal of Tax Legal Research	21		Accounting	
Issues in Accounting Education	20			Practitioner
Journal of Performance Management	20			Practitioner
Journal of Financial and Quantitative Analysis	19	4	Finance	
Journal of Retirement Planning	19			Practitioner
Virginia Tax Review	19			Student published
Management Science	18		Managemen t	
Canadian Journal of Economics	17	3	Economics	
Journal of Public Economic Theory	17	2	Economics	
Journal of Taxation of Investments	17			Practitioner
Review of Accounting Studies	17	4	Accounting	
Public Choice	16	3	Economics	
Review of Economics and Statistics	16	4	Economics	
Appraisal Journal	15		Real estate	
Journal of Economic Literature	15	4	Economics	
Economic Journal	14	4	Economics	
Journal of Practical Estate Planning	14			Practitioner
Applied Economics	13	2	Economics	
European Accounting Review	13	3	Accounting	
Financial Services Review	13			Practitioner
Journal of Business Finance and Accounting	13	3	Accounting	
Journal of Taxation of Financial Products	13			Practitioner
Journal of Accounting, Auditing and Finance	13	3	Accounting	
Total articles	**4,242**			

The results of the first search were sizeable, with 4,242 articles identified. The diversity of the journals publishing articles reflects the cross cutting nature of the work. Table 1, above, gives data from the Business Source Complete search and gives the names of all journals publishing more than 13 relevant articles. As revealed in Table 1 the majority of the academic articles were published in accountancy journals supplemented by a number of economics journals. It is clear that tax avoidance, tax planning and TP have been the subject of significant academic scrutiny and research over the time period, with much of the work published after the year 2000. No IB journals feature in this list and information accessed in this way could not be used to identify journals publishing fewer than 13 articles. The fact that no IB journals have published more than 13 articles demonstrates that these issues have been of a lower priority for IB scholars. A second search was then conducted to supplement this first search, this time focusing purely on IB journals.

This supplementary search focused on IB journals – all those given a rating of 2-star level or more in the Academic Journal Guide 2015 (Association of Business Schools 2015). These journals are listed in Table 2. Each journal's publications were searched independently. Where possible the search terms were applied to the abstract of the articles. For some journals this was not possible and the search therefore returned a larger number of articles. The relevant articles were then hand picked from the automatically generated lists.

Table 2 IB Journals With Rating of More Than 2 Included in Literature Search

Journal of International Business Studies	4*
Journal of World Business	4
African Affairs	3
Asia Pacific Journal of Management	3
International Business Review	3
Journal of Common Market Studies	3
Journal of International Management	3
Management and Organisation Review	3
Management International Review	3
Asia Pacific Business Review	2
Asian Business and Management	2
China Quarterly	2
Critical Perspectives on International Business	2
Emerging Markets Review	2
Eurasian Geography and Economics	2
Europe – Asia Studies	2
Journal of Latin American Studies	2
Journal of Modern African Studies	2
Journal of World Trade	2
Multinational Business Review	2
Third World Quarterly	2
Thunderbird International Business Review	2
Transnational Corporations	2

The results in Table 3, below, show that out of the 23 IB journals included only 4 have published relevant articles on corporation tax. Critical Perspectives on International Business published seven articles, averaging one article per year since 2011. The Journal of International Business Studies (JIBS) published eleven articles in total with ten of these published before 1993, and one other article published in 2005. No more recent articles have been published. Multinational Business Review (MBR) published 19 articles with articles appearing steadily over the period 1995 to 2016. Third World Quarterly published 5 articles between 2007 and 2013. The focus on corporation tax has been patchy at best. The high profile journal JIBS publication record in particular demonstrates the importance that was attached to corporation tax as a driver for MNE behaviour in the early days of theoretical development but the lack of attention more recently. This appears to confirm the argument made by Nebus (2016) that it is difficult for tax research to find its way into mainstream IB journals (Nebus 2016). More IB

research and theoretical development is needed to improve understanding of tax as a significant issue for MNEs affecting operational and strategic planning and action.

Table 3 IB Journals Publishing Relevant Articles

Journal	Number of articles	Dates of articles
Multinational Business Review	19	1995, 1996, 1997, 2000, 2002, 2003, 2004, 2005, 206, 2008, 2008, 2009, 2011, 2013, 2014, 2014, 2015, 2015, 2016
Journal of International Business Studies	11	1974, 1978, 1978, 1980, 1980, 1980, 1981, 1982, 1986, 1993, 2005.
Critical Perspectives on International Business	7	2011, 2012, 2013, 2013, 2014, 2015, 2016
Third World Quarterly	5	2007, 2007, 2009, 2011, 2013

The following section explores the evolution of internalization theory with a focus on the treatment of corporation tax and other financial issues within the theory. It argues that early writers considered that these issues were key to the development of the MNE but that a subsequent focus on knowledge aspects of internalization drew attention away from tax and other financial factors.

2.1.3 Internalization Theory and the MNE

This section considers the development of internalization theory and the way in which tax has been considered, as well as arguing that this area now needs greater focus. Early writers on the MNE (Kindleberger 1969; Caves 1971; Hymer 1976) took an industrial organisation approach to explain the advantages of the MNE. They viewed the MNE as a monopolistic rent seeker, exploiting its power through the establishment of barriers to entry (Bain 1956). The ability to manipulate internal TP was a concern for those who believed that the MNE's advantage came from the exploitation of monopoly power as the use of TP was seen as conferring an additional advantage on the MNE over domestic firms.

Coase's seminal paper (1937) demonstrated that firms are established as a consequence of the costs of using the price mechanism. Models of the market economy

fail to account for the costs incurred in using the price mechanism for coordination. When the costs of establishing a firm to coordinate through administrative fiat are lower than the costs of using the market, a firm will be established. When the most efficient allocation of resources is achieved, the combined wealth of the economy is maximised. At this point no one can gain without another losing. Costs of using the external market (transaction costs) are overcome by the use of internal prices (transfer prices) to allocate resources. Coase emphasised the importance of taxes concluding that overcoming the costs of a sales tax on separate firms and rationalising tax structures could be sufficient to: *'bring into existence firms which would otherwise have no raison d'être'* (Coase 1937 p.393).

An alternative view of the MNE emerged, based on this Coasian view of the firm (Coase 1937). This view accentuated the efficient nature of the MNE as a hierarchical organisation brought into existence in order to substitute for inoperable or inefficient market systems. Internalization theory (Buckley and Casson 1976; Rugman 1981; Hennart 1982) refers to the ability of the MNE to replace external markets for either proprietary knowledge or intermediate goods with managerial decision-making. Internalization enables the MNE to overcome imperfections in external markets including both those that arise naturally and those that are imposed by governments. Tax is included in this approach as a government imposed imperfection. Firms will internalise their activities up to the point of efficiency, where the costs of doing so remain lower than the perceived benefits.

Other writers developed the role of the financial aspects of the firm. McManus (1971) stresses the impact of pecuniary incentives within the firm. He concurs with Coase (1937) that there are costs to using the price mechanism and that the most efficient method of allocating resources will be chosen. However, where Coase (1937) implies that the same efficient allocation of resources will be reached whichever method is chosen, McManus concludes that different incentives operating within the firm will mean that the allocation of resources may not necessarily be the same allocation as that made through the market mechanism. Both solutions would be efficient in the sense that no one can be made better off without someone being made worse off, but they would not necessarily be the same.

Where Coase considered the domestic firm and the national economy, Buckley and Casson (1976) have a wider horizon, considering the establishment of the MNE in the global economy. Coase (1937) considers the division of labour both in specific plants and between them. When considering the international sphere, it is the division of labour *between* plants that is important. Firms are able to exploit efficiencies through vertical integration – placing plants in locations where they gain an advantage due to the cost or the availability of key skills or resources (Buckley and Casson 1976). Buckley and Casson's seminal (1976) work focused on forward integration from R&D into production, reflecting their view of the important role of knowledge in the establishment of the theory of the firm. They and other early writers did not, however, focus exclusively on knowledge. Buckley and Casson's initial work included two forms of internalization: operational internalization - where products move through different stages within the same firm and the distribution channel and knowledge internalization - where internalization relies on the flow of knowledge from R&D.

In 1979 Casson (1979) points out that the potential advantages gained from TP may in themselves be enough to instigate the internalising of markets and the creation of the MNE. TP were not seen simply as a mechanism to enable a MNE to manage its internal affairs but also as offering an important advantage to the MNE over the domestic firm. TP were therefore at the core of internalization theory as it developed. Other early writers built financial markets into their exposition of the existence of the MNE, explicitly including imperfections in these markets as drivers for internalization (Rugman 1980, 1981).

Dunning (1977) argued that knowledge was a key source of ownership-specific advantage (OA). Dunning considered that possession of an OA was a necessary condition for a firm to become a MNE. There may be sufficient efficiencies to be gained, however, from vertical and horizontal integration, through the use of TP, the avoidance of higher tax rates or tariffs or other financial synergies to generate sufficient efficiency for the establishment of a MNE. Efficient tax planning operationalized through profit shifting can give the MNE a significant advantage over the purely domestic company. Internalization theorists argued that an OA is not a necessary condition for

internationalisation (Casson 2015). Some of the efficiencies, however, that are gained through integration may be incorporated into what Dunning referred to as a *'financial asset advantage'* (Dunning 1993 p.150). Dunning does not specify exactly what this would include but points out that a financial asset advantage is usually a result of the size, efficiency and knowledge of the MNE. Oxelheim, Randoy and Stonehill (2001) consider what could be included within this 'financial asset advantage' and group MNE strategies into 1) proactive strategies that are under the control of the MNE and 2) reactive strategies adopted in response to financial market failure. However, the MNE is established in response to market failure, thus if there were no market failure there would be no MNE and no way of gaining a 'financial asset advantage'. This dichotomy collapses (Jones and Temouri 2015) but it is not an essential part of Oxelheim et al's (2001) argument. Oxelheim et al (2001) discuss a series of pertinent hypotheses, each of which could give a skilled MNE an advantage over their competitors, both national and internationally. They include, within their list of hypotheses, the hypothesis that a firm is: '*more likely to engage in FDI when it is able to negotiate reduced taxation and / or subsidies for financing it.'* (Oxelheim et al 2001 p. 392) They have not as yet been able to test their hypotheses empirically.

Hymer (1976) argues that MNEs must possess monopolistic advantages, later known as Firm Specific Advantages (FSAs) (Rugman 1981), over local firms that enable them to overcome the liability of foreignness. MNEs will therefore tend to operate where there are imperfect markets for final products. Kindleberger (1969) elaborated further on Hymer's view, emphasising the importance of monopolistic advantage for the MNE. Rugman (1981) developed the concept of FSAs arguing that they can be based on technology and know how or can simply reflect the managerial or marketing advantages that a firm possesses.

The complementary Country Specific Advantages (CSA) from Rugman's FSA-CSA framework are, by contrast, available to any company to take advantage of. CSAs are the advantages offered by countries, making them attractive to the MNE as a place to do business. Different countries have different sets of resources and prices that make operating a business there either more or less attractive. Any MNE choosing to locate in a particular country will be able to take advantage of the CSAs it offers. Tax

competition has grown in recent years with countries such as Ireland, the Netherlands, Luxembourg and Switzerland attempting to attract FDI by lowering the rate of corporation tax charged and agreeing deals with large MNEs upfront (Zodrow, 2003; Devereux et al., 2008; Devereux and Loretz, 2013a; Economist 2016). Once a company has established a base overseas it will need to use TP to account for the movement of resources between subsidiaries (Rugman 1980).

TP was considered key within early work on internalization theory (Buckley and Casson 1976; Rugman 1980; Rugman 1981). Analysis considered how firms managed and priced the transactions that they had internalised. The use of TP offered potential for the MNE to make significant gains from internalization as their use could improve the performance of a MNE (Horst 1971; Nieckels 1976; Lessard 1979). Rugman (1980) concludes that transfer prices: *'are an efficient response by the MNE to exogenous market imperfections'* (Rugman 1980, p.76). Once a MNE is established all transactions between the head office and subsidiaries must be accounted for and the TP used will affect the firm's overall profitability as well as the allocation of profits between subsidiaries. The use of TP is synonymous with the establishment of a MNE.

The role of TP in driving the formation of the MNE also helps to explain why MNEs are concentrated in R&D intensive and knowledge industries (Buckley and Casson 1976). These are areas where TP may be more opaque, reflecting the difficulty in assessing the true value of internal transfers from outside the firm. There are few comparable transactions that can be used to compare, to instigate the ALS. This confers greater ability on the MNE to gain through manipulation. Early empirical work by Vaitsos (1974) and Lall (1979) confirmed the importance of TP to firms in knowledge intensive industries, such as the pharmaceutical industry.

Internalization enables the MNE to overcome natural market imperfections (including transaction costs, improved information and knowledge sharing and greater levels of trust) and structural market imperfections (that the market for inputs and finished goods are not perfectly competitive). A key advantage for the MNE is the ability to benefit from differences in factor input prices in different locations, from differences in government regulations and from differences in statutory corporate income tax rates

(Rugman and Eden 1985). Profit shifting from high to low tax jurisdictions and the use of tax havens are examples of the ways in which MNEs use differences in tax rates between countries to generate higher economic rent.

Synergies and the competitive advantages that the business gains from being a MNE are therefore at the core of internalization theory. As a direct consequence of internalising transactions the sub units of the business work together in a cooperative manner rather than the competitive way that they would operate in in the external market. The gains from being a MNE undermine the rationale for the ALS for TP. The ALS functions on the basis that internal transactions can be priced in the same way that they would be priced in an external market transaction. The gains from internalization, however, mean that it may not be possible to 'normalise' an MNE's profit by charging the same as they would to an external third party. The ALS ignores the fundamental gains that are made by virtue of being a MNE. There is no part of the ALS that accounts for how these gains should be treated. The theory underpinning the ALS therefore disregards the fundamental advantage that the MNE gains from internalization. (Eden 2016). Consequently, the ALS has been criticised conceptually, politically and legally (Rugman, 1980; Shoen, 2011; Eden, 2016).

Lessard (1979) also considers the potential gains from finance for the MNE. He examines imperfections in the international financial markets; the degree of segmentation or integration between national capital markets. He shows that when external markets for intermediate products, or financial aspects are imperfect the MNE has an incentive to bypass them and create internal markets. Rugman (1980) explicitly cites Lessard and concludes that financial market imperfections, including international tax rate differentials, provide an impetus for the firm to avoid these by creating an internal capital market.

Clearly, as internalization theory was initially developing writers explicitly considered the role of finance and the ability of the MNE to gain from arbitrage, for example through selecting a low tax country to place their operations or book their profits. As internalization theory developed the emphasis changed with writers focusing more on the role of intermediate product transfers and more particularly on knowledge flows

as the main advantages, moving away from the advantages from internalization derived from financial market imperfections, synergies and TP. In a review of fifty years of international business theory Rugman, Verbeke and Nguyen (2011) discuss the shifts that have taken place in the key unit of analysis as IB theory has developed. They conclude that the: '*most promising area for further IB development is in essence the study of the interactions among*' the three levels of the country, the MNE and the subsidiary. Their review of progress does not refer to TP or to tax other than to indicate that it is a key mechanism by which the MNE contributes to welfare. Clearly corporation tax and TP play key roles in the interaction between governments, the MNE and the subsidiary and this must be one of the key areas where theory development is required.

In a review of the progress of internalization theory Buckley and Casson (2009) argue that the theory has continued to advance but that more theoretical development is needed. They acknowledge the importance of international financial markets and the impact of the deregulation of domestic capital markets but do not cite research on the financial aspects of the MNE and internalization theory, which again, highlight the lack of existing research into this area.

2.1.4 Motivation to Avoid Tax

This section considers how the literature on FDI motivation can contribute to our understanding of what drives MNEs to avoid tax through profit shifting. Firms that have more international business activities are more likely to operate in a series of countries offering a range of tax rates. These businesses will therefore have more opportunities to plan their tax by shifting profits between jurisdictions. It has been shown that companies with higher levels of IP are also more able to shift profits through the use of royalty payments (Dischinger and Riedel 2011; Grubert 2003b; Mutti and Grubert 2009).

Whilst there may be heterogeneity of opportunity, however, there also appears to be heterogeneity in the way that similar firms, with similar opportunities plan their tax affairs. Research is needed to understand the factors that drive one MNE to take a more aggressive approach to tax planning than another.

Understanding what drives FDI, where and how investments are made is key to understanding the behaviour of the MNE. Much work on understanding the motivation for FDI has built on Dunning's (1993) classic work on FDI motivation that focused on natural resource seeking, market seeking, efficiency seeking and (strategic) asset seeking. Dunning (1993) however also included other motivations for FDI that have been overlooked by subsequent work. These included: escape investments, support investments and passive investments. Corporation tax was explicitly included in 'Escape investments' as these investments would include those made by a MNE to facilitate avoidance (escape) of high levels of corporate taxation in the home country. Subsequent scholars (van Tulder 2010; Cuervo-Cazurra, Narula and Un 2015; Cuervo-Cazurra and Narula 2015) have pointed out the unwarranted neglect of these wider motivations. Anecdotal evidence such as that pertaining to Pfizer / Allergan and Apple cited in Chapter 1 demonstrates the importance of corporation tax as a driver for at least some MNE activity. IB theory needs to be extended to fully encompass this behaviour.

Witt and Lewin (2007) emphasise the 'escape' role of FDI as a response to institutional constraints or regulations, including high taxes in the home country. The host country therefore needs to offer corresponding advantages. A MNE looking to escape a high tax regime will be attracted to a low tax jurisdiction (van Tulder 2015). Van Tulder splits FDI motivations into *'intrinsic'* and *'extrinsic'*. Intrinsic motives are those that arise from being an MNE; the efficiencies from internalization and from choosing to establish operations in countries with useful locational advantages. Extrinsic motives fit less easily into the field of IB theory. They are those driven by institutions in the home and host countries. Van Tulder includes the desire to evade high rates of corporation tax or other stringent regulations within these extrinsic motives. He also discusses the psychological impact of the home country on motivation: the home country institutions, including the culture, will influence the 'mind-set' of managers making internationalisation decisions.

Ignoring what drives certain investments, simply because they do not fit easily within a neo classical framework weakens the overall understanding of MNE behaviour. A comprehensive understanding of FDI and tax avoidance must incorporate behavioural

aspects of decision-making. IB theory incorporates rationally bounded behaviour by managers and the information asymmetries that they face but this does not offer a complete understanding of the behaviour of managers. Managers make decisions that satisfice rather than optimise. Cuervo-Cazurra et al (2015) offer a model of the motives of internationalisation based on behavioural economics. They conclude that the motives for internationalisation can be split into: *'an economics driven exploitation of existing resources, or exploration of new resources and a psychology driven search for better host country conditions or avoidance of poor home country conditions'* (Cuervo-Cazurra et al 2015 p.2). Further research is required to derive a more complete understanding of how tax avoidance affects the behaviour and FDI decisions of MNEs.

The following section considers early work that was explicitly focused on transfer prices and tariffs. This work attempted to use neoclassical economic models to develop understanding of the optimal TP systems that MNE could employ.

2.1.5 Advantages to the MNE from Transfer Pricing

This section considers early theoretical work, some of which predates the work discussed above on internalization theory, which focuses specifically on TP and its role in profit maximisation. This early work from both economics and IB disciplines influenced the work of early IB theorists, focusing on the impact that tax, through TP has on the performance of the MNE. It takes a largely economic approach, attempting to model the impact of TP and their optimisation on the activity of the firm. Issues of confidentiality create problems in testing these models empirically. The theory espoused, however, continues to add to our understanding of the importance of and scope of the impact of TP and therefore to our knowledge of what drives MNE behaviour.

Hirshleifer (1956) considers establishing the 'correct' TP to be of utmost importance to the firm:

'…the prices which are set on internal transfers affect the level of activity within divisions, the rate of return on investment by which each division is judged and the total profit that is achieved by the firm as a whole' (Hirshleifer 1956 p. 172)

He established a theoretical economic model, to determine the price setting procedure that a firm with two autonomous, vertically integrated, profit centres should use to ensure that the profits of both subsidiaries and the overall firm are maximised. He assumes perfect competition as well as other simplifying assumptions and demonstrates that the efficient TP is the market price, but only where these assumptions hold. He subsequently relaxes his assumptions and proves that if the market is imperfectly competitive the TP should be the marginal cost or a price between marginal cost and the market price. However, he considers only a two division domestic firm and therefore the implications arising from different tax jurisdictions are not considered within his framework.

Horst (1971) also establishes a model to explore the most efficient TP that a firm should use. He considers a monopolistic firm simultaneously selling in two countries and the impact of tariff barriers and corporation tax on profit maximising decisions. In order to maximise profit the MNE must decide how much and where to produce and sell their products. These decisions will be affected by the imposition of government taxes and tariffs. He explores the impact of tariffs on the firm's decision-making and how the 'optimal' TP can be established.

Horst stresses the importance of TP to the MNE:
'One of the truly distinguishing features of multinational corporations is that intra-firm transactions are not valued in an open market – rather, these firms choose, within certain limits, an optimal transfer price.' (Horst 1971, p.1061) Whilst the firm can choose the TP there are limitations. It is assumed that the authorities have enough information to force the firm to set the price at no less than the marginal cost (MC) of production and no more than the price charged for the good in the home market. If the relative differential in tax rates between the two countries is less than the tariff rate the firm will always choose the lowest transfer price possible, MC, and therefore minimise tariff costs (vice versa if the tax differential was more than the tariff). Horst concludes that minor changes in the tax rate are unlikely to impact on the firm's behaviour as long as the tax rate differential is less than the tariff. A country with high tariffs could then increase its taxes without impacting on the behaviour of firms selling into the country. Horst does not consider what the implications of the higher tax rate would be for the

domestic companies unaffected by the tariffs. His work is also based on the assumption that there is a: *'tendency of effective tax rates to cluster around a general norm – because of both a concern for tax equity and the willingness of investor countries to refrain from double taxation.'* (Horst 1971 p. 1068). Horst also assumed that tax rates converge towards a similar price and that therefore tariff differentials would be greater. It is likely however, that this position has now reversed, particularly in relation to US firms. US tax rates are now significantly higher than those of its key competitors and tariffs have fallen globally. Horst therefore underestimates the scope for modern MNE to gain through profit shifting.

Horst's (1971) model shows that the profit maximising decisions made by the firm will depend on whether the MC of production are increasing or decreasing and on whether tariffs on imports are at a high enough level to enable them to discriminate perfectly between the two countries. Other work also adopted and extended Horst's model. Batra and Hadar (1979) extend Horst's model to consider the implications of fixed and floating exchange rates. They also include the US's tax credit where a US MNE's domestic tax bill is reduced by the amount of foreign tax paid. Itagaki (1979) models a MNE's TP behaviour with a good understanding of the practical restraints on a MNE at that time. He assumes that the MNE has some scope to manipulate TP but that it can only do this within certain boundaries. It is assumed that the MNE will set the TP between the market price and its marginal cost but in reality the customs authority will set the base level. The lack of data available to governments, however, limits their ability to restrict TP and increases the MNE's scope to manipulate them. Horst's model would have been significantly more complicated if he had allowed for other internal profit transfers without the impact on tariffs.

Samuelson (1982) and Eden (1983) argue that the limits on TP are functions of the MNE's sales or intra firm trade, meaning they are set endogenously and are affected by the firm's decision making. Samuelson (1982) points out that the firm may have significant ability to manipulate the ALS price and models that neglect this are ignoring a potentially important part of a firm's behaviour. He argues that the TP limitations will be derived from functions of the firm's activities. The firm does not simply have to accept limitations placed on the 'fair' or 'arms length price' it can charge. The TP is

endogenous – the firm can manipulate its production and sales in order to change the TP. He points out that Horst assumes that the firm's actions in this respect will be *'second order, small and may be ignored'* (Horst 1971, p.1069) but for Samuelson, the firm's ability to influence the 'arms length' TP may be a key part of its strategy.

Nieckels (1976) takes the theory of corporate TP in the domestic economy as developed by Hirshleifer (1956) and extends it internationally. He uses heuristic programming to model the optimal TP strategy for the MNE. He concludes that a MNE can increase its profits overall by using TP which are not necessarily arms length equivalents or those on the 'world market'. Other work Eden (1978) and Lessard (1979) drew similar conclusions. All of this work combines to underline the importance of TP as a key strategic tool for the MNE.

Bond (1980) builds on the work of Hirshleifer (1956) and Horst (1971) and extends his model to consider the implications of differential tax rates in different countries on the output and profitability of the two-division firm. When subsidiaries face different rates of corporation tax in different countries and a high TP is charged to subsidiaries in high tax jurisdictions to maximise the overall profits of the MNE, this will impact on the marginal decisions made by the subsidiary. Where decisions are made – whether by a centralised authority or in a decentralised manner within the subsidiaries, will affect the decisions made and therefore the overall profitability of the firm. The business trades off gains from reducing tax payments through TP, against the efficiency losses that they incur from operating in a way that is less than optimally efficient.

A business that operates in a centralised way will use MC to determine the profit maximising level of output to produce and will then use the TP charged to divide the overall income between the subsidiaries to ensure that the lowest overall tax bill is paid. A vertically integrated firm will make more profit overall than two separate firms buying and selling at 'arms length' because of the difference in the two tax rates. This underlines the advantage that TP can potentially offer, stimulating the decision to establish a MNE. Bond (1980 p.196) concludes that:
'The existence of different tax rates creates an additional incentive to vertical integration beyond that normally present.'

Lessard (1979) considers the wider question of whether the ability of the MNE to internalise financial transactions gives it an advantage – particularly over local firms. Rather than simply considering what the optimum TP should be in different situations he investigates whether the internal finance system affects the location of production and how it impacts the distribution of information among consumers, suppliers and governments. He asks the key question: *'Do MNCs shift profits internally and as a result reduce total taxes and / or alter the distribution of tax revenues for a given distribution of real activities? Further, does this profit shifting alter the distribution of real investment, production and trade itself?'* (Lessard 1979, p. 101).

Any internal transfers of goods or services which could include finished products through to intangible factors such as management services, that are not paid for immediately at a market price necessitates a financial transfer at some point and is likely to be giving an advantage of some type to the MNE. The capacity to choose the timing and nature of an internal transfer gives the MNE an advantage either through the ability to circumvent international restrictions or the ability to engage in tax arbitrage (Rugman and Eden 1985; Eden 1998). Kopits (1972 and 1976) recognised the role that royalty payments could have within TP due to the unavailability of comparable arms length prices and as a way of remitting payments back to the parent company. He predicted that MNEs will hide profits as royalty payments and estimated that a quarter of royalty payments from industrial countries represented concealed profits. Subsidiary ownership of these FSAs gives the subsidiary control over those assets and resources. It also enables the subsidiary to charge other group companies for using those assets and therefore affects where profits are recorded and tax payments are made.

The MNE can gain from overcoming formal financial restrictions (exchange controls) and direct taxes on the international movement of funds as well as other restrictions on flows of capital or investment. Informal barriers can also be overcome by the MNE through better or cheaper access to information, ability to enforce contracts with subsidiaries and lower transaction costs (Lessard 1979).

Robbins and Stobaugh (1973) consider how the financial system of a MNE affects its behaviour and outputs. They emphasise the importance of internal transfers: *'the system [MNE] can be viewed as a network of operating units linked to one another by the movement of money*' (Robbins and Stobaugh 1973 p.11). They conclude that the MNE has particular advantages that stem from its discretion over the timing of financial transfers within the MNE as well as the ability to choose the financial mechanisms used.

Within the field of accounting research Watson and Baumler (1975) widen the focus of work, attempting to set the economic and mathematical modelling of TP within the context of a social system. They consider the decentralised MNE and argue that decentralisation is an inevitable response to uncertainty. Once a firm is decentralised, differences will arise in the attitudes and behaviour of different members of the organisation. They argue that the most successful firms are those that have the right levels of differentiation and integration. TP plays a dual role: ensuring that separate parts of the organisation are differentiated, able to act independently and also facilitating integration through the mechanisms used to establish TP between divisions. As a consequence, the TP system serves a wider function within the MNE than simply accounting for internal transfers. TP may be set at least partly through negotiation between different branches. The TP used may therefore not simply reflect the economically 'optimal' price but may be part of an overall package of measures used to guide integration within the firm. The process used to determine the TP influences the outcomes (Grabski 1985).

Spicer (1988) argues that theoretical modelling of TP optimisation is limited as it fails to: *'lend itself to a deeper understanding of the dimensions of the entire transfer pricing process, in the wide variety of organisational contexts within firms in which transfer pricing systems operate'.* The way in which the MNE is organised will impact on the TP system used and whether it in fact achieves an economically optimal solution. He argues that variations in the MNE's strategy and organisation as well as the extent and type of intra firm transactions will influence the choice of TP policies implemented rather than whether they are economically optimal. He argues that empirical research is needed to understand the process by which TP are set within MNE.

A key question is the extent to which manipulating the TP affects only financial factors, profit shifting between subsidiaries or whether it also affects the underlying activity and decision making of the MNE. Research is needed now to understand how MNEs make these decisions. Are the predictions of the theoretical models correct? And to what extent does the use of TP give MNEs a real advantage over the purely domestic firm? The next section considers the wider implications of TP manipulation, moving from the individual firm to the consequences for global welfare and efficiency.

2.1.6 Efficiency and Global Welfare

Scholars have considered how a firm could operate optimally to maximise both private and social efficiency (Hirshleifer 1956; Eden 1985). The growth of the MNE and its increasing impact on many aspects of the global economy reinforces the need to consider the overall impact of TP on global welfare. This was a key issue for Penrose (1959) who considered the distributional issues implied by the successful establishment of a subsidiary in a host country. She was concerned with both '*value creation'* and '*value appropriation'.* Value creation by the MNE could make an important contribution to a host country, but the efficient distribution of profits; their 'appropriation' would require government intervention. Penrose felt that profits should be reinvested in the firm and that dividends to investors needed to be set at a level sufficient to induce investment in the firm but should not exceed this basic level. Penrose (1959) argues that corporate taxation can distort the actions of a firm, affecting the decisions of managers, particularly in relation to the way that the wealth generated by the firm is then held and distributed. Tax planning activities by MNEs are motivated by the desire to ensure that the MNE itself appropriates the rent that it has generated, minimising the amount of rent paid to the government.

A MNE's efficiency in terms of the best allocation of factor inputs may be impacted if an MNE manipulates TP in order to shift profits. Bond (1980) assumes that the MNE uses a single TP for both allocating resources within the firm and for tax purposes. The business must therefore trade off the gains it makes from reducing its overall tax bill against the efficiency losses that it incurs from operating in a way that is less than optimally efficient. Others consider the impact of TP on the efficiency of the firm's decision-making and conclude that firms need separate accounting systems to ensure

that internal decisions, pertaining to resource allocations, are not driven by the manipulated TP (Nieckels 1976). As Casson (1979 p. 51) points out, MNEs can gain by: *'dichotomising real and nominal prices, the real prices being a guide to resource allocation, the nominal prices to present the façade of compliance with price control or minimise the tariff liabilities'.*

Writers have differed in the conclusions that they have drawn about the impact of TP on overall efficiency and its impact on global welfare. Lessard (1979) Rugman (1980, 1981) and Aliber (1985) argue that by using TP the MNE improves global welfare. TP are an efficient response by the MNE in order to overcome exogenous market imperfections such as tariffs, tax rate differentials, exchange controls and tax havens (Plasschaert 1979; Rugman 1980). According to Rugman (1980) whatever price the firm chooses to use for its internal pricing system is correct. Comparing them to an 'arms length price' is unnecessary both because a 'correct' arms length price is unlikely to exist and because whatever price the firm chooses is automatically correct. As long as the final goods which are produced are sold openly: *'It is meaningless to examine the transfer prices on their own or attempt to compare them to non existent arms length prices'* (Rugman 1980 p.77). He also questions the ability of the MNE to establish a 'correct' price when intangibles such as knowledge or managerial skills are being valued. Rugman, however, ignores the occasions when there may exist a vibrant external market for an intermediate good for example for an intermediate product that is also readily available in the external market. In these circumstances determining the relevant TP will be straightforward.

Whilst for Rugman the TP is an internal matter, affecting only the internal allocation of resources, national governments will perceive the matter differently. If the final good is being sold in a competitive market Rugman argues that the TP will not affect the final price charged by the company. This ignores, however, the allocation of profits between different jurisdictions. Developing countries in particular may rely on income from MNEs with income adversely affected if the MNE chooses to allocate profits out of their country.

Rugman (1980) ignores the impact on the allocation of tax payments, his point is that the overall profitability of the MNE will not be affected by using TP. He suggests instead that: *'The overall profits of the MNE should be analysed rather than partial aspects of the firm such as transfer pricing'* (Rugman 1980 p. 77). Whilst overall efficiency is unlikely to be affected, it is, however, likely that there will be an impact on welfare via the distribution of profits. Rugman (1980) explains that after internalization, the distribution of resources, intermediate products and other factors are decided within the boundaries of the firm: *'In this process of internalization it is natural that internal [transfer] prices are used'* (Rugman 1980 p. 76). These prices: *'have to be respected as the prices necessary to make the MNE function efficiently'.* (Rugman 1980 p. 76).

Rugman (1980, 1981) is concerned simply with the efficiency of the MNE rather than the impact of its decisions on welfare. He suggests that if governments are concerned they will be incentivised to harmonise tax rates. This ignores the very real difficulties, or impossibility of governments being able to coordinate taxes on a global level. In fact, Rugman (1980) goes further listing: *'international tax rate differentials'* (Rugman 1980 p. 76) amongst the market imperfections that the MNE is created to overcome. He is explicit that unless governments harmonise tax differentials they will impact on the behaviour of MNEs. Casson (1979), however, suggests that TP, undertaken solely to divert tax revenues away from governments will cause an over extension of foreign investment, harming not just the allocation of government revenues but also potentially impairing the performance of the firm.

The recent growth of tax competition between countries has exacerbated the situation. Rather than governments working together to overcome TP manipulation through the coordination of tax rates and regimes, they are competing by lowering tax rates in an attempt to attract MNE investment (Zodrow 2003; Devereux et al 2008; Devereux and Loretz (2013a).

Rugman (1980) is sceptical about the extent to which MNEs will use distorted TP to shift profits. He accepts the work by Lall (1979) and Vaitsos (1974), which found evidence of TP distortion in the pharmaceutical industry. In his own study (Rugman 1985) of the Canadian mineral resource industry, however, he found no evidence for

TP manipulation after risk factors were taken into account. More recent work has found, often indirect and broad-sweeping evidence of profit shifting using a variety of mechanisms other than TP to enable the MNE to gain from tax arbitrage (Taylor, Richardson and Lanis 2015; Dischinger and Riedel 2011; Altshuler and Grubert 2006).

Others (Bond 1980; Diewert 1985) have also argued that TP worsens the allocation of resources, resulting in a negative impact on global welfare. Distortions in price signals lead to an inefficient distribution of resources. Bond (1980) argues that TP in response to tax differentials distort resource allocation as the MNE trades off: *'the gains from tax evasion against the efficiency losses resulting from resource allocation'* (Bond 1980, p 192). Eden (1985) and Diewert (1985) accept that TPs set using the ALS are generally efficient. They argue that in a world of tariffs and corporate profit taxes the MNE would not set the TP at marginal cost. A global profit maximising MNE chooses a TP such that it trades the gain from minimising tax and tariff costs against the loss in misallocated resources (from not using the MC).

Eden (1985) explores the interplay between tariffs and tax differentials and adopts an overall more nuanced position demonstrating the complexity of the issue. Her model demonstrates that the TP chosen by the MNE to maximise profits may be either more or less efficient when attempting to overcome government imposed market inefficiencies. Kant (1988) also concludes that the impact on global welfare is ambiguous. He explores the impact on company behaviour and returns in home and host country if penalties for TP are increased. If the likelihood of penalties being incurred by the MNE increases, the TP used will move towards the arms length price. The consumer surplus in the source country will increase and fiscal abuses will be lower. However, the consumer surplus in the host country will decrease so that no general conclusions on the effects of TP are possible. If there is no prospect of a penalty, then, where the tax rate differential is enough, the MNE will under invoice its exports as much as possible. In reality, developing countries are unlikely to have the resources to police the TP regime sufficiently. MNE are able to manipulate TP in developing countries with little fear of reprisal (Muller and Kolk 2015; Durst 2016). Looking at the overall UK system of taxation, the Mirrlees Review (Mirrlees et al 2010) concluded that changes are needed to improve national welfare and efficiency. The review concludes

that the tax system distorts behaviour by treating similar activities in different ways within the tax system. Understanding the impact of the tax system on efficiency and global welfare is hampered by the difficulties in conducting empirical work in this area. The next section goes on to discuss these difficulties in greater detail.

2.1.7 Difficulties Affecting the Development of IB Research on Taxation

This section discusses how changing perspectives on the MNE and their role may have impacted the quantity and nature of the research conducted in this area. As the sections above demonstrate, as the theory of IB developed, TP became less prominent with few articles specifically discussing TP or financial factors, published in IB journals. International TP papers have however been published regularly in accounting, international taxation and public economics journals (see Table 1 p.41) As discussed above, early work focused on developing models that explore the impact of TP on company profitability as well as on global welfare. Little direct and relevant empirical evidence, however, has been provided.

As the previous sections note, work explicitly focusing on TP began in the 1950s and progressed steadily. Early work established models to determine the optimal TP and outputs for firms under a range of different assumptions. Later work added further assumptions and explicitly considered the MNE. Concern in the 1970s, however, about the power of MNEs and their ability to erode the sovereignty of governments created interest in TP and corporation tax avoidance. During the 1980s these concerns appeared to lessen. The 1980s and 1990s, brought a change in attitude with a period of '*redemption for the multinational enterprise'* (Vernon 1998 p.5). The benefits that MNEs brought in terms of capital investment, technology transfer, advanced managerial skills and job creation meant that governments lost some of their hostility towards the MNE and: *'engaged in numerous bilateral, regional and global negotiations aimed largely at smoothing the path for further expansion of the multinationals'* (Vernon 1998 p.5). This attitude towards the MNE appears to be reflected in the decline in corporate tax articles published in JIBS after the mid 1980s.

Von Neuman Whitman (1999) argues that the 1980s was a time of huge instability for US companies with large numbers of takeovers, mergers and reorganisations.

Competition increased significantly and profit margins fell. She argues that the high levels of competition forced companies to focus narrowly on the bottom line, reducing the paternalism and social responsibility exhibited by US companies prior to this. These same pressures may also have encouraged companies to consider their tax payments as an area with potential for savings to be made.

Work looking at TP manipulation as a means of tax arbitrage concluded that without international cooperation between governments and coherence on the level of taxes internationally, MNEs would continue to try to avoid tax (Rugman 1980). Setting the levels of tax is a key element of government fiscal power and supra national cooperation is difficult. The incentive for academic work in this area may be reduced; whilst the problem of TP manipulation had been diagnosed, no solution could be forthcoming. Falling tariff levels, the signing of free trade agreements, including the ratification of NAFTA in 1992, and a more positive view of the MNE may also have reduced interest in conducting work on TP manipulation from within the IB community.

It is recognized that empirical work in this area is difficult due to the lack of information available to researchers. Companies are reluctant to disclose information about the use of TP or their tax planning positions. Perhaps because of these practical difficulties, little research empirically testing these models has been published. Recent calls for greater transparency including the publication of 'Country by Country Reporting' and more automatic exchange of information between tax authorities as per OECD on BEPS (Murphy 2016; Eden 2016) are needed. However, these proposals have been met by some hostility from the accounting standard-setting bodies because they contradict a number of current financial accounting standards and reporting requirements and if implemented it is as yet unclear whether the information will be made publicly available. Greater transparency in the future however, may enable further, more detailed empirical work.

But now, more than ever, research work is needed. After the global financial crisis of 2008, pressure on domestic budgets stimulated government interest in reducing corporation tax avoidance. Governments' and international bodies' (OECD, EU) interest in tax avoidance has been driven by the desire to increase government tax revenues in

times of austerity. Publicity surrounding high profile tax avoidance cases has also stimulated interest from the public, putting further pressure on governments and bodies, such as the Her Majesty's Revenue and Customs (HMRC) to ensure that MNEs are paying their 'fair' share of taxes (Dyreng, Hoopes and Wilde 2016).

The digital economy and expanding global value chains have increased the ability of increasingly mobile MNEs to shift profits globally, giving them more discretion over which tax jurisdiction they report profits in. Global value chains are growing in length and complexity as better communications systems enable MNEs to maintain control and coherence over complex networks at great distances. UNCTAD (2010) estimates that MNE internal cross border transactions take place now account for one third of the world's exports.

2.1.8 Conclusions

This review has demonstrated the importance of profit shifting and TP as a theoretical issue. The important roles of financial planning and TP were acknowledged as offering competitive advantages to the MNE as the theory of internalization was developed. Over time these roles have become neglected as research topics, driven by the shifting attitudes of government and policy makers, combined with the real difficulties encountered in trying to conduct empirical research in this area.

Theory has evolved sporadically and in different areas but there is no unifying theory of what drives the MNE to avoid tax and the implications that this tax planning has for the firm's wider operational strategy. Internalization theory highlights the advantage of tax planning to the MNE over domestic companies. Early work considering the motives of MNEs for FDI includes the 'escape' motive, including corporation tax and other regulations within the model, but as with other aspects of corporation tax, this area was subsequently neglected.

Detailed economic models of TP were developed that add to our understanding of the potential gains from TP manipulation but little extant theory considers the modern reality of how MNEs operate and set TP. It is important that empirically testable theoretical models are developed.

The next section turns to the published empirical literature on the subject of corporation tax, tax planning and tax avoidance. The chapter concludes by drawing together the gaps across the literature and where indicating specifically further research is needed.

2.2 Empirical Literature Review and Hypotheses Development

2.2.1 Introduction

This section presents the key empirical research findings related to corporation tax and the MNE. As corporation tax is a cross cutting issue this empirical review covers key work conducted within the fields of international business, economics, accounting, finance and law. As noted in the previous section, work focussing on taxation from an IB perspective has been limited, but there are important findings from within IB that are included here and that add to the debate.

It is now widely accepted that tax differentials between countries affect the behaviour of MNEs (Altshuler and Grubert 2002; Rego 2003; Markle and Shackelford 2009; Hanlon and Heitzman 2010; Azemar 2010; Dharmapala and Riedel 2013; Fuest, Spengel, Finke, Heckemeyer and Nusser 2013; Taylor, Richardson and Lanis 2015). Research at the aggregate level has demonstrated that US companies have considerable ability to shift their profits (Grubert and Mutti 1991; Hines and Rice 1994; Huizinga and Laeven 2008), that this ability is increasing (Altshuler, Grubert and Newlon 2000; Klassen and LaPlante 2012; Zucman 2014) and that MNE are becoming more sensitive to tax rates (Altshuler, Grubert and Newlon 2000).

Growing tax competition between countries has increased the ability of the MNE to arbitrage. Tax differentials, combined with the home and host tax regulations (Dyreng, Lindsey, Markle and Shackelford 2015) have an impact on the location and amount of capital invested abroad (Grubert and Mutti 2000; Dischinger and Riedel 2011; Voget 2011; Barrios, Huizinga, Laeven and Nicodeme 2012) the way in which the investment is financed (Gordon and Lee 2001; Egger, Eggert, Keuschnigg and Winner 2010; Harrington and Smith 2012; Taylor and Richardson 2013) transactions between related parties (Brajcich, Friesner and Schibik 2016) and the repatriation of earned profits (Altshuler and Grubert 2002; Blouin, Krull and Robinson 2012; Brajcich, Friesner and McPherson 2013a).

The overview of research presented here begins by discussing some of the inherent problems for researchers in this area. It then turns to research that provides an

overview of the issues of tax avoidance and profit shifting. Section 2.2.3 considers the extent of profit shifting before Section 2.2.4 presents the broad types of mechanisms that MNE can use to shift profits and the extant research related to these. Further sections consider the impact of location, the functioning of TP, cash holdings and the characteristics of MNEs and their effects on tax planning.

The final section concludes, discussing the overall picture of what is known about the tax avoiding MNE: the processes involved as well as the motivations. It considers the need for further work on this subject to drive our understanding of a key part of MNE behaviour.

As noted in Chapter 1, much of the work on corporation tax and the MNE focuses on US companies. The high rate of tax in the US, 35 per cent against 25.5 per cent OECD average in 2013 (Tax Foundation 2013) combined with their high levels of outward FDI make US MNEs prominent in this debate. This review of the literature therefore has a similar US bias but attention is also drawn to research focusing on other localities.

The following sections turn to consider what drives companies to avoid tax and the mechanisms used to avoid it. There is a large body of research that looks at different aspects of MNEs, and tries to establish the relationship between particular characteristics and the propensity to avoid tax. Hanlon and Heitzman (2010) argue that the question *'why do some corporations avoid more tax than others?'* is an important question requiring more research. They also raise the question: *'who makes the tax decisions for the firm?'* Similarly, Shackelford and Shevlin (2001) call for more research on the determinants of tax aggressiveness. The following sections of this literature review consider the research that has been undertaken looking at the following firm characteristics: multinationality, size, profitability, corporate social responsibility and management, and their impacts on tax planning aggressiveness. Hypotheses are developed detailing the direction of causality and the key measures of tax avoidance: LR Cash and GAAP ETRs. These hypotheses are then tested in Chapter 5 using regression techniques. The full details of the research methods used are presented in Chapter 3.

2.2.2 Inherent Difficulties in Researching this Area

Empirical work in this area is difficult to conduct due to the problems involved in collecting sufficient data. Companies do not disclose the details of their tax returns, leaving the audited annual financial accounts as the main source of evidence. Financial accounts are presented for shareholders to assess the financial on-going performance of the firm. They work on an accruals basis so that revenue is recognised at the time that it is earned rather than when cash is received. Similarly, expenses are recognised relating to the time period presented rather than when cash leaves the bank account. The result of the accruals accounting is that it enables a clear picture of a company's profitability and assets over a particular period of time to be established. A note to the accounts provides details about tax liabilities or assets and where taxes have been paid but again on an accruals basis.

Corporate tax returns, the confidential submissions to the tax authorities which are distinct from the audited financial accounts can only infrequently be accessed by researchers (Grubert and Mutti 2000). The information contained, relating directly to tax payments, is useful but will need supplementing with information on company size, etc. drawn from the annual reports, meaning that the problem of matching periods is then re-encountered (Hanlon and Heitzman 2010).

Identifying profit-shifting behaviour empirically is inherently difficult. MNEs are not currently required to disclose their sales or profits on a country-by-country basis. Group accounts report the consolidated sales with some information on regional/ geographic segment turnover and profit but there is no requirement to present taxes on a country or regional/ geographic basis. Companies are required (through FRS 8 (UK) published by the Accounting Standards Board (1995) and IAS 24 (international) (Related Party Disclosure) to report information on intra company payments in their annual reports but an exception can be made where the company feels that disclosing this information would put them at a competitive disadvantage (Accounting Standards Boards 1995, para. 17). In reality, most companies use this exception and do not reveal intra company payments.

Most studies therefore consider indirect measures of tax payments and where profits have been made. The different measures used as dependent variables (DV) and the issues surrounding their use are discussed in Chapter 5. The level of secrecy surrounding tax haven and OFCs adds a further complication making it difficult or impossible to access data on affiliates in these locations. This makes it difficult for researchers to know how, and to what extent these tax haven affiliates are used. For MNEs, tax is a sensitive issue with few companies welcoming researchers or willingly providing information and data.

The age of some earlier studies may mean that their findings are less relevant today. Corporation tax rates and regulations have changed significantly over the 20 - 30 years since the publication of the data in some of these studies and the behaviour of MNEs has also changed, facilitated by the rapid advances in communications technology. Whilst the US statutory corporate income tax rate has not changed, the regulations surrounding it and the scope of business that it embraces have changed.

This chapter now turns to look at the evidence for profit shifting in general followed by more in depth discussions of the research relating to specific methods of profit shifting.

2.2.3 Assessing the Extent of Profit Shifting

This section reviews literature that is concerned with the overall scale of profit shifting. Work has taken a variety of approaches and sources of data to understand this problem and has been unified in the general findings: profit shifting happens on a significant scale in response to tax rate differentials and is growing.

MNEs choose to use profit shifting to mitigate the effects of host country statutory tax rates and regulations. A tranche of existing studies consider the existence and magnitude of profit shifting motivated by tax avoidance. The lack of available data means that the measures and methodologies employed are varied.

Early studies examine changes in corporate behaviour following movement in corporate income tax rates (Grubert and Mutti 1991; Hines and Rice 1994; Huizinga and Laeven 2008). Grubert and Mutti (1991) show that there is a clear relationship

between the profitability of US MNEs and the host country tax rates; findings that were repeated by Hines and Rice (1994).

Klassen and LaPlante (2012) find evidence for profit shifting, following a methodology used by Collins, Kemsley and Lang (2008) but using a 5 year time horizon rather than the single year used by Collins et al (2008). They regress foreign profits on average profitability, with the residual a proxy capturing the unexpected foreign income on average. Where this residual is correlated with tax incentive, tax motivated profit shifting is inferred. Collins et al (2008) found no evidence for profit shifting out of the US but by using a five year time period Klassen and LaPlante (2012) find that US MNEs shifted more of their global profits out of the US during the period 2005-2009 compared to their earlier comparison period of 1998-2002. Despite the data showing the expected profit shifting behaviour, Klassen and LaPlante (2012) supplement their statistical analysis with a section reporting anecdotal evidence about a number of high profile US MNEs and how they have reduced their US tax burden through profit shifting.

Zucman (2014) uses macro data, (US national accounts and balance of payment statistics), to evaluate the impact of profit shifting. He computes the ETR on the profits recorded by US MNEs on a world-wide basis by taking the corporate taxes paid by all firms out of the US corporate profits as recorded in the national accounts. There has been a steady fall in this ETR from approximately 30 per cent in 1998 to 20 per cent in 2013, whilst the statutory rate has remained unchanged at 35 per cent. He calculates that factors other than tax avoidance have accounted for a proportion of this change as tax law changes have narrowed the taxable base and allowances for depreciation have become more generous. A reduction in capital gains and a rise in bad debt expense also contributed to the fall: these would reduce a firm's taxable profits but would not be reflected in the national accounts measure used by Zucman (2014). The fall would also have been exacerbated to some extent by the fall in profits and increase in losses that can be carried forwards and offset against taxes, from the 2008 financial crash. Zucman (2014), however points out that the 2013 ETR has not increased significantly since its low point of 18.4 per cent in 2009 when these impacts would have been felt most strongly.

Zucman (2014) also finds a key role for tax havens. He reports that 20 per cent of all US corporate profits are now booked in tax havens. He calculates that about two thirds of the 10 per cent decline in US MNE's ETR (1998 to 2013) can be attributed to increased profit-shifting to low-tax jurisdictions. Zucman (2014) also finds that the use of tax havens has grown ten fold since the 1980s.

Instead of considering US MNEs Huizinga and Laeven (2008) focus on a sample of European MNEs and their affiliates and find evidence of substantial profit shifting, both between the parent's home country and affiliates and also between affiliates in different host countries. They conclude that this leads to a substantial redistribution of tax revenues between countries in Europe. The weighted average of international tax rate differences between all the countries where a MNE has affiliates operating will affect the profit shifting into or out of a specific country.

Dharmapala and Riedel (2013) take a different approach to estimating the extent of profit shifting. They consider how MNEs respond to exogenous earnings shocks at the parent firm. Using a large panel of European MNE affiliates they find strong evidence of profit shifting. A positive earnings shock to the parent company typically has no impact on subsidiaries in high tax countries but around 2 per cent of the additional parent earnings are shifted directly to subsidiaries in low tax countries. Whilst these findings are statistically significant the shift is of a relatively small magnitude at only 2 per cent. Analogously, Bartelsman and Beetsma (2003) determine that at a sectoral level the value added that is reported is negatively related to corporation tax rates. Considering OECD countries, they suggest that government revenues are affected by profit shifting as a consequence of a tax increase. Tax revenues are reduced as MNEs respond to an increase in statutory rates by reporting a decline in the income in that jurisdiction.

More recent work (Azemar 2010) looks at the effects of corporation tax on US capital invested abroad and on the tax planning practices of MNEs. Azemar finds that companies operating in low tax jurisdictions report higher profits, higher Subpart F income and are less likely to repatriate profits. Azemar also considers the impact of an increase in tax rate on the propensity to repatriate profits. She concludes that a 1 per cent increase in the tax rate is associated with 2.5 per cent greater dividend payments

as a higher tax rate reduces the differential between the US and host countries reducing the incentive to defer repatriation. Azemar concludes that US companies' investment is strongly influenced by the average tax rate in a country and that the effect is particularly strong at the lower tax rates (Grubert and Mutti 2000). The greater sensitivity to changes in tax rates when they are initially low demonstrates the importance of the tax rate to those investments.

Pak (2007) takes a different approach. He constructs a 'price filter matrix', using information on US trade to identify excessively high or low priced import and export transactions. The price filter assumes that goods traded at significantly above or below the average for their category are evidence of TP manipulation. He concludes that imports into the US were under-priced by 12.1 per cent and that US exports were overpriced by 5.5 per cent. This method, however, assumes that all the goods within the category are the same and no allowance is given for the inevitable differences in quality. The construction of the matrix means that it will always show that there is some mispricing as by definition there are always goods at the higher and lower extremes of pricing.

The different methodologies and findings referred to above demonstrate the key problem of quantifying the extent of profit shifting. Examining the MNE from the outside, with limited data means it is difficult to determine how much profit shifting occur and how this is changing over time. Whilst politicians and policy makers are convinced that there is significant profit shifting, there is no single approach that can confirm this.

2.2.4 Tax Avoidance Mechanisms

Whilst the work discussed above provides indirect evidence for profit shifting it does not address the means by which MNEs are able to move profits and which methods are used more heavily. Understanding the means by which MNEs exploit lower tax rates to reduce their overall corporation tax bill is essential for public policy makers wishing to change MNE behaviour. Fuest et al (2013) point out that whilst there is clear evidence that profit shifting and tax avoidance occurs, it is difficult to assess the importance of different methods in comparison to each other. A number of studies have, however,

considered the mechanisms by which profits can be shifted. Research has often focused on one or more of these mechanisms – attempting to evaluate the extent of profit shifting by the particular mechanism and the impact that this has on policy. The next sections consider the relevant research into the various mechanisms in turn.

2.2.5 Size

Larger MNEs are thought to have the finance and capability to invest in strategic tax planning and exploit the differences between tax rates in different jurisdictions. Results of research looking at the implications of company size for the ETR have been mixed. Some research has found the expected: that larger firms are associated with more tax avoidance, largely through TP (Benvignati 1985; Zimmerman 1985; Lanis and Richardson 2015). However, Porcano (1986) finds a negative association and others find no association (Shevlin and Porter 1992; Gupta and Newberry 1997). Rego (2003) found higher worldwide ETRs for larger firms in a broad sample of US domestic and MNEs. After holding firm size constant, however, she then finds that firms with greater incomes have lower worldwide ETRs. She hypothesizes that larger companies have more opportunities and resources to use to lower their ETR. She also found that companies with higher pre-tax profits paid a lower ETR than those with lower profits indicating that larger and more successful companies are able to plan their tax affairs more efficiently – experiencing significant economies of scale in relation to their tax avoidance. This was reinforced by her finding that MNEs with more extensive foreign operations have lower worldwide ETRs than firms with fewer overseas operations. This work, however, relied on a single year GAAP ETR measure which as Dyreng et al (2008) point out is not a reliable proxy for a longer term (ten year) ETR.

The size of the firm may also have an impact on the decision to locate or relocate. Larger companies with greater absolute tax payments may have a greater incentive to try to reduce these and may also have a greater ability to bear the costs associated with a move. Desai and Hines (2002) found that firm size had a positive effect on the company's likelihood to relocate its HQ.

Previous studies all used single year ETRs and considered GAAP rather than Cash ETR. From the literature it is concluded that economies of scale are likely to confer the ability to reduce their tax bills on larger firms, thus, it is predicted:

Hypothesis 1: The size of the MNE is negatively related to LR ETR.
This hypothesis is tested in the data analysis presented in Chapter 5.

2.2.6 Transfer Pricing

One of the key profit shifting methods available to MNEs is the manipulation of TP used for internal transactions. TP is the system of pricing the flow of intermediate goods or services between affiliates of the same company. Tax is an issue when transfers are made between affiliates in different locations when these are in different tax jurisdictions. OECD guidelines state that these should be accounted for as if they were 'arms length' transactions with a third party (OECD 2010). This relies on the existence of an external market to provide reference prices. If no such market exists, which may be the case particularly for transfers of intermediate or knowledge based goods or services it is difficult to assess whether the prices used equate to 'arms length' prices. Different entities may use resources jointly, particularly knowledge related assets. This internalization of knowledge transfers is one of the fundamental reasons for the creation of the MNE (see Section 2.1.3). It is therefore hard to assess whether the MNE is shifting profits using inflated or deflated prices or whether they are simply charging an affiliate for using a resource.

The large body of theoretical work concerning TP discussed above in Section 2.1 concludes that corporate income tax has an impact on the TP charged for intra company transfers (Copithorne 1971; Horst 1971; Samuelson 1982; Bartelsman and Beetsma 2003; Clausing 2003). Empirical research attempts to find evidence for TP manipulation but encounters difficulties in obtaining relevant data due to the confidential nature of intra firm transactions. Listed companies are required to publish their annual reports containing some information on intra company transfers although as stated above many claim that they are exempt from disclosing this information on the grounds that it could harm their competitiveness. Information contained in tax returns is not made publically available.

Early work by Vaitsos (1974) looked at the actions of MNEs in four Latin American countries. He found that TP were set depending on the industry that the company operated in, the size of the home country and in response to government policies; there was no one 'correct' price. He compared the TPs used with actual prices available on international markets and found that there was overpricing of goods, particularly in the pharmaceutical market. The impact of specific circumstances in Vaitsos' empirical work such as a restriction on profits remissions from Colombia, imposed after 1967 make extrapolating from his findings difficult.

However, Vaitsos' focus on the pharmaceutical and other high tech industries continued. Establishing the accuracy of TPs in this kind of high technology industry is particularly difficult. The company needs to cover the costs of its R&D and other investment and must apportion these overheads between income generating subsidiaries. Comparator prices are unlikely to be available.

Lall (1979) built on Vaitsos' work, looking specifically at the policy implications for governments of developing countries. He finds that there is an uneven incidence of TP manipulation across different firms and industries. He concurs with Vaitsos (1974) that TP manipulation varies by sector, being more of an issue in knowledge and R&D intensive industries. He concludes that even if governments could overcome the problems relating to the lack of information they would still need to consider that: *'correct transfer prices must represent society's view of how to finance risky innovation'* (Lall 1979 p.37)

The proportion of intra company trade conducted and the locations involved will clearly impact the MNE's ability to manipulate TP. The wider the firm's reach and the longer its value chain the greater the scope for TP manipulation. Vaitsos (1974) concluded that the MNEs from smaller home countries engage in greater intra firm trade and will therefore have greater scope for TP manipulation and profit shifting. Lall (1979) also points out that companies selling more standardised products are less likely to gain from internalization and therefore more likely engage in external trade for intermediate goods. Buckley and Pearce (1979) also find that intra firm trade is

higher in those firms operating in more research-intensive industries as well as in larger firms. Lall (1979) agrees, finding that TP manipulation is greater in MNEs with more '*highly specific*' products. This fits with his finding that the pharmaceutical industry has more TP manipulation than any other.

Rugman (1985) disagrees, pointing out that in many cases there are unlikely to be particular set prices in the open market even if there is a comparable good available. He considers the case of the Canadian petroleum industry and demonstrates that even for a standard good like oil there is a range of comparable prices making comparison between a market and TP, complex or impossible. Rugman (1985) finds that whilst some subsidiaries appeared to have relatively high profits, ultimately the differences were eliminated after adjusting for risk of earnings. He concluded that there was no evidence of TP manipulation.

The growing importance of TP to international businesses was emphasised in the findings of Eden, Valdez and Li (2005). They examined the impact of the introduction of severe penalties for TP manipulation in the US in 1990 and hypothesised that the introduction of penalties would reduce incentives for MNE to manipulate prices, thereby reducing future profitability. This would, in turn, be reflected in a reduced market valuation of the MNE. They studied Japanese MNEs with US subsidiaries and found that they had lost 12.6 per cent of their 1997 market value as a direct consequence of the introduction of penalties – evidence of the significant value derived from TP.

Clausing (2003) takes a direct approach to considering the impact of TP. She uses data from the Bureau of Labor Statistics (BLS) on international trade prices in 1997, 1998, and 1999 and considers how the prices of related party transactions differ from those of non-related party transactions. She finds substantial differences in the behaviour of related party transaction pricing compared with arms-length trade. After controlling for other variables that affect trade prices, she finds that where tax rates are lower, US intra-firm export prices are lower, and US intra-firm import prices are higher. She therefore concludes that the prices used for related party transaction trade prices are influenced by MNE tax-minimization strategies. A tax rate that is 1 per cent lower in the

country of destination / origin is associated with related party export prices that are 1.8 per cent lower and intrafirm import prices that are 2.0 per cent higher, relative to non-intrafirm goods. Clausing (2003) also demonstrated that the TP used for intra- firm transfers of knowledge or services are particularly sensitive to the tax differentials between the countries that the MNE operates in.

Much of the literature assumes that regulations are enforced in a homogenous manner. The way in which regulations are implemented and enforced may differ depending on legislative maturity of the country or the priority placed on them. The OECD Transfer Pricing Guidelines (OECD 2010) provides for some assistance to tax authorities in less developed countries. However, the lack of resources available for policing TP in these countries is likely to result in variability in the extent to which the Guidelines are implemented and enforced. Some research has considered the impact of different levels of enforcement on business decision-making (Bartelsman and Beetsma 2003; Azemar 2010). Bartelsman and Beetsma (2003) examine the role of OECD countries and the impact of profit shifting between them. They note the geographically widespread nature of profit shifting. They also suggest that whilst revenues from tighter enforcement of TP rules can be significant, enforcing rules more stringently may reduce the net return on investment for MNEs operating in high tax countries that may in turn cause investment to shift to countries with lower taxes and / or lower enforcements. This demonstrates the choices that MNEs are making – they are trading off between using TP to shift profits and the potential costs associated with doing so.

More recent work by Azemar (2010) focuses on less developed countries, arguing that they may not have the resources to enforce all their TP regulation conferring greater freedom on MNEs to manipulate TP. She quotes Chan and Chow (1997) and UNCTAD (1999) who propose that developing countries tax authorities may avoid enforcing regulations, particularly in key industries in order to encourage investment. Using GDP per capita to measure a country's development her findings are inconclusive, demonstrating a statistically insignificant effect.

In a rare piece of qualitative research Baker (2005) conducted interviews with 550 senior managers in trading companies in 11 countries in order to understand the role

of TP within MNE. He finds strong evidence of collusion between companies. He concludes that significant price manipulation takes place via kickbacks, internal TP and sales between unrelated companies. Whilst Baker's work is hard to verify and is not published in an academic journal the extent of the acceptance of mispricing that he found is clear. More qualitative research that can elicit information from inside companies is urgently needed to add to our understanding of the decision making inside MNEs.

A large-scale, repeated survey (EY 2013) has consistently found that TP is used as a tool by businesses to help them to achieve their broader objectives. A recent survey found that for 66 per cent of companies 'risk management' was their organisation's most important issue in relation to TP. This was an increase of 32 per cent over the previous survey in the series (EY 2010). Conversely, the number of organisations identifying ETR optimisation fell by a third to only 17 per cent. Recent international attention to tax issues and TP in particular, by Governments, the OECD and the media may be shifting organisations' attitudes to TP. The same survey also reports that tax authorities are increasing the scope and complexity of their investigations in tax issues. Required documentation is increasing and the frequency of the imposition of penalties has also been reported.

The following sections cover two of the key mechanisms where TP can be used to shift profits.

2.2.6.1 Intangible Assets

Intangible assets are an increasingly important source of competitiveness (Lipsey 2007). Intangible assets can easily be separated from production locations and their public good nature means that they can be used by more than one subsidiary at a time. If the headquarters in the home country has developed the intangible asset the parent will receive royalties from the subsidiary, equivalent to an arms length price. Royalty payments are considered a tax-deductible expense in the host country and as additional (taxable) income in the home country (Grubert 2003a). MNE can base intangible assets in low tax countries where they earn a stream of revenue from other group companies either on the basis of licensing or royalties. The opaque nature of IP means that TP

manipulation is harder to detect when related to this class of asset. It is harder to find an applicable arms' length price with which to compare it (Gravelle 2008). IP is often unique and may have no functioning market to generate comparable prices (Dyreng, Hanlon and Maydew 2008; Shackelford, Slemrod and Sallee 2011).

The MNE can therefore charge a relatively high royalty rate for the use of intangible assets to subsidiaries in high tax countries, effectively reducing profitability there (Dischinger and Riedel 2011). This, combined with the difficulty in establishing arms length prices for intangible assets, particularly for regulatory authorities outside the company, adds to its potential as a means of profit shifting (Dyreng et al 2008; Shackelford et al 2011). Fuest et al (2013) stress the importance of IP to overall patterns of profits shifting. They emphasise the role of IP in terms of value creation as well as the fact that it is highly mobile. Overstating the TP for royalties and licences is thought to be one of the key methods of profit shifting adopted by MNEs (Kopits 1976; Grubert 2003a; Desai et al 2006). As the use of intangible assets increases, so does their ability to profit shift (Grubert and Mutti 2007).

Intangible assets can be capitalised on the balance sheet if certain criteria are met (Dischinger and Riedel 2011). They are usually recognised at cost. Many countries allow their inclusion on the balance sheet irrespective of how they were acquired – that is, internally generated or purchased. However, in the US, Austria, Denmark and Germany, only intangible assets that have been acquired can be held on the balance sheet. In Ireland, Italy and the UK the capitalisation of development, but not research costs is allowed. The differences in accounting for intangible assets affects the ability of researchers to use this data to make meaningful comparisons between countries.

A significant amount of research has been conducted looking at the relationship between IP assets and tax or TP. Proxies including annual R&D spending, intangible assets reported in balance sheet disclosures and patent data have been used. Dischinger and Riedel (2011) use panel data on European MNEs to confirm the importance of intangible assets and their location for tax planning. They find that the average parent company owns significantly more intangible assets than the average subsidiary company but that intangible asset holdings in both are rising steeply, reflecting the

growing importance of this class of assets for the MNE. Significantly, they also find that the lower a subsidiary's corporate tax rate is relative to other group subsidiaries the higher is its level of intangible asset investment – clear evidence that MNEs shift intangible assets to low tax locations to enable profit shifting.

In most of the countries Dischinger and Riedel (2011) consider, income from intangible assets is taxed at the standard rate of corporation tax. However, in Ireland and France there are special low rates on royalty income from patents and licenses. Others such as Belgium, Luxembourg and the Netherlands have since introduced special low rates on patent and license income. The UK has also since introduced a 'patent box' tax regime where profits based on patents will be charged only a 10 per cent corporation tax rate (UK Government 2014). This demonstrates the importance that governments attach to attracting MNEs' intangible assets and the incentives for MNEs to ensure that they place intangible assets, either directly through development, or indirectly through transfer, in the most tax efficient locations.

To relocate intangible assets MNEs may need to relocate part of their R&D with them. This makes attracting intangible assets important for countries that may potentially gain from additional highly skilled jobs and potential knowledge spillover. Whilst US firms have to pay tax on the value of the transfer of the IP assets, any income then earned from those assets will be taxed in the US only on the repatriation of profits. Countries often charge exit taxes (capital gains) when intangible assets are relocated but MNEs may reduce their liability by distorting the TP for intangible assets facilitated by the difficulty in establishing the 'correct' value from outside the firm. Work demonstrates a correlation between MNEs' TP distortions and intangible asset ownership (Grubert 2003b).

Earlier work tried to link the level of intangible assets held with the rate of corporation tax and the profitability of the relevant subsidiary. Hines (1999) found that in 1989 royalty payments from foreign affiliates of American MNEs had an elasticity of -0.4 with respect to the tax cost of paying royalties. Subsequent work by Grubert (2003b) also emphasised the importance of the tax system for royalty payments as a key determinant of US investments. He finds that parent R&D intensity increases the local

tax burden; suggesting that the host government is able to extract a greater proportion of the rent. This may also reflect that R&D investments tend to be location bound (locational rather than mobile according to Grubert 2003b). However, industries such as electronics and computers with high levels of parent company R&D are mobile and the tax treatment of companies in these industries is more favourable than other high R&D industries. Grubert (2003b) finds evidence that profitability differences between high and low tax countries are due to the shifting of income from intangibles combined with the strategic location of debt. His work also demonstrates that R&D intensive MNEs engage in significantly larger volumes of intra- group transactions and therefore have more opportunities for income shifting.

In earlier work Grubert (1998) also finds an important role for royalties in profit shifting. He concludes that the royalties paid by subsidiaries are influenced by the tax credit position of the parent and the local tax rate. Other research concurs, concluding that parent firms with high levels of R&D and intangible asset investments, and therefore good opportunities to profit shift are more likely to have investments in tax havens, indicating the importance of these assets to the overall tax planning strategy of MNEs (Grubert and Slemrod 1998; Desai et al 2006).

Grubert and Mutti (2007) also find evidence for this important role for intangible assets. They point out that US parent R&D investments are a weak predictor for royalty payments from foreign affiliates to the parent firm but they strongly enlarge the earnings of group affiliates in tax havens. They interpret this to mean that parents have incentives to set up tax haven subsidiaries and reach favourable cost sharing agreements on R&D investment with them. The affiliates in low tax jurisdictions sell the rights to use patents and licenses to high tax affiliates and subsequently receive the royalty payments as earnings, simultaneously reducing the earnings of the affiliate in the high tax jurisdiction. Barrios et al (2012) consider a range of European MNEs and countries and find that subsidiaries with lower levels of fixed assets respond more to home and host country taxation. They posit that higher levels of fixed assets prevent the firm from making the decision to move a subsidiary and that profit shifting is more difficult in these circumstances.

It is clear that there is a significant role for intangible assets in tax planning. Intangible assets also play a critically important role in MNE profit generation. MNEs have an incentive to place these assets in low tax jurisdictions where their opaque nature enables significant profit shifting to take place. Governments are complicit, lowering tax rates and offering incentives for companies to shift their intangible assets in the hope that they will also shift jobs and revenues. There is significant anecdotal evidence about the relocation of intangible assets to low tax jurisdictions (Dischinger and Riedel 2011). Pfizer, Bristol-Myers Squibb and Microsoft are all reported to have relocated parts of the R&D units and patent holdings from their home countries to Ireland. Vodafone's intangible properties are held by an Irish subsidiary and Shell's central brand management is held in a Swiss subsidiary from where other subsidiaries are charged royalties (Dischinger and Riedel 2011). Starbucks holds its intangible assets in the Netherlands, reputedly to take advantage of the favourable tax regime there (Financial Times 2013). Academic research is hampered by the lack of available data on the movement of IP assets. This is an area where qualitative research could make a useful contribution if access could be gained.

Dyreng et al (2015) consider how tax affects the structure of the global equity supply chain of a company. For their analysis they hypothesise that firms with more mobile income, that are able to profit shift will have less incentive to establish holding companies that can facilitate the efficient return of dividends to the US. They use R&D spending as an indicator of whether a firm has highly mobile income and establish that high spending R&D firms are half as likely as lower spending firms to use a foreign equity holding company. This provides additional support for the hypothesis that firms with higher levels of intangible assets have greater scope to shift profits. Profit shifting via intangible assets acts as a substitute for global equity supply chains as a means to mitigate international taxes.

Overesch and Schreiber (2009) consider a set of German MNEs and find that intra-group transfers in firms with higher R&D intensities are more sensitive to the statutory tax rate. They confirm the importance of R&D as a mechanism for profit shifting as they find that the tax sensitivity of investments significantly decreases with increases in the R&D intensity. They conclude that the host country statutory tax rate becomes less

important to firms that have the opportunity to profit shift. They use R&D expenditure as a proxy for the availability of intangible assets as well as the specificity of the firm's assets.

A different research approach considers the impact of the 'check the box regulations' in 1997 and the emergence of hybrid companies on royalty payments. Mutti and Grubert (2009) find that the introduction of the 'check the box regulations' (see Glossary and Footnote 11) facilitated the establishment of hybrid companies enabling US MNEs to shift IP income from high to low tax countries and defer US tax payments on dividend income. Using confidential Treasury data they show that dividends received into seven major low tax countries[6] grew quickly over this period, from $6.4billion in 1996 to $25.7billion in 2002, considerably outstripping the growth of total earnings.

Previous theoretical and empirical studies show that IP assets are used by MNEs to shift profits, enabling them to structure their businesses and allocate income in tax efficient ways. As the economic value from IP assets increases worldwide the ability of MNEs to shift profits is enhanced. Thus, it is predicted

Hypothesis 2: The level of IP is negatively related to LR ETR.

The hypothesis is tested in the data analysis presented in Chapter 5.

2.2.6.2 Capital Structure / Debt

A considerable amount of work has focussed on the use of debt and capital structure to facilitate tax avoidance. The tax deductibility of interest expense adds an incentive for firms to engage in this form of financing. Intra-company borrowing and lending can be used to shift profits from high to low tax countries. An affiliate based in a high tax country borrows money from and pays interest to, an affiliate in a lower tax country. This reduces the profits in the interest paying affiliate and increases them in the lending affiliate or the group finance company when it receives the interest. According to the OECD Transfer Price Guidelines (OECD 2010) interest payments should be transparent and should be set at a rate that reflects the arm's length rate. The level of risk attached to the loan, however, is not always transparent and would legitimately influence the

[6] Ireland, Singapore, Bermuda, Cayman Islands, Netherlands, Luxembourg and Switzerland.

interest rate used (Overesch and Schreiber 2009). The interest rate charged remains more easily comparable with external rates than other types of TP and profit shifting.

Debt provides a shield from tax, relative to funding by equity, for all firms including the purely domestic. Interest payments on debt are deducted from profits before tax is charged, reducing chargeable income and therefore the tax paid. Dividend payments to shareholders are made out of post-tax profits and therefore do not reduce the tax charge of the company. Whilst research has identified unusually high levels of debt in high tax countries (Gordon and Lee 2001; Egger et al 2010), it is difficult to conclude whether this is as a result of profit shifting or just because the firm is using the traditional debt tax shelter.

When loans are used for profit shifting the external debt of the firm does not need to change. Affiliates lend and borrow from each other with the loans being financed from retained earnings or parental equity. The tax incentive to use more debt therefore distorts the capital structure of the subsidiary. Altshuler and Grubert (2002) and Desai et al (2006) show that US MNEs use debt financing to shift profits. Other work confirms this using European companies (Buettner and Wamser 2007; Huizinga, Laeven and Nicodeme 2008; Egger et al 2010).

Research confirms that the capital structure of subsidiaries is sensitive to the tax rate of the host country in which they are based (Huizinga and Laeven 2008; Egger et al 2010; Harrington and Smith 2012). The debt – asset ratios for MNE subsidiaries in high tax countries are higher than for those in low tax countries, and also for domestic firms (Gordon and Lee 2001; Egger et al 2010). These studies focus on the total debt – asset ratio however, and do not distinguish between external and internal debt, due to the lack of data available specifically on internal debt. Only internal debt can potentially be used as a profit shifting mechanism, although there may also be purely operational reasons for its use. Very few existing studies distinguish between internal and external debt as the data is difficult to access (only data published by the US Bureau of Business Analysis and the German Central Bank incorporate this distinction). There are some published studies (Nguyen & Almodovar 2017; Nguyen & Rugman 2015; Nguyen 2013) where survey data is used by applying accounting standards. These studies conclude

that there is a significant role for internal lending between group companies to fund exports. It is not possible therefore to assume that all internal lending is related to tax planning activities.

Altshuler and Grubert (2002) and Desai, Foley and Hines (2004) consider internal debt and find that it is influenced by the host country tax rate. The larger the spread of tax rates between the host country and the lowest rate faced by any group member the greater the incentive to increase intra-company debt. Analogously, Buettner and Wamser (2013) find that the spread of tax rates between affiliates impacts on the level of internal debt. Higher leveraged MNEs are more likely to relocate to a low tax jurisdiction. Huizinga et al (2008) determine that an MNE's total external borrowing is allocated amongst affiliate companies depending on the tax rate in the host countries.

Dharmapala and Riedel (2013) examine positive earnings shocks to parent companies and conclude that affiliates in low tax jurisdictions experienced a small but significant increase in their profits. They find that this is generated by the use of strategic debt across affiliates. They use data from the AMADEUS database, which does not report intra-company debt, however, so they use an indirect measure of financial income.

Whilst research agrees that MNEs use debt for profit shifting the size of the effect established varies (Altshuler and Grubert 2002; Desai et al 2004; Dischinger and Riedel 2011; Buettner and Wamser 2013). Whilst Buettner and Wamser (2013) find only small, although statistically significant effects of tax on internal debt, Desai et al (2004) find that 10 per cent higher tax rates are associated with 2.8 per cent higher debt / asset ratios with internal debt being particularly affected. Altshuler and Grubert (2002) demonstrate that the debt levels held by subsidiary companies are highly sensitive to the local tax rate. Debt, however, continues to be held in the balance sheet of even low tax affiliates. Egger et al (2010), use a large sample of European firms and find that MNEs have a substantially higher debt ratio than domestic firms with the difference between MNEs and domestic firms being related to the rate of corporation tax payable.

Grubert and Mutti (2000) gain access to information aggregated from the tax returns of US MNEs (using returns from more than 500 companies in 1992) to examine the way

that host country tax rates influence the amount of capital that is invested in different locations. They find that a lower tax rate that leads to an increase in post-tax profits is correlated with a 3 per cent rise in the level of capital invested, as long as the country has a relatively open investment regime. They conclude that 19 per cent of US capital would be located in a different country without the influence of tax arbitrage. They also find that at low levels of taxation, changes have a magnified impact on investment decisions.

Graham (2003) summarises the empirical research work on taxes and capital structure and concludes that capital structure decisions appear to respond to corporate taxes. Graham (2003) notes however, that some academics (Myers, McConnell, Peterson, Soter and Stern, 1998) suggest that, *'Tax incentives are of a 'third order' of importance in the hierarchy of corporate decisions'*. There may be reasons other than tax for high levels of intra-company borrowing. Desai et al. (2004) argue that MNEs have an advantage over purely domestic firms as they can substitute internal debt for external. The MNE can borrow externally in a favourable market and then lend internally to affiliates. The MNE can support affiliates in particular markets that have trouble accessing external debt (Nguyen 2013; Nguyen and Rugman, 2015).

Barrios et al (2012) consider the impact of taxation on mergers and acquisitions. They find that international double taxes that come into effect due to an M&A are to a large extent already included in the takeover price; in effect reducing the price that will be paid. This indicates that international double taxation does have an impact on the behaviour of MNEs and that they therefore have an incentive to own foreign subsidiaries in locations with low taxation.

Research clearly shows that the tax rate and regulations where the MNE operates can clearly influence the capital structure of a firm. Intra-company debt appears to be a particularly important way of adjusting the company's capital structure to minimise the tax burden. The next sections look at other approaches used by MNEs to reduce their ETR. Rather than TP, these are generated by other aspects of the international tax regime. Due to a lack of data on the levels of intra firm loans in the consolidated

accounts of the parent firms this potential mechanism of tax avoidance is not considered in the empirical work presented in Chapter 5.

2.2.7 Top Management Team

The neoclassical view of the firm that is typically expounded in tax research posits that the same decisions will be made within a firm, regardless of who holds key offices. The individual is treated as homogenous or insignificant, behaving in a rational economic manner and responding to the incentives put in place (Bertrand and Schoar 2003). A growing body of research however, considers the influence that individuals may play (Bertrand and Schoar 2003; Desai and Dharmapala 2006; Dyreng, Hanlon and Maydew 2010).

Dyreng, Hanlon and Maydew (2010) identify a gap in the literature concerning the impact that key executives play in determining the tax strategy of a firm. They quote anecdotal evidence that is consistent with the view that individuals can play an important role in setting tax policy:
'David Bullington, Wal-Mart's vice president for tax policy, stated that he began to feel pressure to lower the company's effective tax rate after the current chief financial officer, Thomas Schoewe, was hired in 2000. 'Mr. Schoewe was familiar with some very sophisticated and aggressive tax planning. And he rides hard on us all the time that we have the world's highest tax rate of any major company,' Mr. Bullington said, according to a transcript of the deposition' (Drucker 2007 quoted in Dyreng et al 2010).

Dyreng et al go on to study the impact that individual executives have on tax avoidance. Using a sample of 980 executives they find individuals exert a significant influence on the ETR (both cash and GAAP) paid. They conclude that individual executives can have a significant impact in determining the level of tax planning undertaken in a firm. They find an 11 per cent difference between the GAAP ETRs when moving between the top and bottom quartile of executives. Whilst CEOs are unlikely to be tax experts they are able to impact the strategy of the company by *'setting the tone'* at the top of the organisation. Results were slightly stronger for CEOs but also held for CFOs and other top executives. Further work controlling for the type of industry the company is in and

to explore executives' motivations and tax avoidance mechanisms used, would be of interest. Further exploration fails to identify any particular biographical characteristics that can be used to predict which executives will push tax avoidance. They conclude that there are no identifiable, common characteristics that can explain executive-specific tax avoidance—the executive effects on tax avoidance appear to be idiosyncratic.

Rather than considering individuals, Desai and Dharmapala (2006) model the effect of incentive compensation and governance structures on tax avoidance. They find a negative association between equity based compensation and tax avoidance but they find that this holds only in firms with weaker shareholder rights and lower levels of institutional ownership. Robinson, Kises and Weaver (2010) also consider the effect of incentives on tax executives and find that when the tax department is considered a profit centre GAAP ETRs are lower but Cash ETRs are not.

Philips (2003) considers the impacts of incentives on GAAP ETR. He finds that the managers of business units where performance is assessed on after tax measures of income appear to exhibit lower rates of ETR but his findings do not hold for CEOs. Bamber, Jiang, and Wang (2010) examine the effect of different executives on corporate disclosure policies and find that the individuals involved play a significant role in determining the level of voluntary disclosure made.

The board of directors has a crucial role monitoring the management of the company on behalf of the shareholders (Eisenhardt 1989; Fama and Jensen 1983). The directors on the board need to have an appropriate mix of experience and expertise to evaluate management's performance and the strategies that they are pursuing. Agency theory (Jensen and Meckling 1976) highlights the potential problems when the goals of the principal and agent are misaligned and / or the costs of monitoring behaviour are high. A second problem may arise in the principal agent relationship where there are differences in the attitude to risk (Eisenhardt 1989).

Little research considers the direct relationship between the composition of the board and tax avoidance. Lanis and Richardson (2011), however, find that increasing the

number of independent directors on the board increases the effectiveness of its scrutiny of top management. They find a direct relationship between a higher proportion of independent board members and a reduction of tax avoidance.

The proportion of women on the Board is also of interest. Female board directors have different profiles to male: they are more than twice as likely as men to hold a doctoral degree (Hillman, Cannella and Harris 2002), have gained more of their experience in smaller firms and are less likely to have CEO or Chief Operating Officer (COO) experience (Singh, Terjesen and Vinnicombe 2008). They are also more likely to bring expertise from outside of business and therefore may have different perspectives on the issues facing the board (Hillman et al 2002). Women are thought to take a different approach to board membership with research demonstrating that they take a more participative and democratic approach (Eagly and Johnson 1990; Eagly, Johannsen-Schmidt and van Engen 2003).

Adams and Ferreira (2009) find that female directors can add value by bringing new perspectives and increasing monitoring of management. Gender diverse boards spend more time monitoring management actions than less diverse boards. Adams and Ferreira (2009) conclude that this can negatively affect a firm's performance when corporate governance is already strong but that if corporate governance is weak the longer time spent monitoring improves firm performance. This additional monitoring may have implications for the ETR. Research shows that where there are more women on the board some outcomes are different: boards with more women have a higher level of charitable giving (Wang and Coffey 1992; Williams 2003), and attain higher levels of Environmental CSR (Post, Rahman and Rubow 2011).

Empirical work has considered the way that women operate on the board of directors and demonstrates that the number of women on the board is important (Bear, Rahman and Post 2010). A single woman may have little influence but as the number grows a critical mass may be achieved (Konrad, Kramer and Erkut 2008). Bear et al (2010) find that as the number of women on the board increases the greater the emphasis on CSR.

Some of these differences may arise from the different attitude to risk that women

appear to take. Female executives are likely to have a greater aversion to corruption and tax evasion (Torgler and Valev 2010) take more conservative positions in accounting (Francis, Hasan, Park and Wu 2014), make fewer discretionary accruals (Barua, Davidson, Rama and Thiruvadi 2010), make fewer acquisitions and issue less debt (Huang and Kisgen 2013). Female leaders may see the trade off between tax avoidance and its associated risks differently.

Lanis and Richardson (2015) consider a measure of CSR that incorporates items related to diversity in relation to the CEO, the board of directors and the provision of work/life benefits. They find that there is a significant negative association between the measure and tax avoidance indicating that more diverse companies (both in terms of gender and ethnic minorities) are less tax avoidant than less diverse companies.

Francis et al (2014) find that female CFOs are associated with taking less aggressive tax positions than male CFOs. They study the changes following a male – female CFO transition. They find that female CFOs participate less in aggressive tax planning (using measures of tax sheltering, unrecognized tax benefits and permanent book–tax differences). When they considered cash and GAAP ETR, however, they find that there are no differences between male and female CFOs. These findings are consistent with Dyreng et al (2010) who also found no difference between male and female CFOs.

This leads to the development of the following hypotheses which are tested using data analysis in Chapter 5:
Hypothesis 3a: The proportions of female board directors are positively related to LR ETR.
Hypothesis 3b: Having women in key executive positions (CEOs and CFOs) is positively related to LR ETR.

2.2.8 Corporate Social Responsibility

There is an innate tension between firms maximising returns to shareholders by minimising tax paid and the firm's responsibility to their broader stakeholders and contribution to society through tax payments. The firm's view of its responsibility towards its wider stakeholders is reflected in its position on Corporate Social

Responsibility (CSR). Tax can be seen as an ethical issue if MNEs are considered to have at least some degree of flexibility in the tax payments that they make. Managers can be considered to be operating in a 'moral free space' (Muller and Kolk 2015) with discretion about which tax payments they make – in effect having some level of discretion over their ETR.

There is little extant research that considers the issue of tax within the area of CSR and authors have called for more detailed research into this area (Hanlon and Heitzman 2010; Lanis and Richardson 2015; Muller and Kolk 2015). Research that does touch on this issue tends to be in the context of developing countries (Muller and Kolk, 2015; Bird and Smucker 2007). Even research considering the *'economic dimensions of corporate social responsibility'* (Fontanier and Kolk 2007) fails to discuss the corporate tax dimension. The findings from research that has been conducted have not been clear-cut.

Using a sample of Australian firms Lanis and Richardson (2015) find that firms with greater emphasis on CSR are less likely to avoid tax. Similarly, Muller and Kolk (2015) find that MNE subsidiaries operating in India with a strong reputation for CSR pay a higher ETR in comparison to MNE subsidiaries operating in the same environment but without the same focus on CSR. Davis, Guenther, Krull and Williams (2016) conversely find that managers and other stakeholders within MNEs do not see the payment of taxes as associated with the CSR performance of a firm. Huseynov and Klamm (2012) find that different aspects of CSR impact the ETR (both GAAP and Cash) in different ways depending on the strength of the corporate governance within the company.

CSR can have a significant impact on firm reputation (Fombrun 2006). MNEs with reputations as socially responsible can use this reputation as a form of insurance against future crises (Peloza 2006; Godfrey, Merrill and Hansen 2009; Muller and Kraussl 2011). If MNEs see tax as a CSR issue, this may indicate that they understand the potential CSR reputational risk that could emanate from their tax management strategy. This leads to the development of the following hypothesis which is empirically tested using regression analysis in Chapter 5:

Hypothesis 4: Concerns for CSR are positively related to LR ETR.

2.2.9 The Degree of Multinationality

Having affiliates in different countries may increase the opportunities available for profit shifting. Clearly, domestic companies have few opportunities to profit shift but firms with operations in a wider set of countries may face a broader range of tax rates and regulations, offering opportunities to profit shift. Firms with more international subsidiaries are able to use TP more aggressively or other mechanisms, such as the relocation of IP to low or zero tax jurisdictions and the ability to charge royalty fees or the use of intra-company debt. Companies with more overseas subsidiaries or longer value chains appear to have a greater ability to shift profits from high to low tax jurisdictions (Grubert and Mutti 1991; Rego 2003; Dyreng and Lindsey 2009).

Research looks at the proportion of foreign subsidiaries that a firm has and the impact that this has on corporate strategy. Taylor, Richardson and Lanis (2015) find that the greater the proportion of foreign controlled subsidiaries a MNE has, the more aggressive a position takes on TP. Similarly Rego (2003) finds that MNEs with more extensive foreign operations have a lower ETR than those with less extensive operations.

Research into this aspect of US MNEs, however, appears to be becoming more difficult. US MNEs must disclose the names and locations of all their 'significant' subsidiaries in Exhibit 21 of their 10K report. The MNE can omit the names of subsidiaries that in total account for less than 10 per cent of the Group's consolidated assets or pre-tax income. Research that looks at multinationality has relied on this information; however, there appears to be a growing trend for US MNEs to reduce the number of subsidiaries disclosed (Donohoe, McGill and Outslay 2012). Donohoe, McGill and Outslay (2012) surmise that this may be because of the growing interest in tax havens driven by media interest in tax avoidance. They cite Google, which listed 108 subsidiaries in 2009 but only 2 in 2011. This trend towards opacity has continued: in 2015 a new company Alphabet was established as the parent company of Google. It lists only one subsidiary – Google (Alphabet 2015).

Despite these empirical difficulties the following hypothesis is proposed:
Hypothesis 5: The degree of multinationality is negatively related to LR ETR.

This hypothesis is empirically tested in Chapter 5.

2.2.10 Location

One of the most straightforward ways for MNEs to reduce their ETR is to consider the country or countries where they operate. Competition between countries to attract MNEs has reduced the statutory tax rate in many places and increased the opportunities for MNEs to engage in arbitrage. For MNEs the home and host country tax rates and regulations are important as well as the interaction between the two. This section covers research on location choice, the special case of tax havens and the use of inversions.

When MNEs are expanding abroad they consider the statutory tax rate offered by potential host countries. Research confirms a negative relationship between the statutory tax rate in place and investment (Devereux and Griffith 2003; De Mooij and Ederveen 2006; Azemar 2010; Barrios et al 2012). The corporation tax rate is, however, only one aspect that will affect a company's decision on where to locate. For example, the LSAs and the size of the market will also have an impact on the decision. To understand the full implications of the effect of taxation it is necessary to understand in detail the reasons behind a company's decision to locate in a certain place.

Decisions on location are likely to depend on both parent and host country taxes (Huizinga and Laeven 2008; Barrios et al 2012). Barrios et al (2012) use a large international firm level data set incorporating a range of European countries and companies. Rather than considering the impact of the host country tax rate in isolation they consider the interaction between home and host country tax systems. They conclude that despite the ability to defer paying home country taxes until repatriation of profits, these parent country taxes continue to exert an effect on MNE tax planning. MNEs remain sensitive to the tax systems of both home and host countries and clearly plan to ensure that their overall pattern of international ownership is tax efficient. Barrios et al (2012) also find that the location decisions for highly profitable subsidiaries are less responsive to tax inducements than for less profitable subsidiaries. They speculate that higher profitability could be location specific, so moving the subsidiary could reduce profitability. Location decisions of foreign subsidiaries with

low fixed assets are more sensitive to parent and host country taxation – reflecting the fact that they are physically easier to move than subsidiaries with higher levels of fixed assets. They also find an important role for repatriation as firms with the ability to defer paying tax in the home country until repatriation are only half as responsive to tax rates as those who cannot defer.

Dyreng et al (2015) widen the scope of their research examining the global equity supply chains of US MNEs. They consider the impact of both tax and non-tax factors on location decisions. They stress the importance of the overall structure of the group, and the presence of holding companies located in low tax countries. They also find that the levels of corruption and investment risk play a key role in location choice for holding companies.

In early work Devereux and Griffith (1998) consider a panel of US MNE and how tax affects their location decisions for subsidiaries in France, Germany and the UK between 1980 and 1994. They find that host country average ETRs play a key role in determining choice. More recent work by Buettner and Ruf (2007), however, finds that a sample of German MNEs are affected more by host country statutory tax rates than by average ETRs incorporating both home and host country tax rates. They consider decisions made between 1996 and 2003 meaning that there is no overlap in time period for the two pieces of research. This may account for the different findings or it may be that German MNEs and US MNEs make decisions in different ways. Differences could also reflect variances in the ability to profit shift; statutory tax rates clearly become a less significant factor in a location decision if part of the profit generated there can be shifted elsewhere.

Grubert (2003b) finds that US MNEs who have a higher than average ability to profit shift, (that is those with high levels of intangible assets see section 2.2.6.1 below) will choose locations with either very high or very low statutory tax rates. Similarly, Clausing (2009) considers the impact of tax incentives on location decisions. She looks at the way that US MNEs respond to tax incentives both financially and in terms of 'real' decisions such as determining the location of employment. She finds that a one per cent fall in the host country tax rate is associated with a 0.5 per cent increase in profits

booked by affiliates in that country. She also regresses employment on the tax rate differences between countries and concludes that tax factors led to the relocation of real economic activity that in effect shifted approximately $80 billion of US profits to low tax countries.

Grubert and Mutti (2000) find a magnified impact of very low tax rates on capital investment decisions. They have access to tax returns from more than 500 US MNEs and find that average ETRs have a significant impact on the choice of location for investment, as well as on the size of investment. They conclude that approximately 19 per cent of US capital investments abroad would be in different locations if the tax impact were removed.

2.2.10.1 Inversions and Corporate Structuring / Configuration

An inversion is the name given to the decision made by a parent company to buy a foreign subsidiary and then invert the ownership structure such that the new subsidiary becomes the parent company. Inversions have been politically controversial in the US in recent years as companies inverting, and effectively moving their headquarters out of the US are seen as 'unpatriotic'.

Creating such a structure allows the MNE to completely bypass taxation in the US (Boise and Koenig 2002). Under the current US legal system a corporate inversion will not function for US tax purposes if 80 percent or more of the newly merged company is owned by previous shareholders of the US company. A new bill has been proposed recently that would make it harder for US companies to invert by reducing this threshold from 80 percent to 50 percent. The attractiveness of inversions to US companies underlines their desire to reduce their tax bill (Financial Times 2016).

These changes in policy and attitude by the US government appear to be making inversions more difficult and therefore less attractive. Up to date research is required to evaluate the impact of policy but cases such as the failed Pfizer / Allergan merger (Financial Times 2016) appear to demonstrate the key role that corporate tax planning can play in driving MNE actions. The proposed $160 billion Pfizer / Allergan merger failed when changes to US regulations meant that Pfizer would not be able to invert and

base its headquarters in Ireland following the takeover. The merger was not sufficiently attractive to go ahead without the promise of low Irish tax rates. Walgreen's announcement reversing their decision to move their global headquarters to Switzerland despite taking over Alliance Boots which is headquartered there is thought to have been triggered by rhetoric from the Obama government as well as US Republicans that inversions are unacceptable and legislation may follow (Financial Times 2014).

Academic research has also found a significant role for inversion in corporate strategy. Huizinga and Voget (2009) consider international M&As and find that the resulting pattern of subsidiary ownership is consistent with efficient tax planning by MNEs as the new parent company is more likely to be located in the country with the more favourable tax regime.

Desai and Hines (2002) examine inversions between 1982 and 2002 and conclude that the foreign subsidiary that became the parent typically faced low tax rates. Similarly, Seida and Wempe (2004) consider 12 corporate inversions and find that the ETR faced by the MNE reduced significantly after the inversion due to profit shifting, particularly via intra-company debt. Desai and Hines (2002) found that the number of inversions carried out each year was increasing although it is likely that this changed since their research was conducted given the toughening of the US policy stance on this issue.

2.2.10.2 Tax Havens

Tax avoidance can be facilitated by having group affiliates located in countries that are tax havens or OFCs. Tax havens are characterised by having very low or zero rates of corporation tax and high levels of secrecy that make them attractive to MNEs (Shaxson 2011; Zucman 2015). This secrecy compounds the difficulties inherent in tax research limiting the potential for research focussing on tax havens and their use by MNEs. Tax havens offer the MNE opportunities to engage in cross-country arbitrage, exploiting differences in tax and regulatory regimes, which offers them an advantage over domestic companies. UNCTAD (2013) states that investment via OFCs is accounting for a growing proportion of global FDI flows and that investments into OFCs are at historically high levels.

Defining which countries are tax havens is difficult. Jones and Temouri (2016) argue that the essence of a tax haven is a country that has zero, or close to zero rates of tax for companies that are 'non resident'. Hines and Rice (1994) split tax havens into 'dot tax havens', essentially small island economies and the 'Big 7' (Hong Kong, Ireland, Lebanon, Liberia, Panama, Singapore and Switzerland). These have low or zero taxation but also have significant economies and markets that may also be attractive to MNEs. There may also have been significant changes in many of these markets since 1994. Jones and Temouri (2016) use 'dot' tax havens for their empirical analysis as they are confident that investment in these countries is driven purely by their tax haven status given the small size of their markets.

The OECD prepared a report (OECD 1998) that argued that tax haven countries were harmful to OECD members as they diverted funds away from member countries. They subsequently (OECD 2000) published a list of the countries that they claimed were engaging in tax practices that were harmful to OECD members (Taylor, Richardson and Lanis 2015). Dyreng and Lindsey (2009) compile a list of 53 countries that they consider to be tax havens. A country fits their definition if it is included in 3 out of the 4 lists of tax havens published by the OECD, the IMF, the Tax Research Organisation and the US Stop Tax Havens Abuse Act. This substantial list of countries includes many countries that have large markets and therefore the decision to locate a subsidiary there may not always be for reasons of tax avoidance.

Eden and Kudrle (2005) distinguish between 'headquarters tax havens' where lower corporate taxes provide an advantage to firms that incorporate in that jurisdiction regardless of where the shareholders, the owner, of that firm are based. They cite Belgium and Singapore as key examples. The second type are 'sham tax havens' that are happy to host financial intermediaries – special purpose entities (SPEs) that may be no more than an address with the real economic activity and investment occurring elsewhere. They cite the Caribbean and Pacific tax havens within this category. Many sham havens are also secrecy havens where individuals or companies benefit from the extreme secrecy of the financial industry based there.

Tax havens are widely considered to play a significant role in tax planning by MNEs. Firms may register companies in tax havens to take advantage of them as a mechanism to reduce their overall corporate tax rate still further. Desai, Foley and Hines (2006) find that nearly 60 per cent of US firms with substantial foreign operations had at least one subsidiary in a tax haven country. Dyreng and Lindsey (2009) report that US MNEs with operations in at least one tax haven report an average worldwide tax rate that is 1.5 per cent lower than firms that do not use tax havens. Taylor, Richardson and Lanis (2015) consider any firm with a subsidiary in a tax haven to be tax avoiding. There may, however, be some legitimate economic purpose for some businesses to have subsidiaries in some tax havens. More significant use of tax havens however, would be likely to denote a firm that is avoiding tax.

Jones and Temouri (2016) investigate the drivers of tax haven usage and conclude that technology intensive manufacturing MNEs, and service industry MNEs, that is those with high levels of intangible assets are more likely to own subsidiaries in tax havens. They use a dummy variable simply defining whether the MNE has a tax haven subsidiary or not. They point out that a more specific measure of the extent of investment in the tax haven would be preferable but the secrecy surrounding tax havens makes data gathering for a more refined variable impossible. They also conclude that the home country statutory corporation tax rate has little impact on the decision to invest in a tax haven. They point out that despite the range of tax rates in OECD countries they are all significantly different from those offered in tax havens and so small changes in home country rates are unlikely to affect the decision to invest in tax havens.

Empirical work has found that tax liabilities of US MNEs with affiliates in tax havens are lower than those that do not have them (Harris, Morck, Slemrod and Yeung 1993), and that US MNEs with material operations in at least one tax haven have an average world-wide tax rate that is around 1.5 per cent lower than those without such an affiliate in their structure (Dyreng and Lindsey 2009). Dyreng and Lindsey (2009) calculate that this translates into a reduction of $68 billion in tax expense for their sample of 3,433 firms over the period studied (1995-2007). Other research has demonstrated the link between US investments in tax havens and profit shifting (Hines and Rice 1994; Grubert

and Slemrod 1998; and Desai, Foley and Hines 2006; Taylor Richardson and Lanis 2015)

Recent research by Zucman (2014) uses US balance of payments data and determines that 55 per cent of US foreign profits are made from six countries that he classifies as tax havens: the Netherlands, Bermuda, Luxembourg, Ireland, Singapore and Switzerland. He reports that foreign profits have increased to about one third of the total of US corporate profits. He calculates that as 55 per cent of this is recorded in tax havens, 18 per cent of all US corporate profits are now derived through tax havens.

It is clear from the research presented in this section that corporate tax rates and regimes can play a significant role in directing MNE location decisions. The extreme cases are inversions and tax havens but other host country decisions are clearly influenced by the tax systems and / or by the ability of MNEs to shift their profits between locations. The use of the smallest 'dot tax havens' in corporate structures can only be part of a tax planning regime. The cause and effect of larger countries with attractive markets as well as attractive tax regimes may be less clear-cut. The next section turns to transfer pricing and the key mechanisms through which MNEs are able to shift their profits between the selected locations.

Following these insights from the above work the following hypothesis is proposed:
Hypothesis 6: The establishment of at least one tax haven subsidiary is negatively related to LR ETR.
This hypothesis is empirically tested in the regression analysis presented in Chapter 5.

2.2.11 Losses

MNEs that have made losses in the past are able to use these to offset against future tax liabilities. This can significantly reduce an MNE's future tax payments after incurring a loss. There is however, little published research into this area of tax planning, possibly because losses are not thought to be something that MNEs can manipulate. Interview research for this thesis (see Chapter 4) shows that US MNEs consider carefully where to accumulate losses in order to maximise their potential for tax planning.

Loss making companies are often excluded from research on tax (Rego 2003; Markle and Shackelford 2009; Dharmapala and Riedel 2013). Whilst these authors state that they are excluding loss making companies they do not explain clearly their motivation for doing so. It would appear that their inclusion could distort regression results as these companies may behave differently to profit making companies. Hanlon and Heitzman (2010 p.129) point out that: *'we do not have a very good understanding of loss making firms, the utilization and value of tax-loss carry-forwards and how the existence of losses affects the behaviour …of any of the involved parties'*.

Research that has incorporated net operating losses (NOL) has not found them to be significant. Research has considered the role of losses in M&As but found little evidence that they are considered valuable (Hanlon and Heitzman 2010). Overesch and Schreiber (2009) consider the loss carry-forwards of these NOLs within their study of the impact of R&D intensity on profit shifting. They predict that companies with relevant loss carry-forwards would have less propensity to shift profits away from the host country. However, the loss carry-forwards in their investigation prove insignificant. Clearly, more research is needed to add to our understanding of the way that MNEs use NOL and the impact that this mechanism has on their tax planning and payments. This thesis therefore tests the role of losses in Chapter 5 (data analysis). The following hypothesis is proposed and tested:

Hypothesis 7: Registering losses for two or more years is negatively related to LR ETR.

2.2.12 Profit Repatriation (Dividend Payment) Versus Cash Holdings

The US tax system requires MNEs to pay tax on their overseas earnings only when they are repatriated to the US (with certain exceptions – see section in Introduction for details). Consequently, there is a benefit to the MNE of deferring repatriation and, therefore, tax payments, equivalent to an interest free loan from the US Government (Brajcich, Friesner and McPherson 2013b). Research demonstrates that US firms defer the repatriation of profits when local taxes are lower (Kopits 1972; Grubert and Mutti 1991; Grubert and Mutti 2001; Louie and Rousslang 2008). Azemar (2010) finds specifically that a 1 per cent increase in tax rate is associated with an increase of 2.5 per

cent in dividend payouts. As the differential between the host country and the US falls the incentive to delay repatriation also falls.

Hines and Rice (1994) find that Subpart F income has accumulated in low tax countries and Azemar (2010) confirms this finding, concluding that, despite the Subpart F rule, holding passive investments in low tax countries appears to be more profitable than repatriation. The costs of repatriating in terms of agency costs, international interest rates and the liquidity needs of the company will also impact the decision to repatriate (Desai et al 2006). When the tax cost of repatriating increases, firms reduce their repatriations (Altshuler and Newlon 1993; Grubert 1998; Desai et al 2006).

In their work on capital structure, Altshuler and Grubert (2002) find that the tax implications of the method chosen by an MNE subsidiary to repatriate profits have a direct influence on real investment. Subsidiaries that face high tax costs of repatriating profits will make greater investments in other group companies and send dividends to other foreign affiliates. They also pay off more local debt as a way of using their profits without repatriating them. Tax therefore has an impact on group cross ownerships and holdings as well as simply on intra-company debt.

Work looking at the supply chains of US MNEs (Dyreng et al 2015) to consider how tax and non-tax country characteristics affect location decisions and the use of foreign holding companies, also reveals that US MNEs with more profit shifting capacity are less likely to use foreign equity holding companies. These MNEs have less need to generate structures to repatriate dividends in a tax efficient manner as they have the capacity to shift profits within the existing structures. Clearly, dividend repatriation is a decision influenced by the tax implications of when and how funds are transferred to the home country.

The American Jobs Creation Act (AJCA) of 2004 reduced US corporation tax rates to a maximum of 5.25 per cent for dividend repatriations back to the US for a single year in order to encourage the repatriation of earnings from abroad. Whilst the AJCA did induce MNEs to return cash to the US the effect was short lived and firms then continued to re-

accumulate earnings abroad once the single year regulations had expired (Clemmons and Kinney 2008).

Graham, Hanlon and Shevlin (2011) consider the impact of the financial reporting requirements in relation to repatriation as well as the cash tax impact of paying taxes when repatriating profits. Companies are required to account for the tax payable on repatriation, reducing the reporting financial income for the year of repatriation. In effect there becomes a mismatch between the tax payable and the income that generated it. Income is booked when made but if the company defers repatriation and states that the earnings are PRE no tax needs to be provided for. If at a later date the firm decides to reverse its decision and repatriate the earnings, tax becomes due. This later repatriation of earnings will have implications for a company's ETR. By not repatriating, the MNE does not have to recognise the income tax expense at the same time as recognising the income, which therefore reduces GAAP ETR for that year. If the decision is reversed at a later date the GAAP ETR will be increased for that year. This may give companies some leverage to manipulate the ETR. Further research work specifically considering the movements in company PRE and its impact on tax payments is needed.

US MNEs continue to build large reserves of cash overseas, with anecdotal evidence indicating that they are now waiting for a new amnesty where they can repatriate dividends at a lower rate of tax. Zucman (2014) reports that 80 per cent of profits that were recorded in key tax havens were retained there with only 20 per cent being repatriated to the US. Companies such as Apple have been criticised for maintaining their reserves of cash overseas rather than returning it as dividends to shareholders or reinvesting it in the US. As of 2014, Apple reported that $70billion of earnings were reinvested overseas (PRE) rather than being returned to the US (Apple 2014). This has clear implications for policy makers as well as for shareholders.

Brajcich, Friesner and McPherson (2013a) adopt a macro approach to examine the issue of repatriations. They point out the benefit to MNEs of deferring tax payments, referring to this as the equivalent of an interest free loan from the US Government. They also find that geographic distance appears to play a significant role, with repatriation

significantly more likely from subsidiaries located in Latin and South America, and other nations in the western hemisphere. They conclude that these results are driven by the greater economic integration that exists between the USA and both Canada and Mexico, relative to other nations.

The evidence shows distinctly that US MNEs take advantage of the system of deferral. Profits generated or transferred to low tax jurisdictions are less likely to be repatriated directly to the US. The next section considers the advantages to the MNE of holding their earnings as cash rather than repatriating to the parent company.

Many US MNEs choose to hold large cash balances overseas rather than repatriate to the US and pay taxes on earnings (Foley, Hartzell, Titman and Twite 2007). Graham, Hanlon and Shevlin (2010) use data from a survey of tax executives and find that following the AJCA, more than 60 per cent of the funds that were repatriated came from cash holdings that had previously been held overseas. Similarly, Dharmapala, Foley and Forbes (2011) find that MNEs with larger cash holdings overseas were more likely to repatriate funds as a consequence of the AJCA. Graham et al's (2010) survey also reveals that MNEs are prepared to incur costs to prevent having to repatriate earnings at times when the AJCA is not in effect. Nearly 44 per cent of their respondents said that their companies had issued debt capital in the US in order to avoid paying corporation tax on the repatriation of earnings when funds were required in the US. 20 per cent also reported that they had invested their cash overseas despite these schemes having lower rates of return than they could have earned in the US.

Foley et al (2007) find that firms with higher repatriation taxes such as US MNEs hold higher levels of cash and hold this cash abroad. They estimate that a one standard deviation increase in the tax burden from repatriating foreign income is associated with a 7.9 per cent increase in the ratio of cash to net assets. They find that technology intensive firms are more sensitive than other types of firm to the tax costs on repatriation. This may reflect the ease with which they are able to profit shift (Desai et al. 2006).

Firms with greater access to capital, like large firms, need to hold less cash. Foley et al (2007) control for this by including the natural log of total assets as a proxy for firm size and a dividend dummy that equals one if a firm pays a dividend in a given year. They also acknowledge that firms with more foreign income may hold more cash as a consequence of a delay in transferring cash and that foreign businesses may be more volatile and therefore require precautionary cash holdings.

If US MNEs target a particular level of cash holdings and they hold large cash reserves overseas these may be considered as a substitute for cash held in the US. In this case the overall cash held by the firm may not increase with the cost of repatriation. Whilst repatriation taxes may incentivise US MNEs not to return earnings to the US they may not hold these earnings as cash. They may increase investment rather than cash.

The research discussed above indicates that levels of cash holdings may be an indication of tax avoidance. This is tested in Chapter 5 where the cash / asset ratio of a firm is included as a dependent variable, in addition to the key dependent variables of LR Cash and GAAP ETRs.

Within the empirical work in Chapter 5 cash is treated as an endogenous variable, that is, it is assumed that the level of cash that is held by the firm can change as a result of the tax planning position of the firm. Higher levels of cash holdings potentially indicate that tax avoidance mechanisms are being used. US MNEs choose to hold earnings offshore as cash rather than repatriating it to the home country where it would be subject to tax. The level of cash holdings (cash / asset ratio) are therefore shown within the model (Figure 4 Conceptual Model of ETR Determinants) to be a consequence of tax avoidance.

2.2.13 Profitability / Income

A series of aggregate level studies consider the link between profitability and corporation tax rates. Firms with higher profitability may have greater incentive to avoid high rates of tax as they have the potential to make greater absolute savings. Whilst it was often assumed that a company would need to generate higher pre-tax profits in higher tax countries to make those operations worthwhile, research has

shown that affiliates based in low tax countries tend to record higher pre-tax as well as post-tax profits (Grubert and Mutti 1991, Hines and Rice 1994; Huizinga and Laeven 2008). Rego (2003) finds that firms with higher pre-tax income have lower ETRs suggesting that they avoid more tax than similar firms with relatively lower income. What is not clear is whether high profits stimulate tax avoidance or whether a strategy of tax avoidance increases profits at least in low tax locations.

Hines and Rice (1994) and Huizinga and Laeven (2008) examine profit shifting behaviour. They find a negative relationship between the corporation tax rate and the firm's reported pre-tax profitability. Huizinga and Laeven (2008) explicitly include the differences between tax rates amongst affiliates in different countries as well as between parent and subsidiary. They conclude that an MNE's profit shifting depends on a weighted average of the corporation tax rate differences between all countries with affiliates.

In their study of European countries and MNEs Barrios et al (2012) find that the decisions about location where subsidiaries are highly profitable are less responsive to host or home country taxation. They hypothesise that this may reflect the location or owner specific rents, meaning that the subsidiary would not be able to make these profits in a different location or with a different parent company.

Grubert and Mutti (1991), Hines and Rice (1994) and Louie and Rousslang (2008) all find that there is a negative relationship between foreign corporation tax rates and the profitability of US affiliates. In effect this means that US MNEs report more of their income in lower tax jurisdictions. Azemar (2010) finds that a 1 per cent higher tax rate reduces income and profits reported in that country by 1 per cent.

Evidence from the interviews undertaken for this thesis (See Chapter 4) indicates that firms in difficulty may also have a strong incentive to avoid tax. Paying the corporation tax bill may have a serious negative effect on cash flow for firms that are in financial difficulty. There may therefore be a significant motivation to avoid tax for the least profitable firms. More research is needed to confirm this motivation.

In the empirical testing in Chapter 5 profitability is included as a variable that will have an impact on the LR ETRs of the firm. The model is not, however, attempting to determine the causes of profitability which are incredibly complex.

2.3 Conclusions and Areas for Future Research

This chapter has set out the theoretical and empirical research work related to corporation tax, tax planning and tax avoidance. The section on theoretical work relies heavily on extant work on TP. This reflects the paucity of work on wider issues related to tax avoidance. The empirical review covers a broader range of topics but research work suffers from the difficulties created by issues of confidentiality and consequent lack of data encountered by researchers in this field. Whilst reviewing the literature a number of areas where research work is urgently needed have been identified. This section draws these areas together, setting out a future research agenda. The empirical work contained in this thesis then contributes towards filling these gaps.

Research work to understand the nature and scope of tax avoidance uses a variety of methodologies due to the severe limitations on data. The changing nature of global business and international trade are increasing the opportunities for MNEs to act strategically to reduce their tax bill. Researchers have shown at the aggregate level that the rate of corporation tax charged in a particular location has an impact on the behaviour of MNEs in that place and through the rest of the group of companies.

It is clear that MNEs have considerable scope to avoid tax through profit shifting and other mechanisms (including delayed repatriation, use of NOLs). This review sets out the findings from a significant body of research that identifies areas where MNEs avoid tax and the mechanisms that they have used to do so. Most research focuses on a single tax avoidance mechanism which, whilst useful, does not contribute to a more general understanding of the means by which MNEs plan their tax affairs and of how the mechanisms interact. The existing body of evidence cannot indicate how MNEs vary in their tax planning approaches and which will adopt more aggressive tax avoidance measures and which will not. As Hanlon and Heitzman (2010 p.145) conclude: *'Overall the field cannot explain the variation in tax avoidance very well…tax avoidance may be*

highly idiosyncratic and determined by a number of factors and interactions, not all of which can be measured.'

Work examining the use of specific mechanisms tends to look at one particular aspect of profit shifting and aims to generate an understanding of the impact that a particular method has on the overall group profit. Companies, however, may use more than one method of profit shifting to reduce their global tax bill. How these methods interact with each other and the resulting complexity is difficult to ascertain through statistical analysis alone.

This review has also identified areas where more research is needed. This includes research into:

- Understanding what drives the level of tax planning and avoidance within individual MNEs;
- Understanding the full range of factors that drive location decisions and the way that tax rates interact with these;
- The role of IP assets within international groups and what factors determine where they are held and which affiliates are involved in their development;
- The use of NOLs and how these are carried forward and their role within strategic tax planning; and
- Understanding the role of individuals including the CEO, COO and board of directors.

Theoretical research on tax has focused on TP at the expense of a broader view of corporation tax and how it drives company behaviour. Work framed within the neoclassical school expects rational, optimising behaviour such that any firm faced with a set of options would make the same selection. Some writers (Spicer 1988), point out that taking an approach that emphasises the behavioural aspects of organisation may improve understanding of the actual actions of the MNE. Companies do not behave in a homogenous fashion in relation to tax. IB theory has highlighted the importance of the interaction between governments, MNE headquarters and MNE subsidiaries (Rugman et al. 2011). The expansion of theory to cover the role of tax and the interaction between these different levels would improve our understanding of why different

companies in similar circumstances behave differently. Little is known about the process of decision making in relation to tax avoidance – at what levels within the firm and who makes the key decisions? The development of theory is vital but this theory must be empirically testable.

This thesis uses mixed methods to generate new understanding about what drives the adoption of corporate tax strategies. The following chapter sets out the methodologies and approaches used for the research reported in the subsequent chapters..

3 Research Questions and Methodology

The literature reviews reported in Chapter 2 led to the identification of significant gaps in knowledge about the behaviour of MNEs in relation to their corporate tax planning strategies and behaviour. The empirical research discussed uses a range of methodologies to try to assess the extent of corporate tax avoidance and to consider the use of specific methodologies. Theses studies fail to present a holistic view of the MNE; how its tax strategy is determined and implemented. Klassen and LaPlante (2012) for example, acknowledge the limitations of their statistical research through the supplementary anecdotal evidence supplied.

This chapter presents the design of the research for this thesis and how it allows this research to contribute to the important discussion of tax planning and implementation. The following section discusses the development of the research questions addressed by this thesis followed by an explanation of the research methods selected. The development of the research questions was an iterative process with each piece of research conducted affecting the subsequent piece. An overview is given in this chapter and the detailed impact of each piece of research on the subsequent research questions is given in the following chapters.

This chapter considers the research methodologies that are have been utilised to achieve the research objectives. Quantitative and qualitative research methods are used to achieve an overall understanding of the research questions. The research conducted consists of interviews with tax executives, data analysis and a series of in-depth case studies. This chapter presents the reasons for the adoption of these research methods and why they were identified as those that would best contribute new knowledge. Research method selection was driven by an understanding of 'best fit', with methods selected following consideration of the contribution that they would make to the collection and analysis of new data in this area. The rest of this chapter includes theoretical discussions of the research methods employed.

3.1 Research Questions

The literature reviews reported in Chapter 2 conclude that theory in relation to corporate tax avoidance has evolved sporadically. This has resulted in the existing

situation where there is no unifying theory of what drives the MNE to avoid tax. Theory fails to address the implications of tax planning for the firm's wider operational strategy. Internalization theory highlights the advantage of tax planning to the MNE over domestic companies but early work considering the motives of MNEs for tax planning was subsequently neglected. Detailed theoretical economic models of TP have been developed historically but there has been little testing of these models and the understanding of the reality of how MNEs operate and set TP is limited. It is important that the foundations created by early work are used to create empirically testable theoretical models.

The review of the empirical literature given in Section 2.2 demonstrates that there is a significant body of research focusing on the nature and scope of tax avoidance. The issue of tax avoidance is clearly growing in importance for MNEs and governments as the opportunities for MNEs to shift profits increase. Researchers have shown the importance of location for MNEs and the scope they have to avoid tax through profit shifting and other mechanisms (for example, delayed repatriation, use of Net Operating Losses). The existing body of evidence does not examine which MNEs will adopt more aggressive tax avoidance measures and which will not. This generates the overarching central research question for this thesis:
What drives the adoption of tax avoidance strategies by US MNEs?

Greater theoretical insight is needed in order to answer these questions as well as an empirical understanding of how decisions are made within US MNEs. The following sections set out the research methods used and how they generate new understanding that contributes to the understanding of this question.

3.1.1 Research Methods

The overall methodological approach was developed in order to investigate the overarching research question and hypotheses. The research methods adopted must focus on generating new knowledge that adds to understanding of what drives US MNEs to adopt the tax avoidance strategies that they select. The particular research methods used must also address the lack of theory as well as the complications arising from issues of confidentiality when researching this area. There are significant gaps in the

existing literature as identified in Chapter 2. Extant research fails to takes a holistic view of the company, instead focusing on macro data to evaluate the scale of the tax avoidance problem or considering individual tax avoidance mechanisms in isolation.

Using the three separate research methods outlined below allows for the important triangulation of findings (Denzin and Lincoln, 2000). The separate pieces of research were conducted chronologically rather than simultaneously, enabling the findings from each piece of research to influence the specific questions addressed in subsequent pieces of research. This is particularly true of the first piece of research, the interviews with tax executives, where significant new knowledge, was generated which consequently shaped the subsequent research. When combined, the three research methods present a holistic view of the companies considered.

3.2 Interviews

This section discusses the role of interviews within IB research and the contribution that they can make. Following consideration of the potential contribution that interviews could make, a series of interviews with tax executives based in the UK was conducted for this research. The details of the research methods are given below. The findings are reported and discussed in Chapter 4.

The literature review chapter (Chapter 2) has demonstrated the gaps in research in this area. The lack of publicly available information on tax planning may contribute to the dearth of research in this area. As tax returns are not made publicly available researchers examining this issue are forced to look at proxies for tax payments largely built on the information contained within the annual report. A more comprehensive understanding of the behaviour of the MNE requires penetration of the 'black box', that is, the management of the MNE. Existing research based solely on quantifiable financial factors ignores the impact of management decision and choice.

Research in this area is hampered by the confidential nature of the subject. Tax is an increasingly sensitive issue with MNEs' tax payments and approach under intense scrutiny. This reduces the ability of the researcher to gain access to companies and to understand the relevant decisions made within the 'black box'.

Using qualitative research is a useful approach for the IB researcher potentially providing new and holistic insights to enhance our understanding of a phenomenon. There have been recent calls (Birkinshaw, Brannen and Tung 2011; Doz 2011) for greater emphasis on qualitative research methodologies, yet the number of articles published in the key IB journals based on qualitative methods remains low. Data collected via interviews with key players in tax departments has the potential to provide significant new insights into MNE decision-making and behaviour.

The field of IB remains dominated by quantitative research where the quality of the data collected and the conclusions drawn may be more easily evaluated. The inherent difficulties in conducting qualitative research in a field where the subject of interest, the MNE, is surrounded by issues of confidentiality may make qualitative research harder to undertake. The important contribution that qualitative research can make has often been overlooked in IB. Birkinshaw et al (2011) argue that: '*IB research has gravitated over the years toward the use of discipline based theories and quantitative, positivist methodologies, with a corresponding decline in cross disciplinary perspectives and qualitative methodologies.'* Qualitative research can make a key contribution towards the development of theory (Eisenhardt 1989; Yin 1989, 1994; Doz 2011). It is valuable in generating a deeper understanding of what happens within organisations and how that can change over time. Doz (2011) claims that:
'Only rich, thick descriptions can provide the basis for the use and possible synthesis of multiple theories into new conceptual development' (Doz 2011. p.584). It is only by gaining a rich deep understanding of phenomena and the driving forces behind them that theories can be advanced and improved. Doz (2011) also points out the benefit that qualitative research can have in terms of identifying important, previously neglected phenomena. The lack of coherent theory in relation to corporate tax planning indicates that detailed qualitative research has a significant contribution to make in this area.

Doz (2011) goes on to argue that more qualitative research is urgently needed within IB to help to extend existing theories. He argues that: *'We know less about how multinationals actually operate today…than…in the 1970s'.* Birkinshaw et al (2011) also argue that the *'thick description'* that can be generated by qualitative methods is

imperative for theory building and generating hypotheses in IB. They suggest that the dynamic nature of IB is one of the factors that makes qualitative research vital in this field. The rapid emergence of changes within the technological, political or economic landscape within which MNEs operate make the phenomena studied by IB researchers particularly dynamic. Tax is a clear example of a rapidly changing phenomenon with the profit shifting opportunities presented to MNEs expanding with the growth in complex global value chains and the rise in the digital delivery of goods and services. This, therefore, supports the view that the in depth findings generated by interview research will make a significant contribution to improving understanding of this area.

Cheng (2007) points out the important role which qualitative research can have in investigating the contextual differences. In IB these may be cultural, pertaining to the differences between countries and within MNEs. The MNE operates across borders and qualitative research can play an important role in understanding how the difference in context impacts on the management and strategy of an MNE and its subsidiaries. Context may play an important role in understanding the differences between MNEs' positions in relation to tax planning.

A need for qualitative research has therefore been identified. This thesis attempts to address the issue of the lack of extant qualitative research in this area by conducting a series of interviews with key tax executives. It was envisaged at the research planning stage that it would be difficult to gain access to senior tax executives in large numbers. Section 3.2.2 below details the methods used to elicit interviews. The lack of qualitative research published to date confirms the difficulties. Interviews have been conducted with officials working within the HMRC in the UK (Tuck 2013) but in that particular study, access is gained through the engagement of a single organisation, HMRC, in the research. Interviewing individuals from MNEs and their advisors involves greater access difficulty, making pragmatic expectations about the number of interviews necessary.

At the outset, one of the key aims of the overall thesis was to generate a greater understanding of how MNEs avoid taxes and the mechanisms used. The research also aimed to focus on the relationship between the headquarters of the US MNE and the

subsidiary operations in the UK. The interview research however, allowed for a more inductive, exploratory approach. The detailed insights gained from the interviews generated new theoretical contributions that are discussed in Chapter 4. It also meant that the research questions employed in the subsequent data analysis and the case studies were refined. This is also reported in Chapter 4.

As discussed in Chapter 2 in the literature review, most existing research on tax is concerned with understanding the mechanisms of tax avoidance or evaluating the scale of profit shifting. This research makes a useful contribution by adding to the small number of studies that consider the role of management within corporate strategy in tax planning.

The interview research was planned to generate new insights into the core research question of this thesis: What drives the adoption of tax avoidance strategies by US MNEs? Specifically the interviews were planned to provide evidence for the first question, *'To what extent do MNEs have the ability to adopt the strategies that intentionally enable them to avoid tax?'* Discussions in the interviews focused on the extent to which MNEs are able to plan tax affairs strategically and to explore the different approaches adopted by the organisations that interviewees have experience of. The interviews were also planned to provide evidence enhance the understanding of the factors that influence MNEs to make the decision to avoid tax and the manner in which they plan their tax affairs as well as considering how this differs between companies. The research also aimed to generate new insights that would improve theoretical understanding of the issues in this area.

Chapter 4 concludes on the findings from the interviews The interviews also provided interesting information on the use of ETR within companies .

3.2.1 Ethical Approval

Ethical approval was obtained from the Ethics Committee of the Henley Business School, International Business and Strategy, the University of Reading, for the question outline and the ability to approach potential interviewees. Interviewees were guaranteed confidentiality and were requested to sign a Consent Form (See Appendix

1 Consent Form). Whilst the purpose of this form is to protect the interviewee, several did not want to sign it, citing a preference to keep the relationship informal and, in their view, more confidential. This reluctance emphasised the extremely confidential nature of the discussions.

3.2.2 Identifying Interviewees

Participants were identified through two routes. In the first, large US companies with operations in the UK were identified. The name of the company's Finance Director was obtained from the annual report and they were then approached in writing. The target sample included a broad range of industries. The same sample was subsequently used for the quantitative research reported in Chapter 5. As expected, the acceptance rate was very low (4/100). Two further companies replied to explain that tax was not a subject that they were able to discuss outside the company. Follow up calls and e-mails did not elicit any further interviews.

Selection bias may have meant that those responding positively to this letter had a positive 'tax story' to tell. In order to address this a second approach was developed concurrently using personal contacts. A rigorous approach was used to ensure that the interviewees identified using this method were similar in terms of seniority as those responding to the letter. None of the interviewees were personally known to the interviewer. Whilst a more unusual approach for academic research, the advantage was that those identified in this manner were more likely to represent a range of opinions and experiences as they had not self-selected. Whilst the sample size is small there is a lack of disagreement between interviewees, and the level of repetition between them seemed to suggest that saturation had been achieved (Suddaby 2006). Further details of the interviewees and their organisations are given below in Table 4 on p.130.

3.2.3 Interview Methodology

The interviews were conducted using a semi-structured framework with a flexible schedule of questions that was piloted before being used in the recorded interviews. The question schedule was submitted to and approved by the Ethics Committee. The focus of interviews differed depending on whether the interviewee was working in an accountancy firm or in industry although many of the interviewees had experience of

both. The interview framework is presented in Appendix 2 Interview Question Schedule.

Where possible the interviews were recorded and transcribed. This was not possible in two instances where the interviewees objected to a recording being made. In these cases detailed notes were taken during the interview and supplemented with additional notes directly afterwards. All of the interviews (except one which was conducted by phone) were conducted face to face and lasted for around one hour. The interviewees were guaranteed confidentiality in that whilst their views can be shared their names and organisations cannot.

The interviewees clearly felt comfortable with the process and the confidentiality that was guaranteed. This was reflected in the substantial details about explicit tax avoidance schemes that they had been involved in as well as in specific legal cases that they revealed. These disclosures demonstrate the interviewees' acceptance of the confidentiality of the interview. The interviewer's similar experience working as a Big 4 auditor may have helped to reduce the interviewees' disquiet.

The interviews were analysed using Nvivo specialist software, enabling specific themes to be identified and used to code the interview transcripts. An initial coding frame was developed from the literature review but this was adapted iteratively during the coding process. The coding frame consists of 6 key groups with second order categories within three of these. Using such a framework allows for the structured and systematic analysis of findings. The coding framework is shown below in Figure 2. Coding, and the use of Nvivo, facilitates the systematic and comprehensive analysis of the data collected (Bringer, Johnston and Brackenridge 2004).

The transcripts were re-read and the recordings listened to a number of times. When new codes were identified from the data previous transcripts were revisited so that these codes could be used. Key patterns and insights were then identified and written up as findings in Chapter 4.

Figure 2 NVIVO Coding Scheme

Professional background of interviewee

Views on media / public perceptions

Views on OECD / government policy

Experience of tax avoidance

a. Deferral of repatriation
b. Drawbacks of avoidance
c. Ethical implications
d. Types of tax avoidance scheme
e. Experience dealing with HMRC (the United Kingdom)/ IRS (the United States)
f. Thoughts about whether avoidance increasing / decreasing currently
g. Thoughts on commonly cited avoiders
h. Other taxes
i. UK tax system

Motivation for avoidance

j. Company strategy
k. Implications for stakeholders
l. Tax planning direction setting in the company:
    i. Company culture
    ii. Who sets tone?
    iii. What drives aggressiveness?
    iv. Understanding balance risk / reward
m. Relations between HQ and subsidiaries
n. Cash management
o. Personal motivations

Ability

p. Corporate structure
    i. Location HQ / subsidiaries
    ii. Inversions
    iii. Use of tax havens
    iv. Size / structure of tax team
    v. Tax team targets / objectives
q. Factors that enable a company to avoid tax
    i. Capital allowances
    ii. IP
    iii. Losses
    iv. Use of internal debt
    v. R&D tax credits
    vi. Related party transactions
    vii. Transfer pricing
r. Use of external advisors

3.2.4 Interview Technique

Interviews were conducted with tax executives with the aim of eliciting information about decisions and the decision-making processes within the MNE. Janesick (1998) defines an interview as: '*a meeting of two persons to exchange information and ideas through questions and responses, resulting in communication and joint construction of meaning about a particular topic*' (Janesick 1998 p.30). An open-ended interview is as Hubbell (2003) notes: *'an exchange of information and a joint construction of meaning.'* An interview has a structure, unlike a conversation, but *'allows for the surfacing of more serendipitous and potentially interesting information than a questionnaire'* (Hubbell 2003).

Whilst a structure is a useful guide for the interviewer Hubbell also notes that: *'with an engaged and trusting interviewee, the interviewer does not know where the interviewee will lead her'*. Hubbell points out that an interviewer who rigidly sticks to a pre prepared script is likely to miss interesting and potentially important information. An interview of this type differs from the 'positivist' perspective, being potentially less systematic but may gain from initiating an openness with the interviewee that enhances the insights disclosed. Interviews can elicit information that gives the interviewer a closer understanding of the micro processes at play within an organisation.

Conducting interviews in relation to tax planning is inherently difficult. The nature of tax planning exacerbates the typical issues of confidentiality when conducting interviews. Interviewees could be expected to be reticent about their experiences particularly in morally or legally grey areas. Once the difficulties in identifying candidates and gaining their commitment to the process had been overcome the interviewees identified then appeared to speak frankly and honestly (Morrell and Tuck 2014).

The detailed findings from the interviews and the conclusions drawn from the analysis are provided in Chapter 4.

3.3 Quantitative Analysis

The section above describes the necessity for qualitative research in this area and the knowledge that it can elicit. Issues with confidentiality and access limit the number of interviews that can be conducted and how generalizable the findings can be. The issue of generalizability also holds for case study research in this field. Case studies can usefully provide detailed information about specific organisations but the detail highlights the differences between companies as well as any similarities.

Quantitative analysis of a larger sample generates data that can be relied on, and on which generalisations to the wider population can be based.

Chapter 5 reports on the statistical analysis of a hand collected database of 94 US MNEs. The size of the database was carefully considered to ensure that the findings could be effectively analysed using statistical techniques but this was balanced against the necessity to generate data that could be interpreted with reference to the individual companies. This therefore enables the data analysis to contribute to establishing a holistic view of the focal companies. The statistical analysis is complemented with outlier analysis and case studies. Chapter 6 presents further detailed analysis of six selected case study companies.

Significant new findings are generated using multiple regression techniques. Multiple regression analysis is used to explain how a series of independent variables (IVs) affect a single dependent variable (DV). The hypotheses that are developed from the literature in Chapter 2 are tested using a series of DVs, cash ratio, GAAP ETR and Cash ETR to generate an understanding of the behaviour of companies. Each DV is examined in turn with the previous DV becoming an explanatory variable (IV) in the next regression. The conceptual model set out in Chapter 5 is recursive, with causation flowing in one direction. It is used to test the hypotheses that have been developed in Chapter 2. The recursive model provides a heuristic device for broadening the scope of simple regression approaches that normally focus on a single DV and a set of explanatory variables. Multiple regression is used to establish if an IV has a statistically significant effect on the DV and to evaluate the correlation between the single DV and

the IVs. Multiple regression can also indicate the hierarchy of importance of each of the IVs in terms of its impact on the single DV.

Quantitative analysis in this area is challenging because of the dearth of information and data freely available. Companies are strongly incentivised (by the reduced taxes that they pay) to reveal as little as they can about the way that they structure internal transactions and their corporation tax payments. Much research therefore relies on the disclosures made in firms' annual reports (10K). The majority of previous empirical studies have focused on US MNEs using data collected by the US Bureau of Economic Analysis. This section explains the resulting approach adopted in this research and provides a comparison with approaches adopted in previous academic studies.

As discussed above, the lack of published data prevents the direct assessment of tax avoidance undertaken. The findings presented in Chapter 5 demonstrate however, that it is possible to generate new data that contributes to the understanding of this phenomenon using information published in audited annual reports.

The hypotheses are tested using a new dataset of 94 US MNEs operating in the UK. Data was compiled using the OSIRIS database supplemented by additional information hand picked data from annual reports (Form 10K in the US). The theoretical model developed, the development of variables and their measures and the testing of the model are presented in Chapter 5.

3.4 Case Studies

There has been significant debate about the role of case studies within IB research (Piekkari and Welch 2011). Debate focuses on the underlying purpose of the case study in terms of what can be learnt and how robust or generalizable are the findings. Researchers have disagreed on whether case studies are a 'research strategy' (Yin 2003) or simply a 'research design' (Rosenberg and Yates 2007). Most case study research in IB is based on a positivist approach using the guidelines set out by Yin (1989) or Eisenhardt (1989).

Despite different views on the purpose of the case study, research using case studies needs clear theoretical underpinning. The researcher must be recognise the purpose of the case studies in the research plan and what reliance can be placed on any findings generated. Rosenberg and Yates (2007) argue that the methods used in case study research are generally pragmatically rather than paradigmatically driven (Rosenberg and Yates 2007). However, as Yin (1994) argues, the researcher must ensure that the methods selected within the case study research are appropriate to their governing paradigm to guarantee rigour and reliable results (Yin 1994).

Case studies are a particularly useful method of research for increasing the understanding of a phenomenon (Stake 1995; Ghauri and Grønhaug 2002). The range of methods and sources of information that can be obtained and used within the case study makes this form of research very flexible. Information can be obtained from formal analysis of company documentation or through interviews with relevant company employees or directors. Published, audited annual reports contain information on the financial performance of the firm but also include a discussion on the firm's performance and risks facing the firm. The supplementary disclosure notes provide a degree of detail that enables the researcher to gain insight into the strategic planning of the business (Piekkari et al 2009). Case studies can be used to research a variety of different types of research questions from the perspective of variety of different epistemological positions, from the positivist to the phenomenological. The in depth approach offered by the case study enables a detailed, holistic view of the focal company to be developed.

Yin (1989, p. 23) defines a case study as: '*an empirical inquiry that investigates a contemporary phenomenon within its real-life context when the boundaries between phenomenon and context are not clearly evident and in which multiple sources of evidence are used'*. Piekkari et al (2009) define the case study as*: 'a research strategy that examines, through the use of a variety of data sources, a phenomenon in its naturalistic context, with the purpose of 'confronting' theory with the empirical world'.* Both definitions highlight the contextual nature of the case study. Yin (1989) is less specific about the purpose of the case study, but for Piekkari et al (2009) the case study offers insight on the interaction between theory and the real world.

Gaining the deep understanding that case study research can potentially offer will usually involve the use of multiple resources across a number of time periods (Gupta and Webster, 2005). Cases are selected from a target population which must be well defined. Gathering information from multiple sources means that the internal validity of the information can be established. Where there are anomalies between different sources of information this can be investigated further.

Piekkari and Welch (2011) point out that the value that case studies offer in terms of generating deep insight into a phenomenon can be lost when the research methodology is driven by a positivist desire to provide quantifiable findings in order to generate conclusions that can be generalized to a larger population. They argue that the insight that comes from depth is sacrificed when much research design over emphasizes the importance of breadth.

Bryman (2007) argues that it is important that the value of case study research is judged in terms of the quality of the theoretical inferences that are produced. Bryman (2007) agrees with Yin that purpose of this type of research is not to generate findings that can be inferred from a sample to a population, but to gain an understanding of patterns and linkages that could be of theoretical importance.

The appropriate methodology to be employed, however, will depend on the purpose of the case itself. If it is generating new information that could be used for the generation of theory the methodology will be different from case studies that are testing extant theoretical assumptions. Writers on research methods have stressed the different ways in which case studies can be used. For Eisenhardt (1989) the key purpose of the case study is in generating and testing new theory, particularly where *'existing theory seems inadequate.'* She also emphasizes the importance of case studies in enabling the dynamic of the situation to be studied (Eisenhardt 1989). For Eisenhardt (1989) replication is key with multiple case studies preferred over the single in depth case. Stake (1995) however, contends that a single case study can generate valuable information when it provides new rich detailed description. Yin (1989) discusses three roles for case studies: the exploratory, the descriptive and explanatory cases. Yin also

argues (1994) that case studies are a particularly important research method to generate information in response to 'how' or 'why' questions (Ghauri and Grønhaug 2002). Piekkari and Welch (2011) argue that researchers using case studies simply to generate generalizable findings have a narrow view of the case study. They cite Byrne's (2009) view that the case study can help move research beyond the narrow dichotomies of '*quantitative / qualitative – explanation /interpretation'* (Byrne 2009).

Rather than aiming to provide statistical representativeness, case study research enables a detailed, in depth view of the phenomenon being studied to be established. It is this in depth character of case studies that is the primary purpose of the case studies presented here. Using case studies has enabled a detailed, holistic picture of the focal companies to emerge. Case studies also enable the researcher to consider contextual information and how phenomena have changed over time.

The case studies presented here do not attempt to evaluate the importance of profit shifting mechanisms for the sample of companies studied in Chapter 5, or for the population as a whole, rather they aim to provide an overview of how these specific companies operate. They provide detailed, in depth information that should prompt quantitative researchers focusing on tax to consider the complexity of each measure. When quantitative researchers focus on a single measure, whether that be LR ETR or a more complex construction, they must ensure that they are aware of what that measure captures and what is omitted. Taking a case study approach allows consideration of the way that the different methods are used to reduce the tax burden and how they interact with each other.

Longitudinal case study research can generate an understanding of complex relationships between organizations or between characteristics of an organization and how these change and evolve over time (Leonard-Barton 1990; Halinen & Törnroon, 2005). The case studies presented in Chapter 6 focus on a ten year period and examine how the companies' positions on tax evolved during that time.

The case studies generate an in depth understanding of the tax planning of a number of companies over the ten year period. The case studies are based largely on an analysis of the content of company annual reports, known as content analysis methodology (Wright 2011). Quantitative research tends to focus on the comparison of large-scale data on a panel or longitudinal basis. Figures may be extracted from the annual report for use in these databases but there is little research that uses the depth of information that is provided. Whilst there are severe limitations to the disclosures made by companies in annual reports there is scope for far more research to utilise the information that is made public in this way.

The research presented here uses case studies to investigate the extent to which and the ways in which MNEs shift profits between subsidiaries. The case studies presented are empirical inquiries, conducted to study the phenomenon of profit shifting. The focus is on 'how' MNEs shift profits as well as the 'what' and 'why' of profit shifting. The research also focuses the attention on the detailed elements of annual reports and the information that they contain. Certain of the case studies (Ford and Goodyear Tires) highlight in particular the role of deferred tax and suggest that future researchers incorporate a greater understanding of how this impacts on their selected measures of tax avoidance.

The case studies are not designed to generate comparisons between the cases themselves but to supplement the findings from the interviews and the quantitative analysis presented in earlier chapters. They are intended to work together to form a collective piece of evidence. Each provides an analysis of the company in question – its history and the context in which it operates. It then discusses in detail the key features of any tax avoidance mechanisms used by the company. The Nucor case study presents a company that does not appear to be aggressively avoiding corporation tax. This provides a comparison with the other case studies that analyse the mechanisms used by the focal company to reduce the corporate tax bill.

The case studies aim to provide new additional insights that may act as a form of evidence allowing hypotheses to be tested and conclusions drawn. This is a new approach to tax research providing detailed information about the tax planning

approaches of these companies and exploring mechanisms neglected by previous research. Focusing on these neglected elements of previous research, notably the impact of deferred tax and corresponding valuation allowances on LR ETRs, provides substantial new insight that must be reflected in future analytical techniques.

Each case study is based on a mixture of primary and secondary evidence. Similar primary evidence (largely information drawn from the annual reports of the parent firms and the subsidiaries in the UK and Ireland as well as other public sources of information, such as the UK Public Accounts Committee and the European Commission, etc) is used to provide tables and information that may be compared across case studies. Secondary sources include information from House of Commons and Congressional Select Committee investigations and investigative journalism. Information from these sources is triangulated with the data from the audited annual reports. Information from secondary sources that is included, however, is inconsistently available and therefore cannot be compared across the case studies.

In this study the population is the subsidiaries of US MNE operating in the UK. The case study companies are taken from the sample generated for the quantitative analysis reported in the previous chapter. Companies were taken from the US Fortune 500, excluding those that are not multinational as well as those operating in the banking and finance sector and those in the utility sector.

The companies were selected from the overall sample as those where detailed attention could generate significant insight. Two of the companies (Goodyear Tires and Ford Motor Company) were excluded from the statistical analysis reported in Chapter 5 as their extensive use of deferred tax assets and valuation allowances would have distorted the evidence generated there (See Chapter 5 for a detailed discussion). Starbucks, Amazon and Google have been widely cited as ‘tax avoiding’ companies. Starbucks operates a traditional ‘bricks and mortar’ business and the case study focuses on their UK tax payments and how these are affected by their internal company transfers. Amazon and Google are at the forefront of digital delivery. Using these companies as case studies generates new insight into the way that tax affairs are planned by such companies that may be transferable to other digital companies. They

highlight real policy issues facing governments when dealing with this industry. A final case study considers Nucor a company that appears to adopt less aggressive tax planning techniques. This case study enables comparison between the different types of companies. Nucor was selected from the larger sample as the two measures of ETR (cash and GAAP) appeared to be similar to each other and close to the statutory rate. Nucor's annual reports were then analysed to examine whether any evidence of tax avoidance could be found.

Focusing on these companies enables a comprehensive picture of the tax avoidance practices in place to be generated. The companies place different emphases on the use of dissimilar tax planning approaches. Concentrating here therefore generates extensive new information.

Chapter 6 details the case studies themselves, presented in alphabetical order. They are followed by a section that draws together the findings from the case studies and concludes.

3.5 Conclusion

This chapter has presented the three research methods used in combination to research the question:

What drives the adoption of tax avoidance strategies by US MNEs?

The three methods provide complementary insights. Interview research provides for the detailed probing into phenomena that can assist with the generation of new theoretical insights, useful as the foundation for building new models. Data analysis at the aggregate level allows for the comparison across a set of companies. Using regression techniques generates new information about the impact of a range of IVs on the DVs across the model. Case studies are used for analysis of complex phenomena, creating understanding of the intricate way that the firm's history, strategy and success combine in its tax planning.

Chapter 4 reports on the detailed findings from the interviews. The empirical tests of hypotheses developed in Chapter 2 are empirically tested using statistical analysis and are reported in Chapter 5.

4 Interviews with Tax Executives

4.1 Introduction

This chapter presents the key findings from eleven semi-structured interviews conducted in 2015 with senior tax executives. Five interviewees were interviewed in their role working for a US MNE operating in the UK. Six were interviewed more broadly to explore their extensive knowledge of tax operations in the UK. The research methodology used to identify interviewees, conduct the interviews and record findings is explained in Chapter 3.

Qualitative research can make an important contribution to improving understanding within the field of IB (Doz 2011; Birkinshaw, Brannen and Tung 2011). The interviews conducted for this research aimed to generate new understanding of processes and motivations from within the MNE, opening the 'black box'. Gaining access for qualitative research can prove difficult, particularly when there are issues of confidentiality, as with corporation tax. This may have contributed to the existing lack of qualitative work in this area. This research starts to fill the gap in understanding of the internal processes of the MNE in relation to tax planning in a way that quantitative research could not.

As discussed in section 2.2, the Empirical Literature Review, most existing research on tax is concerned with understanding the mechanisms of tax avoidance or evaluating the scale of profit shifting. The research presented here makes a useful contribution by adding to the small number of studies that consider the impact of the individual on corporate strategy. Dyreng Hanlon and Maydew (2010) track the movements of individual CEOs and CFOs and conclude that these individuals have a significant impact on the level of tax avoidance undertaken by firms. They find an 11 per cent difference in GAAP ETR between the top and bottom quartiles of executives. Similarly, the discussion of the impact of reputation on corporate tax behaviour contributes by adding to a new area of research. Dyreng, Hoopes and Wilde (2016) demonstrate the importance of public pressure on corporate tax behaviour. They show that companies affected by increased scrutiny from activist groups are likely to change their behaviour.

This appears to be confirmed by these interview findings. Interviewees distinguished between different types of companies and the different force with which reputational concerns would be likely to impact tax planning behaviour.

These interviews were intended to provide detailed evidence over a range of issues that cannot be easily extracted via quantitative analysis. It was intended that the depth provided by interviews would enable the development of a theoretical contribution. Evidence from interviews would be used to answer the overarching research question: 'What drives the adoption of tax strategies by US MNEs?'
The interviews aimed to:

- Generate new information on the internal workings of the company, the 'black box' of decision making;
- Increase understanding of the role of key individuals within the firm and how their experiences and attitude to risk affect the adoption of tax planning processes; and
- Gain insight from senior tax executives into the ways that companies avoid tax and how this has changed over recent years.

Table 4 Background of Interviewees

Company 1 Representative	UK national. Qualified with smaller audit company before moving to Big 4 firm as tax accountant. With company for 7 years.
Company 2 Representatives	Two US nationals. One a tax specialist in UK on secondment for a year, been with company for 30 years. One the COO, been with company for 8 years.
Company 3 Representative	UK national. Qualified with Big 4 firm. Been with company for 10 plus years.
Company 4 Representative	US national. Qualified with Big 4 firm. Works out of US. Been with company 5 plus years.
Company 5 Representative	UK national. Qualified with Big 4 firm. Worked for another company for 10 years that was taken over by current company 8 years ago.
Expert 1	Qualified 35 years ago. Varied career in tax throughout specific industry including time with Big 4 firm.
Expert 2	Qualified with Big 4 firm and worked there 18 years. Recently (2 plus years ago) moved into industry.
Expert 3	UK national. Tax Partner with Big 4 firm. Worked there 25 plus years.
Expert 4	US national. Worked as Tax Partner in Big 4 firm. Now works at boutique tax advisory firm. Worked in Tax 30 plus years.
Expert 5	US national. Tax Partner at Big 4 firm. Has worked for 2 big 4 firms over 30 plus year career.
Expert 6	UK national. 30 year career in industry including work as transfer pricing specialist covering significant legal cases. Now an independent transfer pricing consultant.

4.2 Key Findings

The following sections detail the results of the analysis. Key findings are discussed below in detail and a section proposing a new theoretical framework for analysing the propensity of MNEs to avoid taxes follows these. The final section of this chapter summarises findings and concludes. Throughout the chapter uncorrected quotations are used within the text to add support to the discussion or to highlight a particular point. Boxes of quotations are also used to provide additional evidence for the conclusions drawn. Pratt (2008) argues that quotations from interviews should be used in this way to fulfil two functions, 'power' and 'evidence' within academic work. The evidence quotations presented in boxes are selected to demonstrate the types of points made and are not intended to be a comprehensive list of all the support for a particular point. The two interviews that were not recorded are under-represented in the quotations as fewer direct quotations were available, however the notes and analysis from those interviews have been comprehensively included in the discussion.

4.3 Extent of Tax Planning

Interviewees discussed their approaches to tax planning. The view was strongly expressed that companies have to make decisions on the stance that they take. Tax laws and regulations are seen as providing grey areas, within which MNEs have scope for decision-making and strategic planning. Tax planning was seen as a continuum where the risk of damage to reputation and potential fines from HMRC, are balanced against the potential to save money on tax payments. Reputation strongly influences decision making within companies with potential damage to both personal and corporate reputations affecting the degree to which tax avoidance is pursued. It was the decisions stemming from this that drove much of the discussion in interviews.

Companies were seen to have a responsibility to shareholders to ensure that they paid only a minimum, obligatory, level of tax. The actual level of tax paid was seen as a consequence of choices and strategies implemented by the company. It was suggested that in the US companies have a clearer fiduciary duty to maximise returns to shareholders, which could drive US companies to avoid tax more aggressively than those from other countries. One interviewee thought that the press reporting of tax avoidance by high profile companies would have been different in the US:

'But because of that if you publish in the paper that Apple has significantly reduced its liability US people are not bothered by that, they applaud that. They don't think that that is a bad thing.' (Expert 5).

A company with a clear 'non aggressive' stance on tax explained how they have to balance their stance with ensuring that they are delivering the best returns possible for shareholders:

'We are utilising the tax law as implemented and that is where the tax department focuses. What are the drivers to help reduce our earnings impact of taxes as well as cash? That is our job responsibility. If we are not doing that we are not doing the right thing but we don't take that extra scam step. We respond to the incentives that the government has put in place. We wouldn't be doing our job if we didn't… We reduce our taxes as effectively as we can but doing so in a moral way and in being a good corporate citizen.' (Company 2)

'Tax is like any other line in your P&L. It is a cost that you have a duty or an obligation to manage as effectively as possible.' (Company 1)

'These things are not aggressive these are just things that are allowed for under the rules.' (Expert 5)

'The thing of it is that directors of companies are like trustees. They have a fiduciary responsibility to their shareholders to maximise the value of their shares through creating as much value as possible. And it would be against their fiduciary obligation to pay more tax than they should. That is where it is. The way that they do it - it pushes the line.' (Expert 4)

Interviewees felt that companies have a difficult balancing act. Whilst there are rules that have to be complied with, there is considerable scope for interpretation. Managers have discretion in how they interpret the law; what is acceptable practice and what isn't. This leads them to operate in what Muller and Kolk (2015) describe as *'moral free space'*. Compliance with the law is balanced with meeting the needs of shareholders. Companies have a decision to make about how aggressively they pursue tax avoidance and therefore how much tax they pay.

'I guess that you can argue that they have acted, the tax functions or the boards have acted in the best interests of the shareholders so they are compliant with the laws' (Company 1)

'There is, still has to be, this basic presumption that if you can do something that you are going to do anyway for commercial reasons in one of two different ways and one of them gives you a better tax outcome without any sort of artificiality or any diversion of profits or any entities being set up that exist purely for tax purposes then you know your duty is to your shareholders to maximise your value by taking that choice... I can't think of any other area in the business or any other decision where you might have a binary decision and go for the more costly one, it just doesn't seem sensible.' (Expert 2)

'Broadly speaking the philosophy is that we believe we are good corporate citizens, we don't, we want, well we don't want to pay tax, we recognise that we need to pay tax and we as a company are not, our philosophy as a company is not to take aggressive positions on things. That said, we will always look to do things in a tax efficient manner'(Company 4)

Since the financial crisis of 2008 companies have felt increased hostility to tax avoidance emanating from the public, the media and the government. This appears to have generated more internal debate in companies about their responsibilities to both their shareholders but also to a broader set of stakeholders:

'We need to maximise our shareholder values, which means keeping costs and tax as low as possible whereas on the other hand the Revenue would like us to pay loads of tax. So I think that that has become much more of a balancing act. In the past it was more, you know, we are beholden to our shareholders and our shareholders alone, sorry if you don't like it, bad luck. But I think that that is now an internal debate now in most organisations, as opposed to it being a very simple we always do the thing that gives us the lowest tax outcome. I don't think it is as clear as that anymore.' (Expert 2)

Interviewees discussed high profile cases such as Starbucks and Amazon, for the most part feeling that these companies have been unfairly criticised for making choices that are within the bounds of current legislation. It was felt that companies currently have to make moral decisions about how much avoidance is legitimate, but that they should simply have to comply with the law and if operating legally that should be acceptable:

'They [HMRC] have a legal obligation to make sure that everybody pays their fair share of tax…Gee, if they [Starbucks] are violating the law then you should be doing something about that. But I am confident that they are not violating the law - they are clearly following the statute.' (Expert 5).

Another interviewee argued that Starbucks had simply been misunderstood and that they should not be criticised for adopting normal tax planning processes:
'You know there are many reasons why Starbucks haven't paid tax - I don't think that they have articulated themselves very well because they have made losses for several years and you are allowed, every company is allowed to carry those losses forward against future profits so they have not actually done anything dishonest' (Company 1)

Only one expert argued that these high profile companies could be legitimately criticised for their tax planning and suggested that there are differences between being legally and ethically correct:
'I mean Amazon selling a billion dollars of gear in the UK and paying $6m tax that is just not, that is Amazon not behaving fairly that is what that is. That is a guy like me setting up a structure that is within the limits of the law absolutely because the law is what the law is… you need to change the law and there is push to do that' (Expert 4)

4.4 Reduction in Avoidance Since 2008

Interviewees all felt that the incidence of tax avoidance is currently at relatively low levels. The financial crisis of 2008 was described as a turning point with attitudes to business changing as the public became more critical and hostile to 'big business' whilst at the same time governments came under financial pressures to ensure that they were maximising their fiscal budgets. A number of reasons were suggested to be driving the lower incidence of corporation tax avoidance:

- More restrictive regulations reducing the scope for implementing tax avoidance schemes;
- Greater attention from public policy makers, including the OECD, international governments and government committees towards tax planning;
- Companies anticipating the potential introduction of new international disclosure measures such as Country by Country reporting;

- An increase in the potential impact on company reputation driven by greater public awareness of and hostility towards tax planning;
- HMRC improved efficiency at shutting down schemes and at communicating what is an is not acceptable to companies;
- An acceptance that a wider set of stakeholders are relevant for tax planning purposes than just shareholders; and
- A cultural shift in what is ethically acceptable, although not all interviewees agreed that there has been a comprehensive shift in attitudes.

'There is always another idea round the corner. You shut one down and we will get another one. But the attitude in the late 2000s and coming into this decade was a bit more circumspect around what is this [tax reduction measure] going to look like.' (Expert 4)

'A lot of boards that were previously more aggressive have all calmed down.' (Company 1)

'There has been quite a lot of unravelling of avoidance positions and a lot of emphasis at the moment is about doing compliance right rather than doing tax planning. So our work around the firm here is directed towards getting it right and reflecting substance in operations' (Expert 3)

'I came into tax at the end of the 1970s and tax planning was rife. We used to talk about evasion and avoidance and the difference between the two was one of them you did time in prison. But who went to prison for evasion in the 60s, 70s 80s and even 90s? … So there was an attitude that anything goes.' (Expert 1)

'Even though businesses will restructure in response to legislative change and public pressure, I don't think you will necessarily get a MNE paying its entrepreneurial profits within the UK'. (Expert 3)

'There are definitely a couple of [companies in this industry] who in my experience will also be a lot better behaved now…but probably entirely because of the reputational damage that could arise, rather than them thinking it is the right thing to do' (Expert 2)

'[after the financial crisis there was] a shrinking in the kind of aggressive planning…It wasn't about reputation, well it was about reputation, but first and foremost I couldn't afford to do it' (Expert 1)

'I mean I think that there are definitely a couple of banks who in my experience will also be a lot better behaved now if you think through a sort of Margaret Hodge lens, but probably entirely because of the reputational damage that could arise rather than them thinking that it is the right thing to do. There is that additional step.' (Expert 2)

'I strongly suspect that there is a genuine trend towards companies doing less and less aggressive tax planning. Partly for reputational reasons and partly because it is just a lot harder than it used to be.' (Expert 2)

'…there is a better understanding between industry and the Revenue [HMRC] between what the Revenue see as being on the right side of the line and the wrong side of the line. People don't want to go to the time, effort, cost, resources and reputational impact of a 4 -5 year journey through the courts.' (Expert 2)

Whilst interviewees believe that companies are now less aggressive in tax planning, whether this reflected a fundamental change in approach with this broader view of company responsibility was unclear. Whilst practices may be changing, some felt that this was due to a tightening of regulations and the greater difficulty in establishing legal avoidance practices, rather than from a fundamental change of attitudes. Discussions focussed on the potential impact to corporate reputation with interviewees stating that companies place a greater emphasis on potential damage to their reputation than had previously been the case.

'Personally I think pretty much all the [companies in this sector]… now want to do the right thing, not necessarily with the same underlying motives. I think that they all want to do the right thing because they want to be seen to do the right thing and not incur a load of additional negative publicity which they would not doubt incur if they were found to be engaged in tax avoidance. ' (Expert 2)

'I think that there might be a philosophical change in attitude - when you see what Margaret Hodge has been doing, the naming and shaming to a degree. But I don't think that is like an intangible change, but the tangible one is that you can't afford to do it.' (Expert 1)

4.5 What Drives a Company's Adopted Position?

Interviews explicitly explored what drives the adoption of individual companies' position on tax. This section considers the different factors that interviewees revealed were driving the stance adopted towards tax planning within the organisations that they have worked for. A number of factors intrinsic and extrinsic to the company were discussed and these are set out in the sections below.

4.5.1 People and Culture

Interviewees concluded that the people within the company, the overall management and culture were key to understanding the aggressiveness of the tax stance. CFOs, CEOs and the board were all felt to have a role in setting the overall 'tone' of the company and its attitude to risk. In some companies setting the tone or values of the business was treated as an explicit task. In others there was a more implied understanding of the common values of the company. A clash could occur if a person behaved in a way that was not aligned with corporate values. Responding to a question about what drives their tax position one interviewee said simply: *'The tone at the top' (Company 4).* Another replied: *'Culture. The most important thing about [Company name] I would say is our culture and embedded within that is the business ethics associated with that - that is our discriminator. Name one of our competitors - they can hire the same engineer or same financial person or same tax person we hire, the difference is our culture - that is our real discriminator.' (Company 2)*

'I asked my boss 3 or 4 years ago when he came over, he has been over since then, but I asked him where are we in terms of tax aggression - 0 - 10 and he said 10.' (Company 3)

'Attitudes are shaped by organisations. If I started my career again it would be very different in terms of the overall climate. I think working for people inside [a company in this industry] who are schooled, cultured in what the organisation is about is much better than having these mavericks, these firebrands who pitch up and say hey - aren't I macho I can do X, Y and Z.' (Expert 1)

'I think we always, well our previous VP of tax was our head of tax for more than 30 years I guess so I think it [conservative attitude to tax] probably stemmed from him. Funnily enough, it might seem obvious now but in those days it was quite a normal thing because I guess he never wanted our name to be named and shamed in the papers so he had that foresight from then to I guess have that vision of always being clean.' (Company 1)

'Individuals. Well it starts with the Board.' (Expert 4)

The Board of Directors was cited as having a significant impact on tax planning both in terms of setting the culture within the company, but also with its understanding, and being open to what is possible. As the understanding of boards differs, their attitude to what is possible and how their company's position compares with others will also vary. The difference in knowledge and attitude from board members was also cited as a key influence in setting the tone of the company. The ability of the company to set the level of tax that it pays was taken for granted in these discussions with no interviewees adopting the position that taxes are simply set by governments and paid by companies.

It was felt that whilst boards of directors may understand the general stance few would know the details of a company's tax strategy. One company reported that they had recently created a specific board position with responsibility for tax.

'…some boards are very savvy and commercially aware, of how the process works. Some are completely oblivious to it.' (Expert 5).

'Revenue came up with this thing called senior accounting officer. Tax in the boardroom which started probably 10, 11, 12 years ago. Does the board know what is going on? The Board would know what is going on in terms of direction of travel but the detail they don't. They don't know what is going in lots of other areas. They rely on having the people to flag what the issues are.' (Expert 1)

'The board has to actually approve everything so if the board remains of the view that in the current environment we want to maintain our risk averse status. And you might have found this already, but a lot of boards that were previously more tax aggressive have all calmed down.' (Company 1)

These findings confirm the importance of individual executives and corporate culture on the company's position on tax. The statements above confirm the importance of the individual as demonstrated by Dyreng Hanlon and Maydew (2010).

4.5.2 Risk

Interviewees discussed entrepreneurial risk, seeing profits as the reward for taking risk. According to interviewees the part of the MNE that bears risk, determines where the profit should accrue. Interviewees agreed that companies should be rewarded for entrepreneurial risk where that risk is taken – rather than where sales are made. One company reported that: *'Effectively we run a limited risk model in most of the world so we treat the US as the entrepreneur and everyone else is like a limited risk service provider' (Company 3).* The US bears the risk of investing and conducting operations in other countries and therefore it receives the residual – any profit that is made. Companies in the UK and elsewhere are paid for the service that they offer to the US company.

The company's overall attitude to risk was also thought to drive its approach to tax planning with the adoption of aggressive tax avoidance considered as an inherently risky strategy. Whilst attitudes to risk or tax avoidance could change over time this was likely to happen slowly in most instances as people trying to push for change more quickly would be resisted.

This risk aversion was felt to permeate across all aspects of the business and was set by individuals at the top of the organisation. Risk aversion in tax was felt to be part of the *'ethos, rather than prescriptive policy' (Company 5)*. The top of this company has a system for setting *'visions and values'* and these are then systematically devolved down through the group to individual team members.

'In terms of attitude to tax risk - if you had a very conservative organisation. It is its history and its legacy that have got it there and the likelihood is that the people at the top level are of that mould so if you bring in someone who is very aggressive it is unlikely that they will survive or if they do survive it will change the culture.' (Expert 1)

'…have to balance tax advantage of evasion with the reputational risk. This [company] is definitely risk averse not that [company name] doesn't take risk but that they know how to manage it.' (Company 5)

'[Company name] is overall a risk averse organisation, would never enter into complex structures.' (Company 5)

'My first boss, he was incredibly bright, had real insight into things but he was cautious. Incredibly cautious. [He] was a taxman who had become a finance director so he wasn't that aggressive about things.' (Expert 1)

'So I have worked for eight, nine bosses at [company name]. I always reported to the CFO, only one of them was really aggressive.' (Expert 1)

The new CFO came and didn't like, [name], the CFO and a couple of other people. They broke [company name]. They took too much risk, didn't really understand what they were doing and there is a court case going on.' (Expert 1)

'I worked for the CFO at [company name], a guy called [name]. He only lasted for 15 months. Very measured, very cautious. So what happened to him? He arrived in the spring of 2002 … and he was gone by the end of 2003. He didn't fit. He has gone to greater things.' (Expert 1)

'When you are confident that your leadership is doing the right thing - that is our code of ethics - I forget what the terminology is at the moment but we believe in doing the right thing' (Company 2)

'As a business we don't like uncertainty, I guess one of our principles as a business is to have certainty so we like to have this agreement [with HMRC] if we can'. (Company 1)

'[Companies want] certainty and comfort around the operation of those rules. Tax is a cost of doing business so you don't want to, in a year's time, be hit with a bill, 25 per cent tax rate assessment that you knew nothing about'. (Expert 3)

Almost all interviewees felt that their company took a conservative attitude towards tax avoidance. The interviewees seemed to feel that their company took only 'sensible', limited tax avoidance measures that any company would. Discussion about the tax avoidance measures that they implement, however, revealed a wider dispersion. A company, whilst describing itself as unaggressive, simultaneously gave details of a number of relatively aggressive tax avoidance measures that they were undertaking. The same company know that HMRC disapprove of their system of profit shifting using debt and interest payments. This 'hybrid' scheme uses 'check the box' regulations to enable the company to off set interest payments from external loans twice, once in the UK and once in the US. Although the scheme is currently legal, the regulations may change in the near future. They were happy however, to take this riskier approach, reducing their tax bill, until they are required to restructure payments: *'There is even talk about our current structure, the way we have done it, about that possibly being denied and going away… We will have to monitor that. That is a risk for us – we will have to monitor that.' (Company 4)*

Advisers similarly felt that the advice they gave was not overly aggressive and the companies that they were advising adopted relatively conservative stances. Complications arise with complicated or *'flamboyant'* structures that require strong governance to overcome: '*You have got to be very clear that you are in control of that structure – the more it is skewed from the normal business life the tighter your controls need to be on it.'* (Company 5)

'In terms of why we don't think we are aggressive, you know, it is broader than tax, our accounting policies, we don't want to be conservative, we don't want to be aggressive, we want to be somewhere in the middle. There are pros and cons to being on each side,

certainly the negative to being too aggressive is you are creating a lot of exposure for yourself… but at the same time we also don't want to be foolish and just waste money.' (Company 4)

'Yes the rules are the rules and we play and operate within those rules and if there are things that we do efficiently tax wise, that is what we will do.' (Company 4)

'How do we operate? As conservative as you will ever find any company anywhere. Period. I wouldn't assert that we pay more than we should but we do not dodge any or take advantage of anything that is anything other than absolutely what we should be paying and we do pay.' (Company 2)

Interviewees suggested a number of drawbacks of tax avoidance that had to be balanced with the potential tax savings. There was real concern about the potential for damage to a firm's reputation (see next section below). Increased administrative and regulatory burdens were cited as added costs to the firm of implementing complicated tax schemes and structures. [7] Uncertainty also increased as the potential for regulatory change could mean that a scheme that is currently approved becomes illegal in the future which could result in significant costs. Current legal advice that a scheme was legitimate may not stand up in court further into the future.

'Some peers had set up tax avoidance structures that ended up costing them more to undo than they had originally saved. Should never be too greedy – out of step with the rest.' (Company 5)

'May have a legal opinion on record from 5 years ago saying that it is legal but not necessarily going to stand now.' (Company 5)

4.5.3 Reputation

Some companies' reputations were thought to be more vulnerable than others to charges of tax avoidance. Companies with direct relationships with the general public as consumers and those with the government or public sector as key clients were particularly averse to bad publicity. Consumer boycotts or bad publicity were seen as potentially doing harm to the business. Those operating in business-to-business

[7] One interviewee suggested that to implement a 'hybrid structure' would cost between $250-300,000 but that a large company would expect to recover that fee in 3-6 months.

segments or with no public profile could be more aggressive. Pragmatism appears to dominate strategy over any particular ethical stance.

One company had a specific reason for not avoiding tax: *'We are dominated by Government contracts …It is a smart business move to make sure that we are paying the right amount of taxes because with the government customer base that we have, we actually benefit from some of those taxes – they invest back in our business' (Company 2).*

'There are companies that have no public profile because they don't have retail customers … They don't transact with the government and in those situations they can afford to be extremely aggressive. They don't have to worry about the Vodafone problem where they picket the shop windows because they don't have shop windows. And so they don't really care. So they can be more aggressive.' (Expert 5)

'Now one aspect of why we are fairly conservative is that we are using tax payer dollars.' (Company 2)

'Retail banks particularly need to consider reputational risk. Social media and the tone of the political environment – especially for banks – mean that reputational risk is important. Less so for investment banks.' (Company 5)

'[we go to] great lengths in the US to make sure that that rate drops from 40 - 20 but not below a certain level because they don't want to be embarrassed.' (Expert 5)

'There is a huge fear of that PR machine and that is driving a lot of behaviours.' (Expert 3)

4.5.4 Personal Responsibility and Personal Reputation

Individuals working in companies felt that it was important to find a company that was a good 'fit' with their own attitudes to ethics and risk. This may be more so than for people working in different areas of finance. Future research could consider whether there are differences in ethical emphasis between those working in tax and other areas of finance. Interviewees reported concern for their own personal reputation.

One interviewee described how his own personal values dictated how aggressive his tax planning could be: *'Some would say that I am very risk averse, some would say that I don't take enough risk, but I think on balance I have always been very comfortable about*

how I explain something and I wouldn't do anything that I think was illegal. I wouldn't do anything that was reprehensible, that is if you had to put your hands up and confess you would be embarrassed. I have never got myself in that situation. There is a ledge, a platform that I will go to but I won't go beyond it.' (Expert 1)

'It is also a place where I can be comfortable in my own skin in terms of my attitude towards the way that the tax system should work.' (Expert 2)

'It is interesting because there are people who are frightened of their own shadow but at the other extreme there are people who aren't frightened of anything. They aren't frightened of anything because they aren't aware of anything. I suppose my approach to tax planning had been very much that I never wanted to put my name at risk.' (Expert 1)

'I would never want to be in a situation where someone says - this guy is not credible. Might say he is not very good, but there is a question mark around his honesty, his integrity. And there are some people who don't seem to understand what reputation is. I do'. (Expert 1)

'My life savings was my reputation so I looked at selecting the company that I was going with as betting my life savings on that company. Because all of a sudden you join a company and then your reputation and that of the company are inextricably intertwined. So I bet my life savings on this company - based on ethical standards.' (Company 2)

'I have never had to question what our leadership was doing in tax. Not to say that I didn't ask questions - like what is going on here? But they laid it out - they wanted to make sure that I was willing and able to sign up.' (Company 2)

4.6 Cash Management

The company's financial situation could also affect their tax position. The impact of the corporate tax bill on cashflow was raised by a number of interviewees. Companies that are struggling financially may take a more aggressive stance in order to manage cash flow issues. If cash is needed back in the US for investment or for returning to shareholders as dividends, tax becomes a bigger issue, as the company will need find a tax efficient way to repatriate it. Others want to keep the cash in the UK for investment or other reasons.

'There are a lot of factors that influence whether their stance is more aggressive or less aggressive and I have seen situations where companies had financial commitments and they had no choice but to be aggressive because they had cash flow needs and so they had no choice because they had to keep the banks happy.' (Expert 5)

'It is about cash in the business and that is what all finance directors focus on... What the CFO really has to worry about is the strength of the balance sheet and the cash flow.' (Expert 3)

'Tax is the biggest cheque of the year so the timing, the bank arrangements, the absolute amount, which can be dictated about where you have recognised your profits…So if you talk to, well people do talk about tax and they say to us, to a tax partner what they are talking about when they are talking to us is about cash and how much cash we need to keep in the business to do what we need to do.' (Expert 3)

'You don't know this but we are not an Apple. [Company name], you know if you stripped it down have got to maintain their dividend stream to their shareholders, If that were not to happen we would be in all sorts of trouble. So the priority for cash management is to get the cash to the shareholders, most of whom are in the US.' (Company 3)

'Now there is a tax benefit to that - not repatriating. But we are not sheltering it just for the sake of sheltering it. We are growing here - that money will be used for future growth, whether that is buying additional businesses, whether it is expanding plants, whether it is employing additional employees because we win contracts.' (Company 2)

'Business is doing great, generating a lot of money so we've looked to actually take the earnings that they are making and spread it within the UK group first to support some of the capex [capital expenditure] and some of the other things that the other businesses within the group need. Ultimately, hopefully, knock on wood, as we continue to grow we start to generate even more cash and then we look to do something with that - so we want to do another acquisition in the UK, we could use that money to fund that. We could send it back to the US and there are ways of actually doing that tax-free if we do it right. The way to do it is, it is almost, and the reason I think that all of these org charts get so complicated is for US tax purposes basically.' (Company 4)

4.7 Tax and Corporate Strategy

Tax emerges as a key consideration for businesses operating in the UK but not as the dominant driver of company strategy. Tax departments saw themselves as facilitating the efficient implementation of corporate strategy rather than as initiators of strategy. One interviewee described the role of tax in the mergers and acquisitions that the company had made recently. The company would identify a target and then tax would become a key part of the planning around how the acquisition should be structured and financed:

'So the tax piece is always a critical piece as we are looking to do acquisitions but it is maybe second or third on the list. The first is obviously, ok what do we see in this business ... So once we identify a target and we think it makes good business sense then certainly as we get into the diligence then tax ramps right up to the top and we say how do we structure this from a tax perspective.' (Company 4)

Another described the position of the tax department as like a service centre for the business, ensuring that the plans of the wider business are implemented efficiently:

'I think our, one of our main priorities is to work with the business. You do get instances sometimes when tax says we need to do this, this and this because it is going to drive all these tax benefits - you are the business, can you make sure you align to us. But we don't do that. We really work with the business, what is the business needs, what is the business model, and then making sure that we are as tax efficient as we can but to suit the business model if you see what I mean.' (Company 1)

Tax advisers interviewed reported that whilst companies are relocating to the UK and are attracted by the favourable tax system, the UK market and access to the European market remain the dominant drivers. For US businesses the UK's relatively low tax environment means that little tax planning may be required within UK subsidiaries. Tax paid on UK earnings will simply be offset against US tax liabilities. Companies pursuing a policy of deferring repatriation have a greater incentive to plan their UK tax affairs carefully as they have no US tax liability to use to offset the UK tax paid against. The companies interviewed however were repatriating at least some of their earnings, after reinvestment in capital projects in the UK. These companies adopt tax efficient mechanisms to do this.

'US companies with UK subsidiaries, quite often the UK subsidiaries are disempowered from doing any tax planning because there is absolutely no point, because they can save tax in the UK but they will be paying tax on it in the US regardless.' (Expert 3)

'Because the CT rate in the UK is certainly lower than in the US I think that there is a lot less incentive to engage in tax planning in the UK than maybe there is in other jurisdictions. I mean in the US if you are saving whatever the marginal rate is in the US, 30 plus instead of 20 plus you might conclude that there is no point in driving the UK rate down unless you are also not paying some sort of top up tax in the US otherwise you are just shifting the total amount between jurisdictions.' (Expert 2)

One company reported that they do not even claim R&D tax credits in the UK, as they are administratively complicated to claim. Whilst they would reduce UK tax liability they would simply result in a greater tax liability in the US. One expert confirmed the lack of incentive to plan taxes for companies deferring repatriation:
'I think that that is why most of the planning probably comes from the top down because if you can't save the money up at the parent's jurisdiction there is really no point trying to drive down tax in the subsidiary jurisdiction. You would have to go to an awful lot of effort and overall, as an organisation pay the same amount of tax - to a different authority but there is no net saving.' (Expert 2)

For companies retaining their earnings in the UK or Europe the incentive to avoid UK tax remains. Some interviewees reported considering inversion where the structure of the company would change, moving the MNE's headquarters away from the US. Advisers interviewed emphasised the regulatory hurdles and difficulty in achieving an inversion. They also recognised, however, that discussion of inversions may increase as the UK has become more attractive to US companies as the corporate tax rate has fallen over recent years. One of the companies interviewed has since announced that it will invert its structure.

'We talked a lot about…inversion, where a US company redomiciles in another lower tax rate jurisdiction. Whilst it makes sense in many ways, there is a significant cost in the US of doing that. It is a one time cost but shareholders would get taxed and we sort of shied away from it[8].' (Company 4)

'I think just going back to that US inversion point - that captures to me two key aspects: number 1 the attractiveness of the UK - it is so attractive that to get into the UK a US multinational would be prepared to go through the world of pain to try to acquire a UK listed entity - that is incredible, that is a massively complex. Like Pfizer or something and that is way outside anything that I ever worked on, but the other aspect to that is it shows how little scope there is to do something from a US planning perspective. You can't just fill in a piece of paperwork and you are done and your assets are out of the US tax bracket. You have got to do something so drastic as to buy an entity of similar size if you were to get to a position where you were going to halve your effective tax rate and then international world has become so difficult to avoid through a simple technique - it is drastic to achieve something like that'. (Expert 5)

'The system is way, way too complex in the US, but I know in the UK, for example, I know a few UK companies, legally they can just up sticks and leave if they want. They can all leave. If that were the case in the US there would be very few companies that are US based, very few.' (Expert 5)

[8] Shareholders would effectively have to sell their shares in the old company and then buy shares in the new company. They would then become liable to capital gains tax on the increase in value of their original shares.

One company also talked about the pressures to invert but felt that their existing: *'US market investors… they know our business, it is like bread and butter to them. They know exactly how we operate.' (Company 1).* The costs to the company itself and also to the shareholders were cited as reasons for deciding against an inversion.[9]

4.8 Corporate Tax Departments

All the interviewees from US companies had a larger tax team based in the US and a smaller team in the UK. The US team was responsible for overall tax policy with the UK team generally responsible for implementation and compliance. The size of the UK team varied with the smaller teams reporting a greater reliance on outside advisers. Reporting lines and structures also varied, largely depending on the historic growth and development of the organisation.

The reduction in aggressive tax planning cited by most interviewees has had important impacts on the management of tax departments. The structure of the companies included within these interviews had all been strongly influenced by mergers and acquisitions. Two of the companies were actively reviewing their corporate structures with the aim of rationalising and simplifying their complexity. Similarly, the structure in terms of size and location of tax departments appears to have been largely driven by these corporate events rather than by strategic planning. There is significant variation in the size of department and the use of external advisers. Smaller departments report heavier use of external consultants. The role of the departments varies with differing emphases on tax planning, strategy and compliance as well as different types of tax including VAT and employment taxes.

Once the tone has been established at the top of the company, aggressiveness may depend on how the tax team is structured and motivated. Different companies set up different Key Performance Indicators (KPIs). Some consider cash-flow or staying within a budget: *'So if you are judged on whether you stay within your budget then you might not be very aggressive because you might not want to go and spend a lot of money on*

[9] It has subsequently been reported in the press that this company is now pursuing an inversion.

outside advisors. I can think of some large companies that operate that way. I think that that is penny wise, pound-foolish kind of thing.' (Expert 5)

Interviewees agreed that in the past the ETR had been the key KPI on which tax departments' performance was judged. There was some disagreement amongst interviewees about the extent of movement away from this. Some reported still having an ETR target although this was cited as a range rather than a specific figure whilst other suggested that most companies would have moved away from this now. Where ETR is monitored it is seen as a factor to be balanced with others such as the potential damage to corporate reputation. Optimising the level rather than minimising it appears to be key. One interviewee spoke of a target range of between 26 – 28 per cent. Interviewees agreed that historic pressures to minimise ETR have been replaced with targets to 'optimise' it after taking account its potential impact on corporate reputation and the longer term outlook for the firm.

'Probably most organisations I would have thought of would have had an ETR target as part of their team metrics back then for example… They wouldn't really have thought of wider things like reputational risk.' (Expert 2)

'So effectively every year we get objectives and those are numbers to reduce taxes, cash tax is and also a target effective tax rate, at the US level.' (Company 3)

'A few years ago everyone wanted low ETR - lowest possible, take all incentives, but now not everyone wants to be lowest.' (Expert 6)

'I think that there is a fair bit of challenge to Tax Directors when their effective rate isn't in line with the competition because the board is looking to the finance director - what is going on and that trickles down pretty fast.' (Expert 4)

'All sorts of things come into it but the effective rate is huge.' (Expert 4)

'The ETR was a factor in my, performance but I could always manage it. Certainly if I needed a bit more here, I could do it. I could get there so I could always get within my target - it wasn't a problem. So it was a factor and it seemed a very macho gung-ho thing to do in the 80s and 90s but companies became less keen now. Now I don't have an ETR as a target.' (Expert 1)

'If someone has an ETR as a target, it is for the birds nowadays. There may be some organisations... but the vast majority of them, over 90 % will not have an ETR target. And if they do they don't know what they are doing. They need to catch up.' (Expert 1)

'We have I guess an ETR range that we announce to the analysts I think every year and is in the region of 26 - 28% and obviously our aim is to try to be within that range and that is what we as a tax function are assessed on, judged on. No one likes, funnily enough even if we came really low no one would like that and if we came really high no one would like that.' (Company 1)

'I think if you go back to before the financial crisis, most tax teams would have seen their stakeholders as CFO - internally and revenue / treasury … really on the sort of operational level externally, and that was it from a sort of corporate tax perspective.' (Expert 2)

'But one aspect of our business though is that tax is not driving our business, we support the business.' (Company 2)

'[Pre financial crisis] Probably most organisations I would have thought would have had an ETR target as part of their team metrics back then for example. And as we were saying before they wouldn't really have thought of wider things like reputational risk.' (Expert 2)

Most interviewees reported comparing the ETR with that of competitors or other high profile companies. One interviewee was clear that they would never be concerned with what their competitors reported. Another reported having to reassure the CEO that they were adopting an aggressive enough stance:
'Now from time to time our CEO will challenge us and say Starbucks is doing this, Amazon this, Apple is doing that, why aren't we doing that? And you know he sees that the tax rate is so low and we say but look that is not without risk and looks whose names are in the papers every day about this stuff. We try to balance it.' (Company 4)

Companies and those working in them feel pressure to plan tax efficiently but interviewees feel the need to balance this 'tax efficiency' with the need to protect the company's reputation and to behave in a way that is consistent with their personal ethics.

4.9 Tax Avoidance Mechanisms

As reported in the research methods section above, interviewees provided significant detail about the tax avoidance methods and approaches that they had been involved in. Not all of the company interviewees gave details, as they reported that their companies were not involved in any form of avoidance. Others gave details of what they considered to be conservative schemes. The experts had a broader frame of reference and talked more widely about schemes that they had been involved in at different stages of their careers.

There was a shared view that tax avoidance is justified as it relates to profit that is the reward for entrepreneurial effort. Companies are seen to have discretion over where they allocate at least a proportion of their income and profits. One interviewee described the issue as working out what proportion of the income could be categorised as 'mobile' and then deciding where the company would like to allocate it. US companies appear to be split into those that return their profits to the US and therefore want to do so in as tax efficient manner as possible and those that prefer to defer repatriation. The latter therefore look for low tax jurisdictions where they can book income to reinvest or simply hold the funds as cash.

Specific schemes relied heavily on the US 'check the box regulations'[10]. Debt with related interest expense and IP were also prominent parts of mechanisms to increase mobility of income. Booking operating losses in one entity can help with tax efficient repatriation.

IP transfer was seen as potentially problematic as it would have to be valued at the market value when transferred from the US, incurring a tax charge in the US. Early

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[10] US 'check the box' regulations mean that business entities can be treated as 'disregarded entities' for tax purposes, that is that they are treated as if part of the parent company, rather than a separate entity. This enables the creation of 'hybrid entities' where a MNE subject to corporate income tax in one national jurisdiction that qualifies for tax transparent treatment in another resulting in significant tax savings. This is accomplished when a company is organized as a partnership in one jurisdiction and as a corporation in another.

insight would be needed to make this effective. One interviewee stressed that companies would need long term planning to benefit from this:

'If you start up a business in the US and on the third day you decide that you have got a lot of money to spend on your tax planning you possibly could be well advised to transfer your intellectual property to the Cayman Islands and pay tax on its value on transferring it out of the US.' (Expert 3)

'[HMRC could say] you have only paid interest once - you are taking a deduction here in our country in the UK but you are already getting the deduction in the US and we say that that is perfectly allowable - it is a US tax planning strategy.' (Company 4)

'As soon as I look to bring money back the IRS is going to want to tax it but they will leave you alone generally speaking if it is a foreign company. You can always choose not to do that - you can choose to say - I don't want to leave it alone - I want to bring that money from that entity into the US… if you are smart about it and put these different structures in place - that is the benefit that you can get. So where all these companies are doing this - they are saying, this entity I want to bring the income or expense back into the US but they are shells, they are holding companies so we are not really bringing the profits back of the real business into the US we are sort of creating an arbitrage and bringing back only what we want to bring back, for different planning reasons.' (Company 4)

'The profitable entities are actually different entities in the UK group so that is not by accident because it is a way to get our money back to the US tax-free. Because since it has got no earnings, …we would say that this entity which is sending money back to the US has no earnings and therefore it is treated as a return of basis or a return of your initial capital which is tax free.' (Company 4)

'Once that starts to become profitable we might move that business into another entity because we want to preserve those losses so the losses happened just through start up activities and things like that and then ultimately like I said - we will look to shift it away.' (Company 4)

'And so there are various planning techniques that you can avail yourself of that will allow you to combine those businesses and in the long term extract those businesses from the US in a tax neutral way.' (Expert 5)

'Financing is huge - the number one tax planning tool that people often play with on a regular basis. Second would be IP planning and then it is down into the sophisticated transfer pricing stuff and moving parts of your profits to different jurisdictions.' (Expert 4)

'What I mean is, I have a UK company and I have a US group. So remember my 42% effective rate. If I debt fund the US there is income here and a deduction here so straight debt funding with nothing fancy I get a deduction at 42% and income at 20% so there is a 22% arbitrage. So by doing nothing but debt funding the US I am able to take out 22 away, I am getting rid of 22 in tax. Like I say the holy grail is to eliminate the 20.' (Expert 4)

'But you have got losses, I have got profits, I want to access your losses which you can definitely get value for where there is a deferred tax asset or actually saving corporation tax into the future. So you had complicated structures and they always struck me as contrived but I wasn't that close to them. We did them from time to time and I had to sign off on them.' (Expert 1)

'Most US companies have super hol-co [holding company] structure and then off to the side they might have their play. So they might have some kind of IP shenanigans going on over here.' (Expert 4)

'I have a company here, and the reason why I do that is I want to be able to employ income elsewhere. I want to be able to shift my income at will. If I did this and I paid a dividend here and dropped it down depending on what is going on I could end up with a CFC income being imputed up to the US company on a current basis. So to manage the CFC rules as well as be able to freely flow my cash around - we set up a partnership for Dutch purposes, corporate for US purposes we elect to disregard that entity under the rules IRS form 8832 and then I elect to disregard all of these entities. Now there are no entities underneath for US tax purposes and I can slop my money around however I want and there are no current inclusions back in the US.' (Expert 4)

'Effectively we run a limited risk model in most of world so we treat the US as the entrepreneur and everyone else is like a limited risk service provider. They are paid a little bit for things that are of value - so people and assets and everything else is passed back whether it is revenue from customers, costs for circuits.' (Company 3)

My idea of thinking about this is that of my 100 per cent of profit in any given company in whatever their business model is, whatever their profit is, is going to be composed of profit that you can't move - services on the ground, production on the ground etc. but there will be mobile income, profit which can be moved somewhere else through transfer pricing or other agreement: interest, royalty on IP, credit risk, obsolescence risk, insurance risk, employee work force risk. What can you move? What do you have that creates your profit? What can you carve out through contract and send your money somewhere else through an intercompany agreement. That is what TP is all about.' (Expert 4)

4.10 Government Policies

The UK tax environment is considered to be very attractive to MNEs. Advisers reported working with clients to bring companies into the UK to take advantage of the low corporate tax rates. Interviewees also commented on the broader political environment where hostility towards multinationals and 'tax avoiders' has been expressed. These attitudes were not felt to deter MNEs from relocating to the UK or to affect their stance on tax planning.

'It is a pleasure to be working with multinationals who are saying great things about our tax structure because it is one of the strongest in Europe and possibly the world and it is very attractive and it is a great piece of work to be doing.' (Expert 3)

'We have a very attractive tax regime and we spend a lot of time bringing people into that regime.' (Expert 3)

'I consider myself to be busier than ever. You have got the attractiveness of the UK so the multinationals who in reaction to all of these changes are saying well I need a reputable country and I don't mind paying tax and 20% is a reasonable rate to pay at so done with all this silliness of low substance foreign companies lets just settle on the UK as headquarters and pay 20% tax there.' (Expert 3)

Interviewees commented on US and UK government policies and the OECD's BEPs project. They carefully monitor changes in the regulatory landscape. Internationally they have experienced tightening regulations as governments have endeavoured to increase their tax revenues. Some tax advisers reported a resulting greater focus on

assisting clients with compliance issues rather than tax avoidance. Others indicated that aggressive tax planning would continue for some clients although they also felt that attitudes had changed over recent years:

'There is always another idea round the corner. You shut one down and we will get another one. But the attitude in the late 2000s and coming into this decade was a bit more circumspect around what is this going to look like.' (Expert 4)

The experts interviewed stressed that greater emphasis is being given to ensure that there is substance behind economic transactions:

'A lot of the OECD drive is about reflecting trading in places where you do the actual trading, historically a lot of planning has been around you are just a distributor or just a licensee so you take a slice of the brains - and the intellectual property sits back in the US therefore we route the majority of the profit back in the US.' (Expert 3)

Others felt that despite the changes to the regulatory environment companies would not radically change their behaviour:

'So even though businesses will restructure in response to legislative change and public pressure I don't think you will necessarily get an MNE paying its entrepreneurial profits within the UK.' (Expert 3)

As the interviews were conducted in 2015 little was known about the output of the BEPs process. Despite this, interviewees appeared to be preparing themselves for the introduction of Country-by-Country reporting. There was an acceptance that the concerns about tax avoidance would be reflected in measures to require greater transparency. The main concern raised was around the way in which new requirements would be introduced in terms of consistency of approach between countries and the confidentiality of any increased disclosures to tax authorities.

4.11 Findings and Discussion

This research makes some significant contributions to understanding the question: *'What drives the adoption of tax strategies by MNEs?'* It also makes a new key theoretical contribution by extending knowledge about the motivations and abilities of MNE to plan their tax affairs efficiently. The findings from these interviews indicate the importance of aspects, such as the experience of the individuals' and the company's

overall attitude to risk that the development of theory must take into account. These new findings make an important extension to internalization theory.

The small sample limits the robustness of some of the conclusions that can be drawn from this work but as a highly innovative piece of research in this field it provides impetus and direction for future pieces of research as discussed below. Clearly the individuals involved in the tax planning process make decisions based on their own personal values and ethics as well as their interpretation of the risk profile and the ethical stance of the company that they work for. The company's position on tax planning is affected by their attitude to a more comprehensive attitude to risk.

The top management and the Board establish a wider culture of risk taking or avoidance and the tax practice emanates from this with tax managers interpreting the risk – reward pay off appropriate to their company. Whilst the scope of tax avoidance practices seems to have reduced following the financial crisis, there is uncertainty about whether this reflects a fundamental shift in attitudes within companies or simply more limited scope as a result of tighter budgets and regulations. The company's reputation plays a key role, limiting tax minimisation and instead leading firms to adopt an 'optimal' rather than 'minimal' ETR.

Tax regulations provide a framework for MNEs to operate within but there is still much scope for decision-making and interpretation within these rules. The findings from these interviews offer insight into the decision-making processes within the *'moral free space'* defined by Muller and Kolk (2015). Whilst some of the interviewees think that there has been a paradigm shift in attitudes towards taxation avoidance, for others the recent reduction in aggressive behaviour that they have observed has been driven by fear of reputational impact and changes in the regulatory environment. It will be interesting to observe how tax avoidance levels shift in the future and whether the changes reported here have a longer-term impact or fail to embed over the longer term or in different economic situations.

Cash management and the financial success or otherwise of the company also appear to drive the motivation of companies to avoid tax. Maintaining adequate cash flow is

clearly vital for the long-term success of a company. Those that are struggling financially or are at an earlier stage of development may feel more pressure to avoid tax in order to maintain their annual cash flow.

The discussion on KPIs above demonstrates clearly that the ETR remains a key measure for many businesses. Whilst some of the interviewees have moved away from the consideration of such a blunt measure, for others the ETR remains an explicit target. Chapter 5 discusses the use of ETR and current moves away from this to alternative measures in academic work. If the ETR remains a useful measure for MNEs to evaluate their position and the success of their tax planning processes it must remain a useful measure for academics in understanding the behaviour of MNEs.

4.11.1 Framework for Company Analysis

The discussions above make clear that the experience of the interviewees is that companies make decisions about the level of risk they are prepared to accept and that this directly impacts the tax planning stance adopted. Decisions are influenced by the individuals within the company from the Board of Directors down through the company, as well as by the overall company culture. The risk and attitudes of those within the company affect the motivation to adopt an aggressive tax-planning stance. Potential damage to the company's reputation and therefore longer term financial performance appears to play a key role in influencing the drive to minimise or optimise tax.

As well as motivation varying between companies, opportunities are also likely to vary. Some companies have more opportunities to avoid taxes by shifting profits to lower tax jurisdictions or through other mechanisms. Opportunities may be dependent on the type of industry, the length of the global value chain or the size and the degree of multinationality/ internationality of the company amongst other factors. The following quadrant diagram (see Figure 3 below) sums up the drivers behind the position that is adopted. The strength of motivation to avoid corporation tax interacts with the opportunities presented to the MNE in a two-by-two matrix.

The MNE's ability to avoid tax will depend on the profit shifting opportunities available Companies in the first quadrant may be highly motivate to avoid tax, to reduce their corporation tax bill to the lowest possible level. These companies may be highly profitable so that reducing their ETR enables them to retain a higher proportion of these profits, or they may have cashflow difficulties meaning that reducing their tax bill enables them to continue to operate as a going concern. The role of the individuals on the board, in senior positions and the corporate culture as a whole are clearly important here. These companies may have lower concern for their reputation, potentially operating in lower profile market segments. For the companies in quadrant 1 however, there may be few opportunities to avoid tax. Their business may not be very international or they may have few transfer pricing opportunities.

MNEs in quadrant 2 have a similar high motivation to avoid tax but they also have significant opportunity to avoid tax. These companies will be highly international and may have extensive flows of intermediate goods or knowledge between subsidiaries enabling them to adopt tax avoidance measures. Companies that operate digitally or have high levels of IP that can be migrated and relocated to subsidiaries in low tax jurisdictions which in turn charge royalties to other operating subsidiaries in high tax jurisdictions may have greater opportunities to exploit TP as a means of reducing their taxes. Similarly, companies that engage in more M&A may be able to structure these deals in such a way that they reduce their tax burden. Anecdotal evidence appears to show that pharmaceutical companies are likely to engage in aggressive tax planning potentially due to the greater opportunities available to them via the high levels of R&D conducted and the IP emanating from this (Financial Times 2016). This is also supported by academic research (Vaitsos 1974, Brajcich et al 2016)

MNEs in quadrant 3 and 4 have less motivation to avoid tax. This may be as a result of the size of the company's profits or operations or it may be that their motivation is tempered by a more significant potential impact on their corporate reputation and subsequent financial performance. Companies with higher public awareness and profiles are likely to face a higher reputational impact from being perceived to be a tax avoiding company than lower profile or business to business companies.

Companies with existing reputational issues such as those operating in controversial sectors for example, defence, or those working closely with the public sector may have lower motivation to adopt aggressive tax avoidance positions due to the potential harm to their reputation. In quadrant 4 high tech companies such as those operating in the defence industry may have significant scope for profit shifting through the use of IP and royalties but reputational concerns may reduce their motivation to take advantage of some potential tax avoidance mechanisms.

Figure 3 Motivation and Opportunity Matrix

Motivation to avoid tax	Opportunities to avoid tax: Low	Opportunities to avoid tax: High
High	1. Highly profitable companies, or those with cashflow problems but with few international TP opportunities	2. Highly international companies with significant IP eg. Pharmaceutical companies
Low	3. Domestic companies	4. High profile or controversial companies but where IP investment still high eg. Defence companies

The quadrants focusing on the opportunity for profit shifting can clearly be linked back to internalization theory and FSAs (Rugman, 1981). Those MNEs with greater opportunities to reduce their tax burden can be seen to have an advantage over those with fewer advantages. The extreme case is the advantage of the MNE over purely domestic companies. Reducing taxes paid increases the rent that is appropriated by the MNE itself for further investment or to return to shareholders. This appropriation gives

tax-avoiding MNEs a distinct advantage against the domestic firm or others that are paying closer to the statutory rate of tax.

The quadrants focusing on motivation introduce an element of behaviour into the underlying theory. The evidence from the interviews demonstrates the importance of the tax manager's mindset (van Tulder 2015) in driving the company's adopted position. The behaviour of the company is driven by attitudes at the top, including board members, the CEO and the CFO. Motivation interacts with the industry-based factors that appear to drive the opportunities for tax avoidance.

4.11.2 Limitations and Suggestions for Future Research

Whilst the sample size used for this research is small, the variety of the individuals included and their broad experience gives a wider spectrum than the sample size might suggest. Replicating this work and adding to the sample size would increase the robustness of the findings. Finding knowledgeable participants of sufficient seniority to have insights who are willing to discuss their company's approach to tax planning is inherently difficult. This study circumvents this problem through the use of networks to identify potential interviewees. The interviewees were prepared to give a comprehensive picture of their company's approach to tax planning. It also meant that a broader range of companies with different approaches to tax planning was identified.

Ideally, future research could build on individual interviews to take a more case study style approach with multiple individuals interviewed from the same company allowing for triangulation of findings. Access to data and supporting documents from companies would also increase the robustness of findings. Again, finding companies willing to give access in this way is likely to prove very difficult.

Future research could focus specifically on testing the model proposed in Figure 3. Key questions that need to be specifically addressed as part of future research include:

- The extent to which MNEs have the ability to adopt strategies that intentionally enable them to avoid taxes.
- How motivation and opportunities influence the corporate tax planning carried out by large MNEs.

More work is specifically needed to understand the driving forces behind the motivation of organisations and the interaction of the individuals within them. More qualitative research is needed to probe this further. Research is also needed to provide a greater understanding of the different opportunities presented to different firms and what drives the differences.

It may be that the motivation of the MNE plays a stronger role in the position adopted than the opportunities presented. A strongly motivated company may be able to find ways of structuring their businesses enabling them to avoid tax even when it would appear to be more difficult. Starbucks is a traditional 'bricks and mortar' company but it has been argued that they have been relatively aggressive tax avoiders. The case study presented in Chapter 6 examines the mechanisms that Starbucks have used to reduce their overall tax bill. They also appear to have suffered some reputation impact from their perception as a tax avoiding company. Further detailed research is needed that considers the sectoral impact of opportunities to avoid taxes.

The interviewees report that the pressures on companies and the potential for reputational impact differ depending on the sector involved. Future research of either a quantitative or qualitative nature could investigate these sectoral differences in greater depth, analysing differences in cross sector propensities to avoid tax.

The background of the individual and their previous experiences are likely to have impacted their personal position. Future research could focus on understanding the professional experience of individuals and how this has affected their attitude to risk and tax avoidance. Are those who have been involved in aggressive tax avoidance but not been prosecuted or even had the reputation of the company that they worked for harmed more likely to continue to pursue more aggressive policies than those who have had serious negative experiences?

Research in this field could also contribute to the debate on the role of the subsidiary. Tax is an issue for every company operating in every location. Understanding how companies choose to address their policy, structures and compliance could help to understand the wider role of the subsidiary and its relationship with the parent

company. Research is needed on how different governments manage the tax liabilities of firms operating in their jurisdiction, either proactively or reactively.

5 A Study of Different Approaches to Corporate Tax Planning in Large US Multinational Enterprises: A Quantitative Analysis

5.1 Introduction

This chapter contributes to the literature in a number of ways. It tests hypotheses which are developed upon the existing literature reported in Chapter 2. Regression analysis is then used to empirically test these hypotheses generating an understanding of the individual variables. The model presented develops the role of cash as a mechanism for tax avoidance and incorporates two different measures of ETR. Empirical research to date, as reported in Chapter 2 has considered the range of mechanisms that a MNE may use to reduce their tax liabilities. This research adds to this literature as well as making a new contribution in terms of considering the influence of characteristics of the company that may influence their ability or motivation to avoid tax legally. The sample used has been designed to generate a holistic view of corporate tax planning: the key mechanisms used to reduce tax payments and the factors which allow or dispose the MNE towards this approach.

This chapter tests a number of specific hypotheses presented in Chapter 2 examining factors that may influence the ability of MNEs to avoid corporation tax. The hypotheses relate to specific corporate characteristics and to the mechanisms that may be used to reduce tax liabilities. These hypotheses are then tested in a series of OLS regressions. This data analysis also specifically investigates the difference between two different measures of ETR: LT GAAP ETR and LR Cash ETR (see section 5.4 for a detailed discussion of the differences of these two measures). Using these two measures creates the ability to investigate the differences between them and the way that they interact with the independent variables (IVs). A third DV the cash / asset ratio is also used to investigate the way in which it is used to drive tax avoidance.

This chapter also contributes significant new findings in relation to key features of the MNE and their association with tax avoidance. This research confirms the importance to the MNE of tax 'optimisation' rather than 'minimisation' as discussed in the previous

chapter. The findings provide clear evidence of the important role played by tax havens and internationality in corporate tax avoidance.

The size of the firm is clearly important to its tax planning strategy, a key contribution to the debate where previous findings have been inconclusive. As reported in the literature review there have been contradictory findings on the impact of the size of the firm. This research finds a clear role for size with larger MNEs paying less tax than smaller firms. Finally, the research reveals the important role played by the board of directors and particularly the impact that female directors appear to make on tax planning strategies.

The remainder of this chapter is organised as follows: the following section presents an overall recursive conceptual model which is used as a device to explicate the mechanisms that are tested. The following section presents the Dependent Variables (DVs) that are tested within the model. Section 5.6 gives the descriptive statistics which are followed by the detailed regression analysis and findings in section 5.7. The final section contains the conclusions and discussion of results.

5.2 Conceptual Model

The conceptual model incorporates Cash Ratio, LR GAAP and LR Cash ETRs as DVs. Using these three measures of corporate tax avoidance generates new insights into the measures themselves as well as the mechanisms by which MNEs reduce their corporate tax bill. Using both LR GAAP and LR Cash ETR measures adds to the extant literature by demonstrating the variation between these two measures, as well as emphasising their importance to IB researchers. Useful data on the difference between the two and how they are affected by the IVs in different ways is provided. This insight is particularly important given the more recent trend for researchers to look for new DVs to incorporate in models measuring tax avoidance.

The extensive literature discussed in Chapter 2 demonstrates that MNEs are able to use a variety of mechanisms to relocate profits from high to lower tax jurisdictions to reduce the corporate tax bill (Grubert and Mutti 1991, Hines and Rice 1994; Clausing 2003; Desai, Foley and Hines 2004). Research has tended to focus on looking either at

aggregate data (Zucman 2015) to establish whether profit shifting has taken place or at company level data to establish the importance of different methods of profit shifting: TP (Klassen and LaPlant 2012), intra company debt (Grubert 1998, Altshuler and Grubert 2002, Harrington and Smith 2012), using intangible assets (Grubert 2003; Jones and Temouri 2016), the role of individuals (Armstrong, Blouin and Larcker 2012; Dyreng, Hanlon and Maydew 2010) within a company and the use of tax havens. Some consider only specific sectors, for example pharmaceutical (Brajcich, Friesner and Schibik 2016).

This research, like most preceding work, focuses on US MNEs[11] partly due to the relatively high corporate tax rates faced by US MNEs which generates significant motivation to avoid tax[12] and also due to their prominent role in global trade and investment. It is possible that companies in other regions have different priorities, incentives and abilities in relation to tax avoidance. Holding the home country constant facilitates comparison of the companies. Inflation is disregarded in this model as it would equally apply to all MNEs included in the study. There may be some foreign exchange differences between the firms as they do not operate equally in different host countries. There are unlikely to be any systematic differences that emerge from foreign exchange gains or losses and as a result they are not incorporated within the model.

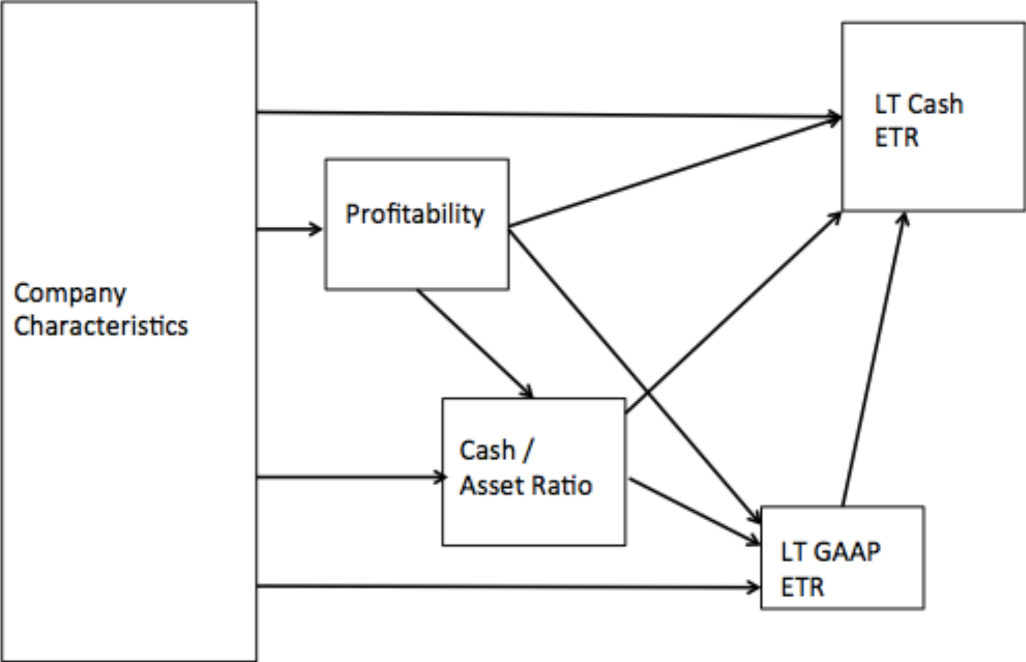
The tax that a company is liable to pay each year is incredibly complex, generating and sustaining a large field of expensive international advisors. Losses generated in earlier years can be carried forward and set off against later profits to reduce the taxable profits generated. The way in which assets and investments are accounted for and depreciated over time can have significant effects on the timing and payment of taxes. As reported in the previous chapter, corporation tax will also affect the way in which mergers and acquisitions and other business deals are structured and accounted for. The tax bill is likely to be the biggest single bill that a company faces each year and there is growing evidence that companies have the ability, not only to use mechanisms to

[11] Some research does consider tax planning within the European context: Dharmapala and Riedel (2013), Glaister and Frecknall Hughes (2008) and Buettner and Wamser (2013).

[12] US MNEs face a federal corporate income tax rate of 35 per cent plus any state taxes, far higher than the OECD average of 25.5 per cent (Tax Foundation 2016).

reduce it, but also have considerable ability to affect the timings of the payments that they make. The complexity of each company's tax calculation makes it difficult to capture true 'avoidance' empirically.

Figure 4 Conceptual Model of ETR Determinants



The conceptual model presented above shows the impact that company characteristics have on the profitability of the firm, its cash / asset ratio and two measures of the ETR (LR Cash ETR and LR GAAP ETR) paid by the firm. Causality is unidirectional, flowing from left to right across the model. The model assumes that there are certain company characteristics that will affect the motivation and ability of MNEs to avoid tax. The model starts with the company's characteristics and causality flows from there in a unidirectional manner. The company's characteristics, include size, ownership of intellectual property (IP), the percentage of women on the board, whether the Chief Executive Officer (CEO) or Chief Financial Officer (CFO) are women, whether the MNE was included in the Dow Jones Sustainability Index (2014) (DJSI), how international the company is (the degree of multinationality) and its use of tax havens.

The first regression regresses the company characteristics and profitability on the cash / asset ratio. The second regression then incorporates the cash / asset ratio as one of the IVs where LT GAAP ETR is the DV. The third regression includes all of the previous factors as IVs that determine the ultimate DV, the LT Cash ETR.

Cash holdings are considered to be an endogenous variable within this model. The model assumes that other company characteristics are determined by the economic activity of the company and are less flexible – they would change only slowly over time. The level of cash holding is part of the overall strategy adopted by the firm and may be the result of a tax avoidance strategy by US firms. Significant earnings may be held offshore as cash rather than repatriated to the US when tax would become payable.

The company characteristics combine with industry factors to generate the profitability of the firm that in turn should drive the levels of tax payable. It is unlikely that the empirical analysis will be able to capture the direct impact of company characteristics on profitability – if this were simple analysis it would present firms with a formula for profitability. Profitability is used as a DV as part of the analysis but the results are not discussed. As shown in the model profitability is considered to be one of the mechanisms by which the characteristics tested may impact on the cash ratio or ETRs of the firm. The model is not attempting to determine the causes of profitability and therefore the results, whilst listed in the regression findings in Table 13 are not discussed at length.

Firms with higher profitability may have a greater incentive to avoid high rates of tax. Research has shown that affiliates based in low tax countries tend to record higher pre-tax as well as post tax profits (Grubert and Mutti 1991, Hines and Rice 1994 and Huizinga and Laeven 2008). Rego (2003) finds that firms with higher pre-tax income have lower ETRs suggesting that they avoid more tax than similar firms. What is not clear is whether high profits stimulate tax avoidance or whether a strategy of tax avoidance increases profits at least in low tax locations through profit shifting. Huizinga and Laeven (2008) conclude that an MNE's profit shifting depends on a weighted average of the corporation tax rate differences between all countries with affiliates.

Evidence from the interviews undertaken for this thesis (see Chapter 4) indicates that firms in financial difficulty may also have a strong incentive to avoid tax. The tax bill is for many firms the largest single invoice of the year and can have a serious deleterious impact on a firm's cashflow and its ability to operate as a going concern. There may therefore be a significant motivation to avoid tax for the least profitable firms. More research considering firms with financial difficulties is needed to confirm this motivation.

Measuring profitability is relatively straightforward. Profits before tax are taken from the company's annual report over a ten-year period (2006-2015) and scaled by total assets. This is consistent with previous relevant work (Taylor et al 2015; Gupta and Newberry 1997).

As discussed in the literature review (Chapter 2) cash may play a key role in tax avoidance. Firms may maintain higher levels of cash holdings overseas in order to reduce their taxable profits in the US (Foley et al 2007). Profits that are not repatriated to the US may be reinvested overseas resulting in no US tax charge. Research demonstrated the importance of tax to overseas cash holdings when significant sums were repatriated following the AJCA 2004 when firms were able to repatriate cash at a lower tax rate (Dharmapala et al 2011). Foley et al (2007) estimate that a one standard deviation increase in the tax burden from repatriating foreign income is associated with a 7.9 per cent increase in the ratio of cash to net assets. By considering only US MNEs in this research, the statutory rate of tax on repatriation is held constant.

The model (Figure 4) assumes that the DV the cash / asset ratio is determined by the company characteristics as well as by the profitability of the firm. A larger cash / asset ratio indicates a greater propensity to avoid tax, if only by the direct mechanism of failure to repatriate earnings.

Cash held overseas cannot be determined separately from cash held in the US as this information is not disclosed in the annual report. Therefore the measure of total cash held by the MNE is used in this analysis. There may be operational reasons why larger firms may hold higher absolute levels of cash or they may be able to hold less cash due

to their greater access to capital. Following Foley et al (2007) this variable was constructed by averaging the year-end cash balances for the ten year period scaled by the average total assets for the same period of time.

A full discussion of the other two DVs: LT Cash ETR and LT GAAP ETR follows the next section which presents the IVs.

5.3 Independent Variables

This section describes the measurements of variables. Findings from previous literature appertaining to these variables are discussed and any issues surrounding their measurements. The next section discusses the two measures of ETR that are used as the key DVs within the model. Measures used are based on prior empirical research and are scaled where relevant by the size of the total assets of the firm to remove any additional impact of firm size. As all firms included are based in the US and report their results in US$ no additional measures are taken to account for the impact of inflation or exchange rate differences.

5.3.1 Company Size

The empirical literature review and hypotheses development presented in Chapter 2, section 2.2.5 generated different findings for the impact of size on corporate tax payments with some research finding that larger firms are associated with more tax avoidance (Benvignati 1985; Zimmerman 1983; Lanis and Richardson 2015) and others finding a negative (Porcano 1986), or no association (Shevlin and Porter 1992; Gupta and Newberry 1997). In more recent work Rego (2003) found higher worldwide ETRs for larger firms in a broad sample of US domestic firms and MNEs. All these studies used single year measures of ETR and considered only the GAAP rather than cash ETR. In the most recent work to consider this aspect of tax avoidance, Rego considers economies of scale that should offer larger companies greater opportunity to reduce their tax burden. Some counter pressures do exist however as larger companies are thought to be under greater levels of scrutiny reducing opportunistic tax avoidance.

In this regression size is measured by the natural logarithm of total assets following Harrington and Smith (2012), Taylor et al (2015) and others. Rego (2003) uses natural log of sales to determine size. An alternative measure of size using Revenue (sales) was

also calculated and used for this research (but not reported) with little change to the results.

5.3.2 IP

Intellectual property (IP) assets can be moved overseas to low tax jurisdictions with relative ease. Royalty payments for the use of IP can therefore be used to reduce the taxable profits in higher tax countries and increase them in lower tax countries. Empirical research examining TP (Vaitsos 1974; Grubert 2003) finds that companies with high levels of IP have higher levels of TP manipulation. Dischinger and Riedel (2011) find that the subsidiaries of European MNEs facing lower corporate tax rates have higher levels of intangible investments. MNEs with higher levels of intangible assets (Jones and Temouri 2016) or R&D intensities (Desai Foley and Hines 2006) are more likely to have subsidiaries in international tax havens. As noted earlier, TP manipulation in relation to IP can be hard to detect as there are likely to be fewer relevant external arms' length TP with which to compare it (Gravelle 2008, Shackelford et al 2011; Dyreng et al 2008).

Foley et al (2007) find that firms that are more technology intensive have a higher sensitivity of cash holdings to repatriation burden. This indicates that those technology intensive firms hold cash in a way that is particularly sensitive to the tax costs incurred when earnings are repatriated. The following hypothesis captures the impact of the use of IP:

Previous research has measured IP simply by taking the measure of Intangible Assets scaled by Total Assets (Taylor et al 2015) or more directly, the level of intangible assets in the balance sheet (Dischinger and Riedel 2011). Intangible assets are complex and difficult to measure. According to Lhaopadchan (2010) accounting for intangible assets is: *'one of the most controversial and intractable issues in accounting'.* Much of the complexity relates to accounting for one section of intangible assets: Goodwill.

Goodwill is created when an asset or business is purchased. It relates to the value recorded for the purchase that is over the fair value of the assets acquired. Good will is thought to be open to management manipulation as they have considerable discretion over when its value should be reduced or written off following any impairment

(Lhaopadchan 2010). Goodwill cannot play a role in profit shifting as it cannot be shifted to another subsidiary and royalties charged for its use. This research therefore takes a more precise measure of intangible assets by removing Goodwill from the Intangible Asset count.

The measure of IP used is, therefore, more accurate as a measure of IP that can be used to facilitate profit from shifting:

$$\frac{\text{Intangible Assets} - \text{Goodwill}}{\text{Total Assets}}$$

5.3.3 Role of Women Within the Company

As with the previous IV, CSR, the role of women on the board is considered to capture the role of ethics and the individual within the adoption of the tax planning stance. Section 2.2.7 considers the impact of the top management team and presents the research findings that address the role of women on the board in particular. The research shows key differences between male and female executives and directors particularly in terms of their attitude to risk (Torgler and Valev 2010, Francis et al 2014, Barua et al 2010, Huang and Kisgen 2013), their backgrounds (Hillman et al 2002, Singh et al 2008) and their approach to board membership (Eagly et al 2003, Eagly and Johnson 1990, Adams and Ferreira 2009). Boards with higher proportions of female directors appear to adopt higher levels of charitable giving (Wang and Coffey 1992, Williams 2003) and have greater concern for environmental CSR (Post et al 2011).

Work has also examined the way in which women appear to work together on a board of directors with evidence that as the number of women on the board increases a critical mass maybe achieved, significantly increasing their influence (Bear, Rahman and Post 2010; Konrad, Kramer and Erkut 2008).

Information on the gender of Board members, the CEO and the CFO was collected from the annual report for 2014. A limitation of this measure is that there may have been changes in the position of women in the companies studied over the time period. The number of women on the board over the ten year period may not be accurately

captured in the data from 2014, however, it may take new board members some time to establish influence within the board generally and over the attitude adopted to tax planning therefore even using data for average ten year averages may fail to capture the true influence of women on the board.

5.3.4 CSR

One of the key findings from the interviews reported in Chapter 4 was the importance of the role of wider attitudes within the MNE which impact on the risk that management is prepared to take and therefore the aggressiveness of the tax planning stance adopted. This research therefore includes the firm's broader ethical stance as proxied by their wider position on CSR as a factor that could influence their attitude towards tax avoidance.

As noted in Chapter 2, section 2.2.8 there is little published research specifically examining the relationship between CSR and tax and there have been calls for more detailed research into this area (Hanlon and Heitzman 2010; Lanis and Richardson 2015; Muller and Kolk 2015). The research that has been published however, has produced interesting findings. Whilst Davis et al (2016) find that managers and other MNE stakeholders do not see a relationship between taxes and CSR Huseynov and Klamm (2012) conclude that the strength of corporate governance plays a moderating role meaning that different aspects of CSR impact the ETR (both GAAP and Cash) in different ways. Lanis and Richardson (2015) find that firms with stronger CSR concerns are less likely to avoid tax and Muller and Kolk (2015) find that MNEs with stronger CSR reputations pay a higher ETR.

For this research the firm's approach to CSR is measured using the Dow Jones Sustainability Index (DJSI) for the year 2014. The index comprises companies that have been evaluated as being in the top 10 per cent of their industry in terms of their overall sustainability approach, measured across economic, environmental and social dimensions. An independent agency[13] compiles the index which is audited, considered

[13] SAM Research based in Zurich.

to be a robust measure and has been used in previous academic research (Muller and Kolk 2015).

A dummy variable is used with 1 representing inclusion in the DJSI and non-inclusion is coded 0.

5.3.5 The Degree of Multinationality

Tax considerations may increase the overall complexity of a MNE's structure. The number of subsidiaries recorded may also however, depend on the industry that the MNE is operating within, as well as decisions made about how to structure operations. For example retail companies may choose to operate using individual subsidiaries for each shop or may establish shops as branches rather than as legal entities in their own right. Within the sample analysed here, HCA Holdings has a total of 3,799 subsidiaries largely relating to individual healthcare outlets in the US. Union Pacific has a total of 29 subsidiaries included in the analysis. Both of these companies operate almost entirely in the US, demonstrating that it is not the most international of companies that use the most complicated of group structures. Corporate structures may also be the consequence of the company's history. Those with a history of multiple M&As are likely to have more complex structures than those where size is a consequence of organic growth.

It is thought that firms with more international subsidiaries have greater scope to profit shift. Having more subsidiaries based in different locations may facilitate profit shifting by using TP or through the use of internal debt or royalty payments (Grubert and Mutti 1991; Rego 2003; Dyreng and Lindsey 2009). Slemrod (1998) also suggests that the pattern of multinational operations influences the ability to avoid tax.

As discussed in Chapter 2, section 2.2.9 US MNEs must disclose the names and locations of all their 'significant' subsidiaries (in Exhibit 21 to the 10K). Donohoe, McGill and Outslay (2012) note the trend for US MNEs to reduce the number of subsidiaries that are disclosed in the 10K, as an effect of restructuring such as in the case of Google where a new holding company, Alphabet was created to be the parent of Google.

Despite potential disclosure limitations, a MNE's internationality is measured using the total number of foreign subsidiaries scaled by the total number of subsidiaries. The number and location of subsidiaries are directly related to the MNE's ability to profit shift. Detailed data is taken from the OSIRIS database that contains information on MNE subsidiaries. Data is collated in up to ten levels of subsidiary ownership. All subsidiaries that are more than 50 per cent owned by the overall parent company are included in the analysis. This research adopts a careful approach by cross checking and validating data from various data sources, 10K filing and OSIRIS database by Bureau van Dijk. It is found that the data contained in OSIRIS is in many instances, more detailed than the information given in the 10K.

Previous research has relied on the information disclosed by MNEs in their annual reports (Annex 21 to the 10K for US companies). This measure has been used in previous work: Rego (2003), Mills and Newberry (2004) Taylor, Richardson and Lanis (2015). This may however, be less accurate now than in the past due to an apparent trend to disclose fewer subsidiaries (Donohoe, McGill and Outslay 2012). Information for this sample was obtained from the OSIRIS database that takes data directly from the companies (as per discussion with OSIRIS). A comparison of a small sample of companies confirms that there are more subsidiaries recorded within OSIRIS than were disclosed in Annex 21 to the 10K.

5.3.6 Tax Havens

Tax havens are widely considered to play a significant role in tax planning by MNE. Desai, Foley and Hines (2006) find that nearly 60 per cent of US firms with substantial foreign operations had at least one subsidiary in a tax haven country. Dyreng and Lindsey (2009) report that US MNEs with operations in at least one tax haven report an average worldwide tax rate that is 1.5 per cent lower than firms that do not use tax havens. Taylor, Richardson and Lanis (2015) consider any firm with a subsidiary in a tax haven to be tax avoiding. There may, however, be a legitimate economic purpose for some businesses to have subsidiaries in tax havens. More significant use of tax havens would be likely to denote a firm that is avoiding tax. The issue of tax havens is captured in the following hypothesis:

There is no single, clear definition of a tax haven (also known as Offshore Financial Centres -OFC) with different research focusing on different definitions. Subsidiaries based in OFC/ Tax Havens may have legitimate operational reasons for their location but it is more likely that they are based there for tax / financing reasons.

Hines and Rice (1994) and Desai et al (2006) distinguish between 'dot tax havens' and others. Dot tax havens are tax havens that have small populations and therefore lack the pull of a market for goods and services as a reason for MNE activity. Jones and Temouri (2016) take what they term a 'conservative' approach and use only dot tax havens in their research. MNEs may have reasons related to economic activity for locating subsidiaries in larger countries that may also be tax havens.[14]

This research uses two different measures of tax havens to capture the effect. The first is that of 'dot tax havens' (Jones and Temouri 2016). The second measure of tax havens is based on work by the IMF (IMF 2000). The IMF published a list of 42 countries that they term 'Offshore Financial Centres', essentially tax havens. They split the 42 countries into 3 different groups:

- *Group 1 - Countries largely seen as cooperative with higher international standards and supervision.*
- *Group 2 – Generally have some procedures in place for supervising but where actual performance is below international standards.*
- *Group 3 - Jurisdictions with a low quality of supervision, with little cooperation with others and little attempt made to adhere to international standards.*

Group 1 countries are richer and larger, including countries such as Ireland and Luxembourg where a company could have a market motivation to locate there, but where many US MNEs base their European headquarters in order to reduce their tax payments. Group 2 and 3 countries have more overlap with the 'Dot tax havens'.

[14] Dot tax havens included by Jones and Temouri (2016) are: Andorra, Anguilla, Antigua, Barbados, Bahrain, Bermuda, Bahamas, Belize, British Virgin Islands, Cayman Islands, Cook Islands, Cyprus, Isle of Man, Jersey, Gibraltar, Grenada, Guernsey, Liechtenstein, Luxembourg, Macao, Malta, Monaco, Netherlands Antilles, Saint Kitts and Nevis, Saint Lucia, Saint Vincent, Seychelles and the Turks and Caicos Islands.

This research uses both measures of tax havens outlines above: the Jones and Temouri (2016) 'dot tax havens' as well as the IMF's categories. Table 5 below provides the details of which countries are positioned within which category. Within the analysis a dummy variable is used with 1 denoting the ownership of at least one subsidiary in a tax haven and 0 where there is no such subsidiary.

Table 5 Tax Haven Definitions

	Dot Tax Haven	Group 1	Group 2	Group 3
Andorra	✔		✔	
Anguilla	✔			✔
Antigua	✔			✔
Aruba				✔
Bahamas	✔			✔
Bahrain	✔		✔	
Barbados	✔			✔
Belize	✔			✔
Bermuda	✔		✔	
British Virgin Islands	✔			✔
Cayman Islands	✔			✔
Cook Islands	✔			✔
Costa Rica				✔
Cyprus	✔			✔
Gibraltar	✔		✔	
Grenada	✔			
Guernsey	✔	✔		
Hong Kong		✔		
Isle of Man	✔	✔		
Ireland	✔	✔		
Jersey	✔	✔		
Labuan (Malaysia)			✔	
Lebanon	✔			✔
Liechtenstein	✔			✔
Luxembourg	✔	✔		
Macao	✔		✔	
Malta	✔		✔	
Marshall Islands				✔
Mauritius				✔
Monaco	✔		✔	
Nauru				✔
Netherlands Antilles	✔			✔
Niue				✔
Panama				✔
Saint Kitts and Nevis	✔			✔
Saint Lucia	✔			✔
Saint Vincent	✔			✔
Samoa				✔
Seychelles	✔			✔
Singapore		✔		
Switzerland		✔		
Turks and Caicos	✔			✔
Vanuatu				✔

5.3.7 Losses

Losses can be offset against profits in subsequent years, enabling MNEs to reduce their tax liability. Previous research has opted to ignore the impact that loss carryforwards can have on the ETR by removing loss making companies from the sample (Markle and Shackelford 2009, Dharmapala and Riedel 2008, Azemar 2003). Cooper and Knittel (2006) find that 50-60 per cent of losses are used by firms to offset against tax liabilities within ten years, 10 – 20 per cent remain to be used at some future point and that 25-30 per cent are never used. Losses are clearly valuable to MNEs, offering them the ability to reduce their LR Cash ETR.

This research includes companies that have made losses as their use over time can provide MNEs with an important reduction in their tax liability. A dummy variable is used to indicate whether a company has made losses for more than two years during the ten year time period. This measure captures only losses made during the ten-year period and it is possible that losses made before the start of this period could still be used and offset against losses made during this period.

The following table summarises the hypotheses that were developed in Chapter 2 and that are tested in this Chapter.

Table 6 Hypotheses Summary

Hypothesis 1	*The size of the MNE is negatively related to LR ETR.*
Hypothesis 2	*The level of IP is negatively related to LR ETR.*
Hypothesis 3a	*The proportions of female board directors are positively related to LR ETR.*
Hypothesis 3b	*Having women in key executive positions (CEOs and CFOs) is positively related to LR ETR.*
Hypothesis 4	*Concerns for CSR are positively related to LR ETR*
Hypothesis 5	*The degree of multinationality is negatively related to LR ETR.*
Hypothesis 6	*The establishment of at least one tax haven subsidiary is negatively related to LR ETR.*
Hypothesis 7	*Registering losses for two or more years is negatively related to LR ETR.*

5.4 Effective Tax Rates: DVs

ETR measures the tax effectively paid or booked to the company's accounts. ETR is the most direct measure of tax payments that can be calculated from a company's annual report. The lack of public information about direct tax payments has driven researchers to rely on the calculation of the company's ETR. As shown in the previous chapter, however, ETR is a key measure used by the MNE themselves, although the focus on its minimization may have waned since the financial crash of 2008. ETR is calculated by taking a measure of tax paid divided by a measure of profit before tax.

$$\text{Effective Tax Rate (ETR)} = \frac{\text{Tax Paid}}{\text{Profit before Tax}}$$

The two measures of ETR used in this research are:

- LR GAAP[15] ETR (total income tax expense scaled by pre-tax income) and
- LR Cash ETR (cash tax expense divided by pre-tax income).

[15] Generally Accepted Accounting Practices (GAAP) is an accounting term for calculations based on figures determined according to defined accounting standards.

These measures have been used in many previous studies (including Desai and Dharmapala, 2006; Dyreng et al 2008; Minnick and Noga 2010; Huseynov and Klamm 2012). Firms undertaking tax planning may focus on reducing their Cash ETR, their GAAP ETR or both. This research follows the best practice set out by Dyreng et al (2008), calculating ETR over a ten year period.

Using the two measures allows for the comparison and greater understanding of differences between them, as well as further exploration of the impact of one on the other, which may be useful to future researchers. The first measure, GAAP ETR, takes the Total Tax Expense (known as GAAP tax expense) as disclosed in the company's annual report (US 10K) and is therefore based on the firm's financial accounting earnings. It is composed of both the current year tax expense and any deferred or accrued taxes that are determined according to GAAP but may be subject to manipulation (Hanlon and Heitzman 2010).

Deferred taxes are those that arise as a result of temporary timing differences. It is a technical accounting term as defined in International Accounting Standard (IAS) 12, *Income Taxes.* IAS 12 defines a deferred tax liability as being the amount of income tax payable in future periods in respect of taxable temporary differences. Deferred tax is therefore simply, tax that is payable in the future.

If a company is able to define tax as 'deferred tax' the current year's tax charge will decrease and the liability to pay future deferred taxes will increase. The key point here is that the GAAP ETR measure of tax will include all these movements and is, therefore, subject to change based not simply on the tax charge for the current year but also on any changes to deferred taxes. This can result in significant year on year variation of this measure of ETR. Understanding the details of a company's activity and its deferred tax will assist considerably with understanding its GAAP ETR.

Cash ETR is a simpler measure calculated using the annual cash paid for tax, net of any cash tax benefits. US companies are required to disclose this information in their annual report (10K) filing. About half of all companies disclose this as a note at the bottom of

their Cashflow Statement. Others include within their tax disclosures and some within a Supplementary Information disclosure note.

Another key difference between GAAP and Cash ETRs are tax credits such as R&D tax credits. These are used to reward certain company behaviour, such as investment in R&D by reducing taxes. These will be included in the company's tax calculation as included in their tax return. The information on credits claimed is included within the company's tax return and is therefore confidential. These will not affect the profit as determined in the annual report and will therefore not affect the GAAP measure of tax but will reduce the amount of taxes that are ultimately paid in cash and will therefore reduce the Cash ETR.

The model as specified shows that the GAAP ETR is determined by the company characteristics, the profitability of the company and the cash / asset ratio. Certain factors related to the company determine the profits that it generates, which in turn have an impact on the cash /asset ratio of the company. These factors will interact to determine the tax payable as presented in the annual report – the GAAP ETR. The Cash ETR is the ultimate measure of tax expense to the firm, determined by all of the preceding factors.

A long run (ten year) measure of both ETRs (GAAP ETR and Cash ETR) is used to capture the underlying rate rather than an annual ETR that would be subject to greater fluctuation. Previous work has demonstrated the greater accuracy of a long run measure in terms of the actual cost to the company (Dyreng, Hanlon and Maydew 2008; Harrington and Smith 2012) Dyreng et al (2008) find considerable variation between firms and over time. They also find that single year ETRs are poor predictors of their long run measure of ETR, reflecting the considerable variation that can occur between years. Using a ten year ETR therefore increases the robustness of the findings. This measure of long run cash ETR as developed by Dyreng et al has been accepted in the accounting literature as a credible method for identifying tax avoidance (Ayers, Jiang and LaPlante 2009; Blaylock, Shevlin and Wilson 2012; Rego and Wilson 2012; Huseynov and Klamm 2012). Harrington and Smith (2012) use a shorter measure, a 5 year cash ETR. Rego (2003) employs only a single year measure of ETR.

Using the two measures of ETR within the recursive structure enables conclusions to be drawn about the impact of the company characteristics on the two measures and the extent to which the measures differ, and their capacity to capture and measure tax avoidance. Research presented in the previous chapter demonstrated the importance many firms still place on the ETR. Other research also shows that tax directors incentives are negatively associated with GAAP ETR but not with Cash ETR. This suggests that the aim of the tax department relates to reducing the GAAP ETR rather than the Cash ETR (Armstrong et al 2012; Robinson et al 2010).

Some researchers have attempted to develop alternative measures of tax avoidance due to perceived problems with the use of ETR although they do not make clear the nature of these problems (Frank, Lynch and Rego 2009; Wilson 2009; Lanis and Richardson 2015). ETR is a complex measure and requires a good understanding of the way it is affected by different aspects of the company's annual reporting. It is not a blunt measure that can indicate directly whether a firm is tax avoiding. Care must be taken when interpreting ETRs. Lanis and Richardson (2015) consider ETR to be a 'proxy' measure of tax avoidance and instead use a measure of whether a company has been in dispute with the tax authorities to assess tax avoidance. In reality this is a far less direct measure than ETR and provides weaker evidence of corporate behaviour or tax planning. There may be a range of reasons why a company has been in dispute with the Revenue and it is possible that companies that are successful at avoiding tax may be excluded from this measure. Only companies that have engaged in certain types of questionable tax avoidance will be included.

Brajcich et al (2016) use deferred foreign tax liabilities to measure tax avoidance. Deferred tax arises as a result of temporary timing differences including for example, those related to that depreciation is calculated for tax and financial accounting and reporting purposes. Deferred tax is not in itself a direct measure of tax avoidance. As Brajcich et al (2016) themselves point out, if an MNE decides that earnings generated overseas are permanently reinvested overseas and will not be repatriated in the future to the US, they do not have to provide for the deferred taxes. This creates a significant problem of undercounting with the choice of foreign deferred tax as a measure of tax

avoidance. Companies who actively manage their taxes are likely to declare that at least some of their foreign earnings are permanently reinvested. Deferred tax provisions can be easily manipulated by firms choosing to determine earnings permanently reinvested or by choosing to reverse an earlier decision. Using foreign deferred tax liabilities as a measure of tax avoidance is, therefore, likely significantly to underestimate the amount of tax avoided. In the sample used in this research 75 per cent of firms declared permanently reinvested earnings with a mean value of $17,645 million. This issue is further explored in the case studies on Goodyear Tires and Ford Motor Company (see Chapter 6).

ETRs are complex, reflecting the involved nature of the MNE's business and tax position and making them a difficult DV that may give unexpected results at times. The evidence obtained from interviews (Chapter 4) indicates that MNEs currently aim to 'optimize' their level of tax payments rather than 'minimize' them, which will have a direct impact on ETRs. Using a ten-year measure of ETR will smooth some of the variations that occur naturally as a company goes through business cycles or reflecting the impact of losses, mergers and acquisitions etc. (Dyreng et al 2008). When the numerator is the GAAP tax charge in the P&L it may include the income tax for that year but as discussed above, may also be affected by other charges to the P&L for the year, for example the creation of or release of valuation allowances. Deferred tax assets may be used to reduce a company's tax expense in a future period. They may arise from net loss carryforwards where a company has incurred losses in one period that may be used and set off against profits in future periods, therefore reducing the tax payable in the future.

When a company records a deferred tax asset it must be convinced that they will be able to use them to reduce future liabilities. Where doubt arises, due for example to an early expiry date or because the company is continuing to make losses, it would record the asset in the balance sheet but then create a 'valuation allowance' which is used to reduce the overall value of the asset. The creation of a valuation allowance will impact the GAAP tax charge for the year and therefore the GAAP ETR. No cash tax is paid and therefore there is no impact on the Cash ETR. These charges are potentially large and do not indicate tax avoidance but could affect statistical analysis of ETRs.

A substantial difference could arise between the cash and GAAP ETRs even over the long run period examined in this sample. This could potentially distort the findings of the economic model. As noted above the sample was examined for evidence of companies that had booked or released significant valuation allowances during the period under examination. Two companies, Ford and Goodyear Tires were removed from the sample when they were found to have substantial differences between their LR Cash ETR and LR GAAP ETRs. These companies were therefore examined separately by looking in depth at their tax affairs as case studies in Chapter 6. Other companies within the sample have created or released valuation allowances which will have affected their ETR but without such significant implications for their ETRs.

Table 7 Differences Between LR GAAP and LR Cash ETRs

	LR GAAP ETR	LR Cash ETR	Difference
Ford	(337.91%)	49.89%	387.80%
Goodyear Tires	(11.89%)	69.18%	81.07

Source: Ford and Goodyear Tires Annual Reports 2005-2014.

Detecting these two companies with these extreme differences does not undermine the use of ETR as a measure for tax avoidance but does highlight the need to understand the measure and the potential for its distortion.

5.5 Research Design

A sample of 100 of the largest US companies was collated taking data for the ten-year period 2005 - 2014. The companies were selected from the Fortune 500. The largest US companies with overseas subsidiaries were selected. Following other similar research (Taylor et al 2015) companies in banking and the oil and gas sectors where tax, disclosure and regulatory arrangements are significantly different, were excluded.

The relatively small sample allowed for in depth analysis, providing a holistic view of each company. Data was collected manually from the annual reports for each of the companies over a ten-year period. Information was read and analysed from the Statement of Consolidated Earnings, Consolidated Statement of Financial Position, the management discussion and the disclosure notes to the accounts. One company was

subsequently excluded from the analysis as they sold substantially all of their overseas holdings during the time period analysed. Two companies were excluded from the sample, as they did not disclose their cash taxes paid, despite a SEC requirement to do so. Two companies merged during the time period under consideration and two further companies (Ford and Goodyear Tires) were removed from the sample, as discussed earlier, as an initial review of their annual reports revealed that their use of deferred tax provisions significantly distorted their tax payments. These two companies are investigated thoroughly as case studies in Chapter 6. This leaves a sample of 94 US MNEs for analysis which is sufficient for statistical testing. Hair, Black, Babin, Anderson and Tatham (2010 p.174) suggest that at the .01 level this sample size, combined with the number of IVs used will result in the detection of relatively small R^2 values.

The sample is also large enough to generate findings that are generalizable to the wider population. Hair et al (2010 p.175) state that there should be minimum ratio of five observations for each IV in the regression. This sample comfortably sits within that ratio. Although the sample is relatively small it will not make the statistical significance tests overly sensitive as can be the case with large (1000+) samples.

A series of ordinary least squares (OLS) regressions have been conducted using SPSS and Eviews software to demonstrate the impact of factors on causality across the model.

Regression 1 regresses company characteristics on profitability. Regression 2 regresses company characteristics on the cash / asset ratio and profitability. The impact of company characteristics, profitability and cash holdings on LR GAAP ETR and LR Cash ETR are then calculated in Regressions 3 and 4. The next section discusses the use of ETR in quantitative research and how it was calculated for this analysis.

5.6 Descriptive Statistics

This section sets out the descriptive statistics for the sample. Table 7 below sets out the differences between the two measures of ETR: LR GAAP ETR and LR Cash ETR.

Table 8 Descriptive Statistics Comparing LR GAAP and LR Cash ETRs

N=94	LR GAAP ETR	LR CASH ETR
Minimum	(14.41%)	0.17%
Maximum	63.95%	53.80%
Mean	29.11%	25.72%
Standard Deviation	10.86%	11.02%

For both measures of the ETR the federal statutory corporate tax rate of 35 per cent falls within one standard deviation of the mean. Whilst there are companies at the lower end who are clearly paying a distorted rate of tax, many companies are paying a rate that is relatively close to the nominal rate.

Figure 5 Continuum of LT Cash ETRs

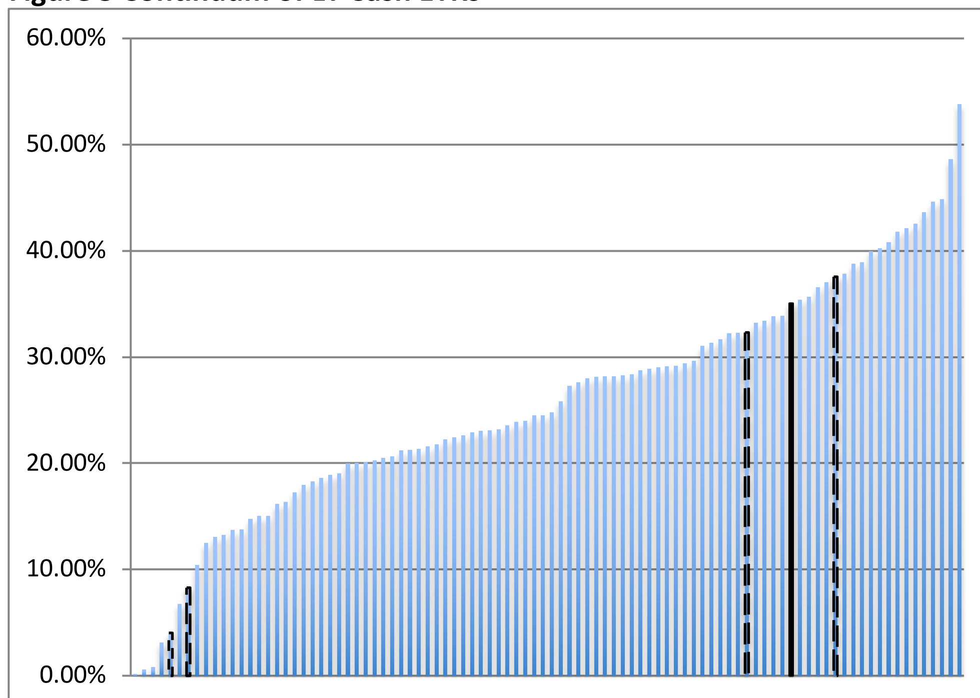


Figure 5 shows the continuum of LR ETRs calculated. Rather than clustering around the statutory rate the ETRs create a smooth curve. The company highlighted in solid black is the pharmaceutical company Pfizer which is the company that has paid the closest to the federal statutory rate over the ten year period. The chart demonstrates the complexity of tax planning. The case studies presented in Chapter 6 unravel a number of these positions. The dotted lines in the chart above represent the four case study

companies that are included within the sample: the first is Google (Alphabet), followed by Amazon, Nucor and Starbucks.

The overall mean Cash LR ETR of the sample was 25.72 per cent. 13.83 per cent of this sample were able to maintain a LR Cash ETR of less than 20 per cent and 4.26 per cent were able to maintain a rate at less than 10 per cent. Overall this sample of companies is relatively similar to the large (2,077 US firms) sample used by Dyreng et al (2008) that found an overall mean Cash LR ETR of around 29.6 per cent. Whilst the sample mean reflects a more aggressive overall position, fewer companies were able to maintain extreme positions over the ten-year period. Dyreng et al found that 26.3% of the firms in their sample were able to maintain a LR Cash ETR of less than 20% and that 9.2% of the companies in the sample were able to maintain a ten-year rate of less than 10%. The overall ETRs are likely to reflect a combination of each MNE's opportunity and motivation to avoid taxes as discussed in Chapter 4. Some MNEs may be working to minimize their taxes but others may be more aware of factors such as corporate reputation that may lead them only to implement measures to reduce their tax payments to a certain point.

The differences between the two samples may reflect the different time periods studied (1995-2004 for Dyreng; 2005-2014 here). Dyreng's sample was taken before the global financial crash and any reduction in tax avoidance aggressiveness that may have followed. This is reflected in the reduction in ETR over the ten-year period studied as shown in Table 8.

Table 9 GAAP and Cash ETR Ten Year Trends

%	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
GAAP ETR	26.35	23.50	27.88	24.11	25.88	25.03	29.36	27.70	26.65	32.21
Cash ETR	25.06	24.04	25.74	19.92	23.97	23.49	27.00	27.51	27.48	39.61
Difference	1.29	-0.54	2.14	4.19	1.91	1.54	2.36	0.18	-0.82	-7.40

The ten year figures in Table 9 show a fairly steady downward trend. The high for both measures was in 2005 at 32.21 per cent for GAAP ETR and 39.61 per cent for Cash ETR. For GAAP ETR the lowest year was 2013 and for Cash ETR the lowest year was 2011.

The trend since the lowest point for both measures is unclear. Further analysis in the future is necessary to confirm whether there is now an upward trend as projected by the interviewees in Chapter 4 who surmise that since the global financial crash companies have pursued tax minimisation less aggressively, opting instead for a tax optimisation approach.

Descriptive statistics for the sample are presented in Table 10. The names and brief descriptive information about the companies included in the sample are included in Appendix 1.

Table 11 reports the correlations between explanatory variables. The highest level of correlation is r=-.566. Hair et al (2006) suggest that this should be considered as only moderate collinearity (±0.25 and ±0.75). The higher levels of correlation are between the different measures of tax haven usage – Dot tax havens and the Group measures and the internationality index. This is not unexpected.

Variance inflation factor (VIF) values have been calculated for each of the IVs. No factor is greater than 2.2, which is well below the level of 10 cited by Hair et al (2006). Multi collinearity is therefore not a concern for this model.

Inclusion in the DJSI 2014 is positively correlated at the 1 per cent level to the presence of a female CEO and the percentage of women on the board. The relationship between female board members and executives and companies placing a greater emphasis on corporate social responsibility has been reported in the literature review.

Not surprisingly the two measures of LR ETR – cash and GAAP are correlated at the 1 per cent level demonstrating the systematic relationship between these two measures that is explored in the following regression analysis.

Table 10 Descriptive Statistics

Independent Variable	Minimum	Maximum	Mean	Std. Deviation
LN 2014 Assets	8.72	13.39	10.63	0.91
IP Assets/ Total	0.00	0.48	0.08	0.10
% Women on Board	0.00%	37.50%	22.65%	7.97%
Female CEO	0	1	0.074	0.2639
Female CFO	0	1	0.16	0.3682
Included in DJSI	0	1	0.351	0.4799
Profitability	-1,362.90	24,279.10	4,538.58	5,258.15
Internationality index	0	0.9	0.4144	0.26945
Dot Tax Havens	0	1	0.8404	0.36817
Group 1 Tax Havens	0	1	0.8617	0.34706
Group 2 tax Havens	0	1	0.6277	0.48602
Group 3 Tax Havens	0	1	0.7021	0.45978
2 or more yr loss	0	1	0.053	0.2256
Cash / Asset ratio	0.00	0.24	0.07	0.04

Table 11 Correlations

N=94	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. LN 2014 Assets	1															
2. IP Assets/Total Assets	.336**	1														
3. % Women on Board	0.194	0.009	1													
4. Female CEO	0.11	0.054	.230*	1												
5. Female CFO	-0.027	-0.195	.204*	-0.124	1											
6. Included in DJSI	0.017	-0.102	.283**	.301**	0.166	1										
7. Profitability	0.073	-0.039	0.133	0	0.118	0.098	1									
8. Internationality index	0.085	0.082	0.042	0.052	-0.076	0.157	.237*	1								
9 Dot Tax Havens	0.07	-0.005	0.072	0.013	0.031	0.199	-0.077	.445**	1							
10. Group 1 Tax Havens	0.155	0.152	0.192	0.114	0.006	0.166	.254*	.536**	.330**	1						
11. Group 2 Tax Havens	0.176	0.065	-0.032	0.135	0.095	.244*	0.112	.469**	.566**	.329**	1					
12. Group 3 Tax Havens	.263*	0.035	-0.016	.299**	-0.122	.285**	-0.038	.455**	.255*	.235*	.451**	1				
13. 2 or more year loss	-0.087	-0.035	-0.118	-0.067	-0.103	0.124	-.392**	-0.1	-0.026	-.317**	-0.112	-0.139	1			
14. Cash / Assets ratio	-0.148	-0.151	-0.168	-0.075	-0.04	0.052	.276**	.325**	0.134	0.194	0.181	.231*	-0.04	1		
15. 10yr GAAP ETR	-.269**	-0.194	.250*	-0.075	0.146	0.075	-0.001	-.333**	-0.133	-0.163	-.213*	-.373**	0.001	-.257*	1	
16. 10yr cash ETR	-.289**	0.063	.225*	-0.063	0.062	-0.007	.266**	-0.023	-.270**	0.029	-0.182	-0.158	-.297**	-0.137	.433**	1

** Correlation is significant at the 0.01 level (2 tailed)

*Correlation is significant at the 0.05 level (2 tailed

5.7 Overall Regression Results

Table 13, below presents the results from the four regressions that make up the complete recursive model presented above in Figure 4. The results confirm the complexity of the relationship between the tax charged (LT GAAP ETR) and tax paid (LT Cash ETR) by a company with the company's characteristics and other factors related to tax planning. Whilst the regression results using profitability as the DV are presented in this table they are not discussed in detail in this section. The regression is a step towards explaining the next three regressions.

The R^2, the coefficient of determination, gives the overall variance that is explained by the model. It measures the strength of the relationship between the set of IVs and the DV. The R^2 dips between profitability and the cash ratio regressions indicating that profitability is not a good predictor of the cash / asset ratio. The R^2 for the cash / asset ratio is 0.253 meaning that the set of IVs included in the model are able to account for 25 per cent of the total variation in the cash / asset ratio. As expected, as the model builds with the previous DV becoming an IV the overall R^2 increases. The R^2 for the LR GAAP ETR increases to 0.355 or 35.5 per cent of the variation and to .503 or 50 per cent for the LR Cash ETR.

The adjusted R^2 reduces the R^2 by considering the explanatory power from adding additional IVs and is generally considered a more accurate measure of goodness of fit then R^2 (Hair et al 2006 p.215). Like the R^2, the adjusted R^2 increases across the recursive model from the cash / asset ratio to the two ETR measures. This indicates that the addition of these variables into the set of IVs is adding to the explanatory power of the model.

The F test of overall significance determines whether the model as postulated is a better fit than an intercept only model. In this case the significance of F allows the null hypothesis to be rejected and the conclusion drawn that this model provides a better fit than the intercept only model.

5.7.1 Heteroskedasticity

The Breusch Pagan Godfrey tests for heteroskedasticity was conducted using Eviews software on the full model. The results shown below in Table 12 show that there is an overall issue of heteroskedasticity at the 5 per cent level, although not at the 1 per cent level. Examination of the individual variables shows that Profitability is the only variable that demonstrates significant heteroskedasticity at 0.0027. The negative coefficient of -0.062120 indicates that there is greater variability of ETR in firms with very low or negative levels of profitability. This is likely to reflect the complexity of tax payments for these firms and in particular the use of losses brought forward to reduce tax payments as discussed above in section 5.3.7.

Table 12 Breusch Pagan Godfrey Test for Heteroskedasticity

F Statistic	**2.009509**		**Prob. F (15,78)**	**0.0248**
Obs*R-squared 26.20065			Prob. Chi-Squared (15)	0.0360
Scaled explained SS	19.56845		Prob. Chi-Squared (15)	0.1891
Variable	**Coefficient**	**St. Error**	**t-Statistic**	**Prob**
Constant	0.014254	0.013031	1.093893	0.2774
1. Natural Log of 2014 Assets	-0.000839	0.001084	-0.773636	0.4415
2. IP Assets /Total Assets 2014	0.012462	0.010126	1.230714	0.2221
3. % Women on Board 2014	-0.000410	0.012752	-0.032179	0.9744
4. Female CEO	0.005675	0.003653	1.553592	0.1243
5. Female CFO	0.002530	0.002541	0.995354	0.3226
6. Included in DJSI 2014	-0.000893	0.002074	-0.430583	0.6680
7. Profitability	-0.062120	0.020005	-3.105139	0.0027
8. Degree of internationality index	-0.003109	0.004673	-0.665385	0.5078
9. Dot tax havens	0.000704	0.002894	0.243199	0.8085
10. Group 1 Tax haven subsidiaries Y/N	0.001757	0.002419	0.726275	0.4698
11. Group 2 Tax haven subsidiaries Y/N	-0.002690	0.002650	-1.015029	0.3132
12. Group 3 Tax haven subsidiaries Y/N	0.002584	0.002282	1.132249	0.2610
13. 2 or more year loss	0.001932	0.004402	0.439046	0.6618
14. Av Cash Av Assets 05-14	-0.001443	0.002981	-0.06279	0.9501
15. LR GAAP ETR	0.017010	0.009978	1.704757	0.0922

5.7.2 Test for Normality

The Jarque Bera test for normality was conducted using SPSS software. The results are given below in Figure 6. The test concludes that the data has a normal distribution. The Jarque Bera test focuses on the tail of the distribution. The lack of serious outliers

demonstrates ensures that the tails fit the test for normality. It should be noted that two companies that could potentially have been significant outliers, Goodyear Tires and the Ford Motor company were removed from the sample prior to the analysis as they were identified as companies with potentially distorting high levels of deferred tax provision movement.

Figure 6 Jarque Bera Test for Normality

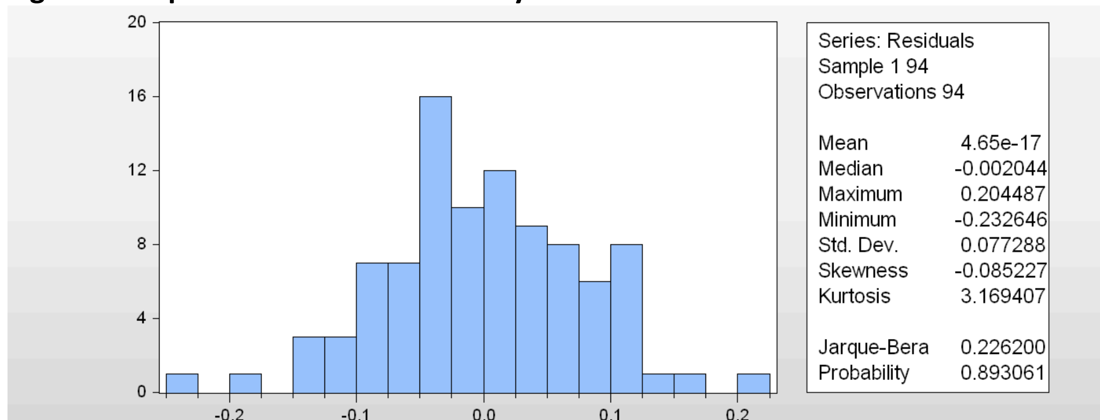


Table 13 Regression Results

Dependent Variable	Profitability	Cash / Asset ratio	LR GAAP ETR	LR Cash ETR
Constant	0.062	0.118**	0.685***	0.556***
	(0.05)	(0.054)	(0.128)	(0.134)
1. Natural Log of 2014 Assets	0.002	-0.006	-0.038***	-0.04***
	(0.006)	(0.005)	(0.012)	(0.011)
2. IP Assets /Total Assets 2014	-0.036	-0.058	-0.086**	0.234**
	(0.054)	(0.049)	(0.114)	(0.103)
3. % Women on Board 2014	0	-0.001*	0.003**	0.002*
	(0.001)	(0.001)	(0.001)	(0.001)
4. Female CEO	-0.019	-0.009	-0.056	-0.038
	(0.02)	(0.018)	(0.042)	(0.038)
5. Female CFO	0.005	-0.007	-0.006	-0.008
	(0.014)	(0.013)	(0.03)	(0.026)
6. Included in DJSI 2014	0.014	0.002	0.021	0.006
	(0.012)	(0.011)	(0.024)	(0.022)
7. Profitability	-	0.221**	0.19	0.331
		(0.101)	(0.238)	(0.214)
8. Degree of internationality index	0.048**	0.037*	-0.103**	0.087*
	(0.023)	(0.021)	(0.05)	(0.046)
9. Dot tax havens	-0.033	0.014	0.045	-0.095**
	(0.02)	(0.018)	(0.042)	(0.038)
10. Group 1 Tax haven subsidiaries Y/N	0.01	0.013	0.008	-0.016
	(0.018)	(0.016)	(0.037)	(0.033)
11. Group 2 Tax haven subsidiaries Y/N	0.008	0.004	0.001	-0.002
	(0.013)	(0.012)	(0.028)	(0.025)
12. Group 3 Tax haven subsidiaries Y/N	-0.01	-0.014	-0.055*	0.017
	(0.015)	(0.013)	(0.031)	(0.028)
13. 2 or more year loss	-0.082***	0.009	-0.023	-0.122**
	(0.023)	(0.023)	(0.052)	(0.047)
14. Av Cash Av Assets 05-14			-0.603**	-0.294
			(0.256)	(0.238)
15. LR GAAP ETR				0.345***
				(0.101)
R^2	0.283	0.253	0.355	0.502
Adjusted R^2	0.176	0.132	0.241	0.407
F	2.659	2.089	3.109	5.247
Significance of F	.005b	0.024	0.001	0.000

Standard errors are presented in parentheses

*, ** and *** indicate statistical significance at the 10%, 5% and 1% level.

5.8 Hypothesis Testing Results

This section discusses the results of the regression and interprets the specific findings in relation to the individual hypotheses that were posed in sections 5.2 and 5.3.

5.8.1 Size

Hypothesis 1: The size of the MNE is negatively related to LR ETR.

The size of the company as measured by the natural log of total assets is significant at the 1 per cent level for dependent variables LR GAAP ETR and LR Cash ETR. The coefficient of -0.38 for LR GAAP ETR and -0.04 for LR Cash ETR are similar, suggesting that these companies would pay 4 per cent less tax on average. This is clear support for Hypothesis 1.

Size is not significantly related to either profitability or the cash / asset ratio. Prior research has conjectured that larger firms have the finance and capability to invest in strategic tax planning. All of the firms included in this sample are large and should have the funds available to invest in tax planning if they are motivated. The impact of size on GAAP and Cash ETRs is clear but further investigation is needed to understand exactly what aspect of size generates the motivation or opportunity to reduce ETRs in this way.

Table 14 gives further analysis of this issue, considering the impact of corporate complexity. The table shows the top twenty firms by size with their sector and the number of subsidiaries. The mean number of subsidiaries in the sample as a whole is 594. Eight of the top twenty firms have fewer than the mean number of subsidiaries and twelve have more. Size does not seem to operate directly through the complexity of the business, or the number of subsidiaries that they have. Twelve of the MNEs in the top twenty firms have more than 50 per cent of their subsidiaries overseas – reflected in their 'internationality index'. However two of these firms have fewer than 10 per cent of their subsidiaries outside the US.

The top twenty firms by size are dominated by the tech sector and by pharmaceutical firms. The top twenty also include Walmart (retail), GE (conglomerate) and P&G (consumer staples). These firms may have more opportunity to shift profits via TP. Further research is needed with a larger sample that explores the relationship between industry and LR Cash and LR GAAP ETRs.

Table 14 Companies Ranked by Size

Company	Industry sub group	Industry	Natural Log 2014 Assets	No subs	Internationality Index (%)
GE	Industrial Conglomerates	Industrials	13.11	2283	55
AT&T	Integrated Telecommunication Services	Telecoms	12.91	773	8
APPLE	Technology Hardware, Storage & Peripherals	IT	12.58	145	33
Verizon	Integrated Telecommunication Services	Telecoms	12.41	466	31
Walmart	Hypermarkets & Super Centres	Consumer staples	12.20	834	52
Microsoft	Systems Software	IT	12.17	361	68
Pfizer	Pharmaceuticals	Health Care	12.03	1390	78
Comcast	Cable and Satellite	Consumer discretionary	12.02	1302	23
Alphabet Inc	Internet Software and Services	IT	11.90	288	49
Johnson & Johnson	Pharmaceuticals	Health Care	11.80	725	57
P&G	Household Products	Consumer staples	11.75	676	67
Duke Energy	Electric Utilities	Telecoms	11.70	523	22
Cisco Systems	Communications Equipment	IT	11.64	622	72
Oracle	Systems Software	IT	11.63	503	62
IBM	IT Consulting and Other Services	IT	11.61	699	72
HP	Technology Hardware, Storage and Peripherals	IT	11.58	515	63
Intel Corp	Semiconductors	IT	11.54	197	63
Merck	Pharmaceuticals	Health Care	11.53	985	78
Exelon Corp	Electric Utilities	Telecoms	11.47	984	2

5.8.2 Intellectual Property

Hypothesis 2: The level of IP is negatively related to LR ETR.

The coefficient for IP assets when regressed against LR GAAP as the DV, is -0.086, significant at the 5 per cent level. This provides support for Hypothesis 5, indicating that companies with higher levels of IP face a GAAP ETR that is 8.6 per cent lower over the ten year period.

The LR Cash ETR the coefficient is much higher at 0.234, also significant at the 5 per cent level but is positive. This does not provide support for Hypothesis 5. As with the internationality index discussed above, this is likely to relate to the cash taxes paid overseas that are not set off against current GAAP taxes in the US. Taxes are due in the overseas subsidiaries and the US MNE pays these taxes but as the profits are not returned to the US there is no similar GAAP tax liability booked. Further case study analysis is required to confirm the extent of these differences and the distorting effects that these are likely to have on company behaviour. This is a substantial new finding, resulting from the comparison of LR GAAP and LR Cash ETRs. The level of IP does not have a statistically significant impact on the cash/asset ratio.

5.8.3 Role of Women on the Board

Hypothesis 3a: The proportions of female board directors are positively related to LR ETR.

The regression results show support for Hypothesis 3a. Women on the board have a negative impact, significant at the 10 per cent level, on the cash holdings of a company (cash / asset ratio). This is consistent with cash being held to reduce the taxes paid. As expected, the percentage of women on the board has a positive impact on GAAP ETR (significant at the 5 per cent level), indicating that if there are more women on the board the GAAP tax paid increases. Similarly the cash tax, cash ETR increases with the percentage of women on the board although this is only significant at the 10 per cent level.

Whilst the magnitude of the difference is not large, with women on the board effecting a 0.3 per cent change to LR GAAP ETR and an even smaller 0.2 per cent change to LR Cash ETR, it is statistically significant demonstrating support for Hypothesis 7a.

In this sample only two companies have no women on the board, six have a single female representative, 34 companies have two female board members and 32 have three. 20 companies have four or more women on the board. In total women represent approximately one quarter of all board members (253 board positions out of a total of 1,118 in the sample.) Supplementary analysis was conducted to confirm the robustness of the findings and to consider whether there is a critical mass that is important to the operation of women on the board. The regressions were repeated replacing the percentage of women on the board with the absolute number of women. In this case there was no significant impact on the cash ratio but the coefficients using LR GAAP ETR was 0.032, significant at 1 per cent level. Results using LR Cash ETR gave a coefficient of 0.026 significant at the 5 per cent level.

Hypothesis 3b: Having women in key executive positions (CEOs, CFOs) is positively related to LR ETR.

The variables measuring whether a company has a female CEO or CFO are insignificant across all of the regressions. There is no evidence to support Hypothesis 7b. The sample, however, includes only seven female CEOs[16] and 18 female CFOs which may have affected the results. Future research could consider the role of female executive decision makers within a larger sample of MNEs.

5.8.4 CSR

Hypothesis 4: Concerns for CSR are positively related to LR ETR.

The regression results show that there is no statistically significant support for Hypothesis 4. Whilst the coefficients have the expected positive sign, they are not statistically significant across the Cash / Asset ratio and both measures of ETR. The hypothesis is rejected.

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[16] Lynn Good at Duke Energy; Phebe Novakovic at General Dynamics; Virgina Rometty at IBM; Marillyn Hewson at IBM; Irene Rosenfeld at Mondelez; Indra Nooyi at Pepsi; Ursula Burns at Xerox.

5.8.5 Internationality Index

Hypothesis 5: The degree of multinationality is negatively related to LR ETR.

The results for internationality are striking. The coefficient for the internationality index is significant across all four regressions. As might be expected it has a positive impact on profitability and the propensity to hold cash. It has a negative impact on the LR GAAP ETR, with a coefficient of -0.103 indicating that the most international companies pay a 10.3 per cent lower tax bill, significant at the 5 per cent level. This provides support for Hypothesis 5; companies that are more international are thought to have greater scope to use TP to shift profits and reduce group tax liabilities. These findings confirm earlier work by Grubert and Mutti (1991), Rego (2003), Dyreng and Lindsey (2009), Mills and Newberry (2004), Taylor, Richardson and Lanis (2015).

The coefficient for the LR Cash ETR is however, positive and significant at the 1 per cent level. More international companies are paying 8.7 per cent more cash taxes. This finding does not support Hypothesis 5. This result is likely to reflect the fact that these companies do still have to pay cash taxes in the overseas jurisdictions where they are located. MNEs can net these cash taxes paid off against the taxes due in the US but if they do not repatriate earnings to the US or use other methods to reduce their GAAP tax payable in the US they will have little liability to offset this against. It is likely that this overpayment of cash taxes is then recorded as a deferred tax asset by the MNE as they may be able to set these taxes off against domestic US taxes in the future. The differences in these coefficient signs provides significant new evidence that firms are able to reduce their GAAP taxes payable whilst earning profits overseas on which tax must be paid. The difference here between LR GAAP and Cash ETRs adds significantly to our understanding of these measures and of corporate behaviour.

These results are reinforced by the findings discussed in section 5.8.2 on IP.

5.8.6 Tax Havens

Hypothesis 6: The establishment of at least one tax haven subsidiary is negatively related to LR ETR.

The model makes interesting, complex new findings in relation to tax havens. The measure of dot tax havens has a negative coefficient of -0.095, significant at the 5 per cent level when LR Cash ETR is the DV. This provides support for Hypothesis 6; if MNEs have a presence in dot tax havens their LR Cash ETR is reduced by 9.5 per cent. However, analysis (not reported) that considered the total number of subsidiaries in dot tax havens found no similar relationship. It appears that simply establishing a single subsidiary in a tax haven is sufficient to gain the reduction in LR Cash ETR. Firms with more subsidiaries in dot tax havens do not gain further advantage. The coefficient for Dot Tax Havens when LR GAAP ETR is the DV is not significant but it is interesting as the sign is positive. Firms are not using tax havens to reduce their overall GAAP ETR; the GAAP ETR finding does not provide support for Hypothesis 6.

A second measure of tax havens using an IMF definition and looking at the three groups of tax havens was also examined. A small effect, significant at the 10 per cent level was discerned for Group 3 Tax Havens with GAAP ETR as the DV, supporting the hypothesis. No effect was found for Groups 1 and 2. Group 3 Tax Havens are small countries, most similar to the Dot Tax Havens measure and therefore include only countries where investments are likely to be driven solely by tax haven motivations. Groups 1 and 2 include larger countries where market access may also be a factor, making isolating the tax haven effect more difficult. None of the tax haven measures have a statistically significant impact on the cash / asset ratio. Overall the findings show mixed support for the hypothesis, demonstrating the complexity of the use of tax havens.

The table below provides the number of subsidiaries in each of the groups of tax havens studied. There is huge variation in the number of subsidiaries in tax havens. This is likely to reflect the philosophy behind the group corporate structure as well as the company's tax avoidance position. Pfizer has the most tax haven subsidiaries with 179. Only 6 companies have no tax haven presence at all.

Table 15 Tax Haven Subsidiaries

	Number of Dot Tax Haven Subsidiaries	Number of Group 1 Tax Haven Subsidiaries	Number of Group 2 Tax Haven Subsidiaries	Number of Group 3 Tax Haven Subsidiaries	TOTAL
3M	7	20	1	6	27
Abbott Laboratories	60	54	16	49	119
AECOM	6	5	0	2	7
Alcoa	2	3	0	0	3
Alphabet Inc	3	11	3	0	14
Altria	0	2	0	0	2
Amazon	14	15	0	1	16
American Airlines	2	0	0	2	2
Amerisource Bergen	1	1	0	0	1
Amgen	6	2	5	0	7
APPLE	0	4	0	0	4
Arrow Electronics	10	58	0	8	66
AT&T	1	3	0	2	5
Autonation	1	0	0	1	1
Avnet Inc	6	45	1	4	50
Best Buy	2	5	1	14	20
Cardinal Healthcare	5	5	2	2	9
Caterpillar	24	68	8	10	86
Centurylink	1	7	0	2	9
CHS Inc	7	9	1	3	13
Cisco Systems	20	33	12	8	53
Coca Cola	3	8	0	4	12
Comcast	4	12	2	2	16
Community Health Systems	2	0	0	2	2
Costco	1	0	1	0	1
Cummins	1	7	0	5	12
CVS Healthcare	0	0	0	0	0
Danaher	11	73	2	1	76
Deere & Co	5	8	0	0	8
Delta Airlines	1	0	1	0	1
Disney	5	11	1	1	13
Dollar General	0	6	0	0	6
Dow Chemicals	33	55	24	14	93
Duke Energy	28	6	17	5	28
DuPont	30	43	2	6	51
Eli Lilly	10	25	3	7	35
EMC	29	43	7	22	72
Emerson Electric	20	54	8	13	75
Exelon Corp	4	2	1	5	8
Express Scripts Holding Company	0	2	0	0	2

Fedex	9	10	1	2	13
Fluor	15	1	6	14	21
GE	29	52	9	6	67
General Dynamics	2	20	2	0	22
Gilead Science	2	5	1	1	7
HCA Holdings	10	13	1	1	15
Home Depot	0	1	0	0	1
Honeywell International	14	32	5	4	41
HP	35	29	11	15	55
IBM	16	16	7	8	31
Icahn Enterprises	17	14	7	21	42
Intel Corp	18	7	2	13	22
International Paper	9	16	1	1	18
Johnson & Johnson	6	48	0	0	48
Johnson Controls	17	41	5	7	53
Kimberly Clark	15	16	4	13	33
Kohls	0	0	0	0	0
Kroger	1	0	0	1	1
Lockheed Martin	0	1	0	0	1
Lowe Companies	0	0	0	0	0
Macy	0	4	0	0	4
Manpower	11	24	4	7	35
McDonalds	7	23	1	0	24
McKesson	16	9	12	0	21
Merck	40	72	26	13	111
Microsoft	15	27	2	2	31
Mondelez	12	46	5	12	63
Nike	12	15	12	2	29
Northrop Grumman	1	1	0	1	2
Nucor	0	0	0	0	0
Oracle	15	26	6	9	41
P&G	9	19	0	3	22
Paccar	0	1	0	0	1
Pepsi	82	62	23	36	121
Pfizer	114	136	7	36	179
Qualcomm	14	11	6	9	26
Raytheon	5	1	2	3	6
South West Airlines	1	0	1	0	1
Staples	16	10	3	8	21
Starbucks	3	12	0	4	16
Sysco Corp	8	6	2	4	12
Target	2	4	1	0	5
Tech Data Corp	4	6	0	3	9
Time Warner	0	5	0	0	5
Tyson Foods	18	14	4	9	27

Union Pacific	0	0	0	0	0
United Continental Holdings	0	0	0	0	0
United Technologies	34	60	1	7	68
UPS	6	14	0	1	15
Verizon	21	19	3	1	23
Walgreen	18	25	3	5	33
Walmart	48	46	1	35	82
Whirlpool	22	35	3	3	41
Xerox	25	22	11	8	41
TOTAL	1,159	1,782	320	529	2,631

Source: OSIRIS Database

Figure 7 Frequency Distribution of Number of Tax Haven Subsidiaries

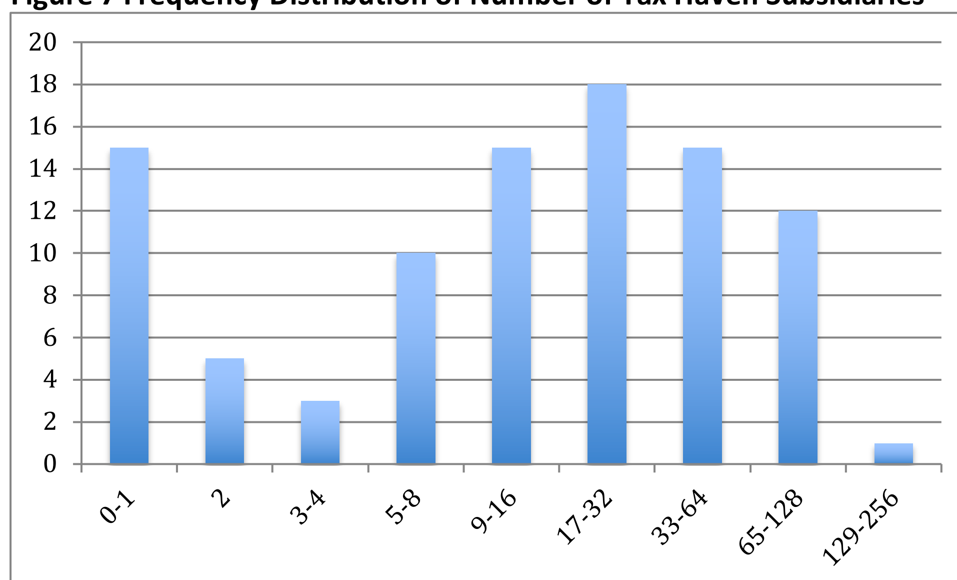

Figure 8 summarises the information given in Table 14 above, using a logarithmic scale. The most frequent number of subsidiaries falls into the 17-32 (18 companies) category followed by the 0-1 category (where 6 companies have 0 tax haven subsidiaries and 9 have 1) and 9-16 (15 companies).

The correlation matrix (Table 10) shows that the relationships between the Tax Haven variables are complex. The Dot Tax Haven measure is positively correlated with all three of the IMF categories (Groups 1, 2 and 3 Tax Havens). Dot Tax Havens are negatively correlated with LR Cash ETR at the 1 per cent level (coefficient of -.270). The IMF measures do not correlate with the LR Cash ETR but Groups 2 and 3 are correlated with LR GAAP ETR (Group 2 -.213 at the 5 per cent level and Group 3 -.373 at the 1 per cent

level). There are clearly complex interactions occurring. Further understanding of the differences between tax havens is needed. Rather than simply using size as a refining measure as with Dot Tax Havens, more detail on the infrastructure that is available in these locations for MNEs and what the specific advantages of the different tax havens are is needed. A new measure of tax havens that considers the ease of use for MNEs, the facilities available and the cost of establishing a tax haven may help to explain some of the complexity.

5.8.7 Losses

Hypothesis 7: Registering losses for two or more years is negatively associated with LR ETR.
As expected, the variable capturing whether a company had incurred more than two losses over the last ten years is negatively related to the profitability of the company, significant at the 1 per cent level. It is also negatively related to the LR Cash ETR at the 5 per cent level. This provides strong support for Hypothesis 7 suggesting that MNEs are able to use losses to reduce the taxes paid. It seems likely that some of the losses are incurred overseas where the cash payments are then reduced. No effect was found for LR GAAP ETR. This is a new finding as previous studies have excluded companies with losses from their analysis. Further exploration of losses and how they contribute to tax planning is required.

5.8.8 Residuals Analysis

The residuals from the three regressions were correlated with the results presented below in Table 16. The low level of correlation between the three sets of residuals confirms that the differences between the three regressions are unrelated, separate factors. There are no unobserved factors simultaneously impacting on the three DVs.

Table 16 Correlation of Residuals from the Three Regressions

	Cash Ratio DV	LT GAAP ETR	LT Cash ETR
Cash Ratio DV	1		
LT GAAP ETR	0.001705	1	
LT Cash ETR	0.010593	0.13296	1

*No correlations are significant at the 0.1, 0.005 or 0.01 level.

5.9 Conclusion and Areas for Future Research

This research has presented new information, contributing to our understanding of the key company characteristics that affect a MNE's motivation and ability to profit shift and reduce their taxes paid.

Hypothesis		*Test results*
Hypothesis 1	*The size of the MNE is negatively related to LR ETR.*	*Supported*
Hypothesis 2	*The level of IP is negatively related to LR ETR.*	*LR GAAP ETR– Supported* *LR Cash ETR– Not supported*
Hypothesis 3a	*The proportions of female board directors are positively related to LR ETR.*	*Supported*
Hypothesis 3b	*Having women in key executive positions (CEOs and CFOs) is positively related to LR ETR.*	*Not supported*
Hypothesis 4	*Concerns for CSR are positively related to LR ETR*	*Not supported*
Hypothesis 5	*The degree of multinationality is negatively related to LR ETR.*	*LR GAAP ETR – Supported* *LR Cash ETR – Not supported*
Hypothesis 6	*The establishment of at least one tax haven subsidiary is negatively related to LR ETR.*	*LR GAAP ETR - Not supported* *LR Cash ETR – Supported*
Hypothesis 7	*Registering losses for two or more years is negatively related to LR ETR.*	*LR GAAP – Not supported* *LR Cash - Supported*

This study demonstrates the importance of size to the MNE in relation to its tax planning. Size was consistent, significantly (at the 1 per cent level) related to both measures of LR ETR. Extra analysis to understand what aspect of size enables the largest MNEs to reduce their tax burden is required. Further research could usefully consider what properties of size enables these companies to reduce their tax burden so effectively, particularly since the analysis on group complexity is inconclusive. Complexity of corporate structure does not appear to play a key role. Industry may be key with additional research presented above showing that the top twenty firms by size are dominated by the tech sector and by pharmaceutical firms which may have more opportunity to shift profits via TP. Further research is needed with a larger sample that explores the relationship between industry and LR Cash and LR GAAP ETRs.

Internationality (the degree of multinationality) plays a role here but no evidence was found to support the idea that the more complex organisations, that is, those with the most subsidiaries are better at reducing their tax liability. Tax havens play a key role in reducing tax liabilities with MNEs with dot tax haven presence reducing their LR Cash ETR by 9.5 per cent. Tax havens are an important aspect of analysis when considering tax planning as the use of tax haven subsidiaries is likely to be more directly related to tax avoidance measures than other potential, more indirect mechanisms of profit shifting. If a firm has a subsidiary in a dot tax haven it is almost certainly as a consequence of its potential to reduce its tax liability. New work on tax havens could consider the different aspects of infrastructure and services available in different places; what makes firms choose one dot tax haven over another. A new measure of tax havens that weights the ease or cost of use in comparison to the potential benefits could add considerable new insight.

This research demonstrates the importance of IP assets as a mechanism to shift profits, affecting both LR Cash and LR GAAP ETRs. The difference here between the negative impact on LR GAAP ETR and the positive impact on Cash ETR is an important new finding. This repeats the findings of the impact of internationality where more international companies report lower LR GAAP ETRs but higher LR Cash ETRs. The different impact on these two measures is an important new finding demonstrating the

complexity of the relationship of the two measures. What is clear is that MNEs may face a choice between measures that increase the volume of cash tax paid overseas and the GAAP tax charged in the USA. Further exploration of the manner of these choices and the way in which MNE evaluate the outcomes would add to understanding of this key issue.

The relationships between the different measures of the ETR (LR GAAP ETR and LR GAAP ETR) are complicated and difficult to disentangle. The lack of cohesion between the two over the ten year period may indicate the presence of some manipulation but there are real differences in the way that the two are calculated. Further research is needed to understand these differences and the way that they interact with the characteristics of a company. As stated in Section 5.4 the use of reserves, notably the use of valuation allowances against deferred taxes will have a significant impact on the differences between the ETRs. The case studies that follow this chapter on Ford and Goodyear Tires explore this in more detail. Work that considers the differences in deferred tax calculations between different firms in a statistical manner is also needed.

A substantial new finding from this research is the role that women play on the board of these companies and their impact on the LR ETRs. There is a clear relationship between the percentage of women on the board and the Cash Ratio as well as both measures of LR ETR. The proportion of women on the board clearly operates as a brake on corporate tax avoidance. These findings confirm earlier research about the different profile of women on the board (Eagly and Johnson 1990; Hillman et al 2002; Eagly et al 2003;), their approach to the role (Wang and Coffey 1992; Williams 2003; Adams and Ferreira 2009) and their approach to risk (Torgler and Valev 2010; Francis et al 2014; Barua et al 2010 and Huang and Kisgen 2013). Women may take a longer term view of the company, with greater consideration of the potential for tax avoidance to impact on areas such as corporate reputation. Women may therefore place even more emphasis on tax optimisation rather than tax minimisation. More research into the specific manner of this influence is needed to understand how women are able to influence boards in this way.

The two measures of ETR used here: LR GAAP ETR and LR Cash ETR appear to provide useful information about the tax avoiding activities of the MNEs. The differences that

emerge between the two measures, particularly in relation to IP and internationality (the degree of multinationality) indicate that a good understanding of the measures and how they are compiled is essential when interpreting results involving ETRs. LR Cash ETR reflects the cash taxes incurred in overseas operations. This can then be offset against US taxes to reduce the overall cash tax liabilities. If there are insufficient US taxes payable due to tax planning or poor performance these taxes cannot be offset and remain and irreducible core.

The next chapter consists of case studies of six companies that provide a detailed picture of the tax planning strategies of these companies. These case studies supplement the findings here in terms of the complex relationship between LR Cash and LR GAAP ETRs. They also demonstrate the substantial information that can be drawn from publicly available information in the confidentially sensitive area of corporation tax.

6 Case Studies

This chapter includes six case studies of US MNEs: Amazon, Ford, Goodyear Tires, Google, Starbucks and Nucor. The case studies examine their tax planning strategies in detail to provide an overview of how companies are able to use the mechanisms described in earlier parts of this thesis and how the characteristics of these companies influence their overall tax liabilities. These case studies are designed to complement and enhance the research presented in the earlier chapters of this thesis.

These case studies are based largely on an analysis of the content of company annual reports, (content analysis methodology Wright 2011). These provide a rich source of information that is often neglected in IB research but are frequently used in the accounting and international tax literature (Chen, Su and Wu 2010, Bewley and Schneider 2013, Hageman and Bobek Schmitt 2014). Quantitative research tends to focus on the comparison of large scale data on a panel or longitudinal basis. Figures may be extracted from the annual report for use in these databases but there is little research that uses the depth of information that is provided. Whilst there are severe limitations to the disclosures made by companies in annual reports there is still scope for researchers to utilise this public information to a far greater extent.

The role of case studies and the purposes and the conclusions that can be drawn from them have been explained in the Research Methodology section in Chapter 3. This chapter presents the individual case studies and ends with a concluding section detailing the findings from the case studies and implications for future research.

6.1 Amazon

Amazon.com is a well known US company founded in 1994. It operates 13 websites globally, five of which are in Europe. It was listed on the NASDAQ in 1997. It initially started as an online book seller but has diversified and is now the world's largest online retailer selling almost anything, including DVDs, clothes, electronics and groceries. It also has an online 'marketplace' where third parties can sell their products via the amazon websites. It produces the Kindle, an electronic book reader and the accompanying e-books as well as online music.

Amazon provides marketing and online advertising services. Amazon Web Services provides access to IT infrastructure for a range of different types of business.

Amazon has pursued sales growth and a strategy of market domination in preference to short-term profit maximisation (Rugman and Collinson, 2012). It has two regionally segmented divisions: North America and International. Sales have grown by 948% in the ten year period shown below. It is still however a Home Region company with US sales dominating its income stream (Rugman and Verbeke, 2004). In 2014 Amazon had a global revenue of $88,988 million and a post tax profit of $274million. This was split 62% ($55,469) North America and 38% ($33,519) in the International segment.

Amazon's key FSAs relate to its size and logistics expertise. Amazon has strength through its size enabling it to provide goods quickly to customers all over the world. Amazon has also gained by being the first in the online market in many segments enabling it to attract customers and build its dominant logistics. Amazon's brand name gives it another clear FSA, helping it to attract customers to its international websites.

This case study focuses on Amazon's UK business and the manner in which it attributes revenues to the UK and other countries, thereby selecting the jurisdiction where tax liability is generated. Amazon uses two key methods to reduce its tax payments in the UK that are explained in detail below. The first method involves reducing the amount of UK sales that are booked by the UK subsidiary and are instead charged to the European headquarters. The second method involved TP using royalties to shift profits between subsidiaries.

Table 17 Amazon Inc. Revenue and Net Sales Over Time

US$ millions	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Total Revenue	88,988	74,452	61,093	48,077	34,204	24,509	19,166	14,835	10,711	8,490
YoY Sales Growth	19.52 %	21.86 %	27.07 %	40.56 %	39.56 %	27.88 %	29.19 %	38.50 %	26.16 %	22.67 %
Profit /(loss) Before Tax	(111)	506	544	934	1,497	1,161	901	660	377	428
Provision for income tax	167	161	428	291	352	253	247	184	187	95
Net income	(241)	274	(39)	631	1,152	902	645	476	190	359
Return on Sales*	-0.12%	0.68%	0.89%	1.94%	4.38%	4.74%	4.70%	4.45%	3.52%	5.02%

Source: Amazon. Annual Reports

*Calculated based on information in Annual Reports

6.1.1 The Role of Amazon.co.uk

Amazon.co.uk Ltd was the main UK subsidiary of online retailer Amazon.com over the time period under examination[17]. The UK subsidiary provides services to other group companies, the largest of which is its direct parent company Amazon EU Sarl that is located in Luxembourg. Amazon.co.uk Ltd fulfilled orders that are placed online. However, the UK company does not own any of the inventory (or bear any of the risk) and consequently makes no money from the sale of goods. Amazon.co.uk Ltd (now Amazon UK Services Ltd) is a separate company and files accounts with the UK Companies House but is merely a service company providing logistics and customer support services as well as some financial services to other group companies at the instruction of Amazon EU Sarl. It is paid by Amazon EU Sarl for these services. The annual report, filed at the UK Companies House states that: *'The principal activity of the Company is the provision of fulfilment and corporate services to other Amazon group undertakings'* (Amazon.co.uk 2014 p.5) The report also indicates that the KPI for the company is the control of administrative expenses (Amazon.co.uk 2014 p.5).

Amazon EU Sarl does not have a Permanent Establishment (PE; See Glossary) in the UK and so is not liable to pay UK taxes. The only tax that is paid in the UK is that relating to Amazon.co.uk's income from providing services to other group companies.

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[17] Amazon.co.uk changed its name on 3rd August 2015 to Amazon UK Services Ltd.

Table 18 Geographical Segment Sales

$'000	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
North America	55,469	44,517	34,813	26,705	18,707	12,828	10,228	8,095	5,869	4,711
International	33,519	29,935	26,280	21,372	15,497	11,681	8,938	6,740	4,842	3,779
Total	88,988	74,452	61,093	48,077	34,204	24,509	19,166	14,835	10,711	8,490
% International Sales	37.66%	40.21%	43.02%	44.45%	45.31%	47.66%	46.63%	45.43%	45.20%	44.51%

Source: Amazon.com Inc. Annual Reports 2005-2014.

Table 19 Amazon.co.uk Sales and Net Income Over Time

US$ '000	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Revenue	1,058,491	744,374	520,543	322,417	229,929	178,073	137,844	160,901	152,101	123,416
Revenue Growth	42.20%	43.00%	61.45%	40.22%	29.12%	29.18%	(14.33%)	5.79%	23.24%	13.60%
PBT	53,606	28,307	17,649	4,800	(3,910)	(5,375)	(1,149)	637	2550	3828
Tax	(18,615)	(6,883)	(5,125)	(2,918)	(807)	2,026	(335)	(2,262)	(1,555)	473
Net income	34,992	21,424	12,524	1,881	(4,717)	(3,349)	(1,483)	(1,624)	995	4,301
Return on sales	5.06%	3.80%	3.39%	1.49%	-1.70%	-3.02%	-0.83%	0.40%	1.68%	3.10%

Source: Amazon.co.uk Annual Reports 2005-2014
Amounts from accounts denoted in £GPB, here translated to $USD using year end exchange rates.

As Amazon reports its international business as a single segment, historically very little information about its performance at a country or regional level has been available. North American sales dominate total revenue. Until 2009 the international segment's share of total sales was growing (highpoint of 47.66% in 2009) but from this point the North American sales have been growing faster than the International sales such that by 2014 International sales accounted for only 37.66 per cent. Amazon is firmly a home region based company (Rugman and Verbeke, 2004). International sales have, however, grown quickly, increasing by 782 per cent over the ten year period.

It would appear that Amazon should have been providing more information about some sales. IFRS 8 'Operating Segments' states that information should be provided about countries that account for 10 per cent or more of a company's sales. Accountants PriceWaterhouseCoopers (2008) report that:

'It requires an entity to report financial and descriptive information about its reportable segments. Reportable segments are operating segments or aggregations of operating segments that meet specified criteria: [IFRS 8.13]

its reported revenue, from both external customers and intersegment sales or transfers, is 10 per cent or more of the combined revenue, internal and external, of all operating segments; or

the absolute measure of its reported profit or loss is 10 per cent or more of the greater, in absolute amount, of (i) the combined reported profit of all operating segments that did not report a loss and (ii) the combined reported loss of all operating segments that reported a loss; or

its assets are 10 per cent or more of the combined assets of all operating segments.'

Prior to 2012 Amazon.com Inc did not disclose any information about any markets below the level of their 'International' segment. From the information subsequently released it would appear that they had a number of markets (Japan, Germany and the UK) that were contributing more than 10% of their total revenue and further disclosures should have been made.

Table 20 Amazon Revenue by Country 2014-2012

$'million	2014		2013		2012	
	Net sales	**% Total**	**Net sales**	**% Total**	**Net sales**	**% Total**
Germany	11,919	13.39	10,535	14.15	8,734	14.30
Japan	7,912	8.89	7,639	10.26	7,800	12.76
UK	8,341	9.37	7,291	11.93	6,478	10.06

Source: Amazon.com Inc Annual Reports 2005-2014.

Information disclosed to the UK House of Commons, Public Accounts Committee as part of an investigation into the corporation tax paid in the UK by certain MNEs shows that Germany, Japan and the UK all account for significant parts of Amazon's business.

Table 21 Amazon Revenue by Country 2012-2010

$'million	2012		2011		2010	
	Net Sales	**% Total**	**Net Sales**	**% Total**	**Net Sales**	**% Total**
Germany	8,732	14.29	7,230	15.04	5,296	15.48
Japan	7,800	12.77	6,576	13.68	5,025	14.69
UK	6,478	10.6	5,348	11.12	3,929	11.49

Source: Public Accounts Committee written evidence (2012); Amazon.com Inc. Annual Report 2012

Amazon's European region business is run by a single subsidiary, Amazon EU Sarl. This operates out of Luxembourg across 27 EU countries. It employs 500 people and made revenue of Euros 9.1 billion and after tax profit of Euros 20 million (Public Accounts Committee Verbal Evidence 2012). In the UK, Amazon has more than 15,000 employees (plus 10,000 extra seasonal temporary workers). It operates 8 fulfilment centres in the UK – large warehouses from where orders are completed and invoices printed and dispatched (Public Accounts Committee Verbal Evidence 2012). Amazon's third party market place seller business – which supports sellers on amazon.co.uk. is also owned by Amazon Services Europe Sarl.

The following table gives information about sales made in the UK and the related expenses. These sales are made by Amazon EU Sarl rather than by Amazon.co.uk Ltd and reflect all the sales made into the UK. This information is not disclosed by the company and these figures were provided to the UK House of Commons Public Accounts Committee investigation. A different picture of the size of the UK market to Amazon

emerges than that given in the Amazon.co.uk annual reports. Information relating to the UK segment has subsequently been reported in the Amazon.com Inc annual reports (See Table 22) but was not available before the Public Accounts Committee investigation.

As Amazon's European sales are based in Luxembourg it must pay tax there on all its European sales. It also applies the Luxembourg VAT rate where appropriate to its sales. The VAT rate on electronic books in Luxembourg is only 3% compared with 20% in the UK. Amazon is therefore able to provide e – books to UK customers at a significantly lower price than a UK retailer (The Guardian 21/10/2012).

The table below shows the difference in revenue and profits between the UK segment – the contribution made by UK consumers to the Amazon Inc. finances and those recorded by the UK company Amazon.co.uk Ltd, for the year 2011. Whilst the UK segment generated a total revenue of $1,872 million, only $134million revenue was booked in the UK as generated by Amazon.co.uk. The difference between these two amounts would have been booked largely in Luxembourg by Amazon EU Sarl.

Table 22 Amazon UK Segment Profit and Loss 2012

'$ million	UK Segment	Amazon.co.uk Ltd
Amazon.co.uk	1,872	134
LoveFilm and other	284	-
TOTAL REVENUE	2,155	134
Cost of Sales	-1,730	-
Expenses	-268	-132
Intercompany Charges [18] and net interest	-97	-
Other Expenses	-12	-
TOTAL COSTS	2,108	-
Profits Before Tax	48	2

Source: Amazon Written Submission to Public Accounts Committee 2013.
Information disclosed in £GBP but translated into $US as at Dec 2011 exchange rates.

[18] According to Amazon's submission to Public Accounts Committee 2013, the intercompany charges are primarily payments made to Amazon Europe Holding Technologies S.C.S for the use of intellectual properties.

The scale of business reported by Amazon.co.uk was considerably smaller than the overall business generated in the UK. In 2014 Amazon.co.uk Ltd made a profit before tax of $35million on a turnover of $1,058million. It then booked a charge for the year of $18million for UK Tax.

Amazon is able to record in the UK, only a small amount of the total revenues earned in the UK because it states that Amazon.co.uk is only a service company, offering services to the wider Amazon group. The wider Amazon group companies do not have a PE in the UK under EU rules. The EU uses the OECD's rules on tax that state that companies are liable to pay tax in a country where they have a PE. OECD rules set out a definition of a physical place, however in reality these attempt to capture where economic activity is undertaken. The OECD Guidelines (OECD 2010) define a PE in a country as:
'a) a place of management;
b)a branch;
c)an office;
d) a factory;
e) a workshop, and
f) a mine, an oil or gas well, a quarry or any other place of extraction of natural resources.
And exclude:
a) the use of facilities solely for the purpose of storage, display or delivery of goods or merchandise belonging to an enterprise;

Whilst the wider Amazon group employs a large number of people in the UK they argue that their 'fulfilment centres' fit in this final excluded category meaning that they do not have a PE in the UK. Their UK operations simply work on behalf of their European company.

6.1.2 Transfer Pricing and Amazon in Europe

Amazon EU Sarl is Amazon's principle operator of the retail and business services offered through European websites. Amazon EU Sarl (Luxembourg) is owned by Amazon Europe Technologies Holding SCS (Technologies, Luxembourg) which is ultimately owned by Amazon Inc. (the US). Technologies, Luxembourg owns the rights to the intangible assets (IP) that has been developed in the US and charges its subsidiaries for

using it (Licence Fee). Amazon's European business and in particular the calculation of this royalty payment are the subject of a European Commission inquiry to establish whether an agreement between Amazon and the Luxembourgish tax authorities gives Amazon such an advantage over its competitors that it amounts to the provision of State Aid (European Commission 2014). A preliminary report published in October 2014 found that the tax ruling was so favourable to Amazon that it constituted state aid (European Commission 2014).

A letter from Amazon to the Luxembourgish tax authorities in October 2003 (European Commission 2014) sets out a specific TP arrangement under which the licence fee would be calculated. The calculation was approved by the tax authorities. The Licence Fee would be calculated each year as a percentage of all revenue (the Royalty Rate) received by EU Sarl Luxembourg in connection with its operation of the European web sites.

Technologies is a partnership company and is set up so that it does not operate a PE in Luxembourg, the company has no tangible presence in Luxembourg, that is, no offices or employees. In this way it does not have to pay tax in Luxembourg. The partners of the company are American and do not reside in Luxembourg, their income should therefore be taxed in their home countries. However, as the partners are American they are not obliged to pay tax on their income until it is repatriated to the US.

Luxembourg did not submit any TP report to the European Commission that could have provided support for the TP arrangement in place. In its absence the European Commission thinks likely that the Luxembourgish tax authorities did not properly confirm Amazon's TP arrangements. The ruling request was assessed within eleven days, so in reality limited analysis could have taken place. The TP method proposed by Amazon and accepted by the Luxembourgish authorities in the contested tax ruling does not seem to correspond to any of the methods in the OECD Guidelines (OECD 2010).

The arrangement determines the royalty payment (Licence Fee) owed by Amazon EU Sarl (Luxembourg) to Technologies (Luxembourg) for the use of intellectual property (IP) rights. The OECD Guidelines (para 6.16) states that : *'a royalty would ordinarily be a recurrent payment based on the user's output, sales, or in some rare circumstances, profits.'*

In Amazon's case, however, the royalty is calculated as a residual profit. A calculation is made to determine the profit that is attributable to Amazon EU Sarl through its operation of the EU websites. The remainder of the profit is paid as the Licence Fee to Technologies. This royalty is clearly a 'residual' but according to Amazon is 'expressed' as a percentage of revenues. This does not comply with the OECD Guidelines that state that the residual should be calculated as a percentage of revenues. Expressing the amount as a percentage of revenues is merely cosmetic, how the figure is presented rather than how it is calculated. Amazon EU Sarl (Luxembourg) receives only 4 – 6% of operating expenses as remuneration for its work.

Luxembourg says that the payment is set as a residual as Amazon EU Sarl (Luxembourg) performs less complex functions than Technologies (Luxembourg). The OECD Guidelines (art 3.18) state that:
'as a general rule the tested party is the one to which a TP method can be applied in the most reliable manner i.e. it will most often be the one that has the less complex functional analysis'. (OECD 2010)

However, it appears that the functions of Amazon EU Sarl are complex. It runs the European web sites and serves as the European headquarters. The Commission report states that it: *'seems that LuxOpCo is taking strategic business and commercial decisions and assuming commercial risk, among others, inventory risk as well as operational risks related to the operating of the websites.'* (European Commission 2014)

Technologies (Luxembourg) by contrast, appears simply to sublicense IP that was not developed by it. The Commission (European Commission 2014) also concludes that the fact that Technologies (Luxembourg) does not pay tax in Luxembourg gives them an incentive to exaggerate the amount of royalty when applying the TP arrangement.

Amazon EU Sarl's 4 – 6% of operating expenses as revenue calculation appear to be based on the *transactional net margin method (TNMM)* (OECD 2010) In order to use TNMM an arm's length remuneration is obtained by comparing net profit indicators between independent companies to estimate the profits that one of each of the

associated companies could have earned had they dealt solely with independent companies.

In Amazon EU Sarl's case a net profit indicator based on operating costs appears to have been selected. There is no evidence, however, that this was calculated from any comparability analysis. The Commission (European Commission 2014) points out that as Amazon EU Sarl was performing complex functions this method appears inappropriate and that the margin used seems low.

In addition to the percentage of operating expenses used, a floor (0.45% of European turnover) and a cap (0.55% of European turnover) were set. These essentially override the pricing method based on operating expenses. Amazon and the Luxembourgish authorities give no explanation as to why such a combination of methods is used: *'It appears that the floor and the cap are used to ensure a relatively predictable level of taxable profit; they do not seem to be based on any arm's length reasoning' (European Commission 2014).*

6.1.3 Amazon: Conclusion

Amazon's group is structured in a way that reduces the tax that it pays in both the UK and in Luxembourg. By structuring carefully Amazon has been able to avoid having a PE in the UK despite the high level of business conducted there. The calculation of a UK ETR does not capture this type of tax avoidance as the calculation would be based on the existing business conducted in the UK, without including any evaluation of the business that is diverted and not recorded in the UK. This demonstrates the importance of the level of analysis. Amazon's structure and tax avoidance is complex and difficult to capture through the use of quantitative data justifying the use of case study methods and applying specifically the OECD concept of PE and the tax deal offered by the Luxembourg government to analyse in detail the way Amazon structures its business in Europe. This case study provides new useful insights into the tax affairs of this important company.

6.2 The Ford Motor Company

Ford was incorporated in 1903, and began by selling the Model A. It is well known for introducing the assembly line in 1913. It became a publicly listed company in 1956 (Ford 2017). It is now ranked 9th in the Fortune 500 (Fortune 500). Whilst it incurred significant losses in the 2008 financial crisis it was the only one of the large US automobile companies that did not receive a US government bail out. Ford sells Ford and Lincoln branded cars and vans in the US and focuses on the Ford brand outside the US. These brands are clear FSAs for the company.

They consider their main global competitors to include Fiat Chrysler Automobiles (Italy), General Motors Company (US), Honda Motor Company (Japan), Hyundai-Kia Automotive Group (South Korea), PSA Peugeot Citroen (France), Renault-Nissan B.V. (France/ Japan), Suzuki Motor Corporation (Japan), Toyota Motor Corporation (Japan), and Volkswagen AG Group (Germany). In North America, Canada and Mexico are also important markets. Britain and Germany are key markets in Europe, Brazil and Argentina in South America and Australia, Taiwan, Thailand, South Africa and Japan in the Asia Pacific region (Ford 2014).

As well as the manufacture and sale of cars income is also generated through leasing and financing (Ford 2014). In 2014 approximately 6 per cent of revenue was generated through financial services ($8,295 from their financial services business and $135,782m from automotive sales) (Ford 2014).

This case study explores the way in which deferred tax assets and valuation allowances affect the company's ETRs. It demonstrates the importance of understanding the mechanisms by which annual tax charges are calculated. It is vital that researchers using information from annual reports understand the complex interactions between different line items.

Table 23 Ford Revenue and Net Sales Over Time

US$ millions	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Total Revenue	144,077	146,917	133,559	135,605	128,954	118,308	145,114	172,455	148,866	176,835
YoY Revenue Growth	(1.93%)	10.00%	(1.51%)	5.16%	9.00%	(18.47%)	(15.85%)	15.85%	(15.82%)	3.02%
Profit Before Tax	1,234	14,371	7,720	8,681	7,149	3,026	(14,498)	(3,746)	(15,074)	1,054
Income tax (Provision)/ benefit	(4)	(2,425)	(2,056)	11,541	592	(69)	(63)	1,294	2,655	855
Net income	1,230	11,946	5,664	20,222	7,741	2,957	(14,561)	(2,452)	(12,419)	1,909
Return on Sales*	0.86%	9.78%	5.78%	6.40%	5.54%	2.56%	(9.99%)	-2.17%	-10.13%	0.60%

Source: Ford Inc. Annual Reports, 2005-2014
*Calculated based on information in Annual Reports

Table 24 Ford Taxes Paid and ETRs

$ million	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Tax Charge/ (Benefit)	4	2,425	2,056	(11,541)	(592)	69	63	(1,294)	(2,655)	(855)
Cash tax paid	365	394	400	268	73	(764)	685	(223)	423	382
GAAP ETR	(26.62%)	(1.92%)	26.53%	(130.24%)	8.28%	(4.35%)	(0.44%)	34.54%	17.61%	(78.31%)
Cash ETR	8.41%	5.6%	5.24%	3.02%	1.02%	(29.4%)	(4.76%)	5.95%	(2.81%)	35.40%

Source: Ford Inc. Annual Reports, 2005-2014

Table 25 Ford Deferred Tax

	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Total Gross DT Assets	22,187	21,734	22,722	22,285	23,370	27,087	28,966	23,612	28,682	23,087
Less Valuation Allowance	1,604	1,633	1,923	1,545	15,664	17,451	17,268	8,560	7,180	248
Net DT Assets	20,583	20,101	20,799	20,740	7,706	9,636	11,698	15,052	21,502	22,839
Less Deferred Liabilities	7,129	7,384	6,084	6,311	6,838	8,571	10,625	14,586	19,296	22,233
NET TOTAL DT	13,454	12,717	14,715	14,429	868	1,065	1,073	466	2,206	606

Source: Ford Inc. Annual Reports, 2005-2014

6.2.1 Geographical Segment Reporting

US companies are required to provide information on operating segments as set out in FASB 131 (FASB 1997). Ford provides information on five geographical segments (although there have been changes in the segments reported over the ten year period). It currently provides information based on five geographic segments: North America, South America, Europe, Middle East & Africa, and Asia Pacific (Ford 2014 p FS-64).

These segments record revenues on a 'where sold' basis – with the segment recording the sale when it is made to the ultimate external customer. However, they report that due to the integrated structure of the business, geographic segments are allocated a portion of costs that are incurred at the headquarters level or where relevant, a portion of costs incurred by another segment (Ford 2014 p FS-65).

6.2.2 Deferred Tax

Deferred tax (DT) assets and liabilities are derived from temporary differences that exist between the financial statement carrying value of assets and liabilities and their respective tax bases. They are recognized based on the future tax consequences combined with operating loss and tax credit carryforwards on a taxing jurisdiction basis. The firm must assess the likelihood that they will have sources of taxable income against which to set these deferred tax assets. The US GAAP accounting standards require firms to establish a 'valuation allowance' that is netted off against the asset, in effect reducing the total value of the deferred tax asset, if they think that they have a less than 50 per cent chance of realizing the assets.

In order for a DT asset to have value the company must consider that there will be sufficient income in the future for the DT to be offset against. As Ford states in their Annual Report (2014):

'Our accounting for deferred tax consequences represents our best estimate of the likely future tax consequences of events that have been recognized on our financial statements or tax returns and their future probability. In assessing the need for a valuation allowance, we consider both positive and negative evidence related to the likelihood of realization of the deferred tax assets. If, based on the weight of available evidence, it is more likely than

not that the deferred tax assets will not be realized, we record a valuation allowance.' (Ford 2014 pFS-59)

Ford has significant DT assets and liabilities. These are likely to be present in different countries so may not be able to be netted off against each other. Following the significant losses in 2008 ($14,561million) Ford increased its valuation allowance against the DT asset. It judged that there was the possibility of insufficient future income to offset against the whole DT asset. The valuation allowance therefore increased from $8,560million to $17,268 million.

In 2011 Ford disclosed a more optimistic outlook on its earning potential:
'At the end of 2011, our US operations had returned to a position of cumulative profits for the most recent three-year period. We concluded that this record of cumulative profitability in recent years, our ten consecutive quarters of pre-tax operating profits, our successful completion of labor negotiations with the UAW, and our business plan showing continued profitability, provide assurance that our future tax benefits more likely than not will be realized. Accordingly, at year-end 2011, we released almost all of our valuation allowance against net deferred tax assets for entities in the United States, Canada, and Spain.' (Ford 2011, pFS-77)

The DT valuation allowance therefore fell from $15,664million in 2010 to $1,545million in 2011. This had the effect of reducing the disclosed ETR by 172.3 per cent in one single year, turning the overall disclosed ETR into a net benefit 141 per cent.

In 2013 Ford restructured their European business and made tax elections to include the operations of European subsidiaries in their US tax returns. This enabled them to recognise the DT assets relating to these subsidiaries as they could be viably set off against US income. This resulted in an increase in DT assets related to the investments in European affiliates of $1.5billion. At December 2014, a valuation allowance of $1.6 billion was disclosed primarily for DT assets related to Ford's South America operations.

6.2.3 Net Operating Loss Carryforwards and Tax Credits

Net operating loss carryforwards refer to the ability to apply a year's net operating losses to future years' profits in order to reduce tax liability. Including the previous year's loss on the balance sheet reduces the current year's taxable profit, with the aim of providing a more accurate assessment of the overall position of the company over time. Firms can also book other forms of tax credits to the balance sheet, relating to capital losses. Ford books 'credit losses' from its financing business by calculating an average expected loss using a 'collective loss to receivables' calculation (Ford 2014 p.84).

Ford has a significant balance of Net Operating Loss Carryforwards - $7.2 billion at December 31, 2014, resulting in a DT asset of $2.6 billion (Ford, 2014 p. FS-61). There is no expiration date for $6 billion of these losses. The remaining losses begin to expire in 2015, though a substantial portion expire beyond 2017. In addition, the company has tax credits that can be used to offset future tax liabilities of $6.8billion (Ford 2014 p. FS-61).

6.2.4 Permanently Reinvested Earnings

Permanently Reinvested Earnings (PRE) are earnings generated outside the US and which the company states are 'permanently' reinvested outside the US, that is, they will not be repatriated and therefore are not subject to US taxes. Companies are required to state the level of PRE that they hold in their annual report. Auditors are required to verify that the earnings are permanently reinvested but there is no specific requirement about what constitutes permanent reinvestment. Accounting Principles Board (APB, the forerunner to the Financial Accounting Standards Board) issued APB 23 (APB 1973) in 1973 that dictates how PRE should be accounted for. APB 23 states that it should be presumed that the undistributed earnings of a subsidiary will be transferred to the parent. This would mean accounting for tax due as a temporary difference. APB 23 however, also crated an *'indefinite reversal criteria'* meaning that the stated presumption can be ignored and no taxes need to be accrued if *'sufficient evidence shows that the subsidiary has invested or will invest the undistributed earnings indefinitely of that the earnings will be remitted in a tax free liquidation'*. Accounting Standards Codification (ASC) 740 – 30 (ASC 2009) updates the position and says that a company with plans which demonstrate that the remittance of the earnings will be postponed indefinitely do

not need to recognise a DT liability. ASC 740-30 does not specify what evidence is required. Audit firms have instead developed their own criteria to 'sign off' client's assertion that its undistributed foreign earnings are permanently invested.

A firm choosing to classify earnings as permanently reinvested would have no requirement to provide for potential taxes (DT) on the amount of PRE. In future years the firm could reclassify the earnings and provide for DT. This simple reclassification could have a significant impact on the amount of DT charged to the Income Statement as the GAAP tax charge for the year.

Some companies calculate and disclose the amount of tax that would be payable if they were to choose to repatriate. Others state that this calculation is not practicable. Ford states the amount of tax that would be payable in 2014 would have been $200million if they had repatriated all their PRE (Ford 2014 p. FS-61).

The American Jobs Creation Act (AJCA) of 2004 reduced the amount of tax payable for firms repatriating overseas earnings for a single year to 5.25 per cent (Clemmons and Kinney 2008; Blouin and Krull, 2009). Ford took advantage of this, repatriating earnings that had previously been considered as PRE. The precise amount remitted is not disclosed but PRE fell from $860m in 2004 to $550m in 2005. They disclose a tax benefit related to this of $250m. The reconciliation between the statutory rate and their actual rate of tax paid reveals that this reduced their effective tax rate by 33 per cent. If the AJCA is repeated in future years there will be large impacts on the GAAP ETR for companies taking advantage of it.

Table 26 Ford PRE

$'million	**2014**	**2013**	**2012**	**2011**	**2010**	**2009**	**2008**	**2007**	**2006**	**2005**
PRE	4,300	7,500	6,600	8,400	812	1,300	1,200	715m	715	550

Source: Ford Annual Reports 2005-2014.

The increase in PRE between 2010 and 2011 was disclosed as being due to a change in accounting policy where Ford decided that an additional $6.3billion of overseas earnings

would not be repatriated. They therefore increased the stated PRE from $812million to $8.4billion. As a consequence this reduced their DT liabilities by $63million.

The amount of PRE increases from $550m in 2005 to $4300m in 2014. There are however 3 drops in the amounts recorded between 2009 and 2010, between 2011 and 2012 which are unexplained. The third drop, between 2013 and 2014, of $3billion is sparsely explained in the accounts as:
'…primarily due to a change in our methodology for measuring currency gains and losses in computing the earnings of our European operations under US tax law.' (Ford 2014, p.FS-61).

In most years Ford does not calculate the amount of tax that would be payable if these earnings were repatriated, simply stating that they have already paid foreign taxes on these earnings which would be credited against them if repatriated. In 2014 they estimate that only $200million would be payable if the $4.3billion were repatriated – a rate of 4.65 per cent.

6.2.5 Ford: Conclusion

Ford has been operating in a difficult economic climate during the ten years under consideration. In 2006, 2007 and 2008 they made significant losses. These losses affected their subsequent tax liabilities both directly and indirectly. Losses have been carried forward from previous years and offset again liabilities. The losses and poor performance also generated a less optimistic outlook for the future. This in turn necessitated the creation of a valuation provision to reflect the reduced potential of using all of the existing DT assets.

When performance improved Ford were then able to take a more optimistic view of the valuation of these DT assets. This highlights the importance of the long term view taken by the company and the impact that this valuation of DT assets can have on their tax liabilities.

The importance of decisions about the future made by the company is also demonstrated in the PRE fluctuations. This case study highlights some of the more fluid aspects of a

company's tax position. Whilst no argument is made that these changes reflect deliberate tax avoidance on the part of Ford, they do illustrate some of the mechanisms available to management to affect the timing, if not the value of tax liabilities.

6.3 The Goodyear Tire and Rubber Company

Goodyear is the world's largest tyre company currently ranked at 147 in the global Fortune 500 list of companies (Fortune 2016). It has a strong brand name that is globally recognized and invests in innovation to generate improvements in its products and production process (The Economist 2010). It has operations in most regions of the world with the business operating through four segments: North America, Europe Middle East and Africa, Latin American and Asia Pacific (Goodyear 2014, p.63).

The company generated net losses over the period 2008 – 2010 at least in part driven by the crisis in the automobile industry following the financial crash of 2008. Despite these losses the company continued to pay net taxes until 2014 when it recorded a net benefit of $1,384million.

The company returned to profitability in 2011, which also generated their highest revenue over the period. Total revenue then fell from 2011 but this was the time that the US business became profitable. Return on sales across the business as a whole reached a high in 2013 of 4.39 per cent despite of, or because of a fall in revenue. Return on sales reached a high in 2013 of 4.39 per cent.

Table 27 Goodyear Revenue and Net Sales Over Time

US$ millions	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Total revenue	18,138	18,540	20,922	22,767	18,332	16,301	19,488	19,644	18,751	18,098
YoY revenue growth (%)*	(2.17)	(11.68)	(7.80)	20.90	15.53	(16.35)	(0.79)	4.76	3.61	(8.24)
Profit before tax	687	813	440	618	8	(357)	186	464	(202)	452
Income tax provision/ (benefit)	(1,384)	138	203	201	172	7	209	255	60	233
Net income	2,071	675	237	417	(164)	(364)	(23)	209	(262)	219
Return on sales (%)*	3.79	4.39	2.10	2.71	0.04	(2.19)	0.95	2.36	(1.08)	2.5

Source: Goodyear Tires Corporation Annual Reports
*Calculated based on information in Goodyear Tires Annual Reports

Table 28 Goodyear Taxes Paid and ETRs

US$ millions	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Total
GAAP Tax charge	(1,384)	138	203	201	172	7	209	255	60	233	(356)
Cash Tax Charge	127	186	204	212	167	97	278	274	310	239	2,094
GAAP ETR* %	(201.46)	16.97	46.16	32.52	2,150.00	(1.96)	112.37	54.96	(29.70)	51.55	(11.89)
Cash ETR* %	18.49	22.88	46.36	34.30	2,087.50	(27.17)	149.46	59.05	(153.47)	52.88	69.18

Source: Goodyear Tires Corporation Annual Reports 2005-2014.
*Calculated based on information in Goodyear Tires Annual Reports.
Figures in brackets represent net benefits to the firm.

Table 29 Goodyear US and Foreign Income and Taxes Paid

$'million	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Total
US Income	400	396	146	(111)	(529)	(631)	(409)	(342)	(797)	(324)	(2,201)
Foreign Income	287	417	294	729	537	274	595	806	595	776	5,310
TOTAL INCOME	687	813	440	618	8	(357)	186	464	(202)	452	3,109
Current US Tax (Federal and State)	1	(4)	3	3	(14)	(11)	(5)	2	(47)	(28)	(100)
Current Foreign Tax	135	176	184	253	180	144	212	258	148	276	1,966
TOTAL TAX	136	172	187	256	166	133	207	260	101	248	1,866

Source: Goodyear Tires Corporation Annual Reports 2005-2014.

Table 30 Goodyear Deferred Tax Balance Sheet Position

$'million	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
DT Asset	3,413	3,517	3,889	3,565	3,501	3,398	2,993	2,520	3,156	2,398
Valuation Allowance	(632)	(2,968)	(3,393)	(3,132)	(3,113)	(3,056)	(2,701)	(2,231)	(2,814)	(2,052)
DT Liabilities	(618)	(481)	(384)	(350)	(400)	(368)	(342)	(331)	(356)	(397)
Net DT	2,163	68	112	83	(12)	(26)	(50)	(42)	(14)	(51)

Source: Goodyear Tires Corporation Annual Reports 2005-2014.

The overall LR (ten year) GAAP ETR was a benefit of 11.89 per cent, compared with the long term cash ETR of 69.18 per cent. The difference is due to the large tax benefit ($1,384million) recorded in 2014. The movements in the valuation allowance (see below) transformed the GAAP ETR for 2014 to a net credit of 201.46 per cent, whilst the cash ETR remained a charge of 18.49 per cent. Excluding the year 2014 the GAAP ETR over the nine year period was 61.02 per cent and the Cash ETR was 81.21 per cent. In 2006 the release of an uncertain tax position reduced their tax payable by $204 million

The figures above show that the US business as a single segment was loss making from 2005 until 2011. Positive income was generated from businesses overseas creating positive income in all years except 2006 and 2009. As a consequence very little tax was paid in the US. Over the ten year period the overall charge was a net credit to Goodyear of $100million. Foreign tax liabilities remained on the profits earned overseas and over the ten year period this equaled $1.9 billion.

These overseas taxes paid could be netted off against any positive US taxes paid if the funds were returned to the US. However, as no net US taxes were paid over the ten year period Goodyear had no tax charge to net these taxes off against. This resulted in higher tax payments overseas and little tax payment in the US. The impact of this is highlighted by the statement made by Goodyear that they had little to gain from returning overseas earnings under the lower tax regime implemented by the AJCA 2004 (Clemmons and Kinney 2008; Blouin and Krull 2009). No funds were returned by Goodyear under the AJCA 2004 (Goodyear, 2005).

6.3.1 Deferred Tax

Net operating loss carryforwards are recognized as assets by firms but if they do not think that they will be able to benefit from them before they expire they must reduce their net value by raising a valuation allowance against them. For example, in 2005 Goodyear record a deferred tax asset of $299 million for net operating loss and tax credit carryforwards related to certain international subsidiaries and $155 million of Federal and state tax assets for net operating loss and tax credit carryforwards. Some of these assets would start to expire in 2006. A valuation allowance of $247 million was therefore recorded against the international assets and a full valuation allowance was recorded

against the US deferred tax assets. These provisions are needed when the use of the assets is uncertain (Goodyear, 2005).

In 2006 favourable net tax adjustments totaling $163 million were recorded. These adjustments largely related to the resolution of an uncertain tax position regarding a reorganization of certain legal entities in 2001. The uncertainty around this position had been partially offset by a charge of $47 million to establish a foreign valuation allowance. The release of this valuation allowance plus the favourable adjustment contributed to a net tax benefit being recorded: a GAAP ETR of 29.70 per cent. The fact that this related to a reorganization conducted in 2001 demonstrates the significant time lags that emerge in tax accounting.

Table 30, above, sets out the DT assets and liabilities that are recorded as held over the ten-year period. SFAS No. 109 ‘Accounting for Income Taxes’ requires companies to make an assessment of both positive and negative evidence when measuring the need for a valuation allowance. The annual reports reveal that the losses made in some foreign locations as well as in the US represent sufficient negative evidence that they may not be able to use the DT assets that they have accumulated. A full valuation allowance is therefore provided in these locations. SFAS No. 109 suggests that operating results over the most recent three-year period is key evidence and should be given greater weight than future expectations of profitability given the inherent uncertainty of future earnings.

The American Taxpayer Relief Act of 2012 as signed into law on January 2, 2013 and retroactively adopts certain taxpayer relief provisions that could not be reflected in the 2012 financial statements as enactment took place in 2013. The timing of this would clearly affect all US companies entitled to claim these provisions. The act reinstated the R&D tax credit and other foreign dividend provisions that would affect the calculation of deferred taxes. The impact on Goodyear Tires was limited by the full valuation that they maintain against their US DT assets at this time.

In 2013 a $33 million benefit was recorded due to the company from a special enterprise zone tax incentives in Poland and a $13 million benefit related to changes in enacted tax laws (Goodyear, 2014, p.61).

Goodyear maintained a full valuation allowance against their US DT assets until 2014 when substantially all of it was released. The release of this valuation allowance resulted in a $2,179 million benefit to their tax expense for the year 2014. The profit booked in 2014 was the third successive year of profits. This, combined with the successful agreement of labour negotiations and the full funding of pension funds as well as a forecast of profits in the future business plan created the expectation that a significant portion of the US deferred tax assets will be able to be realized.

The remaining valuation allowance as at 2014 related to certain US federal, state and local deferred tax assets ($14 million) and valuation allowances on foreign DT assets of $618 million, giving a total valuation allowance of $632 million. At the same time charges of $131 million were made to record DTs on certain undistributed earnings of certain foreign subsidiaries although more detail on which subsidiaries these are or what this directly relates to has not been (Goodyear 2014, p.62) disclosed. Charges of $37 million were also made to establish valuation allowances against the deferred tax assets of the Venezuelan and Brazilian subsidiaries. The annual report discloses that these were necessitated by operating losses and currency devaluations in Venezuela. A charge of $9 million established a valuation allowance on the net deferred tax assets of a Luxembourg subsidiary, and a charge of $11 million was made due to a change of law in Chile.

Goodyear expects an increase in their GAAP ETR as a result of recording tax expense on their US earnings due to the increased earnings in the US. Goodyear predicts, however, that over the following five years, they will utilize tax credits and tax loss carryforwards in their tax returns that will result in their paying no significant federal income tax. This will be reflected in the lack of cash tax payments in the US and therefore to their ETR.

As at the end of 2014, Goodyear had $935 million of Federal and $107 million of state tax assets for net operating loss and tax credit carryforwards (Goodyear, 2014 p. 61). The Federal carryforwards consist of $380 million of Federal tax assets for net operating

losses that expire from 2029 to 2034, $499 million of foreign tax credits that expire between 2016 and 2024 and $56 million of tax assets related to R&D credits that expire between 2027 and 2034. A valuation allowance of $14 million has been recorded against Federal and state DT assets where recovery is uncertain (Goodyear, 2014 p. 62).

The company predicts that evidence recorded in 2015 may be sufficient to warrant the release of some or all, of certain valuation allowances which may result in a reduction of the foreign valuation allowance by up to $80 million. As with the release of the US valuation allowance, this will have a significant beneficial impact on GAAP ETR.

6.3.2 Goodyear Tires: Conclusion

This case study demonstrates the impact on global taxes when the performance of international and domestic businesses is not aligned. Goodyear Tires have paid little tax in the US and as a result have been unable to net the cash taxes paid overseas from US payments. As a result their cash tax payments are higher than they would have been if their performance had been more evenly balanced.

The case also highlights the impact that the creation and release of valuation allowances can have on the overall DT assets and charges. The release of valuation allowances is based on the company adopting a more optimistic outlook on their future performance. As with the previous case study on the Ford Motor Company, the outlook of the MNE has a direct impact on the overall GAAP tax charge.

There are also a number of other one off items that affect the overall tax liability of the company. Government policy reintroducing tax credits has a significant impact on the overall tax liability for 2013. The Polish government's creation of a special enterprise zone with tax incentives also has an impact on the tax charge for 2013. The size of these credits is less important than the fact that they clearly illustrate the way that government incentives can impact on the overall tax recorded for a specific year. This demonstrates another important factor driving the ETR. Both cash and GAAP ETRs can be affected directly by government policies.

6.4 Google

This case study uses publicly available information to set out how Google Inc. chooses to organize its affairs for tax purposes. It describes how Google uses subsidiaries in Ireland to reduce its tax payable in both the UK and the US.

Google Inc. was founded in the USA in 1998 and it listed on the NASDAQ stock exchange in 2004. In October 2015 a new parent company, the public holding company Alphabet Inc. was established, to own the Google group companies. Google's mission statement is to *'to organize the world's information and make it universally accessible and useful'* (Google 2012). As such, it specializes in internet-related services and products. Most profits are generated through advertising by companies placing paid for adverts within the Google internet search engine.

Google has grown rapidly both through organic growth and a large number of acquisitions. It owns YouTube and offers Gmail (email service) social networking (Google+) and other products for managing photos (Picassa), browsing the internet (Google Chrome), cloud based GooglePlay, mapping service Waze and instant messaging. It has also led the development of the Android operating system for mobile phones.

Google has tried to maintain a flat corporate structure, despite its rapid growth, believing that it encourages employees to work collaboratively and innovatively. However, it now operates 70 offices in more than 40 countries and commentators have questioned the extent to which it has been able to maintain this corporate culture (The Economist 2009). The company says that it is transparent, with the head of HR revealing in detail the ways in which employees are encouraged to work openly together (Bock 2015). As this case study demonstrates, however, it is less transparent in its financial disclosures.

Google's original FSA was a logarithm that changed the way that search engines worked. Its FSAs have now evolved. Its search engine is used to generate revenue through advertising. Its size and international reach mean that its brand is now a strong asset (FSA) for it. Google also has FSAs relating to its strong ability to innovate and move its

creativity into new areas of internet related services. It is also skilled at selecting, acquiring, and then managing new companies. Its success can be seen through its strong year on year sales growth. Google is a profitable company with a strong return on sales. It is providing a good return for shareholders and has a strong return on capital employed. Its revenues placed it 36th on the Forbes Global 500 list in 2016.

Because of the broad nature of Google's business they face a large number of competitors. In their annual report they list general search engines such as Yahoo and Bing (Microsoft) as competitors as well as a large number of more specific sites: Monster.com (jobs) WebMD (health) Amazon and Ebay (retail). As most of their revenue comes from advertising their competitors also include those operating in more traditional forms of advertising – newspapers, billboards, magazines etc.

6.4.1 Regional Segment Information

Google products and services are provided in more than 100 languages (Google 2012). Approximately half of all revenue is from overseas with information disclosed for the US, UK and Rest of the World (RoW). The UK is therefore the largest market outside the US, as figures are not given for other individual countries. The UK share of revenue, however, fell from a high of 15.25 per cent in 2007 to 9.82 per cent in 2014. This however, reflects the faster growth in the RoW; UK revenue has continued to grow (see section below).

Table 31 Google's Revenue and Net Sales Over Time

US$ millions	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Total Revenue	66,001	55,519	50,175	37,095	29,321	23,651	21,796	16,594	10,605	6,139
YoY Revenue Growth %	18.88	10.65	32.37	29.28	23.97	8.51	31.35	56.47	72.76	92.48
Profit Before Tax	17,259	15,899	14,469	12,326	10,796	8,381	5,854	5,674	4,011	2,142
Provision for income tax	3,639	2,739	2,598	2,589	2,291	1,861	1,627	1,470	934	676
Net income	13,620	13,160	10,788	9,737	8,505	6,520	4,227	4,203	3,077	1,465
Return on Sales* %	20.64	23.70	21.50	25.69	29.01	27.57	19.39	25.33	29.02	23.87

Source: Google Inc. Annual Reports 2005-2014
*Calculated based on information in Annual Reports
Return on sales based on PBT

Table 32 Google Inc. Segment Sales

$'million	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
US sales	28,139	24,752	21,287	17,560	14,056	11,194	10,636	8,698	6,030	3,757
UK sales	6,483	5,600	4,846	4,057	3,329	2,986	3,038	2,531	1,604	878
RoW sales	31,379	25,167	19,906	16,288	11,936	9,471	8,122	5,565	2,971	1,504
Total sales	66,001	55,519	46,039[a]	37,905	29,321	23,651	21,796	16,594	10,605	6,139
Foreign % Total Sales*	57.37%	55.42%	53.76%	53.67%	52.06%	52.67%	51.20%	47.58%	43.14%	39.80%
UK % Total Sales*	9.82%	10.09%	10.53%	10.70%	11.35%	12.63%	13.94%	15.25%	15.12%	14.30%

Source: Google Inc Annual Reports 2005-2014
* Calculated based on information in Google Inc. Annual Reports
[a] Difference between total sales as disclosed by segment ($46,039) and the total revenue figure ($50,175) given above in Table 30 relates to the acquisition of Motorola Mobility which was separately disclosed in 2012 ($4,136).

6.4.2 Google Tax Payments

After listing in 2004 Google stated in its annual report that it paid tax in two main centres – the US and Ireland. Google uses its Irish subsidiaries as a European head office and has a similar structure using Singapore based subsidiaries in Asia. As US tax is not liable when earnings are not remitted back to the US, the cash holdings that Google has established outside the US are exempt from US tax.

The proportion of revenue coming from Google's international segment grew steadily from 34 per cent in 2004 to 57 per cent in 2014. At the same time the proportion of the total tax bill paid overseas increased from 1.17 per cent in 2005 to 23.19 per cent. As overseas revenue increased and the proportion of tax paid overseas (largely in Ireland) increased, the ETR fell. Group ETR was 31.56 per cent in 2004 and fell from that point to its lowest rate of 16.05 per cent in 2013. ETR was 19.3 per cent in 2014.

Table 33 Google Group Tax Payments

$'million	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Total
GAAP tax charge	3,331	2,282	2,598	2,589	2,291	1,861	1,626	1,470	934	676	20,247
GAAP ETR (%)	19.30	16.05	20.15	21.00	21.22	22.20	27.79	25.91	23.28	31.58	20.91
Cash tax charge	3,338	3,045	2,965	1,471	2,175	1,896	1,224	883	538	154	17,689
Cash ETR (%)	19.34	19.15	20.49	11.93	20.15	22.62	20.91	15.56	13.41	7.19	18.27
Foreign taxes as % total	23.19	28.19	12.47	11.04	7.32	6.95	4.77	3.13	2.76	1.17	
Unremitted earnings (PRE)	47,400	38,900	33,300	24,800	17,500	12,300	7,700	3,900	1,833	533	

Source: Google Inc. Annual Reports 2005-2014

The amount of unremitted earnings (PRE) increased from $533.7million in 2005, the year after Google listed, to $47.4 billion in 2014. In 2005 and 2006 Google calculated that they would have had to pay $208.9million and $715.2million tax respectively if they had chosen to repatriate this money. They calculated that 39 per cent of their overseas cash holdings would have been payable as corporation tax on repatriation. From 2007 onwards Google do not publish this expected tax liability, stating that it is *'too complicated'* to calculate (Google 2007 p.95). If they had paid 35 per cent tax on repatriation then, by 2014 they would have owed the US government $16.6billion in tax if they had chosen to repatriate their cash holdings.

6.4.3 Google's Structure in Europe

As Google sets out in its Annual Report (Google 2014) – Ireland is the major centre where it pays tax outside the US. Google shifts profits from all of its European subsidiaries to Ireland (see UK example below for explanation of how Google does this). Google then uses a complicated structure known as a 'Double Irish Dutch Sandwich' (see below) to reduce the tax it is liable to pay. Both Ireland and the Netherlands are low tax jurisdictions and they have FDI-friendly policies and highly developed legal and financial consultancy and administrative services and infrastructures to support MNEs' special purpose entities (SPEs) (Altshuler and Grubert 2006; Weyzig and Van Dijk, 2009). Other large US companies, such as Apple also use this structure for tax purposes. The structure works by shifting taxable profits from subsidiaries where profits are generated to offshore locations by using royalty payments for intellectual property.

In 2003, shortly before it listed, Google moved its IP (search and advertising technologies) from the US to an Irish subsidiary: 'Google Ireland Holdings' which is incorporated in Ireland but is resident in Bermuda for tax purposes. At the time of transfer, Google Inc. would have been liable in the US for the gains arising on the sale of the IP to the Irish subsidiary. As Google was a private company at the time, however, information is not available about the details of the transfer or the costs involved. The value would certainly have increased significantly after the IPO.

'Google Ireland Holdings' then established a subsidiary: 'Google Ireland Limited,' and licensed it to use Google's technologies. Google Ireland Limited subsequently is

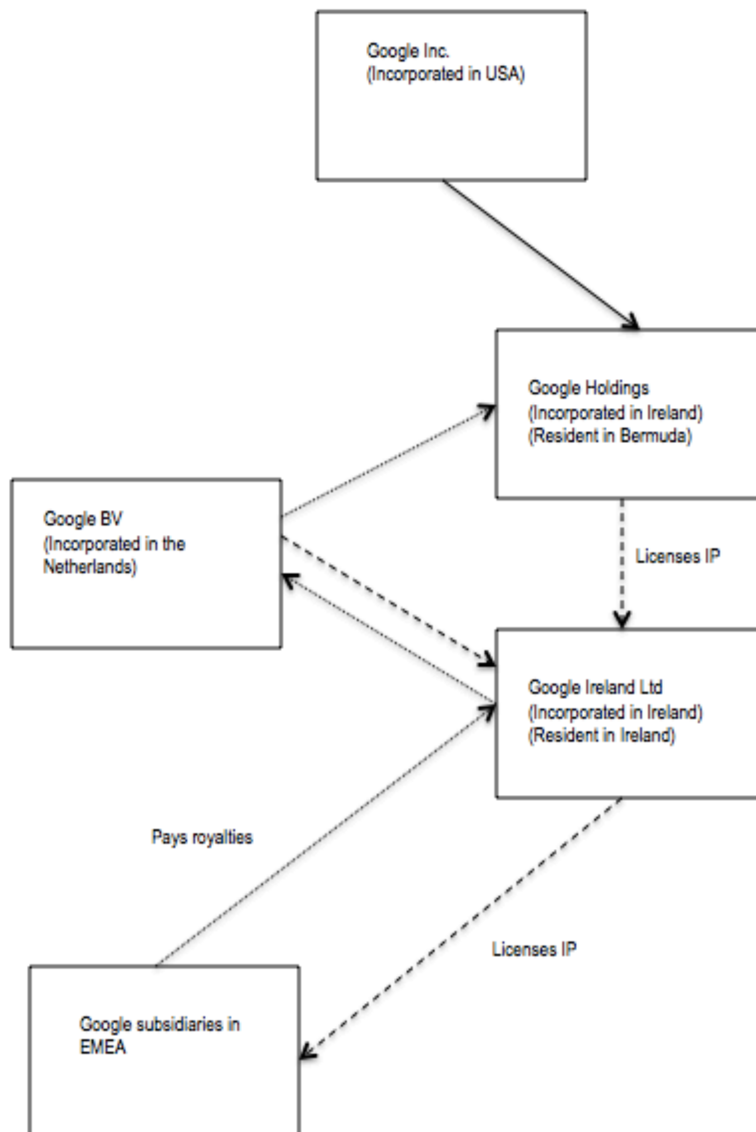
responsible for licensing the use of IP to all Google's operating subsidiaries in Europe, the Middle East, and Africa (EMEA). Profits are therefore generated in Google Ireland Limited from the payment of royalties, which are profit lowering expenses for the overseas subsidiaries in EMEA. Ireland's current rate of corporation tax is 12.5 per cent and has been at that rate since Google Ireland Holdings was established; significantly lower than the 35 per cent statutory rate in the US.

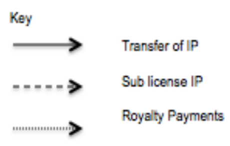
Google Ireland Limited therefore has to pay 12.5 per cent on its profits. Their profits, however, are reduced by the large royalty payments that it has to make to Google Ireland Holdings for the use of the IP. As Google Ireland Holdings, despite being an Irish company, is resident in Bermuda, Google Ireland Limited should have to pay a withholding tax on remittances to it, as Ireland charges withholding taxes on royalty payments to Bermuda. So instead of making this direct payment, which would be subject to withholding taxes, the royalty payments are sent via the Netherlands.

Google Ireland Limited makes the payment to Google BV (a shell company set up in the Netherlands). This payment is tax-free as there are no withholding taxes due on payments between EU subsidiaries. Google BV then pays the royalties to Google Ireland Holdings. Under Dutch law, Google Ireland Holdings is seen as an Irish company despite being resident in Bermuda. Therefore, no tax is payable on this transfer. Google in the US simply has to 'check the box' (see Glossary) for Google Ireland Limited and Google BV, which means that to the US tax authorities, they are seen not as companies but as divisions of Google Ireland Holdings. Therefore, the IP transfers are intra-company and no tax liability arises.

Google Ireland Limited today employs about 2,000 employees (Kleinbard 2011). Google has confirmed that it employs no staff in Bermuda (PAC 2016). It is the subtle differences in tax treaties and regulations that make these tax arrangements possible. For the US tax authorities, Google Ireland Limited and Google BV do not exist. For Ireland, Google Ireland Holdings is a Bermudan company. For the US and in the Netherlands, Google Ireland Holdings is seen as Irish company.

Figure 8 Google's Irish Corporate Structure





In 2013, the Irish government announced that companies which incorporate in Ireland must also be tax resident there. This took place from January 2015, for new companies, and will take effect in 2020 for companies with existing operations in Ireland. This will remove Google's ability to avoid tax using this mechanism.

6.4.4 Google Ireland

The section focuses on Google's Irish results and operations that are key to the company's tax structures as all of Google's EMEA operations are funneled into Google Ireland. Outside Google's Irish structure there is limited information about the company's Irish subsidiaries performance. This section considers the information that is disclosed in the annual reports for the period 2005 – 2014.

In 2003 Google Inc. entered into a cost sharing agreement with Google Ireland Holdings which gave Google Ireland Holdings the rights to Google's IP including its search and advertising technologies for use in EMEA. As discussed above, Google shifts profits from other European operations into Google Ireland Ltd by charging them a significant royalty fee. Therefore, the revenue for Google Ireland Ltd must include the royalty payments made to it by overseas operating subsidiaries. Cost of sales must include the payments that it in turn makes to Google Ireland Holdings.

However, limited information is available in the Google Ireland Ltd. accounts. Google's desire to be transparent does not extend to the accounts of Google Ireland Ltd. It states that it chooses not to disclose segmental information as they state it would be: *'seriously prejudicial to the Company'* (Google Ireland Ltd. 2014 p.16)(in accordance with SSAP 25). They also choose not to disclose information relating to related party transactions (in accordance with FRS8).

Table 34 Google Ireland Ltd Operating Results

$'million	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Operating Revenue	22,719	23,447	20,482	16,118	13,500	11,335	9,379	7,775	4,403	1,961
PBT	254	261	203	31	24	68	14	-14	23	10
Tax	50	48	45	28	23	25	11	4	4	-1
PAT	204	212	156	3	1	44	4	-18	19	11
GAAP ETR (%)	19.69	18.39	22.17	90.32	95.83	36.76	78.57	(28.57)	17.39	(10.00)
Employee number	2,577	2,288	2,071	1,916	1,513	1,387	1,316	1,167	675	257

Source: Google Ireland Ltd Annual Reports 2005-2014

The ETR is significantly higher than the Irish 12.5% statutory tax rate. This is largely due to Google charging higher depreciation than is allowable for capital allowances, charging expenses that are not deductible for tax purposes in Ireland and because of foreign withholding tax charges. In 2010 and 2011 there were large write downs against the value of financial assets that reduced the profits as per the profit and loss account but were not deductible for tax purposes. The limitations of the disclosures in the accounts are clear as it is not possible to get a fuller picture of the tax payments made in Ireland.

In 2011 Google Ireland Holdings acquired Admeld Inc., an: 'ad optimisation' technology company. In 2012 the rights to license Admeld's IP were acquired by Google Ireland Ltd from Google Ireland Holdings for €161.3million. This is a good example, demonstrating one of the key roles of Google Ireland Ltd – holding IP and licensing it on behalf of other Google companies.

6.4.5 Google UK Ltd

Google in the UK has been criticized for failing to pay 'sufficient' taxes and has been the subject of inquiries by the House of Commons Public Accounts Select Committee in 2013 and 2016. This section considers the role of Google in the UK; whether and how taxes paid are significantly reduced in the UK as a consequence of the structure of the company overall.

In 2014-15 Google UK Ltd changed its reporting year-end from 31 December to 30 June. No annual report was therefore produced for the 2014 but instead an eighteen month period ending June 30 2015 was produced. For the sake of consistency this report uses the annual information produced for the year ending 31 December 2013 unless otherwise stated.

Google UK Ltd provides marketing and sales services to Google Ireland Ltd. and provides R&D services to Google Inc. Google UK Ltd does not earn revenue by dealing with UK customers; all deals are concluded and therefore revenue booked, in Ireland. Google UK Ltd earns revenue only from Google Ireland Ltd for providing sales and marketing

service (£542m in 2013 and £397m in 2012) and from Google Inc. for providing R&D services (£101m 2013 and £109m in 2012).

Table 35 Google UK Revenue

$'million	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
UK segment reported by Google Inc.	6,483	5,600	4,846	4,057	3,329	2,986	3,038	2,531	1,694	878
Google UK Ltd Revenue	1,004	1,294	802	634	371	266	278	208	120	49
% UK sales reported by Google UK Ltd	17.93	19.96	16.55	15.65	11.15	8.92	9.15	8.23	7.47	5.59

Source: Google Inc. Annual Reports and Google UK Ltd. Annual Reports.
Translated from £GBP using exchange rate at period end.

Table 36 Google UK Ltd Operating Results

$'million	18mths 2015	2013	2012	2011	2010	2009	2008	2007	2006	2005
Operating Revenue	1836	1294	802	634	371	266	278	208	120	49
PBT	165	111	58	(33)	(34)	(17)	(41)	(5)	(3)	5
Tax	(143)	(34)	(48)	(5)	(8)	3	(5)	(2)	8	-
PAT	22	76	9	(37)	(42)	(14)	36	(6)	5	5
Employee numbers	2,329	1,835	1,613	1,304	930	848	772	539	284	156

Source: Google UK Ltd Annual Reports
Translated from £GBP using exchange rate at period end.

Table 35 shows Google's revenue in the UK as disclosed in Google Inc.'s annual report as a segment of the total business compared with the revenue recorded in Google UK's annual report. The revenue derived from the UK business as disclosed as a segment in Google Inc.'s annual report reveals the true size of the UK market for Google as the segment reporting includes sales to customers in the UK. Disclosure is limited to turnover; no profit figures are disclosed. The actual revenue reported in the UK (per Google UK Ltd's annual reports filed with the UK Companies House) is much lower: 17.93 per cent of the UK's revenues are recorded in the UK in 2014, up from 5.59 per cent in 2005. Without profit figures it is impossible to calculate an accurate figure for the tax lost to the UK government.

This section now goes on to consider how Google shifts profits from the UK. In 2015 Google UK Ltd employed 2,329 staff of which 1,075 worked in marketing, 799 in R&D and 455 in management and administration. Whilst Google staff in the UK provide services to clients (training and education in how to use their products) and promotes Google products Google UK Ltd also employs a significant number of marketing people in the UK, but who do not have the ability and responsibility to conclude a contract (House of Commons, Public Accounts Committee 2013).

Operating revenue and employees have grown steadily across the period shown in the table above. Prior to 2011 the company made profit in only one year. As a result looking at the annual ETR does not add to our understanding of the company's performance. Over the period shown the company makes a loss before tax as a whole of £136million and pays tax of £150million. To pay more tax than profits are made would seem to indicate the Google are not avoiding tax in the UK. However, as Google UK Ltd staff are deemed only to be providing services to other group companies they are not engaging in sales in the UK. This means that Google does not operate a PE (see Glossary) in the UK. As the sales to customers are booked in Ireland rather than the UK the amount of revenue recorded in Google UK Ltd's accounts is severely reduced, reflecting only intra company payments for services. This in turn reduces the amount of tax paid in the UK.

Whistleblowers told the UK Public Accounts Committee (House of Commons, Public Accounts Committee 2013) that in practice UK staff do have responsibility for generating sales in the UK and receive sales related commission. Google, however, argue that whilst UK staff may have the ability to negotiate a contract, the ultimate responsibility for finalizing any contract lies with Google Ireland Ltd (House of Commons, Public Accounts Committee 2013).

799 staff in the UK work on R&D for which Google UK Ltd is paid by Google Inc. (Google UK Ltd 2015, House of Commons, Public Accounts Committee 2013). This work largely relates to work on the Android mobile phone operating system. Google says that these UK staff are creating economic value but that as the intellectual property is owned by Google Inc., outside the UK, they are not liable for UK corporation tax (House of Commons, Public Accounts Committee 2013).

The Public Accounts Select Committee report (House of Commons, Public Accounts Committee 2013) concluded that Google's company structure was established in a way that would minimize the taxes paid in the UK, *'rather than reflect[ing] the substance of the way business is actually conducted'. The report also found that Google relied on the: 'deeply unconvincing argument that its sales to UK clients take place in Ireland, despite clear evidence that the majority of sales activity takes place in the UK'.* (House of Commons, Public Accounts Committee 2013)

After criticism in the UK about the low level of taxes paid Chairman Eric Schmidt said, *'under American law we have a fiduciary responsibility to our shareholders to account for things properly, so if we were, for example, to just arbitrarily decide to pay a different tax rate than we were required to, a more favourable one for example to a particular country, how would we account for that?'*

In January 2016 Google settled ongoing tax audits with HMRC and agreed to pay £130million (including £18million interest) as a total additional sum for liable for previous accounting periods to make up for underpayments in previous years. Rather than settle the matter of tax avoidance public debate increased in concern that HMRC

had not been tough enough in their negotiations with Google. The Public Accounts Committee set out their concerns over how this £130million shortfall had been calculated. They point out that HMRC spent 6 years investigating Google but that the details of how the settlement was calculated have not been published, removing transparency. HMRC confirmed that the issues considered within the tax claim were related to TP and the: *'fair value of Google's activity in the UK'*. They point out that:

'Google's stated desire for greater tax simplicity and transparency is at odds with the complex operational structure it has created which appears to be directed at minimising its tax liabilities. Google admits that this structure will not change as a result of this settlement.' (House of Commons, Public Accounts Committee 2016 p.3)

The House of Commons Public Accounts Select Committee conclude that: *'Multinational firms such as Google have made a choice to avoid tax, despite any claims to the contrary'* (House of Commons, Public Accounts Committee 2016 p.6).

French and Italian tax authorities are investigating the levels of tax paid by Google in their respective countries. They are confident that Google will owe them much larger amounts (French authorities expect £380million [Daily Mail 2016], Italian expect £150million (International Business Times 2016) than they have made in the UK, despite the UK being the largest market for Google outside the US.

6.4.6 Google: Conclusion

As a company delivering digital content Google has a considerable degree of flexibility to choose where its revenues and profits are recorded. Google has chosen to shift profits from the whole of its EMEA region to Ireland to take advantage of the low corporate tax rate there and the ability to shift profits offshore to Bermuda where no tax is payable. The amount of tax paid in the UK has, as a consequence, been severely eroded. Google has not been judged to have behaved illegally although the cases against Google in the UK, Italy and France, amongst others demonstrate that tax authorities believe that Google has underpaid. Until the change in Irish law comes into force in 2020 Google will be able to continue to structure its tax affairs in the same manner. The UK does not seem to have any plans to force them to recognize the sales that are made in the UK in the accounts of Google UK Ltd.

Changing the location where taxes are booked reduces the overall tax liability of the company as more profits are booked in lower tax Ireland and Bermuda. In countries such as the UK the amount of tax contributed to the public exchequer is reduced. The digital nature of Google's business enables it to appropriate and retain a greater share of its profits.

6.5 Nucor

This section provides an overview of the steel company Nucor. It was selected as a case study of a company that did not have any subsidiaries registered in tax havens and where the Cash and GAAP ETRs were both relatively close to each other and to the statutory rate of corporation tax. This case study provides a contrast to the other case studies where taxes appear to be manipulated and where the tax planning strategy appears to be more aggressive. Clearly, an analysis of a company's annual report cannot comment on the motivation of the company for undertaking particular actions or for implementing a particular structure. Further qualitative research such as interviews with company representatives would be required to understand the motivations behind the actions of the company as reported in their annual reports. The case study highlights what appear to be differences between the strategy adopted by this company and those adopting more aggressive tax planning strategies.

6.5.1 Company Background

Nucor was placed at 139 on the Fortune 500 in 2015. It is a manufacturer of steel and steel products, headquartered in Charlotte, North Carolina. According to its Annual Report (Nucor 2016) it is the most diversified steel and steel products company in North America. Its financial performance has been hit by over capacity in the global steel industry and by cheap Chinese imports into the US. To combat this and maintain its competitiveness Nucor has diversified, improving the quality of goods it offers as well as expanding its downstream businesses such as fabricated construction products.

Originally an industrial conglomerate (The Nuclear Corporation of America) the firm began to focus purely on steel making in the late 1960s and changed its name to Nucor in 1971. It listed on the NYSE in 1972 and entered the Fortune 500 in 1980. Whilst Nucor is largely focused in the US it has significant operations in Canada, Colombia, Italy, Mexico, Switzerland, United Arab Emirates and Trinidad and Tobago.

Nucor employs more than 20,000 people that it terms 'team mates'. It prides itself on its high levels of safety and being a 'cultural and environmental' steward in the communities where its plants are based (Nucor 2017). Performance pay at all levels makes up a larger share of employee reward than is typical in the sector (Nucor 2017).

The company established an educational fund for the children of its workers in 1974 and has dispersed more than $70million in scholarships since then. All children of current 'team mates' are entitled to financial support for education. Nucor is also the largest recycler in North America (Nucor 2014).

Nucor is structured into 90 operating units that are run independently although according to their website they *'compete collectively'.* It operates wholly owned subsidiaries of Harris Steel, The David J, Joseph Company and Skyline Steel. Nucor also claims to be managed in a streamlined way having eliminated layers of management in the past in an attempt to reduce costs.

Nucor operates using segments for: steel mills, steel products and raw materials. It does not disclose information about international/ geographic segments. IFRS 8 'Operating Segments' states that information should be provided about countries that account for 10 per cent or more of a company's sales. It is therefore possible to conclude that there are no countries outside the US that account for more than 10 per cent of the company's turnover.

Turnover fell by 53 per cent in 2009 as a consequence of the global financial crisis. The steel industry was hit particularly hard by the recession as production in other industries including the automotive and non-residential construction which impacted Nucor's business (Nucor 2009). By 2014 the company's revenue had still not reached its previous high of 2008. The return on sales shows a similar fall. It reached a high at 11.92 per cent in 2006 but then fell to a loss of 2.13 per cent in 2009. By 2014 it had reached only 3.87 per cent. Nucor note in their annual report the impact of cheap Chinese steel imports on their profitability (Nucor 2014).

6.5.2 Subsidiaries

Whilst Nucor is largely focused in the US it has significant operations in Canada, Colombia, Italy, Mexico, Switzerland, United Arab Emirates and Trinidad and Tobago. Exhibit 21 of their 10K (Nucor 2014) lists a total of 24 subsidiaries. Of these only two are based overseas: Nu-Iron Unlimited in Trinidad and Harris Steel ULC based in Canada. Operations in other countries are not disclosed as separate subsidiaries in the 10K

disclosures. It would appear that these are locations where commercial operations are conducted but that overseas sales are limited.

Trinidad is not included within the list of tax havens included in the statistical analysis in Chapter 5. It is clear that the subsidiary in Trinidad is creating economic value. The plant in Trinidad opened in 2007 and is a direct reduced iron (DRI) facility. The press release published by Nucor (Nucor 2007) at the time the plant was opened stated that the reason for the selection of Trinidad was because the site: *'benefits from a low cost supply of natural gas and favorable logistics for receipt of Brazilian iron ore and shipment of DRI to the US'* (Nucor 2007). It therefore appears the choice of Trinidad was based on commercial rather than tax avoiding reasons.

Out of the total 24 subsidiaries listed 20 are registered in Delaware. Delaware has no state taxes for firms registered there. It also has higher levels of secrecy than some other US states for example, the identity of the owners of private companies do not need to be filed. The Nucor website lists the locations of 64 plants in the US. None of the plants are based in Delaware. It would therefore seem that the decision to register subsidiaries in Delaware may be based on the tax and legal position in Delaware as there is no economic activity undertaken there. The decision may be a historic one, however, as the original Nucor corporation was registered there in 1958 (Nucor 2009). Basing the subsidiaries in Delaware means that the firm will pay less state tax within the US than if the subsidiaries were registered in other states. This is likely to be reflected in Nucor's material tax disclosures which simply include 'US Taxes' and 'International Taxes' with no separate disclosure of 'Federal' and 'State' taxes (See Table 38 below).

6.5.3 Taxes Paid

The reconciliation between the statutory rate and the company's GAAP ETR is given in the notes to the annual report and replicated below in Table 38. This shows that the company have paid an average of 1.53 per cent in state taxes over the ten years. The highest rate was in 2009 when it paid 5.12 per cent in state tax. No explanation is given in the accounts for the higher rate of tax charge in this year.

1.7 per cent of the total difference between the statutory rate and the GAAP ETR over the ten years is accounted for by R&D tax credits and a deduction for domestic manufacturing. Only 0.5 per cent of the total difference is generated by lower foreign tax payments. This seems to indicate that a large part of the differences are generated by legitimate government tax incentive schemes rather than through the diversion of profits to low tax jurisdictions.

Table 37 Nucor Revenue and Net Sales Over Time

$'million	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Total
Total Revenue	21,105	19,052	19,429	20,024	15,845	11,190	23,663	16,593	14,751	12,700	174,352
YoY Revenue growth %*	10.78	(1.94)	(2.97)	26.37	41.6	(52.71)	42.61	12.49	16.15	11.63	
Profit before tax	1,205	791	853	1,252	267	(414)	2,790	2,253	2,692	2,016	13,705
Provision for income tax	389	206	260	391	61	(176)	959	781	934	706	4,511
Net income	816	585	593	861	206	(238)	1,831	1,472	1,758	1,310	9,194
Return on sales (%)*	3.87	3.07	3.05	4.30	1.30	(2.13)	7.74	8.87	11.92	10.31	5.27

Source: Nucor Annual Reports 2005-2014.
*Calculated from information in Nucor Annual Reports

Table 38 Nucor Corporation Provision for Tax (not including deferred tax)

$'million	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Total
US Tax	1,162	756	855	1,241	261	(353)	1,205	835	975	735	7,672
Foreign Tax	43	35	(2)	10	6	(60)	48	27	0	0	107
Total	1,205	791	853	1,251	267	(413)	1,253	862	975	735	7,779

Source: Nucor Annual Reports 2005-2014.

Table 39 Nucor PRE, GAAP and Cash ETRs

	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Total
GAAP tax charge ($m)	389	206	260	391	61	(176)	959	781	934	706	4,511
GAAP ETR (%)	32.28	26.04	30.48	31.23	22.85	42.51	34.37	34.66	34.70	35.02	32.91
Cash tax charge ($m)	398.7	64.8	313.5	322.4	(245)	213.2	952.7	875.6	971	806.7	4673.6
Cash ETR (%)	33.09	8.19	36.75	25.75	(91.76)	(51.5)	34.15	38.86	36.07	40.01	34.10
Foreign taxes as % total	3.57	4.42	-0.23	0.80	2.25	14.53	3.83	3.13	0.00	0.00	1.38
PRE($m)	194	222.4	176.5	168	141	100	139	0	0	0	-

Source: Nucor Annual Reports 2005-2014.

Table 40 Nucor Reconciliation Between Statutory and Actual Tax Rates

	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Average
Statutory rate (%)	**35**	**35**	**35**	**35**	**35**	**35**	**35**	**35**	**35**	**35**	**35**
State income taxes	3.32	0.02	0.75	0.63	-1.72	5.12	2.1	1.76	1.76	1.57	1.53
Federal research credit	-0.27	-0.79	0	-0.28	-1.19	0.84	-0.05	-0.06	-0.05	-0.07	-0.19
Domestic manufacturing deduction	-2.27	-1.74	-3.25	-2.21	0	-0.13	-1.99	-1.79	-1.03	-1.04	-1.54
Equity in losses of foreign JV	0.85	1.36	1.43	0.64	3.09	-5.93	0	-0.07	0	0	0.14
Foreign rate differential	-0.93	-2.35	0.6	-0.92	-3.83	2.79	-0.88	-0.12	0	0	-0.56
Non controlling interests	-2.96	-4.32	-3.64	-2.32	-9.47	4.77	-3.54	-4.03	0	0	-2.55
Out of period correction	-1.1	-2.57	0	0	0	0	0	0	0	0	-0.37
Other, net	0.64	1.38	-0.43	0.68	0.88	0.25	0.27	0.01	-0.92	-0.44	0.23
GAAP ETR (%)	**32.28**	**25.99**	**30.46**	**31.22**	**22.76**	**42.71**	**30.91**	**30.7**	**34.76**	**35.02**	**31.68**

Source: Nucor Annual Reports 2005-2014.

6.5.4 GAAP Tax Charge and Cash Tax Payments

Table 39 shows the tax charge in Nucor's Profit and Loss Account for the ten year period. The firm charged an average GAAP ETR of 32.91 per cent for the ten years. The highest rate was 42.51 per cent in 2009, immediately followed by the lowest charge in 2010 of 22.85 per cent. The higher rate in 2009 is partly account for by the higher rate of state tax charged for that year (discussed above). There are also larger charges than usual related to the foreign tax differential (2.79 per cent) and a charge for non controlling interests in investments (4.77 per cent). No explanation is given for these charges. They have also received a large tax credit, equal to a reduction of almost 6 per cent (5.93 per cent) due to losses made in a foreign JV.

The reconciliations provided in the notes to the annual report and replicated in Table 40 show the reasons for the differences between the annual charges and the statutory rate of tax. The movements are relatively small and there are no big changes relate to deferred tax provisions as with Ford and Goodyear Tires.

Nucor have accumulated PRE of $194million at the end of 2014. There has been some movement up and down over the period that they have recorded these investments which started only in 2008. The amount recorded is significantly lower than other companies such as Ford who recorded $4,300 and Starbucks who recorded $2,200m.

6.5.5 Conclusions

Nucor have international subsidiaries and significant operations overseas. It appears however that the bulk of their sales must be made in the US as no international segment reporting is included in their annual reports. Their corporation tax is significantly closer to the statutory rate in all years and their GAAP and cash ETRs are similar in each year and over the total period. This combined with the lack of tax haven subsidiaries appears to indicate that the company has adopted a non aggressive tax avoidance stance. The only indication of a tax avoidance strategy is the registration of US subsidiaries in Delaware, a decision that appears to have been taken as early as 1958. This case study shows the differences between MNEs. Not all adopt an aggressive tax planning position.

6.6 Starbucks

Starbucks Corporation was founded in 1971 in Seattle. In 1994 with 165 stores it completed its IPO, floating on the NASDAQ. Starbucks is known for its huge chain of coffee shops but it also reaches back down its supply chain and buys green coffee beans and roasts them. As per its Annual Report (Starbucks 2014) Starbucks states that:
'We purchase and roast high-quality coffees that we sell, along with handcrafted coffee, tea and other beverages and a variety of fresh food items, through company-operated stores. We also sell a variety of coffee and tea products and license our trademarks through other channels such as licensed stores, grocery and national foodservice accounts. ' (Starbucks 2014 p.2).

Starbucks has grown rapidly since it was founded and is now the second largest restaurant / café chain in the world (McDonalds is the largest) (Bergin 2012). Over the ten year period under consideration, Starbuck's global revenue has grown by 157 per cent and net income has increased by more than 320 per cent. As markets reach saturation and maturity, Starbucks becomes more profitable as its supply chain is efficient and customer base well established (Starbucks 2014). Starbucks face strong competition in many of their markets but they face different competitors in different local markets. In the UK the largest coffee shop chain is Costa (See section on UK below) and in Canada it is Second Cup with 360 cafés. All Second Cup cafes are franchises which makes comparison of financial performance more difficult.

Starbucks is an interesting case study of a profit shifting company. It is a traditional 'bricks and mortar' company rather than the digital companies that tend to be cited as tax avoiders. Starbucks' clearest FSA however, is its name and brand which gives it an opportunity to profit shift. It is a well-known company and its consistent international presence gives customers a clear idea of the coffee and service that they will receive. Starbucks licensees also pay for the Starbucks 'system' which they believe gives them an advantage over their competitors.

Table 41 Starbucks Segment Income Split

$'million	Americas			EMEA			Asia Pac			Other			Total		
	2014	**2013**	**2012**	**2014**	**2013**	**2012**	**2014**	**2013**	**2012**	**2014**	**2013**	**2012**	**2014**	**2013**	**2012**
Revenue	11,981	11,001	9,936	1,295	1,160	1,141	1,130	917	721	2,043	1,789	1,478	16,448	14,867	13,277
Net Income	2,809	2,365	2,020	119	64	7	373	321	253	530	381	313	3,831	3,132	2,593

Source: Starbucks Corporation Annual Report 2014

6.6.1 International Operations

Starbucks operates across three international regions: Americas (US, Canada and Latin America), Europe, Middle East and Africa (EMEA) and China and Asia Pacific (CAP). It remains a Home Region company, however, with 73 per cent of sales coming from the American region. Starbucks operates stores themselves but also license to other operators. At the end of their fiscal year 2014 they had 21,000 stores globally. Of these 14,000 are in the Americas, 2,100 are in EMEA and 4,600 are in the Asia Pacific Region (Starbucks 2014). No figures are given for country level revenue which must mean that there is no country outside the US that accounts for more than 10% of sales. Half of the total number of stores are licensed and half are company operated. Company operated stores accounted for 79 per cent of the total global revenue. With licensed stores Starbucks receives a proportion of the revenue with most of the costs borne by the licensee. They must also pay for Starbucks royalties and buy their products (coffee beans etc) directly from Starbucks. Licensees are used only when Starbucks feel that they can provide access to good retail space or other local expertise. Various forms of licensing, including franchising are used.

In company operated stores 75% of revenue comes from beverages, 19% from sales of food, 4% from the sale of packaged coffee and 2% from the sale of coffee making equipment and branded merchandise. Future revenue growth is expected to come from opening new stores in existing and new markets and to increase sales in existing stores – depending on the maturity of the market.

The overall headquarters for the Starbucks Corporation are based in Seattle. Each of the three international regions have their own headquarters. The 33 countries making up Europe, Middle East and Africa region were based in Amsterdam with Starbucks Coffee EMEA BV as the holding company until 2014. Separate companies based in the market countries then remitted profits (if any) back to the Netherlands. In the UK the business was run by the Starbucks Coffee Company (UK) Ltd. Of the money held by the Dutch company, approximately half remained there and half was remitted back to the US where tax is paid. In the Netherlands tax is paid at an undisclosed rate after an agreement with the Dutch tax authorities. A global coffee bean purchasing business is

operated from Lausanne, Switzerland. No accounts are available for this part of the business as they are not required to be filed in the Swiss Canton of Vaud.

Table 42 Starbucks Inc. Revenue and Net Sales Over Time

$'million	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Total
Total Revenue	16,488	14,867	13,277	11,700	10,707	9,775	10,383	9,411	7,787	6,369	110,725
YoY Revenue growth %*	10.63	11.98	13.47	9.27	9.54	(5.86)	10.32	20.86	22.26	42.91	
Profit before tax	3,160	(230)	2,059	1,811	1,437	560	456	1,056	906	796	12,012
Provision for income tax	1,092	(239)	674	563	489	168	144	384	325	302	3,902
Net income	2,068	9	1,385	1,248	948	392	312	673	581	494	8,109
Return on sales %*	19.21	(1.55)	15.51	15.48	13.42	5.73	4.39	11.22	11.64	12.50	

Source: Starbucks Inc. Annual reports 2005-2014
*Calculated from information in Starbucks Inc. Annual Reports

Table 43 Starbucks UK Revenue and Net Sales Over Time

$'million	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	Total
Total Revenue	637	623	644	620	618	605	582	511	447	381	567
YoY Revenue growth %*	2.33	(3.38)	3.94	0.36	2.07	3.94	13.83	14.48	17.37	19.68	
Profit before tax	2	(32)	(47)	(51)	(54)	(81)	(41)	(2)	(8)	(13)	(328)
Income tax (Provision) / benefit	(19)	0	0	0	0	0.2	(32)	(5)	17	3	(36)
Net income	(17)	(32)	(47)	(51)	(54)	(81)	(73)	(7)	9	(10)	(364)
Return on sales %*	(2.68)	(5.12)	(7.35)	(8.26)	(8.64)	(13.42)	(12.57)	(1.51)	1.96	(2.63)	(6.43)

Source: Starbucks Coffee Company (UK) Annual reports 2005-2014
* Calculated from information in Starbucks Inc. Annual Reports
Converted from £GBP using 2014 year end exchange rates

6.6.2 Starbucks in the UK

In the UK (at 2012) there were 593 company operated stores and 145 licensed stores (Starbucks Coffee Company (UK) Ltd Annual Report 2012). Later figures are unavailable. Starbucks has been strongly criticised in the UK for not paying adequate taxes. Like other tax avoiders it has argued that it has paid all the tax that it owes. Starbucks, with Google and Amazon were called to give evidence in front of the House of Commons Public Accounts Committee (House of Commons, Public Accounts Committee 2012). Starbucks has been particularly criticised for its lack of transparency that creates difficulties for tax authorities in the US, UK and other countries (Kleinbard 2013).

In 2012 the press reported that Starbucks had recorded losses in 14 out of the first 15 years of operations in the UK and had therefore paid very little tax. (See Table 43 above). This was despite holding a 30 per cent market share and reporting that the U.K was performing well to shareholders (House of Commons, Public Accounts Committee 2012). Starbucks was invited to give evidence before the House of Commons Public Accounts Committee in November 2012 (House of Commons, Public Accounts Committee 2012) where they confirmed that they had made losses in all but one year of UK operations but that their optimism was based on their future forecasts for the business. Starbucks argued that the property costs in the UK were making it difficult for them to become profitable.

In 2014 Starbucks announced that they were moving their regional headquarters from Amsterdam to the UK. Starbucks explained that this move was because the UK is the largest market in the region. The UK stand-alone company was dissolved and replaced with a new company, Starbucks EMEA Ltd.

One other reason suggested for the move to the UK is the recent change to a territorial tax system – where companies are charged tax only for the income earned within the UK. They are not charged tax on income earned outside the UK. This means that no taxes are charged on the royalties received in the UK from the rest of the region. This makes the UK a more efficient location for tax purposes than the Netherlands. This illustrates

the importance of tax to companies; it affects where they locate their headquarters as well as how they structure their business more broadly.

The change in corporate structure means that there is less information available about Starbucks EMEA and UK businesses. The UK company was closed and replaced with the EMEA company. The only accounts that have been filed are for the period from June 2014 to September 2015. No comparative figures are available. The company chooses not to produce group accounts for the EMEA region as these companies are all included in the ultimate group accounts for Starbucks Inc. The EMEA accounts are prepared under FRS101 Reduced Disclosure Framework which are available to a company that will ultimately be consolidated into a set of group accounts.

Table 44 Starbucks EMEA Revenue Breakdown

$'000	Period ended 27 Sept 2015
Royalty income	182
License fee income	5
Other	(1)
Interest receivable and similar	27
Dividend income from group undertakings	631
Total turnover	843

Source: Starbucks EMEA Ltd Accounts 2015

$14million of UK corporation tax was paid on the income before tax of $682million. This gives a GAAP ETR of 20.53 per cent. No information is published in relation to cash payments made so a Cash ETR cannot be calculated.

6.6.3 Supply Chain

Starbucks adds value by breaking down its supply chain to buy and roast coffee beans. These operations are conducted from their offices in Lausanne, Switzerland. Where 30 people are employed. They use only fair trade coffee and claim to use the best quality beans. Controlling their own supply gives them a secure, good quality supply. According to their written evidence to the PAC 75% of all coffee beans are traded through Switzerland (Starbucks, 2012a). Starbucks accounts for less than 5% of world trade.

Starbucks use fixed price and 'price to be fixed[19], commitments to ensure an adequate future supply. As at 30 September 2012 Starbucks had $557 million of fixed price contracts and an estimated $297million 'price to be fixed' contracts.

Starbucks in Switzerland make a 20% mark up on sales to the rest of the Starbucks Group (House of Commons, Public Accounts Committee 2012). Starbucks pay a corporation tax rate there of approximately 12% (House of Commons, Public Accounts Committee 2012).

Beans are roasted in Starbucks owned facilities around the world. In Europe there is a roasting facility in the Netherlands. 260 people are employed in Starbucks operations in the Netherlands. This number does not appear to be diminished by the move of headquarters to the UK (Starbucks 2015). One source reported that only 10 extra members of staff are likely to be employed in the UK following the headquarters' move (Tax Research 2014).

During the year ended 30 September 2012 Starbucks operated 593 stores in the UK (down 14 over the year) and had 145 licensed stores (up 17 over the year) in the UK. The UK business has recorded losses for all but one year of trading and consequently has not paid corporation tax of only £8.6 million relating to its one profitable year (2007).

6.6.4 Profit Shifting

Starbucks appears to have used three key mechanisms to shift profits between jurisdictions: royalties and licence fees, TP manipulation on the price of coffee and interest paid to Starbucks Inc. on intra company loans.

Until 2014 when the EMEA headquarters were moved to the UK, royalties were paid by Starbucks UK to a Dutch subsidiary. In written evidence to the Public Accounts Committee (Starbucks 2012a) Starbucks reported that the operating companies in EMEA were paying 6 per cent royalty payments to the Dutch headquarters. This fee

[19] *' 'Price to be Fixed' contracts are purchase commitments whereby the quality, quantity, delivery period, and other negotiated terms are agreed upon but the date, and therefore the price…has not yet been established.'* Starbucks Annual Report 2012 P. 6

entitled the operating companies to use the Starbucks brand and trademarks as well as: *'use of the proprietary business model'* and *'store design concepts'.* Starbucks argued that 6 per cent was a *'standard business practice*' (House of Commons, Public Accounts Committee 2012b*)* and a justifiable TP under the ALS. A later agreement with HMRC reduced the allowable percentage to 4.7 per cent (Hodge 2016 p. 81). McDonalds and Burger King charge 4% to their subsidiaries, KFC do not charge subsidiaries a royalty fee.

A Starbucks subsidiary in Switzerland (Starbucks Coffee Trading Sarl) buys coffee beans for the global company. This business was revealed to employ only 30 people and to charge a mark up of 20 per cent on the coffee sold on to Starbucks operating companies including the UK company (House of Commons, Public Accounts Committee 2012). It is impossible to calculate whether this is an ALS TP although many commentators have argued that it is an excessively high charge, aimed at transferring profits to the low tax, low transparency jurisdiction of Switzerland.

The third mechanism which appears to be used for profit shifting is the use of intra company loans. Starbucks Coffee Company UK Ltd is funded by debt, provided by the Group, on which it then pays interest. The rate charged by Starbucks Corporation is Libor plus 4.9%. Starbucks Corporation bonds carried a coupon of Libor plus 1.3% in October 2012 so they are charging the UK company significantly more than their own borrowing costs (Bergin 2012).

It is clear that the use of these three mechanisms drove down Starbucks profits in the UK company and shifted them to overseas, low tax subsidiaries. The following table compares the financial performance of Starbucks with its competitor company Costa.

Table 45 Comparison Between Starbucks UK and Costa

£'000	Starbucks (UK) 2012	Costa (UK) 2012
Turnover	413,393	458,596
Cost of Sales	(342,810)	(131,121)
Gross Profit	*70,583*	*327,475*
Admin Expenses	(98,200)	(261,920)
Exceptional items	(1,831)	(3,614)
Net Interest Income / Payable	(955)	683
Profit / Loss on Ordinary Activities	(30404)	49,468
Tax	-	(15,077)

Source: Starbucks Coffee Company UK Ltd Annual Report 2012; Costa Ltd Annual Report 2012.

The table above provides a comparison of Costa and Starbucks (UK) Profit and Loss Accounts for the year 2012. Whilst Costa's turnover is 11% higher than Starbucks, its Gross Profit is 363 per cent higher. This difference relates largely to the £26 million Royalties and License Fee paid to Starbucks Corporation by Starbucks Coffee Company UK Ltd. Starbucks have historically paid 6 per cent of turnover to Starbucks Corporation for intellectual property.

Following the bad publicity, particularly around the Public Accounts Committee enquiry Starbucks offered to pay an extra £20million in corporation tax over the next two financial years. Margaret Hodge reveals (Hodge 2016) that rather than approach HMRC to discuss their tax affairs the Starbucks UK managing director spoke directly to her to offer to make this payment. Hodge argues that this offer demonstrates the problems with the corporation tax system when MNEs choose to make tax payments rather than paying the tax assessed by the tax authorities. The decision to make this payment was considered to reveal bad judgement by a number of the tax executives interviewed for the research in Chapter 4.

Table 46 Starbucks PRE

$'million	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
PRE	2,200	1,900	1,500	987	646	520	409	284	179	86

Source: Starbucks Inc. Annual Reports 2005-2014.

The steady increase in PRE demonstrates the success that Starbucks have had in generating profits outside the US and then maintaining these earnings outside the US. Starbucks have not provided for the tax that would be payable if these were returned to the US as they state that they are planning to maintain these funds outside the US in order to avoid the tax that would be payable on repatriation.

6.6.5 Starbucks: Conclusions

Examining the case of Starbucks provides clear insight into the way that this company, operating in a very traditional 'bricks and mortar' manner, is able to reduce its tax liabilities. It demonstrates the way in which Starbucks are able to reduce their UK profitability by using three different mechanisms. The change to the UK tax system, moving to a territorial system from a worldwide system, when combined with the impact of public criticism, appears to have stimulated Starbucks to move their regional headquarters from the Netherlands to the UK This demonstrates the importance of public policy. Government changes can stimulate significant changes in MNE policies. This move also demonstrates the impact that tax can have on the activities of MNEs.

6.7 Case Studies: Conclusions and Areas for Further Research

These six case studies provide new in-depth insights into the tax planning affairs of the selected MNEs. In depth case studies, based on published data can provide significant and new insights into the behaviour of MNE which can be useful especially when access to companies is limited. This is particularly important with issues of tax, because of the fundamental underlying issues of confidentiality. The insight generated here demonstrates the importance of this type of research for the IB community where too often research is based on quantitative analysis (complex regressions) to generate findings. The qualitative research using in-depth case studies and the content analysis methodology based on detailed scrutiny of financial data and disclosure notes of the firm's and the subsidiary's annual reports as well as other publicly available documents shed new light, enhancing our understanding of the phenomena.

The Amazon case is used to explore the way in which digital companies can approach tax planning. By ensuring that they do not have a PE in the UK they are able to reduce the income recorded as UK revenues. Complex structures instead divert income to subsidiaries located in low tax countries ensuring that their tax liability is minimised. The study of Google explores these complex structures in more detail. Google, like Amazon minimises the income that is booked to the UK subsidiary, making the case that revenues are only generated out of Google Ireland Limited. These two cases rely on the digital nature of their businesses, where the point of sale is obscured. This is clearly an issue of growing concern to governments to appropriate a share of earnings generated within their jurisdictions.

The case of Starbucks provides a contrast, focusing on a company that delivers to customers at the point of sale. There can be no obfuscation of where the sale is made. Yet, Starbucks have managed to reduce their profitability in the UK by shifting profits to other group subsidiaries through the use of intra company debt, royalty charges and TP. MNEs can choose to adopt mechanisms such as these to reduce their tax bill. The case study approach demonstrates the importance of these mechanisms to the companies under scrutiny but cannot add to knowledge about the extent to which these are

adopted. Research that could evaluate the importance of these mechanisms to a range of MNEs would make an important contribution but given the current disclosure rules it is not clear how this could be undertaken.

The cases of Goodyear Tires and Ford Motor Company have a different emphasis. These companies have not been accused of tax avoiding but the case studies are used to highlight the complexity of tax accounting and reporting. It is essential that research looking at corporate tax affairs is based on a sound understanding of the ways that corporate accounting distorts the behaviour of MNEs and the presentation of their results.

Nucor was selected to provide a contrast to the other five case studies. Nucor was selected as their tax payments appeared straightforward and they do not have any tax haven subsidiaries. This appears to be a relatively rare phenomenon where large MNEs are concerned (only 5 of those in the sample studied in Chapter 5 had no tax haven subsidiary). This underlines the choices that MNEs make in this area, the grey area where tax executives, CEOs and board members appear to drive attitudes and therefore decisions. Thoroughly understanding the behaviour of MNEs must involve understanding the stance that they take in relation to corporation tax. Not all companies make the same decisions as demonstrated through the diversity of approaches presented in these six case studies.

Each of these case studies provides new insights into the workings of the different companies and the strategies adopted to ensure that they take an 'efficient' approach to their tax planning. Together they provide a significant contribution to the understanding of the heterogeneity of approaches adopted by MNE to tax planning.

The case studies as a whole demonstrate strong evidence to support P1, that MNEs have the ability to adopt strategies that intentionally enable them to avoid taxes. The differences between the approaches adopted by the companies demonstrate the range of options available to them. Whilst the MNEs included here clearly adopt different approaches it is difficult to conclude strongly about how much is driven by motivation and how much by opportunity. The contrast between company Nucor and Starbucks in

particular may indicate some difference in motivation. Starbucks as a traditional 'bricks and mortar' company does not have some of the opportunities available to the more digital companies in terms of mechanisms to avoid tax. It is still, however, able to find mechanisms to reduce its tax payable in the UK. (P2). Without information directly from the company about the motivation for their tax planning strategies it is not possible to conclude on the different motivations from these case studies.

Whilst the case studies were not designed to test the effectiveness of the ETR measure it is used within them to measure trends and gives useful insight into the behaviour of these companies.

In depth case studies allow for the exploration of an issue and the generation of theory. The heterogeneity of approaches presented in these case studies underlines the importance of this form of data gathering. Further research is needed to generate a body of evidence that can be used to generate new IB theory that encompasses the role that tax plays in stimulating behaviour and the adoption of strategies by MNEs.

Whilst each of these case studies independently offers insight into the behaviour of the focal companies they are an important part of the contribution of this thesis as a whole.

The following Chapter draws the findings from this chapter, the theoretical and empirical literature reviews, the interviews reported in Chapter 4 and the quantitative analysis together to conclude on what drives the heterogeneity of approaches to tax adopted by different MNEs.

7 Discussions, conclusions and limitations

The overall question posed by this thesis is: *'What drives the tax avoidance strategies adopted by US MNEs?'* The research presented aims to generate an understanding of the heterogeneity of approaches to corporate tax planning adopted by these firms. In order to do this a holistic and systematic approach is adopted with the motivation of companies examined using qualitative and quantitative methodologies. Understanding what is happening inside the 'black box' of the company is key.

The findings are complex and nuanced. MNEs clearly adopt strategies to optimise their corporation tax expense. This is a new finding made by this study: firms optimise rather than minimise their ETRs. This can make measuring tax avoidance and evaluating the scale of the problem difficult. It is clear from the interviews, regression analysis and case studies that MNEs, or those working within them, make choices about how much tax should be paid and where they should pay it.

This chapter considers the conclusions that can be drawn from the research carried out as a whole. It briefly discusses the extent to which the conclusions add to the extant literature and the new contributions made by this thesis. The chapter starts by revisiting the existing gaps in the literature and describes how the research programme was designed to address the deficiencies in the existing knowledge. The chapter then goes on to discuss the key findings of the research as a body of work and how it has addressed the key questions that it posed at the outset.

The next section outlines potential implications for policy makers and managers. The final sections outline the latent limitations of this study and areas where further work could make useful contributions.

7.1 Contribution to the Literature

The literature reviews presented in Chapter 2 provide a comprehensive overview of what is known about the tax planning affairs of MNEs from both a theoretical and empirical perspective.

This thesis argues that the early IB theorists intuited the importance of tax as a driver for corporate behaviour. Subsequent theoretical advancements however, neglected tax, resulting in a theoretical gap in the understanding of how corporation tax drives behaviour. The literature review argues that early IB theory had an explicit focus on tax and the opportunities that it confers on the MNE. Early work on internalization theory concluded that the financial advantages of MNEs over domestic companies were central to the creation of the MNE (Hymer 1976; Lessard 1979; Rugman 1980). As internalization theory evolved the focus of discussion changed, with more recent work placing a greater emphasis on the creation and transfer of knowledge as the key advantage of the MNE.

The modern view placed less emphasis on the role of internal financial transfers within the MNE. Over time the financial advantages derived from being a MNE became seen as less central to the overall theory of the MNE than knowledge transfers. TP are therefore modelled simply as a tax avoidance mechanism, rather than being considered as one of the key advantages for the very existence of the MNE.

This study makes a new key theoretical contribution by extending knowledge about the motivations and abilities of MNE to plan their tax affairs efficiently. The Motivation and Opportunity Matrix presented in Chapter 4 (p. 160) begins to address the limitations in the existing theory by directly considering the MNE's motivation and opportunities to avoid tax. Understanding the interplay between these two factors will help explicate and predict the tax planning strategy adopted by the MNE.

The focus of IB theory needs to be expanded in order to incorporate an understanding of the way in which tax influences MNEs' motivations, activity and strategic planning. The demonstration of the original importance attached to tax within internalization theory and its subsequent neglect is one of the key theoretical contributions of this thesis. Findings from the interview research also suggest the importance of aspects, such as the relevant experience of individuals' involved in tax planning and the company's overall attitude to risk that the development of theory must take into account. These new findings generate an important extension to internalization theory.

The empirical literature review demonstrates that whilst there is a growing body of research looking at the issue of taxation, tax planning and avoidance, very little of this is conducted within the field of IB. This is confirmed by the focussed literature review presented in Chapter 2. The findings support the argument that the topics of tax and tax planning have been neglected by IB scholars. The empirical research presented comes from the fields of IB, law, accountancy and finance. The piecemeal approach to research has resulted in disjointed findings that do not present a coherent picture of the tax planning affairs and approaches of the MNE. Growing public policy interest in the topic of tax avoidance appears to be driving a resurgence of interest in this area. IB has an important role to play in generating an understanding of how MNEs behave and what factors drive their decision making.

The lack of clear data that is available for empirical research is one of the factors that has created the situation where different researchers have adopted different techniques to investigate tax planning and avoidance. One stream of research attempts to evaluate the extent of tax avoidance at the macro level (Zucman 2014, 2015) and demonstrates that MNEs have considerable ability to profit shift (Grubert and Mutti 1991; Hines and Rice 1994; Huizinga and Laeven 2008), that this ability is increasing (Altshuler, Grubert and Newlon 2000; Klassen and LaPlante 2012; Zucman 2014) and that MNE are becoming more sensitive to tax rates (Altshuler, Grubert and Newlon 2000).

The second stream of research looks at specific aspects of, or mechanisms for, tax avoidance and attempts to find evidence of their use and gauge the size of their impact on government revenue and corporate strategy (including Grubert and Mutti 2000, Grubert 2003b, Huizinga and Laeven 2008, Clausing 2009, Barrios, et al 2012, and Dyreng et al 2015). These approaches do not provide a coherent view of the MNE as an entity. They cannot explain what drives the MNE to adopt the tax avoidance strategies that it does or the relative importance of different mechanisms to different firms. This significant gap in the literature therefore drove the development and adoption of the research methodology used in this thesis.

7.2 Research Methodology

This thesis has taken a novel and systematic approach to empirical research, particularly for a thesis within the school of IB. Mixed methods have been used to generate a comprehensive understanding of a complex issue. Examining the area from three separate directions, namely, interviews with company tax executives and tax experts, quantitative analysis (statistical regressions) and case studies using content analysis methodology, allows information gathered from each to reinforce the others and enhances the overall understanding of this multifaceted area.

The data analysis presented in Chapter 5 uses a relatively small data set. This enables deeper investigation into the behaviour of specific MNEs. The manageable sample enables the analysis of companies at the individual level to complement the regression analysis. The use of outlier analysis and the case studies presented in Chapter 6 facilitate the thorough analysis of individual companies within the sample and this contributes to the holistic view of the MNE that previous studies have lacked.

The interviews presented in Chapter 4 also contribute to this holistic understanding. Qualitative research can make a vital contribution towards opening the 'black box' of the tax planning of the MNE, towards going 'Inside the Multinationals' (Rugman 1981). This is particularly important in a subject like corporation tax where issues of confidentiality and transparency generate difficulties and deficiencies in more traditional forms of data analysis. Doz (2011) argues that:

'only rich, thick descriptions can provide the basis for the use and possible synthesis of multiple theories into new conceptual development' (Doz 2011).

Only qualitative research can provide the depth needed to create these 'thick descriptions'. The series of interviews reported in Chapter 4 make a significant contribution towards the creation of the requisite description. It is imperative to understand the decision-making processes within the firm, and to understand the concerns and motivations of those who are making key decisions (Rugman and Verbeke, 2008). As a consequence Chapter 4 provides an important new data source. This research is unique, not just within the field of IB but across the different disciplines where tax is considered important.

7.3 Key Research Findings

The mixed methods approach provides a range of findings that triangulate to present a complex picture of the tax affairs of MNEs. The findings are nuanced and complex. The quantitative analysis reported in Chapter 5 provides significant new findings. By considering the characteristics of companies and their ETRs the research contributes to the overall research question about the nature of heterogeneity in the tax planning approaches of the MNE.

Direct evidence for tax avoidance itself, however is not straightforward. For both measures of ETR the mean rate for the firms within the sample studied in Chapter 5 is within one standard deviation of the statutory rate. Whilst there are many companies that have low ETRs over the ten year period studied there are many where ETRs are closer to the statutory rate. Figure 5 (page 187) shows that in reality the different ETRs form a relatively smooth continuum. Overall the Cash LR ETR of the sample was 25.72 per cent. 13.83 per cent of the firms studied maintained a LR Cash ETR of less than 20 per cent and 4.26 per cent maintained a rate of less than 10 per cent. There is clearly huge variation in the ETR's of these companies and this thesis argues that this is a consequence of the decisions made within these firms. MNEs appear to 'optimise' rather than 'minimise' corporation tax. The interviewees (Chapter 4) explained how the top management of the company and their approach to risk influence the aggressiveness with which tax avoidance is pursued.

Far-sighted management of MNEs must consider the long-term prospects for the company. The potential risks of tax avoidance in terms of harm to the company's reputation must be weighed against the shorter-term advantages of the lower tax bill. The interviewees (Chapter 4) argue that as public interest has grown in this phenomenon, following the global financial crisis of 2008, MNEs are taking a longer-term approach, more conscious than previously of the potential damage to their corporate reputation. This is reflected in the figures in Table 8 (page 188) that shows the ten year trends in both GAAP and Cash ETRs. There appears to be a fairly stead downward trend over the ten year period studied, which is consistent with firms adopting a more conservative approach to tax avoidance.

ETR itself is a complex measure and the research presented in Chapter 5, particularly the outlier analysis (see case studies on Goodyear Tires and Ford in Chapter 6) demonstrates the importance of understanding the details of the measure used.

The differences between the two measures used here, particularly in relation to the findings on IP and the Internationality Index demonstrate the complexity of the ETR measures. The discussion in Chapter 4 on KPIs where interviewees reveal the continuing importance of the ETR to MNEs is a key finding with practical implications for empirical research. Whilst there is some lack of agreement over the current extent of use of ETR as a specific target or KPI, it remains clear that the ETR is an important measure for MNEs. If MNEs themselves monitor and concentrate on these measures they remain a valid focus for academic research. The motivation for some researchers (Lanis and Richardson 2015 and Brajcich et al 2016) to move away from ETR as the DV in statistical research may be due to its complex nature. It remains the most direct measure of tax charges payments despite its complexity. Its complexity may be due in part to the finding that firms engineer an optimal rather than a minimal rate.

Using a long run measure of both cash and GAAP ETR generates important findings. The understanding of the differences between these two measures engendered has important implications for future empirical research. The case studies on Goodyear Tires and Ford Motor Company in Chapter 6 also add to the understanding of this measure with the focus on the implications of shifts in deferred tax assets and valuation allowances.

It is clear that this indicates that ETR a useful measure of a company's propensity to avoid tax. ETR is a complex measure, or set of measures. Researchers must understand the measure that they employ and its interaction with IVs. The importance placed on this measure by MNEs themselves emphasizes its importance and the need for researchers to embrace its complexity rather than rejecting it in favour of other less direct proxy measures.

The findings reveal the importance of size of the MNE on its ETRs. Previous findings have been mixed with some finding that larger firms are associated with more tax avoidance

(Benvignati 1985; Zimmerman 1983, Rego 2003, Lanis and Richardson 2015) and others finding a negative impact (Porcano 1986) or no association (Shevlin and Porter 1992, Gupta and Newberry 1997). This earlier work relied on single year measures of ETR and did not consider both Cash and GAAP ETRs. Whilst this research demonstrates the clear importance of size on ETRs it does not explain what aspect of size confers this advantage. Investigation in Table 13 (page 197) shows that the largest firms are dominated by those in the tech sector and pharmaceuticals. It may be that greater scope for TP is responsible for the reported advantage of size. Further work with a larger sample size is required to continue the exploration of the impact of industry and size on GAAP and Cash ETRs.

The differences between the signs for LR GAAP and Cash ETRs for the internationality index and IP findings demonstrate the complexity of these measures. If MNEs pay foreign taxes (cash) but do not repatriate sufficient profits to the US they may have insufficient US tax liability with which to offset the foreign cash payments made. This finding adds significantly to our understanding of the importance of IP and internationality to the MNE in relation to tax planning but also reinforces the need for care when interpreting ETRs.

The model makes significant new findings in relation to tax havens. If MNEs have at least one tax haven subsidiary their LR Cash ETR is reduced by 9.5 per cent. The measures involved in work on tax havens are complex due to the lack of agreement between scholars about what constitutes a tax haven. The measure of 'dot tax havens' used relies on the small size of the country and the consequent lack of market there. Future work should examine which specific aspects of these dot tax havens and the services available are attractive to MNEs to generate a more complete understanding of the role of tax havens. This in turn may generate a new, more precise definition of tax havens for use in future analysis.

The role of women on the board and their impact on ETRs is a clear and important new finding. This adds new evidence to the emerging field of research that considers the role of gender in corporate management and strategy. The findings here demonstrate the important role that is played by the board in setting the tax planning tone within the

company and that, in turn, drives the heterogeneity of approaches adopted. This reinforces the findings from the interviews that suggest the importance of the tone from the top of the company as well as the importance of the board itself. The findings demonstrate clearly the different attitude taken by female board members and the influence that they have across the different measures of tax avoidance included within the data analysis. It appears likely that women take a different stance on the long-term view of the company and place greater emphasis on the potential for tax avoidance to damage the company's reputation. Women may therefore place greater emphasis on tax optimisation rather than tax minimisation. This is consistent with previous research which finds that women adopt a different approach to their role as board members (Wang and Coffey 1992; Williams 2003; Adams and Ferreira 2009) as well as to evaluating risk (Barua et al 2010; Torgler and Valev 2010; Francis et al 2014; Huang and Kisgen 2013).

That women on the board are able to influence tax strategy in this way is a significant new finding. As more women find places on the boards of MNEs their influence is likely to grow. This highlights the importance of understanding the MNE as a dynamic rather than a static organisation and the importance for IB scholars to ensure that both theory and empirical research keep pace with change.

It is clear that MNEs have scope to plan their tax affairs. How they choose to do this will vary between companies depending on the motivation of the company to avoid tax and the opportunities available to it. The Motivation and Opportunity Matrix presented in Chapter 4 (page 160) explores the factors that influence the decision made by MNEs and why some avoid tax more aggressively than others. The opportunities available may be influenced by the potential to profit shift via TP or other mechanisms. The MNE's motivation, or the extent to which they choose to avoid tax appears to reflect the long-term assessment of its implications for the future of the company. Companies with greater concern for the potential impact of tax avoidance on its reputation will choose to optimise rather than minimise tax. This highlights the ability of MNEs to choose their tax strategy and to determine the aggressiveness with which they pursue tax avoidance.

7.4 Implications for Managers and Policy Makers

Whilst the focus of this research is not on tax policy per se, there are some clear implications for those developing policy and for tax managers. All three pieces of empirical research demonstrate the flexibility that MNEs currently experience within the international tax regime given that the differentials in tax rates across countries provide MNEs with vast opportunities for arbitrage. MNEs demonstrate behaviours that enable them to plan their tax liabilities. The background and experiences of those involved in setting and managing tax policy within the MNE will have an impact on its overall strategy. The characteristics of the firm will denote the areas where it has greater scope for tax planning. The overall aggressiveness of behaviour that emerges will be a consequence of these two factors and it is clear that many MNEs choose to optimise their ETRs rather than minimise.

There are clear implications for managers of MNEs – both at the headquarters and at the subsidiary level. Management needs to be clear that when they are setting their tax planning strategy they are making a choice with implications not only for the corporation tax paid but also potentially, risks to the business including those of public perception and potential damage to their corporate reputation. Executives should actively manage their tax planning strategy in the light of these potential trade offs.

Policy is also needed to address these areas. Tax executives argue that they respond to the legal framework and may feel pressure from within the corporation or from shareholders to reduce their tax liability if they are out of line with their peers. Tax planning and payments need to become less of a choice and more of an obligation for MNEs.

This research demonstrates that MNEs do not adopt a homogenous approach to tax planning and government policies need to respond to these differences. MNEs operate across borders and the case studies presented in Chapter 6 demonstrate the extent of the impact of tax planning on their corporate structures and behaviour. Without a similar transnational perspective governments will be at a disadvantage compared to the MNE, focusing on a smaller jurisdiction than the MNE. As the length of value chains increases, all MNEs, not simply those involved in digital base industries, will be able to

exploit the possibilities that this increasing role of digital technology offers. Governments need to consider how they can gain this international perspective.

7.5 Limitations of this Research

This thesis takes a novel approach, adopting three distinct methodologies (interviews with tax executives; statistical regressions and company case studies) to construct a systematic and comprehensive picture of the heterogeneity of approaches adopted by US MNEs to tax planning. Each of the methodologies have inherent limitations, but by adopting this multi facetted approach the interplay between the approaches generates complementary findings that work together to give a complete picture of a complex phenomenon. Work in this area is inherently difficult due to the confidential nature of tax planning. Rather than concerns for confidentiality emerging simply due to the competitive nature of business, there are genuine concerns about the legality or legitimacy of the strategies of MNEs. Tax executives do not want to draw attention to their MNEs or the mechanisms used within their corporate tax planning strategy.

The research based on interviews with tax executives is based on a small sample, as access issues driven by confidentiality concerns, limited participation. Care was taken however, to ensure that there was no bias in the sample and that those interviewed had a senior enough role within the organisation to be able to contribute fully to the interview process. The findings from the interviews complemented those from other empirical studies. There were no clear disagreements between the interviewees, indeed the level of repetition between the interviewees seemed to suggest that saturation had been achieved (Suddaby 2006). A larger sample size could have enabled stratification and examination of any emerging differences between those working within MNEs and those advising them.

A small dataset was developed for the regression analysis presented in Chapter 5 in order to enable the research to drill down and present a holistic view of the companies. A larger sample would have enabled greater focus on any industrial differences and may have enabled greater analysis of the differences between companies. Data was collected for these companies over a ten-year time horizon and this incorporated the global financial crisis of 2008. Examination of a longer time period would have given a greater

understanding of the changes emerging over time that were discussed in the interviews. Interviewees discussed the changes in attitude that had emerged since the global financial crash of 2008 but the relatively short time horizon of ten years did not enable any analysis to be undertaken of the impact of the financial crash and whether MNE behaviour or outcomes changed as a consequence of the crash.

The research focuses on US MNEs, their home country tax regime and UK operations. The data analysis considers their group operations whilst the interviews largely consider their UK operations. The case studies offer the ability to combine the two levels of analysis (the parent firm and foreign subsidiaries) where relevant. The research was structured in this way to produce a multi-level analysis, however, synergies between interviewees and data analysis at the same level may have been reduced. Interviewing tax executives in the US headquarters could have supplemented the existing findings although gaining access would have been problematic.

As the focus is, like much extant research, on US MNEs, the generalizability may be limited. US firms are dominant in the global market, however, they face specific challenges in relation to their home tax regime that may mean they respond to international possibilities in a different way to companies with other home countries. The focus on their UK and multinational operations creates an international perspective. The main findings in relation to the heterogeneity of approaches undertaken by US MNEs are likely to hold for a wider sample of countries.

The case studies represent an underused form of IB research. Supplementing the document analysis presented here with interviews and data from inside the company would have enabled a more holistic view of the company to be presented. Interviews would also have assisted in generating an understanding of the interplay between motivation and opportunity. The case studies analyse what can be gleaned from public information about the position adopted by the MNEs but cannot conclude on what drove the adoption of that position.

7.6 Areas for Future Research

A number of areas for future research have been identified throughout this thesis. This section brings these areas together to present the key areas where additional research could usefully generate new insight to supplement the findings of this thesis.

Tax has been a neglected topic within the field of IB. The findings from the three empirical studies have demonstrated the importance of this subject and underline the need for IB researchers to address the shortcomings from within the IB field. IB theory and research needs to account for the implications of corporate taxation for company strategy.

Given the important findings made in relation to the use of Tax Havens in Chapter 5 further research could usefully focus on the features of tax havens and what makes them attractive relative to each other. This would enable the creation of a more precise definition of 'dot tax havens', moving away from a reliance simply on the size of the country. Further analysis is also required to further explore the role of MNE size in determining ETR. Analysis should focus on what aspects of size or industry contribute to this finding. This work could consider the complexity of group structures as well as the functions of different subsidiaries.

Data analysis could usefully focus on the use of NOLs and deferred taxes and how these have been used by MNEs over time. This is a highly technical area and has been neglected by previous research with loss making firms often simply excluded from analysis (Azemar 2003; Markle and Shackelford 2009; Dharmapala and Riedel 2008).

The innovative use of case studies in Chapter 6 demonstrates the useful information contained in annual reports that are too often neglected as a source by academic researchers. In depth case studies based on annual reports can provide important insight when access to companies is limited. These allow for the in depth exploration of issues as well as the generation of theory. More qualitative research is needed to continue to pursue the area of what drives the variation in tax avoidance. Work could usefully investigate the processes within the firm: who sets tax policy and how it is implemented. New qualitative research is needed as the basis for the generation of new

theory addressing tax. The importance of tax as an issue for those operating within the MNE must be reflected in the research of those studying the MNE.

7.7 Final Conclusions

The multi-disciplinary approach to methodology adopted in this research enables a comprehensive analysis to be made of a topic that has long been neglected within the IB field. The research demonstrates that this is an important area for IB researchers, with the potential to generate an enhanced understanding of the MNE more broadly. Using both qualitative and quantitative methods of inquiry enabled the research to make significant contributions both to empirical understanding but also to existing theory.

The nature of this research is timely given the new focus on corporation tax payments by policy makers and the general public. The findings demonstrate the importance to MNEs of optimising their corporation tax payments rather than simply minimising them. This emphasises the role played by individuals within MNEs, here demonstrated by the finding that more female board members tend to lead to an increase in corporate ETRs, suggesting that they are less aggressive in tax planning.

8 References

Accounting Standards Board (1995) Financial reporting standard (FRS) 8, related party disclosures. Available at: http://frc.org.uk/Our-Work/Publications/ASB/FRS-8-Related-Party-Disclosures-File.pdf [Accessed 12/3/2015].

Adams, R. and Ferreira, D. (2009). Women in the boardroom and their impact on corporate performance. *Journal of Financial Economics,* 94 pp. 291-309.

Aliber, R. (1978). The integration of national financial markets: a review of theory and findings. *Weltwirtschaftliches Archiv* 1978 pp. 448-479.

Aliber, R. (1985). Transfer pricing: a taxonomy of impacts on economic welfare. In A. Rugman, and L. Eden, eds., *Multinationals and Transfer Pricing.* London: Croom Helm, pp. 82-98.

Alphabet Annual Report (2015). Available at: https://www.sec.gov/cgi-bin/browse-edgar?action=getcompany&CIK=0001652044&type=&dateb=&owner=include&count=40 [Accessed 12/2/2016]

Altshuler R. and Newlon, S. (1993). The effects of US tax policy on the income repatriation patterns of US multinational corporations. In A. Giovannini, R. G. Hubbard, and J. Slemrod, ed, *Studies in International Taxation,* pp. 77-1 15. Chicago: University of Chicago Press.

Altshuler, R. Grubert, H. and Newlon, T. (2000). Has US investment abroad become more sensitive to tax rates? In J. Hines, ed., *International Taxation and Multinational Activity.* Chicago: University of Chicago Press, pp. 9-38. Available at http://www.nber.org/chapters/c10718 [Accessed 3/3/2015]

Altshuler, R. and Grubert, H. (2002). Taxes, repatriation strategies and multinational financial policy. *Journal of Public Economics,* 87 (1), pp. 73-107.

Altshuler, R. and Grubert, H. (2006). Governments and multinational corporations in the race to the bottom. *Tax Notes*, Vol. 110, No. 8 February 2006.

Amazon.com (2005-2014) Annual Reports. Available at: http://phx.corporate-ir.net/phoenix.zhtml?c=97664&p=irol-reportsannual

Amazon.co.uk (2014) Amazon.co.uk Ltd. Report and Financial Statements. 31 December 2014.

APB (1973) Accounting for income taxes – special areas. Available at: http://www.fasb.org/cs/BlobServer?blobcol=urldata&blobtable=MungoBlobs&blobkey=id&blobwhere=1175820901676&blobheader=application%2Fpdf [Accessed 24/12/2016].

Armstrong, C. Blouin, J. and Larcker, D. (2012). The incentives for tax planning. *Journal of Accounting and Economics*, 53 pp. 391-411.

ASC (2009) Income Taxes (Topic 740). Available at: http://www.fasb.org/cs/BlobServer?blobcol=urldata&blobtable=MungoBlobs&blobkey=id&blobwhere=1175819501289&blobheader=application/pdf [Accessed 12/3/2017]

Association of Business Schools (2015). *Academic Journal Guide 2015.*

Ayers, B. Jiang, X. and LaPlante, S. (2009). Taxable income as a performance measure:

the effects of tax planning and earnings quality. *Contemporary Accounting Research* 26, pp. 15-54.

Azemar, C. (2010). International corporate taxation and US multinationals' behaviour: an integrated approach. *Canadian Journal of Economics*, Vol. 43, No.1.

Baker, R. (2005). *Capitalism's Achilles Heel.* John Wiley and Sons: Hoboken, New Jersey.

Bain, J. S. (1956). *Barriers to new competition: their character and consequences in manufacturing industries.* Cambridge, Mass: Harvard U.P.

Bamber, L. Jiang, J. and Wang, I. (2010). What's my style? The influence of top managers and their personal backgrounds on voluntary corporate financial disclosure. *The Accounting Review,* 85 (4) pp. 1131–1162.

Barrios, S. Huizinga, H. Laeven, L. and Nicodeme, G. (2012). International taxation and multinational firm location decisions. *Journal of Public Economics*, Dec. 2012 pp. 946-958.

Bartelsman, E. and Beetsma, R. (2003). Why pay more? Corporate tax avoidance through transfer pricing in OECD countries. *Journal of Public Economics,* 87, pp. 2225-2252.

Barua, A. Davidson, D. Rama, V and Thiruvadi, S. (2010). CFO gender and accruals quality. *Accounting Horizons*, 24 (1) pp. 25-39.

Batra, R. and Hadar, J. (1979). Theory of the multinational firm: fixed versus floating exchange rates. *Oxford Economic Papers*, 31(2) pp. 258 – 269.

Bear, S. Rahman, N. and Post, C. (2010). The impact of board diversity and gender composition on corporate social responsibility and firm reputation. *Journal of Business Ethics* 97 pp. 207-221.

Benvignati, A. (1987). Domestic profit advantages of multinational firms. *Journal of Business,* 3, pp. 449-461.

Bergin, T. (2012). Special report: How Starbucks avoids UK taxes. *Reuters*, October 15, 2012. Available at: http://uk.reuters.com/article/uk-britain-starbucks-tax-idUKBRE89E0EW20121015 [Accessed 17/10/2015]

Bertrand, M and Schoar, A. (2003). Managing with style: the effect of managers on firm policies. *The Quarterly Journal of Economics,* 68 (4) pp. 1169-1208.

Bewley, K. and Schneider, T. (*2013*) Triple bottom line accounting and energy-efficiency retrofits in the social-housing sector: A Case Study. Accounting and the Public Interest. Vol. 13, No. 1, pp. 105-131.

Bird, F. and Smucker, J. (2007). The social responsibilities of international firms in developing areas. *Journal of Business Ethics,* 73: 1.

Birkinshaw, J. (1996). How multinational subsidiary mandates are gained and lost. *Journal of International Business Studies*, 27 (3) pp.467-495.

Birkinshaw, J. Brannen, M. and Tung, R. (2011). From a distance and generalizable to close up and grounded: reclaiming a place for qualitative methods in international business research. *Journal of International Business Studies,* 42 (5), pp.573-581.

Blaylock, B. Shevlin, T. and Wilson, R. (2012). Tax avoidance, large positive temporary book- tax differences, and earnings persistence. *Accounting Review, 87*, pp. 91-120.

Blouin, J. and Krull, L. (2009). Bringing it home: a study of the incentives surrounding the repatriation of foreign earnings under the American Jobs Creation Act of 2004. *Journal of Accounting Research,* 47, pp. 1027-1059.

Blouin, J. Krull, L. and Robinson, L. (2012). Is US multinational intra firm dividend policy influence by reporting incentives? *The Accounting Review* 87 (5), pp. 1463-1491.

Bock, L. (2015) *Work Rules!: Insights from Google that will transform how you live and lead*. New York: Hatchett Book Group.

Boise, C. and Koenig, J. (2002). Practical and policy considerations in corporate inversion transactions. Corporate Business Taxation Monthly. September 2002 pp. 3-20.

Bond, E. (1980) Optimal transfer pricing when tax rates differ. *Southern Economic Journal*, 47 (4) pp. 1208-1214.

Brajcich, D. Friesner, D. and McPherson, M. (2013a), Key determinants of repatriated earnings by US multinational enterprises. *Multinational Business Review*, 21 (3) pp. 269-289.

Brajcich, A. Friesner, D. and McPherson, M. (2013b). Trends in the shifting of resources by US based multinational companies. *Journal of Accounting and Finance*, 13(6) pp. 92-106.

Brajcich, A. Friesner, D. and Schibik, T. (2016) Do US pharmaceutical companies strategically shift income to international affiliates? *Multinational Business Review* 24 (1) pp.8-24.

Brinded, L. (2016). Margrethe Vestager explains why Tim Cook is wrong about Apple's huge tax bill. *Business Insider (UK).* 30 September 2016. Available at: http://uk.businessinsider.com/european-commissioner-for-competition-margrethe-vestager-on-apple-tax-and-tim-cook-2016-9 [Accessed 5 January 2017].

Bringer, J. Johnston, L. and Brackenridge, C. (2004). Maximising transparency in Doctoral thesis: The complexities of writing about the use of QSR* NVIVO within a grounded theory study. Qualitative Research Vol 4 (2).

Bryman, A. (2007). Barriers to integrating quantitative and qualitative research, *Journal of Mixed Method Research*, 1 (1) pp. 8-22.

Buckley, P. and Casson, M. (1976) *The Future of the Multinational Enterprise.* Basingstoke and London: Macmillan.

Buckley, P. and Casson, M. (2009). The internalization theory of the multinational enterprise: A review of the progress of a research agenda after 30 years. *Journal of International Business Studies,* 40 (9) pp. 1563–1580.

Buckley, P. and Pearce, R. (1979). Overseas Production and exporting by the world's largest enterprises. Journal of International Business Studies. Spring / Aummer 1979.

Buettner, T. and Ruf, M. (2007) Tax incentives and the location of FDI: evidence from a panel of German multinationals. *International Tax and Public Finance*, 14 (2) pp. 151-164.

Buettner, T. and Wamser, G. (2007) Intercompany loans and profit shifting – evidence from company level data. CESIFO WORKING PAPER NO. 1959 March 2007.

Buettner, T. and Wamser, G. (2013). Internal debt and multinational profit shifting: empirical evidence from firm level panel data. *National Tax Journal,* 66 (1) pp. 63 – 96.

Byrne, D. (2009) Case based methods: why we need them, what they are, how to do them. In D. Byrne and C. Ragin (eds) *The Sage Handbook of Case Based Methods,* London, Sage, pp. 2-10.

Byrne, D. and Ragin, C. eds (2009) *The Sage Handbook of Case Based Methods*, London, Sage.

Casson, M. (1979). *Alternatives to the Multinational Enterprise*. London: Macmillan 1979.

Casson, M. (2015) Coase and International Business: The Origin and Development of Internalization Theory. *Managerial and Decision Economics*, 36 (1) pp.55-66.

Caves, R. (1971) International corporations: the industrial economics of foreign investment. *Economica,* 38 (149), pp. 1-27.

Caves, R.E (1982) *Multinational Enterprise and Economic Analysis*. New York: Cambridge University Press.

Chan, K. and Chow, L. (1997) An empirical study of tax audits in China on international transfer pricing. *Journal of Accounting and Economics*, 23(1) pp. 83-112.

Chen, C. Su, X. and Wu, X. (*2010*) Auditor changes following a big 4 merger with a local Chinese firm: A Case Study. *AUDITING: A Journal of Practice & Theory*. Vol. 29, No. 1, pp. 41-72.

Cheng, L. (2007) Critical issues in international management research: An agenda for future advancement. *European Journal of International Management,* 1 (1/2) pp. 23-38.

Clausing, K. (2003) Tax-motivated transfer pricing and US intrafirm trade prices, *Journal of Public Economics,* 87, pp. 2207-2223.

Clausing, K. (2009). Multinational firm tax avoidance and tax policy. *National Tax Journal,* 62 (4)

Clemmons, R. and Kinney, M. (2008). An analysis of the tax holiday for repatriation under the jobs act. *Tax Notes,* 120 (8), pp. 759- 768.

Coase, R. (1937) The Nature of the Firm. *Economica*, 4 (16) pp.386-405.

Coates, W. (1925). Double Taxation and Tax Evasion. *Journal of the Royal Statistical Society* 83(3): pp. 403–427.

Cooper, M. and Knittel, M. (2006) Partial Loss Refundability: How Are Corporate Tax Losses Used? *National Tax Journal*, 59 (3) pp 651-663.

Copithorne, L. (1971) International corporate transfer prices and government policy. *Canadian Journal of Economics* 4 (3) pp. 324 – 341.

Cuervo-Cazzura, A. Narula, R. and Un, C. (2015) Internationalisation motives: sell more, buy better, upgrade and escape. *Multinational Business Review,* 23 (1) pp.25-35.

Cuervo-Cazzura, A. and Narula, R. (2015) A set of motives to unite them all? *Multinational Business Review,* 23(1).

The Daily Mail, (2016). Google's worldwide web of tax loopholes. Available at: http://www.dailymail.co.uk/news/article-3416939/Government-fire-Google-pay-

THREE-times-tax-France-employs-thousands-people-does-business-Britain.html Accessed: 10/7/2016

Davis, A. Guenther, D. Krull, L. and Williams, B. (2016) Do socially responsible firms pay more taxes? *The Accounting Review*, 91 (1) pp. 47-68.

De Mooij, R. and Ederveen, S. (2006) What a difference does it make? Understanding the empirical literature on taxation and international capital flows, *European Commission Economic Papers* 261. URL: https://www.researchgate.net/publication/254413342_What_a_Difference_Does_it_Make_Understanding_the_Empirical_Literature_on_Taxation_and_International_Capital_Flows [Accessed 6/4/2016]

Denzin, N. and Lincoln, Y., eds, (2000) *Handbook of qualitative research,* 2nd ed. Newbury Park, CA: SAGE pp. 769 – 802.

Desai, M. and Dharmapala, D. (2006) Corporate tax avoidance and high-powered incentives. *Journal of Financial Economics* 79 (1) pp. 145–179

Desai, M. Foley, F. and Hines, J. (2004). A multinational perspective on capital structure choice and internal capital markets. *The Journal of Finance*, LIX (6) pp. 2451- 2487.

Desai, M. Foley, F. and Hines, J. (2006) The demand for tax haven operations. *Journal of Public Economics,* 90 pp. 513 – 531.

Desai, M. and Hines, J. (2002). Expectations and expatriations: Tracing the causes and consequences of corporate inversions. *National Tax Journal*, 55 pp. 409-440.

Devereaux, M. and Griffith, R. (1998) Taxes and the location of production: evidence from a panel of US multinationals. *Journal of Public Economics,* 68 (3), pp. 335-367.

Devereaux, M. and Griffith, R. (2003) Evaluating Tax Policy for Location Decisions *International Tax and Public Finance,* 10 (2), pp. 107–126.

Devereaux, M. Lockwood, B. and Redoano, M. (2008) Do countries compete over corporate tax rates? *Journal of Public Economics* 92 (2008) pp. 1210-1235.

Devereux, M. and Loretz, S. (2013a). What do we know about corporate tax competition? *National Tax Journal*, 66 (3) pp. 745-773.

Devereux, M. and Loretz, S. (2013b) How would EU corporate tax reform affect US investment in Europe? *Tax Policy and the Economy,* 26, pp. 59-91.

Dharmapala, D. Foley, F. and. Forbes, K. (2011). The unintended consequences of the Homeland Investment Act: implications for financial constraints, governance and international tax policy. *Journal of Finance,* 66 (3), pp. 753-787*.*

Dharmapala, D. and Riedel, N. (2013) Earnings shocks and tax motivated income shifting? Evidence from European multinationals. *Journal of Public Economics.* 97 January 2013 pp. 95-107.

Dicken, P. (2011) *Global Shift*. 6th Edition. London: SAGE.

Diewert, W. (1985) Transfer Pricing and Economic Efficiency. In A. Rugman and L. Eden, (eds.) *Multinationals and Transfer Pricing.* London: Croom Helm. pp 47-81.

Dischinger, M. and Riedel, N. (2011) Corporate taxes and the location of intangible assets within multinational firms. *Journal of Public Economics*, 95 pp. 691- 707.

Donohoe, M. McGill, A. and Outslay, E. (2012) Through a glass darkly: What can we learn about a US multinational corporation's international operations from its financial statement disclosures? *National Tax Journal*, 65 (4) pp. 961-984.

Doz, Y. (2011) Qualitative research for international business. *Journal of International Business Research*, 42 (5) pp. 582-590

Drucker, J. (2007). Inside Wal-Mart's bid to slash state taxes; Ernst & Young devises complex strategies; California pushes back. *Wall Street Journal* October 23 2007. Available at: https://www.wsj.com/articles/SB119309882278867779 [Accessed 12/2/2015]

Dunning, J, (1977) Trade location of economic activity and the MNE: a search of an eclectic approach, in B. Ohlin, B. Hesselborn, and P. Wijkman, eds, *The international allocation Of Economic Activity,* London: Macmillan. Quoted in Cantwell, J (2000) A survey of theories of international production in, C. Pitelis, and R. Sugden, eds, *The Nature of the Transnational Firm.* 2nd ed. London: Routledge.

Dunning, J. (1993). *Multinational Enterprises and the Global Economy.* Harlow: Addison-Wesley.

Durst, M. C. (2016) Self help and altruism: protecting developing countries' tax revenues. In T. Pogge, and K. Mehta, eds, *Global Tax Fairness.* Oxford: Oxford University Press.

Dyreng, S. and Lindsey, B. (2009). Using financial accounting data to examine the effect of foreign operations located in tax havens and other countries on US multinational firms' tax rates. *Journal of Accounting Research,* 47 (5).

Dyreng, S. Lindsey, L. Markle, K. and Shackelford, D. (2015) The effect of tax and non tax country characteristics on the global equity supply chains of US multinationals. *Journal of Accounting and Economics*, 59 pp. 182-202.

Dyreng, S. Hanlon, M and Maydew, E. (2008) Long-run corporate tax avoidance, *The Accounting Review,* 83 (1) pp. 61-82.

Dyreng, S. Hanlon, M and Maydew, E. (2010). The effects of executives on corporate tax avoidance. *The Accounting Review,* 85 (4) pp. 1163- 1189.

Dyreng, S. Hoopes, J. and Wilde, J. (2016). Public pressure and corporate tax behavior. *Journal of Accounting Research*, 54 (1) pp.147-186.

Eagly, A. Johannesen-Schmidt, M. and van Engen, M. (2003). Transformational, transactional, and laissez-faire leadership styles: a meta-analysis comparing women and men. *Psychological Bulletin*, 129(4) pp. 569–591.

Eagly, A. H. and Johnson, B. (1990). Gender and leadership style: a meta-analysis, *Psychological Bulletin*, 108(2), 233–256.

The Economist (2009). Creative tension. 17/9/2009 Available at: http://www.economist.com/node/14460051 [Accessed 3/3/2015]

The Economist (2010). A radial brew. 22/4/2010 Available at: http://www.economist.com/node/15949156 [Accessed 21/12/2016]

The Economist (2016). The €13 billion bite. 3/9/2016. Available at: http://www.economist.com/news/business/21706238-european-commissions-huge-penalty-against-apple-opens-up-new-front-war-tax [Accessed: 3/9/2016]

Eden, L. (1978) Vertically integrated multinationals: a micro –economic analysis. *Canadian Journal of Economics*, XI, pp. 534 – 46.

Eden, L. (1983). Transfer pricing policies under tariff barriers, *Canadian Journal of Economics,* XVI, pp. 679-95.

Eden. L. (1985) The microeconomics of transfer pricing. In A. Rugman and L. Eden, eds, *Multinationals and Transfer Pricing* London: Croom Helm.

Eden, L. (1998). *Taxing multinationals: transfer pricing and corporate income taxation in North America*. Toronto: University of Toronto Press.

Eden, L. (2009). Taxes, transfer pricing and the multinational enterprises. In A. Rugman, ed, *The Oxford handbook of international business*, 2nd Ed. Pp. 557-590, Oxford: Oxford University Press

Eden, L. (2016) The Arm's Length Standard. In T. Pogge, and K. Mehta, eds, *Global Tax Fairness.* Oxford: Oxford University Press.

Eden, L. and Kudrle, R. (2005). Tax havens: renegade states in the international tax regime? *Law and Policy* 27 (1) pp. 100-127.

Eden, L. Valdez, L. and Li, D. (2005). Transfer pricing penalties and the market valuation of Japanese multinationals in the US. *Journal of International Business,* 36, pp. 398-414.

Egger, P. Eggert, W. Keuschnigg, C. and Winner, H. (2010) Corporate taxation, debt financing and foreign-plant ownership. *European Economic Review*, 54 (1) pp. 96 – 107.

Eisenhardt, K. (1989). Building theories from case study research. *Academy of Management Review* 14 (4) pp. 532-550.

European Commission (2014) Amazon State aid SA.38944 (2014/C) – Luxembourg Alleged aid to Amazon by way of a tax ruling. Brussels 7/10/2014. URL: http://ec.europa.eu/competition/state_aid/cases/254685/254685_1614265_70_2.pdf [Accessed 3/4/2015]

EY Global TP Survey (2013) Available at: http://www.ey.com/gl/en/services/tax/2013-global-transfer-pricing-survey [Accessed 13/11/2015]

EY Global TP Survey (2010) Available at: http://www.ey.com/Publication/vwLUAssets/Global_transfer_pricing_survey_-_2010/$FILE/2010-Globaltransferpricingsurvey_17Jan.pdf [Accessed 13/11/2015]

Fama, E. and Jensen, M. (1983). Agency problems and residual claims. *Journal of Law and Economics*, 26(2), pp. 327–350.

FASB (1997) Statement of Financial Accounting Standards No. 131, Disclosures about segments of an enterprise and related information. Available at: http://www.fasb.org/jsp/FASB/Document_C/DocumentPage?cid=1218220124541&acceptedDisclaimer=true [Accessed 8/3/2017].

Financial Times (2013). Dutch deny Starbucks tax deal is secret. 27/3/2013. Available at http://www.ft.com/cms/s/0/b72679f4-96ed-11e2-a77c-00144feabdc0.html?siteedition=uk#axzz36mlSxLd6 Accessed 5/10/2013

Financial Times (2014). Obama seeks ways to hinder foreign tax moves. 5/08/14. Available at: https://www.ft.com/content/7068f1f8-1ce9-11e4-b4c7-00144feabdc0 [Accessed 12/12/2014]

Financial Times (2016). Pfizer to kill $160bn Allergan merger. 6/4/2016. Available at: https://www.ft.com/content/edb7f406-efbe-37f3-84f2-78ab75f0cb10 [Accessed 6/4/2016]

Financial Reporting Council (2014) FRS 101 Reduced Disclosure Framework. Available at: https://frc.org.uk/Our-Work/Codes-Standards/Accounting-and-Reporting-Policy/Standards-in-Issue/FRS-101-Reduced-Disclosure-Framework.aspx [Accessed: 30/11/2016]

Foley, C. Hartzell, J. Titman, S. and Twite, G. (2007). Why do firms hold so much cash? A tax based explanation. *Journal of Financial Economics*, 86 (3) pp.579-607.

Fombrun, C. J. (2006). Corporate governance. *Corporate Reputation Review,* 8 (4) pp. 267–271.

Fontanier, F. and Kolk, A. (2007). On the economic dimensions of corporate social responsibility: exploring fortune global 250 reports. *Business and Society*, 46 pp. 457-478.

Ford Motor Company (2005-2014) Annual Reports. Available at: ford investors annual reports

Ford Motor Company (2014) 10K URL: http://corporate.ford.com/investors/reports-and-filings/sec-filings.html Accessed 14/9/2016

Ford Motor Company (2011) 10K URL: http://corporate.ford.com/investors/reports-and-filings/sec-filings.html [Accessed 14/9/2016]

Ford (2017) Our Story. [online] Available at: http://corporate.ford.com/history.html [Accessed 13/2/2017]

Fortune (2016) Fortune 500 Available at: http://beta.fortune.com/fortune500/ [Accessed 22/2/2017]

Francis, B. Hasan, I. Wu, Q. and Yan. M (2014). Are female CFOs less tax aggressive? Evidence from tax aggressiveness. *The Journal of the American Taxation Association*, 36 (2) pp. 171-202.

Frank, M. Lynch, L. and Rego, S. (2009). Tax reporting aggressiveness and its relation to aggressive financial reporting. *The Accounting Review,* 84, pp. 467-496.

Fuest, C. Spengel, C. Finke, K. Heckemeyer, J. and Nusser, H. (2013*). Profit shifting and 'aggressive' tax planning by multinational firms: issues and options for reform*. Centre for European Economic Research. Discussion paper 13-044. Available at: http://ftp.zew.de/pub/zew-docs/dp/dp13044.pdf [Accessed 17/6/2015]

Ghauri P. and K. Grønhaug (2002). *Research Methods in Business Studies: A Practical Guide*, Harlow, UK: Financial Times and Prentice Hall.

Glaister, K. and Frecknall Hughes, J. (2008). Corporate Strategy Formulation and

Taxation: Evidence from UK Firms. British Journal of Management, 19, pp33-48.

Godfrey, P. Merrill, C. and Hansen, J. (2009). The relationship between corporate social responsibility and shareholder value: An empirical test of the risk management hypothesis. *Strategic Management Journal,* 30, pp. 425-445.

Goodyear (2005-2014) Annual Reports. Available at: https://corporate.goodyear.com/en-US/investors/financial-reports.html

Goodyear (2005) Goodyear Tire and Rubber Company Annual Report 2005. Available at: https://corporate.goodyear.com/documents/annualreports/2005_annual_report.pdf [Accessed 14/3/2016]

Goodyear (2014) Goodyear Tire and Rubber Company Annual Report 2014. Available at: https://corporate.goodyear.com/documents/annualreports/GT2014_AR.pdf [Accessed 15/3/2016]

Google Inc. (2005-2014) Annual Reports. Available at https://abc.xyz/investor/

Google Inc. (2014) Annual Report 2014. Available at: https://www.sec.gov/Archives/edgar/data/1288776/000128877615000008/goog2014123110-k.htm

Google Inc. (2012) Annual Report 2012. Available at: https://www.sec.gov/Archives/edgar/data/1288776/000119312513028362/d452134d10k.htm

Google UK Ltd (2005-2014) Annual Reports. Available from Companies House: https://www.gov.uk/government/organisations/companies-house

Google UK Ltd (2015) Google UK Ltd Annual Report 2015. Available from Companies House: https://www.gov.uk/government/organisations/companies-house [Accessed 26/8/2016]

Gordon, R. and Lee, Y. (2001). Do taxes affect corporate debt policy? Evidence from US corporate tax return data. *Journal of Public Economics*, 82 pp. 195–224.

Grabski, S. (1985). Transfer pricing in complex organizations: a review and integration of recent empirical and analytical research. *Journal of Accounting Literature* , 4, pp. 33-35.

Graham, J. (2003). Taxes and corporate finance: A review. *Review of Financial Studies* 16 : 1074–1128.

Graham, J. R. Hanlon, M. and Shevlin, T. (2010) Barriers to mobility: the lockout effect of US taxation of worldwide corporate profits. National Tax Journal 63 (4, part 2) pp 1111-1144.

Graham, J. R. Hanlon, M. and Shevlin, T. (2011). Real effects of accounting rules: evidence from multinational firms' investment location and profit repatriation decisions. *Journal of Accounting Research,* 49 (1), pp. 137–185.

Gravelle, J.G. (2009). Tax Havens: international tax avoidance and evasion. *National Tax Journal,* 62 (4), pp. 727-753.

Grubert, H. (1998) Taxes and the division of foreign operating income among royalties, interest, dividends and retained earnings. *Journal of Public Economics*, 68 (2), pp. 269-290.

Grubert, H. (2003a) *The tax burden on cross border investment: company strategies and country responses.* US Treasury Department, Centre for Economic Studies and Ifo Instititute) CESifo Working Paper Series No 964. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=417348 [Accessed 20/6/2014].

Grubert, H. (2003b). Intangible income, intercompany transactions, income shifting and the choice of location. *National Tax Journal*. 56(2) pp. 221 – 242.

Grubert, H. and Mutti, J. (1991). Taxes, tariffs and transfer pricing in multinational corporate decision making. *The Review of Economics and Statistics,* 73, (2) pp. 285-293.

Grubert, H. and Mutti, J. (2000). Do taxes influence where US corporations invest? *National Tax Journal,* 53, pp. 825–40.

Grubert, H. and Mutti, J. (2007) *The effect of taxes on royalties and the migration of intangible assets abroad.* NBER Working Paper Series, Working Paper No. 13248. Available at: http://www.nber.org/papers/w13248 [Accessed 4/7/2014].

Grubert, H. and Slemrod, J. (1998). The effect of taxes on investment and income shifting to Puerto Rico. *The Review of Economics and Statistics*, 80 (3) pp.365-373.

The Guardian (2012) *Amazon makes UK publishers pay 20% VAT on ebook sales.* 21/10/2012. Available at: https://www.theguardian.com/technology/2012/oct/21/amazon-forces-publishers-pay-vat-ebook [Accessed 21/10/2012].

The Guardian (2015). *Amazon to begin paying corporation tax on UK sales.* 23/ 5/2015. Available at: http://www.theguardian.com/technology/2015/may/23/amazon-to-begin-paying-corporation-tax-on-uk-retail-sales [Accessed 3/6/2015].

Gupta, S, and Newberry, K. (1997). Determinants of the variability in corporate effective tax rates: Evidence from longitudinal data. *Journal of Accounting and Public Policy,* 16 (1) pp. 1–34.

Gupta, S. and Webster, C. (2005). Diamond industry: Impact of economic and organizational changes on network strategy development. *Global Business and Economics Anthology*, December, pp.220−225.

Hageman, A. and Bobek Schmitt, D. (2014) Institutional and Political Antecedents of Interjurisdictional Tax Harmonization: Lessons from Three States. Accounting and the Public Interest. Vol. 14, No. 1, pp. 1-33.

Hair, J. Black, W. Babin, B. Anderson, R and Tatham, R (2006). *Multivariate data analysis*. 7th Ed. Upper Saddle River, NJ: Pearson Prentice Hall.

Halinen, A. and Törnroon, J. (2005). Using case methods in the study of contemporary business networks. *Journal of Business Research*, 58(9), pp. 1285−1297.

Hanlon, M. (2003). What can we infer about a firm's taxable income from its financial statements? *National Tax Journal* 56 (4) pp. 831–863.

Hanlon, M. and Heitzman S. (2010). A review of tax research. *Journal of Accounting and Economics* 50 (2/3) pp. 127 – 178.

Harrington, C. and Smith, W. (2012). Tax avoidance and corporate capital structure. *Journal of Finance and Accountancy*, 11 p. 144.

Harris, D. Morck, R. Slemrod, J. and Yeung, B. (1993). Income shifting in US multinational corporations. In: G. Hubbard, and J. Slemrod, eds, Studies in International Taxation. University of Chicago Press, Chicago, pp. 277-302.

Hennart, J. (1982). *A Theory of Multinational Enterprise*. Ann Arbor, MI: University of Michigan Press.

Hillman, A. Cannella, A. and Harris, I. (2002). Women and racial minorities in the boardroom: how do directors differ? *Journal of Management*, 28, pp. 747–763.

Hines, J. (1995). On the sensitivity of R&D to delicate tax changes: the behaviour of US multinationals in the 1980s. In A. Giovanni G. Hubbard and J. Slemrod, eds, J. *Studies in International Taxation* pp. 149 – 87. Quoted in Hines, J. (1999) Lessons from behavioural responses to international tax. *National Tax Journal.* 1999.

Hines, J. (1999) Lessons from behavioural responses to international tax. *National Tax Journal.* 52(2) pp. 305-322.

Hines, J. and Rice, E. (1994). Fiscal Paradise: foreign tax havens and American Business. *Quarterly Journal of Economics,* 109 pp. 149 – 182.

Hirshleifer, J. (1956). On the Economics of Transfer Pricing, *Journal of Business*, 29, pp. 172-183.

Hirshleifer, J. (1957). Economics of the Divisionalised Firm, *Journal of Business*, 30 pp. 96-108.

HMRC (2015). *Improving Large Business Tax Compliance. Summary of Responses.* Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/484117/Improving_Large_Business_Tax_Compliance_-_summary_of_responses__M-7501-02_.pdf [Accessed 10/12/2015].

Hodge, M. (2016) *Called to Account.* Great Britain: Little Brown

Horst, T. (1971). The theory of the multinational firm: optimal behaviour under different tariff and tax rates. *Journal of Political Economy*, 79 pp.1059-1072.

House of Commons, Public Accounts Committee (2012). Minutes of Evidence. HC716. 12 November 2012. Available at: https://www.publications.parliament.uk/pa/cm201213/cmselect/cmpubacc/716/121112.htm [Accessed 3/2/2014].

House of Commons, Public Accounts Committee (2012b) Supplementary Written Evidence from Starbucks Q214-229. Available at: https://www.publications.parliament.uk/pa/cm201213/cmselect/cmpubacc/716/716we04.htm [Accessed 3/2/2014].

House of Commons, Public Accounts Committee (2013) Tax Avoidance – Google. Ninth Report of Session 2013 – 2014. URL: http://www.publications.parliament.uk/pa/cm201314/cmselect/cmpubacc/112/112.pdf Accessed: 13/07/2016

House of Commons, Public Accounts Committee (2016). *Corporate Tax Settlements.* Twenty Fifth Report of 2015/16 Session. Pub. House of Commons 23 February 2016. Available at: http://www.publications.parliament.uk/pa/cm201516/cmselect/cmpubacc/788/788.pdf [Accessed: 13/07/2016].

Huang, J. and Kisgen, D. (2013) Gender and corporate finance: Are male executives overconfident relative to female executives? *Journal of Financial Economics* 108 (3) 822-839.

Hubbell. L. (2003) False starts, suspicious interviewees and nearly impossible tasks: some reflections on the difficulty of conducting field research abroad. *The Qualitative Report* Vol 8 No. 2 2008. pp 195-209.

Huizinga, H. and Laeven, L. (2008) International profit shifting within multinationals: a multi country perspective. *Journal of Public Economics*. 2008. Vol 92, issues 5 – 6. Pp1164 – 1182.

Huizinga, H. Laeven, L. and Nicodeme, G (2008) Capital structure and international debt shifting in Europe. *Journal of Financial Economics*, 88, 80 -118.

Huizinga, H. and Voget, J. (2009) International Taxation and the Direction and Volume of Cross-Border M&As. *Journal of Finance*, 64 (3) pp.1217-1249.

Huseynov, F. and Klamm, B. (2012) Tax avoidance, tax management and corporate social responsibility. *Journal of Corporate Finance.* 18. 804-827.

Hymer, S. (1976) *The International Operations of National Firms: A Study of Direct Foreign Investment.* MIT Press. 1976.

IMF (2000). *Offshore Financial Centers IMF Background Paper.* Available at:

https://www.imf.org/external/np/mae/oshore/2000/eng/back.htm [Accessed 26/4/2015].

International Business Times (2016) *Now Italy is demanding Google payback over €227m in unpaid tax following HMRC settlement in UK.* Available at: http://www.ibtimes.co.uk/now-italy-demanding-google-payback-over-227m-unpaid-tax-following-hmrc-settlement-uk-1540634 [Accessed 13/07/2016].

Itagaki, T. (1979). Theory of the firm: an analysis of effects of government policies. *International Economic Review.* 20 (2) pp. 437-448.

IFRS (2012) *IAS 12 Income Taxes.* Available at: http://www.ifrs.org/Documents/IAS12.pdf [Accessed 3/12/2015]

Janesick, V. (1998). *Stretching: exercises for qualitative researchers*. Thousand Oaks: Sage Publications.

Jensen, M. and Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics,* 3 (4) pp305-360.

Jones, C. and Temouri, Y. (2016). The determinants of tax haven FDI. *Journal of World Business,* 51 pp. 237–250.

Jormanainen, I. and Koveshnikov, A. (2012) International Activities of Emerging Market Firms. *Management International Review,* 52 (5) pp. 691-725.

Kant, C. (1988), Endogenous transfer pricing and the effects of uncertain regulation. *Journal of International Economics,* 24 pp. 147-157.

Kindleberger, C. (1969). *American business abroad: Six lectures on direct investment.* New Haven: Yale University Press.

Klassen, K. and LaPlante, S. (2012). Are US multinational corporations becoming more aggressive income shifters? *Journal of Accounting Research,* 50 (5).

Kleinbard, E (2011). Stateless income. *Florida Tax Review*, 11(9) pp. 699-773.

Kleinbard, E. (2013). Through a latte, darkly: Starbucks's stateless income planning. *Tax Notes*, June 24, 2013, pp. 1515-1535.

Konrad, A. Kramer, V. and Erkut, S. (2008). Critical mass: the impact of three or more women on corporate boards. *Organizational Dynamics,* 37(2), pp. 145–164.

Kopits, G. (1972). Dividend remittance behavior within the international firm: a cross-country analysis. *The Review of Economics and Statistics,* 54 (3), pp. 339-342.

Kopits, G. (1976). *Taxation and Multinational Firm Behavior: A Critical Survey.* Staff Papers - International Monetary Fund, 23(3), pp. 624-673.

Lall, S. (1979). Transfer pricing and developing countries: some problems of investigation. *World Development*, 7, pp 59-71.

Lanis, R. and Richardson, G. (2011). The effect of board of director composition on corporate tax aggressiveness. *Journal of Accounting Public Policy* 30 pp. 50–70.

Lanis, R. and Richardson, G. (2015). Is corporate social responsibility performance associated with tax avoidance? *Journal of Business Ethics* 127 pp. 439-457.

League of Nations (1923). *Report on Double Taxation submitted to the Financial Committee.*

Leonard-Barton, D. (1990). A dual methodology for case studies: synergistic use of a longitudinal single site with replicated multiple sites. *Organisation Science*, 1 (3) pp. 248-266.

Lessard, D. (1979). Transfer prices, taxes and financial markets: implications of internal financial transfers in the MNE. *International Business and Finance*, 1 pp.101 - 135.

Lhaopadchan, S. (2010) Fair value accounting and intangible assets. *Journal of Financial Regulation and Compliance,* 18(2) pp. 120-130.

Lipsey, R. (2007) *Defining and Measuring the Location of FDI Output*. NBER Working Paper No.12996. March 2007. Available at: http://www.nber.org/papers/w12996.pdf

Louie, H. and Rousslang, D. (2008). Host-country governance, tax treaties and US direct investment abroad. *International Tax and Public Finance,* 15 (3) pp.256-273.

Mackie-Mason, J. (1990). Do taxes affect corporate financing decisions? *Journal of Finance,* 45, pp. 1471-1493.

Markle, K. and Shackelford, D. (2009). *Do Multinationals of Domestic Firms Face Higher Effective Tax Rates?* NBER Working Paper 15092. Available at: http://www.etpf.org/papers/41CIT.pdf [Accessed 10/10/2015].

McManus, J. (1971). The costs of alternative economic organisations. *Canadian Journal of Economics*, VIII (3).

Mills, L. and Newberry, K. (2004). Do foreign multinationals' tax incentives influence their US income reporting and debt policy? *National Tax Journal*, 57(1) pp. 89-107.

Minnick, K. and Noga, T. (2010). Do corporate governance characteristics influence tax management? *Journal of Corporate Finance*, 16 pp. 703-718.

Mintzberg, H. (1979). An emerging strategy of 'direct' research, in J. van Maanen ed, *Qualitative Methodology*, Beverly Hills, CA: Sage, pp. 105-16.

Mirlees, J. Adam, S. Besley, T. Blundell, R. Bond, S. Chote, R. Gammie, M. Johnson, P. Myles, G. and Poterba, J. (2010) *Reforming the Tax System for the 21st Century: The Mirrlees Review*. Institute for Fiscal Studies. Available at: http://www.ifs.org.uk/publications/mirrleesreview/ [Accessed 3/4/2016].

Morrell, K. and Tuck, P. (2014). Governance, tax and folk tales. *Accounting, Organisations and Society, 39 (9) pp.134-147.*

Muller, A. and Kolk, A. (2015). Responsible tax as corporate social responsibility: the case of multinational enterprises and effective tax in India. *Business and Society*, 54(4) pp. 435–463

Muller, A. and Kraussl, R. (2011). Doing good deeds in times of need: a strategic perspective on disaster donations. *Strategic Management Journal*, 32 pp. 911-929.

Murphy, R. (2016) *Country by Country Reporting*. In T. Pogge, and K. Mehta, eds, *Global Tax Fairness.* Oxford: Oxford University Press.

Mutti, J. and Grubert, H. (2009). The effect of taxes on royalties and the migration of intangible assets abroad. In M. Reinsdorf, and M. Slaughter, eds, *International Trade in Services and Intangibles in the era of globalisation*. Chicago: University of Chicago Press, pp. 111-137.

Myers, S. McConnell, J. Peterson, A. Soter, D. and Stern, J. (1998), Vanderbilt University Roundtable on the Capital Structure Puzzle. *Journal of Applied Corporate Finance,* 11, pp. 8 24.

Nebus, J. (2016). Irish-Dutch sandwiches, corporate inversions, and arm's length transactions: international tax for IB courses. *Academy of International Business Insights,* 16 (2).

Nguyen, Q.T.K. (2013). Can British multinational enterprises finance economic development in South East Asia? *Multinational Business Review*, 21 (2). pp. 122-147.

Nguyen, Q.T.K. and Rugman, A. (2015) Internal equity financing and the performance of multinational subsidiaries in emerging economies. Journal of International Business Studies 46 pp 468-490.

Nguyen, Q. T. K. (2016). Multinationality and performance literature: a critical review and future research agenda. *Management International Review,* pp.1-37.

Nguyen, Q.T.K. and Almodovar, P. (2017) Export Intensity of foreign subsidiaries of multinational enterprises: the role of trade finance availability. International Business Review (forthcoming).

Nieckels, L. (1976). *Transfer Pricing in Multinational Firms.* Stockholm: Almqvist and Wicksell.

Nucor (2005-2014) Annual reports. Available at: http://www.nucor.com/investor/sec/index.php?type=all

Nucor (2007) Nucor announces start up of production of DRI in Trinidad. Available at: http://nucor.ca/investor/news/print/?rid=950793 [Accessed 31/5/2017]

Nucor (2009) Annual Report 2009. Available at: http://www.nucor.com/investor/sec/html/?id=6787926&sXbrl=1&compId=107115

Nucor (2014) Annual Report 2014. Available at: http://www.nucor.com/investor/sec/html/?id=10109132&sXbrl=1&compId=107115

Nucor (2016) Annual Report 2016. Available at: http://www.nucor.com/investor/sec/html/?id=11431961&sXbrl=1&compId=107115

Nucor (2017) Our Story, Chapter 4: Culture. Available at: http://www.nucor.com/story/chapter4/

OECD (1998). *Harmful Tax Competition: An Emerging Global Issue*. Paris: OECD. Available at: https://www.oecd.org/tax/transparency/44430243.pdf [Accessed 4/2/2015].

OECD (2000). *Towards Global Tax Co-Operation: Progress in Identifying and Eliminating Harmful Tax Practices. Report to the 2000 Ministerial Council Meeting and Recommendations by the Committee on Fiscal Affairs*. Paris: OECD. Available at: https://www.oecd.org/tax/transparency/about-the-global-forum/publications/towards-global-tax-cooperation-progress.pdf [Accessed 12/12/2015].

OECD (2008). *Study into the Role of Tax Intermediaries.* Available at: http://www.oecd.org/dataoecd/28/34/39882938.pdf [Accessed: 6/6/2015]

OECD (2010) *OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations*. Paris: OECD Publishing. Available at: http://www.oecd.org/tax/transfer-pricing/oecd-transfer-pricing-guidelines-for-multinational-enterprises-and-tax-administrations-20769717.htm [Accessed 13/11/2016].

OECD (2015) Transfer pricing documentation and country by country reporting. Action 13- 2015 Final report. Available at: http://www.oecd.org/tax/transfer-pricing-documentation-and-country-by-country-reporting-action-13-2015-final-report-9789264241480-en.htm [Accessed 3/6/2016]

OECD (2017) Base erosion and profit shifting web site. Available at: http://www.oecd.org/tax/beps/ [Accessed 20/3/2017]

Office of Tax Policy US Department of Treasury (2000). The deferral of income earned through US controlled foreign corporations. *Policy Study* 36, Available at: https://www.treasury.gov/resource-center/tax-policy/Documents/Report-SubpartF-2000.pdf [Accessed 16/6/2015]

Overesch, M. and Schreiber, U. (2009). *R&D Intensities, International Profit Shifting and Investment Decisions*. Discussion Paper. Available at:

http://www.socialpolitik.ovgu.de/sozialpolitik_media/papers/Overesch_Michael_uid335_pid288.pdf [Accessed 7/7/2016].

Oxelheim, L. Randoy, T. and Stonehill, A. (2001). On the treatment of finance specific factors within the OLI paradigm. *International Business Review* 10 pp. 381-398.

Pak, S. (2007), *Closing the floodgates – collecting tax to pay for development,* Commissioned by the Norwegian Ministry of Foreign Affairs and Tax Justice Network.

Peloza, J. (2006). Using corporate social responsibility as insurance for financial performance. *California Management Review,* 48 (2) pp. 52-72.

Penrose, E. (1959). *The Theory of the Growth of the Firm.* New York: Oxford University Press.

Phillips, J. (2003). Corporate tax-planning effectiveness: the role of compensation-based incentives. The Accounting Review 78, pp. 847-874.

Piekkari, R. and Welch, C and Paavilainen, E. (2009). The case study as disciplinary convention: evidence from international business journals. *Organisational Research Methods,* 12 (3) pp. 567-89.

Piekkari, R. and Welch, C. (2011). *Rethinking the Case Study in International Business and Management Research.* Elgar: Cheltenham.

Plasschaert, S. (1979). *Transfer Pricing and Multinational Corporations: An Overview of Concepts, Mechanisms and Regulations*. Farnborough, UK: Saxon House.

Porcano, T. (1986). Corporate Tax Rates: Progressive, Proportional or Regressive. *The Journal of the American Taxation Association,* 7, pp. 17-31.

Post, C. Rahman, N. and Rubow, E. (2011) Green governance: board of directors' composition and environmental corporate social responsibility. *Business and Society* 50 (1) pp. 189-223.

Pratt, M. (2008), Fitting oval pegs into round holes tensions in evaluating and publishing qualitative research in top-tier North American journals. *Organizational Research Methods,* 11 (3), pp. 481-509.

PriceWaterhouseCoopers (2008). *A practical guide to segment reporting.* Available at: https://www.pwc.com/gx/en/ifrs-reporting/pdf/segment-reporting.pdf

Rego, S. (2003). Tax avoidance activities of US multinational corporations. *Contemporary Accounting Research* 20 pp.805-833.

Rego, S. and Wilson, R. (2012). Equity risk incentives and corporate tax aggressiveness. *Journal of Accounting Research, 50*, pp. 775-810.

Ricart, J. Rodriguez, M. and Sanchez, P (2005). An empirical examination of Dow Jones sustainability world leaders. *Corporate Governance,* 5 pp. 24-41.

Robbins, S. and Stobaugh, R. (1973). *Money in the Multinational Enterprise.* New York: Basic Books.

Robinson, J. Kises, S. and Weaver, C. (2010). Performance measurement of corporate tax departments. *Accounting Review* 85, pp.1035-1064

Rosenberg, J. and Yates, P. (2007). Schematic representation of case study research designs, *Journal of Advanced Nursing* pp. 447–452, Quoted in Denzin, N. and Lincoln, Y.,

eds, (2000) *Handbook of qualitative research,* 2nd ed. Newbury Park, CA: SAGE pp. 769 – 802.

Rugman, A. (1980) Internalization Theory and Corporate International Finance. *California Management Review.* Winter 1980 Vol. XXXIII No. 2.

Rugman, A. (1981) *Inside the Multinationals: the Economics of Internal Markets.* New York: Columbia University Press.

Rugman, A. (1985). Transfer pricing in the Canadian petroleum industry. In A. Rugman, and L. Eden, eds, *Multinationals and Transfer Pricing.* London: Croom Helm.

Rugman, A. and Collinson, S. (2012). *International Business.* London: Pearson

Rugman, A. and Eden, L. (eds.) (1985). *Multinationals and Transfer Pricing.* London: Croom Helm.

Rugman, A. and Verbeke, A. (2001). Subsidiary specific advantages in multinational enterprises. *Strategic Management Journal,* 22 (3) pp. 237 – 250.

Rugman, A. and Verbeke, A. (2004) A perspective on regional and global strategies of multinational enterprises. *Journal of International Business Studies*. 35 (1) pp3-18.

Rugman, A. and Verbeke, A. (2008). A new perspective on regional and global strategies of multinational enterprises. *Management International Review*. 48 (4) pp397-411.

Rugman, A. Verbeke, A. and Nguyen, Q. (2011) Fifty years of international business theory and beyond. *Management International Review* 51 pp. 755-786.

Samuelson, L. (1982). The multinational firm with arm's length transfer price limits. *Journal of International Economics,* 13 (3 – 4) pp. 365-374.

Schoen, W. (2011). Transfer pricing, arm's length price standard and European Union Law. Max Planck Institute for Tax Law and Public Finance, Working Paper 2011–0, September 2011.

Seida, J. and Wempe, W. (2004). Effective tax rate changes and earnings stripping following corporate inversion. *National Tax Journal,* 57(4) pp. 805-828.

Shackelford, D. Slemrod, J. and Sallee, J. (2011) Financial reporting, tax and real decisions: towards a unifying framework. *International Tax and Public Finance*, 18 (4) pp. 461-494.

Shackelford, D. and Shevlin, T. (2001). Empirical tax research in accounting. Journal of Accounting and Economics 31 pp. 321 – 387.

Shaxson, N. (2011) *Treasure Islands.* London: Vintage.

Shevlin, T. and Porter, S. (1992). The corporate tax comeback in 1987: some further evidence. *Journal of the American Taxation Association,* 14 (1) pp. 58–79.

Singh, V. Terjesen, S. and Vinnicombe, S. (2008). Newly appointed directors in the boardroom: how do women and men differ? *European Management Journal*, 26(1) pp. 48–58.

Slemrod, J. (1998). Methodological issues in measuring and interpreting taxable income elasticities. *National Tax Journal,* 51 (4) pp.773 – 788.

Spicer, B. (1988). Towards an organisational theory of the transfer pricing process.

Accounting, Organizations and Society. 13 (3) pp. 303-322.

Stake, R. (1995). *The art of case study research: perspectives on practice.* Thousand Oaks CA: SAGE.

Starbucks (2005 – 2014) Annual Reports. Available at: https://investor.starbucks.com/financial-information/annual-reports/default.aspx

Starbucks (2012a) Written evidence from Starbucks to the Public Accounts Committee. Available at: https://www.publications.parliament.uk/pa/cm201213/cmselect/cmpubacc/writev/716/m02.htm [Accessed 14/10/2016]

Starbucks (2012b) Starbucks Annual Report 2012. Available at: http://s21.q4cdn.com/369030626/files/doc_financials/2012/SBUX-2012-Annual-Report_FINAL-from-RRD_web.pdf [Accessed 13/10/2016]

Starbucks Coffee Company (UK) (2012) Starbucks Coffee Company (UK) Ltd Annual Report 2012. Available from Companies House https://www.gov.uk/government/organisations/companies-house [Accessed 13/10/2016)

Starbucks (2014) Starbucks Annual Report 2014. Available at: http://s21.q4cdn.com/369030626/files/doc_financials/2014/Starbucks-Fiscal-2014-Form-10-K.pdf [Accessed 13/10/2016]

Suddaby, R. (2006). From the Editors: what grounded theory is not. *Academy of Management Journal*, 49(4) pp.633-642.

Tax Foundation (2013). *OECD Tax Rates Over Time*. Available at: http://taxfoundation.org/article/oecd-corporate-income-tax-rates-1981-2013 [Accessed 13/3/2015].

Tax Foundation (2016). *State Corporate Income Tax Rates and Brackets for 2016.* Available at: http://taxfoundation.org/article/state-corporate-income-tax-rates-and-brackets-2016 [Accessed: 1/10/2016].

Tax Research (2014). *Starbucks: another exercise in tax avoidance, this time deliberately promoted by George Osborne*. Available at: http://www.taxresearch.org.uk/Blog/2014/04/16/starbucks-another-exercise-in-tax-avoidance/ [Accessed 16/4/2014].

Taylor, G. and Richardson, G. (2013). The determinants of thinly capitalised tax avoidance structures: evidence from Australian firms. *Journal of International Accounting, Auditing and Taxation.* 22 pp. 12-25.

Taylor, G. Richardson, G. and Lanis, R. (2015). Multinationality, tax havens, intangible assets and transfer pricing aggressiveness. *Journal of International Accounting Research,* 14 (1) pp. 25-57.

Torgler, B. and Valev, N. (2010). Gender and public attitudes toward corruption and tax evasion. *Contemporary Economic Policy,* 28 pp. 554-568.

Tuck, P. (2013). The changing role of tax governance: remaking the large corporate taxpayer into a visible customer partner. *British Journal of Management*, 24 pp. 116–S131.

UK Government (2014) *Guidance: Corporation tax the patent box.* Available at: https://www.gov.uk/guidance/corporation-tax-the-patent-box

UNCTAD (1999) World Investment Report 1999: Foreign Direct Investment and the Challenge of Development. Available at: http://unctad.org/en/Docs/wir1999_en.pdf

UNCTAD (2010*) World Investment Report 2010: Investing in a Low-Carbon Economy.* United Nations. Geneva. Available at: http://unctad.org/en/Docs/wir2010_en.pdf [Accessed 13/2/2017].

UNCTAD (2013) *World Investment Report 2013: Global Value Chains*. United Nations. Geneva. Available at: http://unctad.org/en/PublicationsLibrary/wir2013_en.pdf [Accessed 13/4/2015].

UNCTAD (2016) *World Investment Report 2016: Investor Nationality, Policy Challenges.* United Nations, Geneva. Available at: http://unctad.org/en/pages/PublicationWebflyer.aspx?publicationid=1555 [Accessed 13/4/2015]

Vaitsos, C. (1974) *Intercountry Income Distribution and Transnational Enterprises.* Oxford: Clarendon Press.

van Maanen, J. (1983). *Qualitative Methodology*, Beverly Hills, CA: Sage

van Tulder, R. (2015.) Getting all motives right: a holistic approach to internationalisation motives of companies. *Multinational Business Review,* 23 (1).

Vernon, R. (1998) *In the Hurricane's Eye.* London: Harvard University Press.

Voget, J. (2011) Relocation of headquarters and international taxation. *Journal of Public Economics*, 95 pp. 1067 – 1081.

Von Neumann Whitman, M. (1999) *New World, New Rules.* USA.: Harvard Business School Press.

Wall Street Journal (2006). Glaxo to Settle Tax Dispute With IRS Over US Unit for $3.4 Billion. Available at: https://www.wsj.com/articles/SB115798715531459461 [Accessed 12/6/2015].

Wang, J. and B. Coffey (1992). Board composition and corporate philanthropy. *Journal of Business Ethics*, 11(10), pp. 771–778.

Watson, D. and Baumler, J. (1975) Transfer pricing: a behavioral context. *Accounting Review,* July 1975, pp. 466-474.

Weyzig, F. and van Dijk, M. (2009) Incoherence between tax development policies: the case of the Netherlands. *Third World Quarterly,* 30 (7) pp.1259 – 1277.

Williams, R. (2003). Women on corporate boards of directors and their influence on corporate philanthropy, *Journal of Business Ethics*, 42, pp. 1–10.

Wilson, R. (2009) An examination of corporate tax shelter participants. *The Accounting Review,* 84, pp. 969-999.

Witt, M. and Lewin, A. (2007). Outward Foreign Direct Investment as Escape Response to Home Country Institutional Constraints. *Journal of International Business Studies,* 38 (4) pp. 579-594.

Wright, A. (2011) Watch what I do, not what I say: new questions for documents in international business research, in R. Piekkari, and C. Welch, C. eds (2011). *Rethinking the Case Study in International Business and Management Research.* Elgar: Cheltenham.

Yin, R.K. (1989). *Case Study Research Design and Methods.* Thousand Oaks, CA: Sage Publications

Yin, R.K. (1994), *Case Study Research: Design and Methods*, 2nd ed. Thousand Oaks: Sage.

Yin, R. K. (2003). *Case study research: Design and methods,* 3rd ed. Thousand Oaks, CA: Sage.

Zimmerman, J. (1983) Taxes and Firm Size. *Journal of Accounting and Economics,* (5) pp. 119- 149.

Zodrow, G.R. (2003). Tax Competition and Tax Coordination in the European Union. *International Tax and Public Finance*, 10 pp. 651 – 671.

Zucman, G. (2014) Taxing across Borders: Tracking Personal Wealth and Corporate Profits *Journal of Economic Perspectives,* 28 (4) pp. 121–148

Zucman, G. (2015). The Hidden Wealth of Nations. London: *University of Chicago Press Economics Books*.

9 Appendices

9.1 Appendix 1 Consent Form

Henley Business School

The University of Reading

Consent form

Corporate Taxation of US Multinational Enterprises in the UK

Contact: Maggie Cooper

m.cooper@pgr.reading.ac.uk

07722965159

I confirm that I have had the purposes of this research project and of this interview explained to me. I understand what will be required of me.

I understand that the answers that I give will not be attributed to me or to the company that I represent. I understand that my participation in this project is entirely voluntary and that I may withdraw at any time.

I have received a copy of this consent form.

Signature ______________________________ Date _______________

9.2 Appendix 2 Interview Question Schedule

General	More specific	Looking for
Does background influence their view of tax avoidance?	Could you tell me a little about your background / experience? How long have you worked here? Have you worked in practice?	Years in role Practice or industry background (years in either / both).
What kind of priority is tax avoidance given? Is this dictated from Group level or set within the subsidiary?	How many FTE are employed within the UK tax department? How does this compare to the tax department at the Group level? When company strategy is being established how does tax feed in? Is strategy set and then tax strategy follows or is it more integrated? How and where are transfer prices set within the company – what is the process used? How regularly are they reviewed? Are intra company transfers a significant part of the P&L? Which areas are most significant within the company? – Royalties, debt, management fees, intermediate goods. What KPIs are the tax department measured on? Do they employ external tax advisers?	FTE (approx.) in tax department Tax director position – operating board? Specifics on TP process – negotiated or dictated. Research will have shown which areas are likely to be important for each company but asking about this area will add to understanding. Detail of KPIs
Do they genuinely think there is / isn't a significant problem in terms tax avoidance in the UK?	What do you think about the current Government's tax policy? Do you think that changes are need in government policy to reduce tax avoidance? How useful do you think the Government's /House of Commons enquiries into and pronouncements about tax avoidance are?	Government policy will / will not have an impact on their ability to avoid tax in future There is / is not a problem for public policy makers in terms of tax avoidance

	Have reductions in the UK tax rate influenced any decisions within the group about where to do business / expand etc? Is the UK now more attractive to companies?	
Is their company actively avoiding tax? How much pressure is on them as tax director to reduce ETR? Does tax avoidance influence company behaviour?	How does tax planning fit in with the company's strategic planning? Are the same people involved? Which comes first time wise? How aggressive would you say your company is in relation to tax planning? To what extent does efficient tax planning contribute to the profitability of the group? To what extent do you think it is essential for companies to plan tax in a manner that matches the tax strategies of their competitors? Do you keep the location of your HQ under review and what factors are considered? Do you use tax rates as a factor when deciding where to base European operations?	Compare with competitors Location HQ decision made by Group or Subsidiary

9.3 Appendix 3 Summary Descriptions of US MNEs Included in the Quantitative Analysis

(Information, including the Business Description taken from OneSource global database by Dun & Bradstreet.)

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
3M	1902	Manufacture of medical and dental instruments and supplies	3M Company is a technology company. It operates through five segments: 1. Industrial segment serves a range of markets, such as automotive original equipment manufacturer and automotive aftermarket, electronics, appliance, paper and printing, packaging, food and beverage, and construction. 2. Safety and Graphics segment serves a range of markets for the safety, security and productivity of people, facilities and systems. 3. Health Care segment serves markets that include medical clinics and hospitals, pharmaceuticals, health information systems, and food manufacturing and testing. 4. Electronics and Energy segment serves customers in electronics and energy markets, including solutions for the performance of electronic devices; electrical products, including infrastructure protection, and power generation and distribution. 5. Consumer segment serves markets that include consumer retail, office business to business, home improvement, drug and pharmacy retail, and other markets.	31,821	31,209
Abbott Laboratories	1900	Manufacture of pharmaceuticals, medicinal chemical and botanical products.	Abbott Laboratories is engaged in the discovery, development, manufacture and sale of a range of healthcare products. The Company operates through four segments: Established Pharmaceutical Products, Diagnostic Products, Nutritional Products and Vascular Products. Its Established Pharmaceutical Products include a range of branded generic pharmaceuticals manufactured around the world and marketed and sold outside the United States. Its Diagnostic Products include a range of diagnostic systems and tests. Its Nutritional Products include a range of paediatric and adult nutritional products. Its Company's Vascular Products include a range of coronary, endovascular, vessel closure and structural heart devices for the treatment of vascular disease. The Company, through St. Jude Medical, Inc., also offers products, such as rhythm management products, electrophysiology products, heart failure related products, vascular products, structural heart products and neuromodulation products.	20,247	41,207

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
AECOM	1980	Architectural and engineering activities and related technical consultancy	AECOM is engaged in designing, building, financing and operating infrastructure assets for governments, businesses and organizations. The Company's segments include design and consulting services (DCS), construction services (CS) and management services (MS). Its DCS segment is engaged in planning, consulting, architectural and engineering design services to commercial and government clients in major end markets, such as transportation, facilities, environmental, energy, water and government. Its CS segment is engaged in construction services, including building construction and energy, infrastructure and industrial construction, primarily in the Americas. Its MS segment is engaged in programming and facilitating management and maintenance, training, logistics, consulting, technical assistance, and systems integration and information technology services, primarily for agencies of the United States government and other national governments.	8,357	6,123
Alcoa	1903	Manufacture of basic precious and non ferrous metals	Alcoa Corporation, formerly Alcoa Upstream Corporation, is engaged in the production of bauxite, alumina and aluminium of various cast and rolled products. The Company is engaged in the production and management of aluminium and alumina combined through its participation in various aspects of the industry, such as technology, mining, refining, smelting, and recycling. The Company's segments include Bauxite, Alumina, Aluminium, Cast Products, Energy and Rolled Products. The Company's Bauxite segment represents its global portfolio of bauxite mining assets. The Company's Alumina segment represents its refining system across the world, and processes bauxite into alumina and sells it directly to internal and external smelter customers across the world. The Company's Aluminium segment represents its smelter system across the world. Its Energy segment represents its portfolio of energy assets, with power production capacity of approximately 1,685 megawatts.	23,906	37,363

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
Alphabet	2015	Computer consultancy and computer facilities management activities	Alphabet Inc. is a holding company. The Company's businesses include Google Inc. (Google) and its Internet products, such as Access, Calico, CapitalG, GV, Nest, Verily, Waymo and X. The Company's segments include Google and Other Bets. The Google segment includes its Internet products, such as Search, Ads, Commerce, Maps, YouTube, Google Cloud, Android, Chrome and Google Play, as well as its hardware initiatives. The Google segment is engaged in advertising, sales of digital content, applications and cloud offerings, and sales of hardware products. The Other Bets segment is engaged in the sales of Internet and television services through Google Fiber, sales of Nest products and services, and licensing and research and development (R&D) services through Verily. It offers Google Assistant, which allows users to type or talk with Google; Google Maps, which helps users navigate to a store, and Google Photos, which helps users store and organize all of their photos.	66,001	129,187
Altria	1919	Manufacture of tobacco products	Altria Group, Inc. is a holding company. The Company's segments include smokeable products, smokeless products and wine. The Company's subsidiaries include Philip Morris USA Inc. (PM USA), which is engaged in the manufacture and sale of cigarettes in the United States; John Middleton Co. (Middleton), which is engaged in the manufacture and sale of machine-made cigars and pipe tobacco, and UST LLC (UST), which, through its subsidiaries, including U.S. Smokeless Tobacco Company LLC (USSTC) and Ste. Michelle Wine Estates Ltd. (Ste. Michelle), is engaged in the manufacture and sale of smokeless tobacco products and wine. Its other operating companies include Nu Mark LLC (Nu Mark), a subsidiary that is engaged in the manufacture and sale of tobacco products, and Philip Morris Capital Corporation (PMCC), a subsidiary that maintains a portfolio of finance assets. Other subsidiaries include Altria Group Distribution Company and Altria Client Services LLC.	24,522	34,475

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
Amazon	1994	Retail sale via mail order houses or via internet	Amazon.com, Inc. offers a range of products and services through its Websites. The Company operates through three segments: North America, International and Amazon Web Services (AWS). The North America segment consists of retail sales of consumer products (including from sellers) and subscriptions through North America-focused Websites, such as www.amazon.com, www.amazon.ca and www.amazon.com.mx. The International segment primarily consists of retail sales of consumer products (including from sellers) and subscriptions through internationally-focused Websites, such as www.amazon.com.au, www.amazon.nl, www.amazon.es and www.amazon.co.uk. The AWS segment consists of sales of compute, storage, database, and other service offerings for start-ups, enterprises, government agencies and academic institutions. The Company's products include merchandise and content that it purchases for resale from vendors and those offered by third-party sellers. It manufactures and sells electronic devices.	88,988	54,505
American Airlines Group	1982	Passenger air transport	American Airlines Group Inc. is a holding company. The Company's primary business activity is the operation of a network air carrier, providing scheduled air transportation for passengers and cargo. The Company operates through American segment, which provides air transportation for passengers and cargo. The Company's cargo division provides a range of freight and mail services with facilities and interline connections available across the globe. Together with its regional airline subsidiaries and third-party regional carriers operating as American Eagle, its airline operated an average of nearly 6,700 flights per day to nearly 350 destinations in more than 50 countries, principally from its hubs in Charlotte, Chicago, Dallas/Fort Worth, Los Angeles, Miami, New York, Philadelphia, Phoenix and Washington, District of Columbia, as of December 31, 2016. In the fiscal year ended December 31, 2016, approximately 199 million passengers boarded its mainline and regional flights.	42,650	43,225

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
Amerisource Bergen	2001	Wholesale of other household goods	AmerisourceBergen Corporation is a pharmaceutical sourcing and distribution services company. The Company's segments include Pharmaceutical Distribution and Other. The Company provides services to healthcare providers, and pharmaceutical and biotech manufacturers. As of June 30, 2016, the Pharmaceutical Distribution segment consists of two operating segments, including the operations of AmerisourceBergen Drug Corporation (ABDC) and AmerisourceBergen Specialty Group (ABSG), which distributes specialty drugs to their customers. Servicing healthcare providers in the pharmaceutical supply channel, the Pharmaceutical Distribution segment's operations provide drug distribution and related services. The Other segment consists of the operations of various segments, including the AmerisourceBergen Consulting Services (ABCS), the World Courier Group, Inc. and the MWI Veterinary Supply, Inc. ABSG operates distribution facilities that focus primarily on complex disease treatment regimens.	119,569	21,532
Amgen Inc.	1980	Manufacture of pharmaceuticals, medicinal chemicals and botanical products	Amgen Inc. is a biotechnology company. The Company discovers, develops, manufactures and delivers various human therapeutics. It operates in human therapeutics segment. Its marketed products portfolio includes Neulasta (pegfilgrastim); erythropoiesis-stimulating agents (ESAs), such as Aranesp (darbepoetin alfa) and EPOGEN (epoetin alfa); Sensipar/Mimpara (cinacalcet); XGEVA (denosumab); Prolia (denosumab); NEUPOGEN (filgrastim), and other marketed products, such as KYPROLIS (carfilzomib), Vectibix (panitumumab), Nplate (romiplostim), Repatha (evolocumab), BLINCYTO (blinatumomab), IMLYGIC (talimogene laherparepvec) and Corlanor (ivabradine). It focuses on human therapeutics for the treatment of serious illness in the areas of oncology/haematology, cardiovascular disease and neuroscience. Its product candidates in Phase III include Erenumab for episodic migraine, Aranesp for myelodysplastic syndromes, BLINCYTO for acute lymphoblastic leukaemia and IMLYGIC for metastatic melanoma.	20,063	69,009

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
Apple Inc.	1977	Manufacture of communication equipment	Apple Inc. designs, manufactures and markets mobile communication and media devices, personal computers and portable digital music players. The Company sells a range of related software, services, accessories, networking solutions, and third-party digital content and applications. The Company's segments include the Americas, Europe, Greater China, Japan and Rest of Asia Pacific. The Americas segment includes both North and South America. The Europe segment includes European countries, India, the Middle East and Africa. The Greater China segment includes China, Hong Kong and Taiwan. The Rest of Asia Pacific segment includes Australia and the Asian countries not included in the Company's other operating segments. Its products and services include iPhone, iPad, Mac, iPod, Apple Watch, Apple TV, a portfolio of consumer and professional software applications, iPhone OS, OS X and watchOS operating systems, iCloud, Apple Pay and a range of accessory, service and support offerings.	182,795	231,839
Arrow Electronics, Inc.	1935	Wholesale of electronic and telecommunications equipment and parts	Arrow Electronics, Inc. is a provider of products, services and solutions to industrial and commercial users of electronic components and enterprise computing solutions. The Company has a portfolio of product offerings available from various electronic components and enterprise computing solutions suppliers. The Company's segments include the global components business; the global enterprise computing solutions (ECS) business, and corporate business segment. It distributes electronic components to original equipment manufacturers and contract manufacturers through its global components business segment. Through global ECS business segment, it provides enterprise computing solutions to value-added resellers. The Global components segment markets and distributes electronic components and provides a range of value-added capabilities. Global ECS' portfolio of computing solutions includes datacentre, cloud, security, and analytics solutions.	22,769	12,435

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
AT&T	1983	Wired telecommunications activity	AT&T Inc. is a holding company. The Company is a provider of communications and digital entertainment services in the United States and the world. The Company operates through four segments: Business Solutions, Entertainment Group, Consumer Mobility and International. The Company offers its services and products to consumers in the United States, Mexico and Latin America and to businesses and other providers of telecommunications services worldwide. It also owns and operates three regional TV sports networks, and retains non-controlling interests in another regional sports network and a network dedicated to game-related programming, as well as Internet interactive game playing. Its services and products include wireless communications, data/broadband and Internet services, digital video services, local and long-distance telephone services, telecommunications equipment, managed networking, and wholesale services. Its subsidiaries include AT&T Mobility and SKY Brasil Servicos Ltda	128,752	296,834
Autonation, Inc.	1980	Sale of motor vehicles	AutoNation, Inc. (AutoNation) is an automotive retailer in the United States. The Company offers a range of automotive products and services, including new vehicles, used vehicles, parts and service, which includes automotive repair and maintenance services, as well as wholesale parts and collision businesses, and automotive finance and insurance products, including vehicle service and other protection products, as well as the arranging of financing for vehicle purchases through third-party finance sources. It operates through three segments: Domestic, Import and Premium Luxury. Its Domestic segment consists of retail automotive franchises that sell new vehicles manufactured by General Motors, Ford and FCA US. The Import segment consists of retail automotive franchises that sell new vehicles manufactured primarily by Toyota, Honda and Nissan. The Premium Luxury segment consists of retail automotive franchises that sell new vehicles manufactured by Mercedes-Benz, BMW, Audi and Lexus.	19,109	8,400
Avnet, Inc.	1955	Wholesale of electronic and telecommunications	Avnet, Inc. is a distributor of electronic components, enterprise computer, networking and storage products and software, and embedded subsystems. The Company operates through Electronics Marketing (EM) segment. The EM segment markets and sells semiconductors; interconnect, passive and electromechanical devices, and embedded products to a customer base serving various end markets. The Company creates a link in	27,500	11,251

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
		equipment and parts	the technology supply chain that connects electronic component and computer product manufacturers and software developers with a customer base of original equipment manufacturers, electronic manufacturing services providers, original design manufacturers, systems integrators, independent software vendors and value-added resellers. The Company distributes electronic components, computer products and software, as received from its suppliers or through a customized solution, and offers assembly and other services.		
Bestbuy Co., Inc	1966	Retail sale of household electrical appliances, furniture, lighting equipment and other household articles in specialized stores	Best Buy Co., Inc. is a provider of technology products, services and solutions. The Company offers products and services to the customers visiting its stores, engaging with Geek Squad agents, or using its Websites or mobile applications. It has operations in the United States, Canada and Mexico. The Company operates through two segments: Domestic and International. The Domestic segment consists of the operations in all states, districts and territories of the United States, under various brand names, including Best Buy, bestbuy.com, Best Buy Mobile, Best Buy Direct, Best Buy Express, Geek Squad, Magnolia Home Theatre, and Pacific Kitchen and Home. The International segment consists of all operations in Canada and Mexico under the brand names, Best Buy, bestbuy.com.ca, bestbuy.com.mx, Best Buy Express, Best Buy Mobile and Geek Squad. As of December 31, 2016, the Company operated 1,200 large-format and 400 small-format stores throughout its Domestic and International segments.	40,611	15,245

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
Cardinal Health, Inc	2016	Wholesale of other household goods	Cardinal Health, Inc. is a healthcare services and products company. The Company operates through two segments: Pharmaceutical and Medical. The Pharmaceutical segment distributes branded and generic pharmaceutical, specialty pharmaceutical, over-the-counter healthcare and consumer products. This segment also operates nuclear pharmacies and cyclotron facilities; provides pharmacy management services to hospitals, as well as medication therapy management and patient outcomes services to hospitals, other healthcare providers and payers, and provides services to healthcare companies. The Medical segment distributes a range of medical, surgical and laboratory products, and provides services to hospitals, ambulatory surgery centres, clinical laboratories and other healthcare providers. This segment also manufactures, sources and develops its own Cardinal Health brand medical and surgical products. It provides post-acute care management and transition services, and software to hospitals.	91,084	26,033
Caterpillar Inc.	1925	Manufacture of machinery for mining, quarrying and construction	Caterpillar Inc. is a manufacturer of construction and mining equipment, diesel and natural gas engines, industrial gas turbines and diesel-electric locomotives. The Company operates through segments, including Construction Industries, which is engaged in supporting customers using machinery in infrastructure, forestry and building construction; Resource Industries, which is engaged in supporting customers using machinery in mining, quarry, waste and material handling applications; Energy & Transportation, which supports customers in oil and gas, power generation, marine, rail and industrial applications, including Cat machines; Financial Products segment, which provides financing and related services, and All Other operating segments, which includes activities, such as product management and development, and manufacturing of filters and fluids, undercarriage, tires and rims, ground engaging tools, fluid transfer products, and sealing and connecting components for Cat products.	55,184	84,681

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
Centurylink, Inc.	1968	Wired telecommunications activities	CenturyLink, Inc. is an integrated communications company. The Company is engaged in providing an array of communications services to its residential and business customers. Its segments include business, which provides strategic, legacy and data integration products and services to small, medium and enterprise business, wholesale and governmental customers, including other communication providers, and consumer, which provides strategic and legacy products and services to residential customers. Its communications services include local and long-distance voice, broadband, Multi-Protocol Label Switching (MPLS), private line (including special access), Ethernet, colocation, hosting (including cloud hosting and managed hosting), data integration, video, network, public access, Voice over Internet Protocol (VoIP), information technology and other ancillary services. As of December 31, 2016, it served approximately 5.9 million broadband subscribers and 325,000 Prism TV subscribers.	18,031	49,103
CHS, Inc.	1930	Wholesale of agricultural raw materials and animals	CHS Inc. is an integrated agricultural company, providing grain, foods and energy resources to businesses and consumers on a global basis. The Company's segments include Energy, Ag, Nitrogen Production, Foods, and Corporate and Other. The Energy segment derives its revenues through refining, wholesaling and retailing of petroleum products. The Company's Ag segment includes its grain marketing, country operations, crop nutrients, processing and food ingredients, and renewable fuels businesses. The Nitrogen production segment consists equity method investment in CF Industries Nitrogen, LLC. The Food segment consists its equity method investment in Ventura Foods, LLC. The corporate and other segment includes wheat milling operations, as well as business solutions operations consisting of commodities hedging, insurance and financial services related to crop production. Its businesses primarily include financing, insurance, hedging and other service activities related to crop production.	42,664	15,296
Cisco Systems, Inc.	1984	Manufacture of computers and peripheral equipment	Cisco Systems, Inc. designs and sells a range of products, provides services and delivers integrated solutions to develop and connect networks around the world. The Company operates through three geographic segments: Americas; Europe, the Middle East and Africa, and Asia Pacific, Japan and China. The Company groups its products and technologies into various categories, such as Switching; Next-Generation Network	47,142	105,070

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			Routing; Collaboration; Data Centre; Wireless; Service Provider Video; Security, and Other Products. In addition to its product offerings, the Company provides a range of service offerings, including technical support services and advanced services. The Company delivers its technology and services to its customers as solutions for their priorities, including cloud, video, mobility, security, collaboration and analytics. The Company serves customers, including businesses of all sizes, public institutions, governments and service providers.		
The Coca Cola Company	1886	Manufacture of other food products	The Coca-Cola Company is a beverage company. The Company owns or licenses and markets non-alcoholic beverage brands, primarily sparkling beverages and a range of still beverages, such as waters, flavoured waters and enhanced waters, juices and juice drinks, ready-to-drink teas and coffees, sports drinks, dairy and energy drinks. The Company's segments include Europe, Middle East and Africa; Latin America; North America; Asia Pacific; Bottling Investments, and Corporate. The Company owns and markets a range of non-alcoholic sparkling beverage brands, including Coca-Cola, Diet Coke, Fanta and Sprite. The Company owns or licenses and markets over 500 non-alcoholic beverage brands. The Company markets, manufactures and sells beverage concentrates, which are referred to as beverage bases, and syrups, including fountain syrups, and finished sparkling and still beverages.	45,998	92,023
Comcast Corporation	1963	Television programming and broadcasting activities	Comcast Corporation is a media and technology company. The Company has two primary businesses: Comcast Cable and NBCUniversal. Its Comcast Cable business operates in the Cable Communications segment. Its NBCUniversal business operates in four business segments: Cable Networks, Broadcast Television, Filmed Entertainment and Theme Parks. Its Cable Communications segment consists of the operations of Comcast Cable, which provides video, high-speed Internet and voice services to residential customers under the XFINITY brand. Its Cable Networks segment consists of a portfolio of national cable networks. Its Broadcast Television segment operates the NBC and Telemundo broadcast networks. Its Filmed Entertainment segment primarily produces, acquires, markets and distributes filmed entertainment across the world, and it also develops,	68,775	159,186

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			produces and licenses live stage plays. Its Theme Parks segment consists primarily of its Universal theme parks in Orlando, Florida and Hollywood, California.		
Community Health Systems, Inc.	1985	Hospital activities	Community Health Systems, Inc. is an operator of general acute care hospitals and outpatient facilities in communities across the country. The Company operates through hospital operations segment, which includes its general acute care hospitals and related healthcare entities that provide inpatient and outpatient healthcare services. The Company provides healthcare services through the hospitals that it owns and operates and affiliated businesses in non-urban and selected urban markets throughout the United States. The services provided through its hospitals and affiliated businesses include general acute care, emergency room, general and specialty surgery, critical care, internal medicine, obstetrics, diagnostic, psychiatric and rehabilitation services. The Company also provides additional outpatient services at urgent care centres, occupational medicine clinics, imaging centres, cancer centres, ambulatory surgery centres, and home health and hospice agencies.	18,639	27,421

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
Costco Wholesale Corporation	1983	Other retail sale in non specialized stores	Costco Wholesale Corporation is engaged in the operation of membership warehouses in the United States and Puerto Rico, Canada, the United Kingdom, Mexico, Japan, Australia, Spain, and through its subsidiaries in Taiwan and Korea. As of August 28, 2016, the Company operated 715 warehouses across the world. The Company's average warehouse space is approximately 144,000 square feet. The Company's warehouses on average operate on a seven-day, 70-hour week. The Company offers merchandise in various categories, which include foods (including dry foods, packaged foods and groceries); sundries (including snack foods, candy, alcoholic and non-alcoholic beverages, and cleaning supplies); hardlines (including appliances, electronics, health and beauty aids, hardware, and garden and patio); fresh foods (including meat, produce, deli and bakery); softlines (including apparel and small appliances), and other (including gas stations and pharmacy).	112,640	33,024
Cummins, Inc.	1919	Manufacture of engines and turbines except aircraft, vehicle and cycle engines.	Cummins Inc. designs, manufactures, distributes and services diesel and natural gas engines and engine-related component products. The Company's segments include Engine, Distribution, Components and Power Systems. The Engine segment manufactures and markets a range of diesel and natural gas powered engines under the Cummins brand name, as well as certain customer brand names, for the heavy and medium-duty truck, bus, recreational vehicle, light-duty automotive and agricultural markets. The Distribution segment consists of the product lines, which service and/or distribute a range of products and services, including parts, engines, power generation and service. The Components segment supplies products, including aftertreatment systems, turbochargers, filtration products and fuel systems for commercial diesel applications. The Power Systems segment consists of businesses, including Power generation, Industrial and Generator technologies.	19,221	15,764
CVS Health Corporation	1963	Retail sale of pharmaceutical and medical goods, cosmetic and	CVS Health Corporation, together with its subsidiaries, is an integrated pharmacy healthcare company. The Company provides pharmacy care for the senior community through Omnicare, Inc. and Omnicare's long-term care operations, which include distribution of pharmaceuticals, related pharmacy consulting and other ancillary services to chronic care facilities and other care settings. It operates through three segments:	126,761	74,187

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
		toilet articles in specialized stores	Pharmacy Services, Retail/LTC and Corporate. The Pharmacy Services Segment provides a range of pharmacy benefit management (PBM) solutions to its clients. As of December 31, 2016, the Retail/LTC Segment included 9,709 retail locations (of which 7,980 were its stores that operated a pharmacy and 1,674 were its pharmacies located within Target Corporation stores), its online retail pharmacy Websites, CVS.com, Navarro.com and Onofre.com.br, 38 onsite pharmacy stores, its long-term care pharmacy operations and its retail healthcare clinics.		
Danaher Corporation	1980	Manufacture of medical and dental instruments and supplies	Danaher Corporation designs, manufactures and markets professional, medical, industrial and commercial products and services. The Company operates through four segments: Life Sciences, which offers a range of research tools that scientists use to study the basic building blocks of life, including genes, proteins, metabolites and cells, in order to understand the causes of disease, identify new therapies and test new drugs and vaccines; Diagnostics; which offers analytical instruments, reagents, consumables, software and services; Dental, which provides products that are used to diagnose, treat and prevent disease and ailments of the teeth, gums and supporting bone, and Environmental & Applied Solutions, which consists of various lines of business, including water quality and product identification. As of December 31, 2016, Danaher's research and development, manufacturing, sales, distribution, service and administrative facilities were located in over 60 countries.	19,914	36,992
Deere and Company	1837	Manufacture of agricultural and forestry machinery	Deere & Company is engaged in equipment operations. The Company is engaged in providing financial services. The Company operates through three business segments: agriculture and turf, construction and forestry, and financial services. The agriculture and turf segment manufactures and distributes a line of agriculture and turf equipment and related service parts. The construction and forestry segment provides a line of construction equipment, and forestry machines and attachments available in the world. The construction and forestry segment is also engaged in providing fleet management telematics solutions. The financial services segment primarily finances sales and leases by the Company dealers of new and used agriculture and turf equipment and construction and forestry equipment. The financial services segment also provides wholesale financing	36,067	61,336

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			to dealers of the foregoing equipment, finances retail revolving charge accounts and offers extended equipment warranties.		
Delta Air Lines, Inc.	1929	Passenger air transport	Delta Air Lines, Inc. provides scheduled air transportation for passengers and cargo throughout the United States and across the world. The Company's segments include Airline and Refinery. The Company's route network is centred around a system of hub, international gateway and airports that the Company operates in Amsterdam, Atlanta, Boston, Detroit, London-Heathrow, Los Angeles, Minneapolis-St. Paul, New York-LaGuardia, New York- John F Kennedy International Airport, Paris-Charles de Gaulle, Salt Lake City, Seattle and Tokyo-Narita. Each of these operations includes flights that gather and distribute traffic from markets in the geographic region surrounding the hub or gateway to domestic and international cities and to other hubs or gateways. The Company's route network includes its international joint ventures, its alliances with other foreign airlines, its membership in SkyTeam and agreements with multiple domestic regional carriers that operate as Delta Connection	40,362	54,005
The Walt Disney Company	1925	Television programming and broadcasting activities	The Walt Disney Company is an entertainment company. The Company operates in four business segments: Media Networks, Parks and Resorts, Studio Entertainment, and Consumer Products & Interactive Media. The media networks segment includes cable and broadcast television networks, television production and distribution operations, domestic television stations, and radio networks and stations. Under the Parks and Resorts segment, the Company's Walt Disney Imagineering unit designs and develops new theme park concepts and attractions, as well as resort properties. The studio entertainment segment produces and acquires live-action and animated motion pictures, direct-to-video content, musical recordings and live stage plays. It also develops and publishes games, primarily for mobile platforms, books, magazines and comic books. The	48,813	84,141

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			Company distributes merchandise directly through retail, online and wholesale businesses. Its cable networks consist of ESPN, the Disney Channels and Freeform.		
Dollar General Corporation	1955	Other retail sale in non specialized stores	Dollar General Corporation is a discount retailer. The Company offers a selection of merchandise, including consumables, seasonal, home products and apparel. The Company's consumables category includes paper and cleaning products (such as paper towels, bath tissue, and other home cleaning supplies); packaged food (such as cereals, spices, sugar and flour); perishables (such as milk, beer and wine); snacks (such as candy, cookies, and carbonated beverages); health and beauty (such as over-the-counter medicines and personal care products); pet (pet supplies and pet food), and tobacco products. Its seasonal products include decorations, toys, batteries, stationery, prepaid phones and accessories, and home office supplies. Its home products include cookware, craft supplies and kitchen, and bed and bath soft goods. Its apparel products include casual everyday apparel for infants, toddlers, girls, boys, women and men, as well as socks, underwear, disposable diapers, shoes and accessories	17,504	11,209

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
The Dow Chemical Company	1897	Manufacture of plastics and synthetic rubber in primary forms	The Dow Chemical Company manufactures and supplies products used primarily as raw materials in the manufacture of customer products and services. The Company's segments include Agricultural Sciences, which is engaged in providing crop protection and seed/plant biotechnology products and technologies, urban pest management solutions and healthy oils; Consumer Solutions, which consists of Consumer Care, Dow Automotive Systems, Dow Electronic Materials and Consumer Solutions-Silicones businesses; Infrastructure Solutions, which consists of Dow Building & Construction, Dow Coating Materials, Energy & Water Solutions, Performance Monomers and Infrastructure Solutions-Silicones businesses; Performance Materials & Chemicals, which consists of Chlor-Alkali and Vinyl, Industrial Solutions and Polyurethanes businesses, and Performance Plastics, which consists of Dow Elastomers, Dow Electrical and Telecommunications, Dow Packaging and Specialty Plastics, Energy and Hydrocarbons businesses.	58,167	68,687
Duke Energy Corporation	1904	Electric power generation, transmission and distribution	Duke Energy Corporation is an energy company. The Company operates through three segments: Electric Utilities and Infrastructure; Gas Utilities and Infrastructure, and Commercial Renewables. The Company operates in the United States through its direct and indirect subsidiaries. The Electric Utilities and Infrastructure segment provides retail electric service through the generation, transmission, distribution and sale of electricity to approximately 7.5 million customers within the Southeast and Midwest regions of the United States. The operations include electricity sold wholesale to municipalities, electric cooperative utilities and other load-serving entities. The Gas Utilities and Infrastructure segment serves residential, commercial, industrial and power generation natural gas customers. The Commercial Renewables primarily acquires, builds, develops and operates wind and solar renewable generation throughout the continental United States.	23,925	120,557

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
E.I. DuPont De Nemours and Company	1802	Manufacture of pesticides and other agrochemical products	E. I. du Pont de Nemours and Company is a science and technology-based company. It operates through six segments: Agriculture, Electronics & Communications, Industrial Biosciences, Nutrition & Health, Performance Materials and Protection Solutions. Its Agriculture segment includes products, such as corn hybrids and soybean varieties, herbicides, fungicides and insecticides. Its E&C segment includes products, such as printing and packaging materials, photopolymers and electronic materials. Its Industrial Biosciences segment includes products, such as enzymes, bio-based materials and process technologies. Its Nutrition & Health segment includes products, such as probiotics, cultures, emulsifiers, natural sweeteners and soy-based food ingredients. Its Performance Materials segment includes products, such as engineering polymers, packaging and industrial polymers, films and elastomers. Its Protection Solutions segment includes products, such as nonwovens, aramids and solid surfaces.	34,906	50,490
Eli Lilly and Company	1876	Manufacture of pharmaceuticals , medicinal chemical and botanic products	Eli Lilly and Company is engaged in drug manufacturing business. The Company discovers, develops, manufactures and markets products in two segments: human pharmaceutical products and animal health products. The Company's human pharmaceutical business segment sells medicines, which are discovered or developed by its scientists. Its animal health business segment operates through the Company's Elanco division, which develops, manufactures and markets products for both food animals and companion animals. The Company's human pharmaceutical products include endocrinology products, neuroscience products, oncology products, immunology products and cardiovascular products. The Company's animal health products segment includes products for food animals and products for companion animals. As of December 31, 2016, the Company manufactured and distributed its products through facilities in the United States, Puerto Rico and 14 other countries.	19,616	36,308
EMC / Dell Technologies Inc	2013	Research and experimental development on natural	Dell Technologies Inc., formerly Denali Holding Inc., is a provider of information technology solutions. The Company operates through two segments: Client Solutions and Enterprise Solutions Group (ESG). The Client Solutions segment includes sales to commercial and consumer customers of desktops, thin client products and notebooks, as well as services and third-party software and peripherals closely tied to the sale of Client	24,440	45,585

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
		sciences and engineering	Solutions hardware. Its offerings include hardware, such as desktop personal computers, notebooks and tablets, and peripherals, such as monitors, printers and projectors, as well as third-party software and peripherals. The ESG segment includes servers, networking and storage, as well as services and third-party software and peripherals that are closely tied to the sale of ESG hardware. It designs, develops, manufactures, markets, sells and supports a range of products and services.		
Emerson Electric Co	1890	Manufacture of measuring, testing, navigating and control equipment	Emerson Electric Co. is a diversified global manufacturing company, which provides solutions to customers by bringing technology and engineering together in the industrial, commercial and consumer markets around the world. The Company operates through four segments based on the nature of the products and services rendered: Process Management, Industrial Automation, Climate Technologies and Commercial & Residential Solutions. The Company's principal production operations are electronics assembly, metal stamping, forming, casting, machining, welding, plating, heat treating, painting and assembly. In addition, the Company uses specialized production operations, including automatic and semiautomatic testing, automated material handling and storage, ferrous and nonferrous machining, and special furnaces for heat treating and foundry applications. The Company provides measurement, control and diagnostic technologies for automated industrial processes.	24,537	24,177
Exelon Corporation	1999	Electric power generation, transmission and distribution	Exelon Corporation is a utility services holding company. The Company, through its subsidiary, Exelon Generation Company, LLC (Generation), is engaged in the energy generation business. The Company, through its subsidiaries, Commonwealth Edison Company (ComEd), PECO Energy Company (PECO), Baltimore Gas and Electric Company (BGE), Pepco Holdings LLC (PHI), Potomac Electric Power Company (Pepco), Delmarva Power & Light Company (DPL) and Atlantic City Electric Company (ACE), is engaged in the energy delivery businesses. It operates through 12 segments: Generation's six segments: Mid-Atlantic, Midwest, New England, New York, ERCOT and Other Power Regions; ComEd; PECO; BGE, and PHI's three utility segments: Pepco, DPL and ACE. Generation's integrated business consists of the generation, physical delivery and marketing of power	27,429	86,416

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			across geographical regions through its customer-facing business, Constellation, which sells electricity and natural gas to both wholesale and retail customers.		
Express Scripts Holding Company	2011	Retail sale of pharmaceutical and medical goods, cosmetic and toilet articles	Express Scripts Holding Company is a pharmacy benefit management (PBM) company. The Company is engaged in providing healthcare management and administration services to its clients, including managed care organizations, health insurers, third-party administrators, employers, union-sponsored benefit plans, workers' compensation plans and government health programs. The Company operates through two segments: PBM and Other Business Operations. The PBM segment includes its integrated PBM operations and specialty pharmacy operations. Its Other Business Operations segment includes its subsidiary, United BioSource Corporation (UBC), and its specialty distribution operations. Its integrated PBM services include clinical solutions, Express Scripts SafeGuardRx, specialized pharmacy care, home delivery pharmacy services, specialty pharmacy services, retail network pharmacy administration, benefit design consultation, drug utilization review and drug formulary management.	100,887	53,748
Fedex Corporation	1971	Courier activities	FedEx Corporation provides a portfolio of transportation, e-commerce and business services through companies competing collectively, operating independently and managed collaboratively, under the FedEx brand. The Company's segments include FedEx Express, TNT Express, FedEx Ground, FedEx Freight and FedEx Services. The FedEx Express segment offers a range of the United States domestic and international shipping services for delivery of packages and freight. TNT Express segment collects, transports and delivers documents, parcels and freight on a day-definite or time-definite basis. The FedEx Ground segment provides business and residential money-back guaranteed ground package delivery services. The FedEx Freight segment offers less-than-truckload freight services. The FedEx Services segment provides its other companies with sales,	45,576	36,531

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			marketing, information technology, communications, customer service and other back-office support.		
Fluor Corporation	1912	Architectural and engineering activities and related technical consultancy	Fluor Corporation is a holding company. The Company operates its business in four segments: Energy, Chemicals & Mining; Industrial, Infrastructure & Power; Government, and Maintenance, Modification & Asset Integrity. The Company, through its subsidiaries, offers professional services providing engineering, procurement, construction, fabrication and modularization, commissioning and maintenance, as well as project management services on a global basis. The Company is an integrated solutions provider for various industries, including oil and gas, chemicals and petrochemicals, mining and metals, transportation, power, life sciences and advanced manufacturing. It is also a service provider to the United States federal Government and governments abroad. It offers services in various categories, including engineering and design, procurement, construction, fabrication, maintenance, modification and asset integrity and project management	21,532	8,194
General Electric Company	1892	Manufacture of air and spacecraft and related machinery	General Electric Company is a global digital industrial company. The Company's products and services range from aircraft engines, power generation, and oil and gas production equipment to medical imaging, financing and industrial products. Its segments include Power, which includes products and services related to energy production and water reuse; Renewable Energy, which offers renewable power sources; Oil & Gas, including liquefied natural gas and pipelines; Aviation, which includes commercial and military aircraft engines, and integrated digital components, among others; Healthcare, which provides healthcare technologies in medical imaging, digital solutions, patient monitoring and diagnostics, and drug discovery, among others; Transportation, which is a supplier to the railroad, mining, marine, stationary power and drilling industries; Energy Connections	146,045	654,954

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			& Lighting, which includes Energy Connections and Lighting businesses, and Capital, which is a financial services division.		
General Dynamics Corporation	1952	Manufacture of air and spacecraft and related machinery	General Dynamics Corporation is a global aerospace and defence company. The Company offers a portfolio of products and services in business aviation; combat vehicles, weapons systems and munitions; information technology services and C4ISR (command, control, communications, computers, intelligence, surveillance and reconnaissance) solutions, and shipbuilding and ship repair. It operates through four business groups: Aerospace, Combat Systems, Information Systems and Technology, and Marine Systems. Its Aerospace group offers aircraft design; cockpit and cabin systems, and product service and support. Its Combat Systems group offers combat vehicles, weapons systems and munitions. The Information Systems and Technology group provides technologies, products and services in support of various programs. The Marine Systems group is a designer and builder of nuclear-powered submarines, surface combatants and auxiliary and combat-logistics ships.	30,852	35,337
Gilead Sciences Inc.	1987	Manufacture of pharmaceuticals, medicinal chemicals and botanical products	Gilead Sciences, Inc. is a research-based biopharmaceutical company that discovers, develops and commercializes medicines in areas of unmet medical need. The Company's portfolio of products and pipeline of investigational drugs includes treatments for Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS), liver diseases, cancer, inflammatory and respiratory diseases and cardiovascular conditions. Its products for HIV/AIDS patients include Descovy, Odefsey, Genvoya, Stribild, Complera/Eviplera, Truvada, Emtriva, Tybost and Vitekta. Its products for patients with liver diseases include Vemlidy, Epclusa, Harvoni, Sovaldi, Viread and Hepsera. It offers Zydelig to patients with haematology/oncology diseases. Its products for patients with various cardiovascular diseases include Letairis, Ranexa and Lexiscan. Its products for various inflammation/respiratory diseases include Cayston and Tamiflu. It had operations in more than 30 countries, as of December 31, 2016	24,890	34,664
HCA Holdings, Inc.	1990	Hospital activities	HCA Healthcare, Inc., formerly HCA Holdings, Inc., is a holding company. The Company, through its subsidiaries, owns and operates hospitals and related healthcare entities. As of December 31, 2016, the Company operated in two geographically organized groups,	36,918	30,980

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			including the National and American Groups. As of December 31, 2016, the National Group included 84 hospitals, which were located in Alaska, California, Florida, southern Georgia, Idaho, Indiana, northern Kentucky, Nevada, New Hampshire, South Carolina, Utah and Virginia. As of December 31, 2016, the American Group included 80 hospitals, which were located in Colorado, northern Georgia, Kansas, southern Kentucky, Louisiana, Mississippi, Missouri, Oklahoma, Tennessee and Texas. As of December 31, 2016, the Company operated six hospitals in England. The Company owns, manages or operates hospitals, freestanding surgery centres and freestanding emergency care facilities, walk-in clinics, diagnostic and imaging centres, among others		
The Home Depot Inc.	1978	Retail sale of hardware, paints and glass in specialized stores	The Home Depot, Inc. is a home improvement retailer. The Company sells an assortment of building materials, home improvement products, and lawn and garden products, and provides various services. The Home Depot stores serves three primary customer groups: do-it-yourself (DIY) customers, do-it-for-me (DIFM) customers and professional customers. Its DIY customers are home owners purchasing products and completing their own projects and installations. The Company assists these customers with specific product and installation questions both in its stores and through online resources and other media designed to provide product and project knowledge. Its DIFM customers are home owners purchasing materials themselves and hiring third parties to complete the project or installation. Professional Customers are primarily professional renovators/remodellers, general contractors, repairmen, installers, small business owners and tradesmen	78,812	39,946
Honeywell International Inc.	1920	Manufacturers of air and spacecraft and related machinery	Honeywell International Inc. is a technology and manufacturing company. The Company operates through four segments: Aerospace, Home and Building Technologies, Performance Materials and Technologies, and Safety and Productivity Solutions. The Company's Aerospace segment supplies products, software and services for aircraft and vehicles that it sells to original equipment manufacturers (OEMs) and other customers. The Home and Building Technologies segment provides products, software, solutions and technologies that help owners of homes stay connected and in control of their comfort, security and energy use. The Performance Materials and Technologies segment is	40,306	45,451

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			engaged in developing and manufacturing materials, process technologies and automation solutions. The Safety and Productivity Solutions segment is engaged in providing products, software and connected solutions to customers that manage productivity, workplace safety and asset performance.		
HP Inc	1939	Manufacture of computers and peripheral equipment	HP Inc. is a provider of products, technologies, software, solutions and services to individual consumers, small- and medium-sized businesses, and enterprises, including customers in the government, health and education sectors. The company provides personal computing and other access devices, imaging and printing products, and related technologies, solutions and services. Its segments include Personal Systems, Printing and Corporate Investments. The Personal Systems segment provides commercial personal computers (PCs), Consumer PCs, workstations, thin clients, commercial tablets and mobility devices, retail point-of-sale systems, displays and other accessories, software, support and services for the commercial and consumer markets. The Printing segment provides consumer and commercial printer hardware, supplies, media, solutions and services, as well as scanning devices. The Corporate Investments segment includes the operations of HP Labs and certain business incubation projects.	111,454	103,206
International Business Machines Corporation	1910	Computer programming, consultancy and related activities	International Business Machines Corporation (IBM) is a technology company. The Company operates through five segments: Cognitive Solutions, Global Business Services (GBS), Technology Services & Cloud Platforms, Systems and Global Financing. The Cognitive Solutions segment delivers a spectrum of capabilities, from descriptive, predictive and prescriptive analytics to cognitive systems. Cognitive Solutions includes Watson, a cognitive computing platform that has the ability to interact in natural language, process big data, and learn from interactions with people and computers. The GBS segment provides clients with consulting, application management services and global process services. The Technology Services & Cloud Platforms segment provides information technology infrastructure services. The Systems segment provides clients	92,793	117,271

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			with infrastructure technologies. The Global Financing segment includes client financing, commercial financing, and remanufacturing and remarketing		
Icahn Enterprises L.P.	1987	Other financial service activities, except insurance and pension funding	Icahn Enterprises L.P. is a holding company. The Company's segments include Automotive, Energy, Metals, Railcar, Gaming, Food Packaging, Mining, Real Estate and Home Fashion. The Company's Investment segment includes various private investment funds. The Company operates its Automotive segment through its ownership in Federal-Mogul Holdings Corporation and IEH Auto Parts Holding LLC. The Company operates Energy segment through its controlling interest in CVR Energy, Inc. It operates its Metals segment through its subsidiary, PSC Metals, Inc. The Company operates its Railcar segment through its ownership interests in American Railcar Industries, Inc. Its Food Packaging segment consists of ownership in Viskase Companies, Inc. The Company's Real Estate operations consist of rental real estate, property development and associated resorts. It also owns a limited partner interest in Icahn Enterprises Holdings L.P.	18,758	35,790
Intel Corporation	1968	Manufacture of electronic components and boards	Intel Corporation is engaged in designing and manufacturing products and technologies, such as the cloud. The Company's segments are Client Computing Group (CCG), Data Centre Group, Internet of Things Group, Non-Volatile Memory Solutions Group, Intel Security Group, Programmable Solutions Group, All Other and New Technology Group. It delivers computer, networking and communications platforms to a set of customers, including original equipment manufacturers, original design manufacturers, cloud and communications service providers, as well as industrial, communications and automotive equipment manufacturers. It offers platforms to integrate various components and technologies, including a microprocessor and chipset, a stand-alone System-on-Chip, or a multichip package. The CCG operating segment includes platforms that integrates in	55,870	91,900

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			notebook, two in one systems, desktop computers for consumers and businesses, tablets, and phones.		
International Paper Company	1898	Manufacture of pulp, paper and paperboard	International Paper Company is a paper and packaging company with primary markets and manufacturing operations in North America, Europe, Latin America, Russia, Asia, Africa and the Middle East. The Company's segments include Industrial Packaging, Global Cellulose Fibres, Printing Papers and Consumer Packaging. The Company is a manufacturer of containerboard in the United States. Its products include linerboard, medium, whitetop, recycled linerboard, recycled medium and saturating kraft. The Company's cellulose fibres product portfolio includes fluff, market and specialty pulps. The Company is a producer of printing and writing papers. The products in Printing Papers segment include uncoated papers. The Company is a producer of solid bleached sulfate board. As of December 31, 2016, the Company operated 29 pulp, paper and packaging mills, 170 converting and packaging plants, 16 recycling plants and three bag facilities in the United States	23,617	28,684
Johnson & Johnson	1886	Manufacture of other articles of paper and paperboard	Johnson & Johnson is a holding company, which is engaged in the research and development, manufacture and sale of a range of products in the healthcare field. It operates through three segments: Consumer, Pharmaceutical and Medical Devices. Its primary focus is products related to human health and well-being. The Consumer segment includes a range of products used in the baby care, oral care, skincare, over-the-counter pharmaceutical, women's health and wound care markets. The Pharmaceutical segment is focused on five therapeutic areas, including immunology, infectious diseases, neuroscience, oncology, and cardiovascular and metabolic diseases. The Medical Devices segment includes a range of products used in the orthopaedic, surgery, cardiovascular, diabetes care and vision care fields. Its research facilities are located in the United States, Belgium, Brazil, Canada, China, France, Germany, India, Israel, Japan, the Netherlands, Singapore, Switzerland and the United Kingdom.	74,331	130,358

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
Johnson Controls, Inc.	1885	Manufacturer of furniture	Johnson Controls, Inc. is a global diversified technology and industrial company. It undertakes designing, manufacturing, distribution and sales of building efficiency, automotive experience and power solutions products. It offers heating, ventilating and air conditioning systems; building management systems; controls; security and mechanical equipment; door systems; floor consoles and instrument panels and lead-acid automotive batteries. The company also offers industrial refrigeration products and residential air conditioning and heating systems. Johnson Controls offers its products and services to customers in North America, South America, South Africa, Europe, Middle East and Asia-Pacific. The company is headquartered in Milwaukee, Wisconsin, the US. The company reported revenues of (US Dollars) US$37,179 million for the fiscal year ended September 2015 (FY2015), a decrease of 4.1% over FY2014. In FY2015, the company's operating margin was 5.8%, compared to an operating margin of 4.9% in FY2014. In FY2015, the company recorded a net margin of 4.2%, compared to a net margin of 3.1% in FY2014.The company reported revenues of US$8,929.0 million for the first quarter ended December 2015, an increase of 2.1% over the previous quarter.	42,828	32,804
Kimberly-Clark Corporation	1872	Manufacture of pulp, paper and paperboard	Kimberly-Clark Corporation is engaged in the manufacturing and marketing of a range of products made from natural or synthetic fibres. The Company's segments include Personal Care, Consumer Tissue, K-C Professional and Corporate & Other. The Company's Personal Care segment offers various solutions and products, such as disposable diapers, training and youth pants, swim pants, baby wipes, feminine and incontinence care products, and other related products. The Company's Consumer Tissue segment offers products, such as facial and bathroom tissue, paper towels, napkins and related products. The Company's K-C Professional segment offers solutions and supporting products, such as wipers, tissue, towels, apparel, soaps and sanitizers. The Company's business outside North America includes Developing and Emerging Markets and Developed Markets. It sells its products to supermarkets, mass merchandisers, drugstores, warehouse clubs and other retail outlets.	19,724	15,526

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
Kohl's Corporation	1962	Other retail sale in non specialized stores	Kohl's Corporation is an operator of department stores. The Company operates approximately 1,154 Kohl's department stores, a website, approximately 12 FILA outlets, and approximately three Off-Aisle clearance centres. The Company's stores and Website sell moderately-priced private label and national brand apparel, footwear, accessories, beauty and home products. The Company's website includes merchandise that is available in its stores, as well as merchandise that is available only online. The Company's merchandise mix includes both national brands and private brands that are available only at Kohl's. The Company's private brands include Apt. 9, Croft & Barrow, Jumping Beans, SO and Sonoma Goods for Life. The Company's exclusive brands include Food Network, Jennifer Lopez, Marc Anthony, Rock & Republic and Simply Vera Vera Wang.	19,031	14,333
The Kroger Co	1883	Retail sale in non specialized stores with food, beverage or tobacco predominating	The Kroger Co. (Kroger) manufactures and processes food for sale in its supermarkets. The Company operates supermarkets, multi-department stores, jewellery stores and convenience stores throughout the United States. As of January 28, 2017, it had operated approximately 4,000 owned or leased supermarkets, convenience stores, fine jewellery stores, distribution warehouses and food production plants through divisions, subsidiaries or affiliates. These facilities are located throughout the United States. As of January 28, 2017, Kroger operated, either directly or through its subsidiaries, 2,796 supermarkets under a range of local banner names, of which 2,255 had pharmacies and 1,445 had fuel centres. As of January 28, 2017, the Company offered ClickList and Harris Teeter ExpressLane, personalized, order online, pick up at the store services at 637 of its supermarkets. P$$T, Check This Out and Heritage Farm are the three brands. Its other brands include Simple Truth and Simple Truth Organic.	98,375	30,497
Lockheed Martin Corporation	1995	Manufacture of air and spacecraft related machinery	Lockheed Martin Corporation is a security and aerospace company. The Company operates through four segments. Aeronautics segment is engaged in the research, design, development, manufacture, integration, sustainment, support and upgrade of military aircraft, including combat and air mobility aircraft, unmanned air vehicles and related technologies. Missiles and Fire Control segment provides air and missile defence systems; fire control systems; manned and unmanned ground vehicles, and energy management solutions. Rotary and Mission Systems segment provides design,	45,600	37,046

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			manufacture, service and support for a range of military and civil helicopters; mission systems and sensors for rotary and fixed-wing aircraft; simulation and training services, and unmanned systems and technologies, among others. Space Systems segment is engaged in the research and development, design, engineering and production of satellites, strategic and defensive missile systems and space transportation systems.		
Lowe's Companies, Inc.	1946	Retail sale of hardware, paints and glass in specialized stores	Lowe's Companies, Inc. is a home improvement retailer. The Company operates approximately 1,860 home improvement and hardware stores, representing approximately 200 million square feet of retail selling space. The Company operates approximately 1,800 stores located across over 50 states in the United States, including approximately 80 Orchard Supply Hardware stores in California and Oregon, as well as approximately 40 stores in Canada and over 10 stores in Mexico. The Company operates through the home improvement retail operations segment. The Company offers a range of products for maintenance, repair, remodelling and decorating. The Company offers home improvement products in categories, including Lumber and Building Materials; Tools and Hardware; Appliances; Fashion Fixtures; Rough Plumbing and Electrical; Lawn and Garden; Seasonal Living; Paint; Flooring; Millwork; Kitchens; Outdoor Power Equipment, and Home Fashions.	53,417	31,721
Macy's, Inc.	1830	Other retail sale in non specialized stores	Macy's, Inc. is an omni channel retail company operating stores, Websites and mobile applications under various brands, such as Macy's, Bloomingdale's and Bluemercury. The Company sells a range of merchandise, including apparel and accessories (men's, women's and children's), cosmetics, home furnishings and other consumer goods. Its subsidiaries provide various support functions to its retail operations. Its bank subsidiary, FDS Bank, provides credit processing, certain collections, customer service and credit marketing services in respect of all credit card accounts that are owned either by Department Stores National Bank, which is a subsidiary of Citibank N.A., or FDS Bank. The private label brands offered by the Company include Alfani, American Rag, Aqua, Bar III, Belgique, Charter Club, Club Room, Epic Threads, first impressions, Giani Bernini, Greg	27,931	21,330

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			Norman for Tasso Elba, Holiday Lane, Home Design, Hotel Collection, John Ashford, Karen Scott, Thalia Sodi and lune+aster		
Manpowergroup Inc.	1948	Temporary employment agency activities	ManpowerGroup Inc. is a provider of workforce solutions and services. The Company's segments include Americas, Southern Europe, Northern Europe, Asia Pacific Middle East, Right Management and Corporate. The Company's Americas segment includes operations in the United States and Other Americas. Its Southern Europe segment includes operations in France, Italy and Other Southern Europe. Its Northern Europe segment includes operations in the United Kingdom, the Nordics, Germany and the Netherlands. The Company's operations provide a range of workforce solutions and services offered through Manpower, Experis and ManpowerGroup Solutions, including permanent, temporary and contract recruitment, assessment and selection, training and outsourcing. The Company's Right Management segment provides talent and career management workforce solutions. The Company provides services under its Experis brand, particularly in the areas of information technology, engineering and finance.	20,763	7,181
McDonald’s Corporation	1940	Restaurants and mobile food activities	McDonald's Corporation operates and franchises McDonald's restaurants. The Company's restaurants serve a locally relevant menu of food and drinks sold at various price points in over 100 countries. The Company's segments include US, International Lead Markets, High Growth Markets, and Foundational Markets and Corporate. The U.S. segment focuses on offering a platform for authentic ingredients that allows customers to customize their sandwiches. Its High Growth Markets segment includes its operations in markets, such as China, Italy, Korea, Poland, Russia, Spain, Switzerland, the Netherlands and related markets. The International Lead markets segment includes the Company's operations in various markets, such as Australia, Canada, France, Germany, the United Kingdom and related markets. The Foundational markets and Corporate	27,441	34,227

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			segment is engaged in operating restaurants and increasing convenience to customers, including through drive-thru and delivery		
McKesson Corporation	1833	Wholesale of other household goods	McKesson Corporation is engaged in delivering pharmaceuticals, medical supplies and healthcare information technology. The Company operates through two segments: McKesson Distribution Solutions and Technology Solutions. The McKesson Distribution Solutions segment distributes drugs and equipment, and health and beauty care products across North America and internationally. The Distribution Solutions segment provides pharmaceutical solutions for biotech and pharmaceutical manufacturers, and practice management, technology, clinical support and business solutions to oncology and other specialty practices operating in the community setting. The Technology Solutions segment delivers clinical, patient care, financial, supply chain and strategic management software solutions, as well as connectivity, outsourcing and other services. Its McKesson Health Solutions portfolio includes ClarityQx, which is a payment technology	137,392	53,870
Merck and Company , Incorporated	1928	Manufacture of pharmaceuticals, medicinal chemicals and botanicals	Merck and Co., Inc. is a global healthcare company. The Company offers health solutions through its prescription medicines, vaccines, biologic therapies and animal health products. It operates through four segments: Pharmaceutical, Animal Health, Healthcare Services and Alliances. The Company's Pharmaceutical segment includes human health pharmaceutical and vaccine products marketed either directly by the Company or through joint ventures. Human health pharmaceutical products consist of therapeutic and preventive agents, generally sold by prescription, for the treatment of human disorders. The Company sells its human health pharmaceutical products primarily to drug wholesalers and retailers, hospitals, government agencies and managed healthcare providers, such as health maintenance organizations, pharmacy benefit managers and other institutions. Vaccine products consist of preventive paediatric, adolescent and adult vaccines, primarily administered at physician offices.	42,237	98,167
Microsoft Corporation	1975	Software publishing	Microsoft Corporation is a technology company. The Company develops, licenses, and supports a range of software products, services and devices. The Company's segments include Productivity and Business Processes, Intelligent Cloud and More Personal	86,833	174,472

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			Computing. The Company's products include operating systems; cross-device productivity applications; server applications; business solution applications; desktop and server management tools; software development tools; video games, and training and certification of computer system integrators and developers. It also designs, manufactures, and sells devices, including personal computers, tablets, gaming and entertainment consoles, phones, other intelligent devices, and related accessories, that integrate with its cloud-based offerings. It offers an array of services, including cloud-based solutions that provide customers with software, services, platforms, and content, and it provides solution support and consulting services.		
Mondelez International, Inc.	2000	Manufacture of dairy products	Mondelez International, Inc. is a snack company. The Company manufactures and markets snack food and beverage products for consumers. It operates through four segments: Latin America, Asia, Middle East, and Africa, Europe and North America. As of December 31, 2016, its brands spanned five product categories: Biscuits (including cookies, crackers and salted snacks); Chocolate; Gum and candy; Beverages (including coffee and powdered beverages), and Cheese and grocery. Its portfolio includes various snack brands, including Nabisco, Oreo, LU and belVita biscuits; Cadbury, Milka, Cadbury Dairy Milk and Toblerone chocolate; Trident gum; Halls candy, and Tang powdered beverages. The Company sells its products to supermarket chains, wholesalers, supercentres, club stores, mass merchandisers, distributors, convenience stores, gasoline stations, drug stores, value stores and retail food outlets. As of December 31, 2016, it sold its products to consumers in approximately 165 countries.	34,244	66,771
Nike, Inc.	1964	Manufacture of footwear	Nike, Inc. is engaged in the design, development, marketing and selling of athletic footwear, apparel, equipment, accessories and services. The Company's operating segments include North America, Western Europe, Central & Eastern Europe, Greater China, Japan and Emerging Markets. Its portfolio brands include the NIKE Brand, Jordan Brand, Hurley and Converse. As of May 31, 2016, the Company focused its NIKE brand product offerings in nine categories: Running, NIKE Basketball, the Jordan Brand, Football (Soccer), Men's Training, Women's Training, Action Sports, Sportswear (its sports-inspired lifestyle products) and Golf. Men's Training includes its baseball and American	27,779	21,597

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			football product offerings. It also markets products designed for kids, as well as for other athletic and recreational uses, such as cricket, lacrosse, tennis, volleyball, wrestling, walking and outdoor activities. The Company sells a range of performance equipment and accessories under the NIKE Brand name		
Northrop Grumman Corporation	1939	Manufacture of measuring, testing, navigating and control equipment	Northrop Grumman Corporation is a global security company. The Company provides products, systems and solutions in autonomous systems; cyber; command, control, communications and computers, intelligence, surveillance and reconnaissance; strike, and logistics and modernization. The Company's segments include Aerospace Systems, Mission Systems and Technology Services. The Company's Aerospace Systems segment is engaged in the design, development, integration and production of manned aircraft, autonomous systems, spacecraft, high-energy laser systems, microelectronics and other systems/subsystems. The Mission Systems segment offers mission solutions and multifunction systems for Department of Defence, intelligence community, international, federal civil and commercial customers. The Technology Services segment provides logistics solutions supporting the full life cycle of platforms and systems for global defence and federal-civil customers.	23,979	26,572
Nucor Corporation	1940	Manufacture of basic iron and steel	Nucor Corporation (Nucor) manufactures steel and steel products. The Company produces direct reduced iron (DRI) for use in its steel mills. It operates in three segments: steel mills, steel products and raw materials. The steel mills segment produces and distributes sheet steel (hot-rolled, cold-rolled and galvanized), plate steel, structural steel (wide-flange beams, beam blanks, H-piling and sheet piling) and bar steel (blooms, billets, concrete reinforcing bar, merchant bar, wire rod and special bar quality). The steel products segment produces steel joists and joist girders, steel deck, fabricated concrete reinforcing steel and cold finished steel. The raw materials produces DRI; brokers ferrous and nonferrous metals, pig iron, hot briquetted iron (HBI) and DRI; supplies ferro-alloys, and processes ferrous and nonferrous scrap metal. It also processes	21,105	15,616

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			ferrous and nonferrous metals and brokers ferrous and nonferrous metals, pig iron, HBI, and DRI.		
Oracle Corporation	1977	Software publishing	Oracle Corporation (Oracle) provides products and services that address all aspects of corporate information technology (IT) environments, including application, platform and infrastructure. The Company's businesses include cloud and on-premise software, hardware and services. Its cloud and on-premise software business consists of three segments, including cloud software and on-premise software, which includes Software as a Service and Platform as a Service offerings, cloud infrastructure as a service and software license updates and product support. Its hardware business consists of two segments, including hardware products and hardware support. The Company's services business includes the remainder of the Company's segments. Its services business includes activities, such as consulting services, enhanced support services and education services, among others.	38,275	110,903
The Proctor & Gamble Company	1837	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations.	The Procter & Gamble Company is focused on providing branded consumer packaged goods to the consumers across the world. The Company operates through five segments: Beauty; Grooming; Health Care; Fabric & Home Care, and Baby, Feminine & Family Care. The Company sells its products in approximately 180 countries and territories primarily through mass merchandisers, grocery stores, membership club stores, drug stores, department stores, distributors, baby stores, specialty beauty stores, e-commerce, high-frequency stores and pharmacies. The Company owns and operates approximately 20 manufacturing sites located in over 20 states in the United States. In addition, it owns and operates over 100 manufacturing sites in approximately 40 countries. It offers products under the brands, such as Olay, Old Spice, Safeguard, Head & Shoulders,	80,510	129,495

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			Pantene, Rejoice, Mach3, Prestobarba, Venus, Cascade, Dawn, Febreze, Mr. Clean, Bounty and Charmin.		
Paccar, Inc.	1905	Manufacture of motor vehicles	Paccar Inc is a technology company. The Company's segments include Truck, Parts and Financial Services. The Truck segment includes the design, manufacture and distribution of light-, medium- and heavy-duty commercial trucks. The Company's trucks are marketed under the Kenworth, Peterbilt and DAF nameplates. It also manufactures engines, primarily for use in the Company's trucks, at its facilities in Columbus, Mississippi; Eindhoven, the Netherlands, and Ponta Grossa, Brazil. The Parts segment includes the distribution of aftermarket parts for trucks and related commercial vehicles. The Financial Services segment includes finance and leasing products and services provided to customers and dealers. Its Other business includes the manufacturing and marketing of industrial winches. The Company operates in Australia and Brazil and sells trucks and parts to customers in Asia, Africa, Middle East and South America.	18,997	20,619
Pepsico, Inc.	1919	Manufacture of other food products	PepsiCo, Inc. is a global food and beverage company. The Company's portfolio of brands includes Frito-Lay, Gatorade, Pepsi-Cola, Quaker and Tropicana. The Company operates through six segments: Frito-Lay North America (FLNA), Quaker Foods North America (QFNA), North America Beverages (NAB), Latin America, Europe Sub-Saharan Africa (ESSA), and Asia, Middle East and North Africa (AMENA). The FLNA segment includes its branded food and snack businesses in the United States and Canada. The QFNA segment includes its cereal, rice, pasta and other branded food businesses in the United States and Canada. The NAB segment includes its beverage businesses in the United States and Canada. The Latin America segment includes its beverage, food and snack businesses in Latin America. The ESSA segment includes its beverage, food and snack businesses in	66,683	70,509

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			Europe and Sub-Saharan Africa. The AMENA segment includes its beverage, food and snack businesses in Asia, Middle East and North Africa.		
Pfizer Inc.	1942	Manufacture of pharmaceuticals, medicinal chemicals and botanical products	Pfizer Inc. is a research-based global biopharmaceutical company. The Company is engaged in the discovery, development and manufacture of healthcare products. Its global portfolio includes medicines and vaccines, as well as consumer healthcare products. The Company manages its commercial operations through two business segments: Pfizer Innovative Health (IH) and Pfizer Essential Health (EH). IH focuses on developing and commercializing medicines and vaccines, as well as products for consumer healthcare. IH therapeutic areas include internal medicine, vaccines, oncology, inflammation and immunology, rare diseases and consumer healthcare. EH includes legacy brands, branded generics, generic sterile injectable products, biosimilars and infusion systems. EH also includes an R&D organization, as well as its contract manufacturing business. Its brands include Prevnar 13, Xeljanz, Eliquis, Lipitor, Celebrex, Pristiq and Viagra.	49,605	167,566
Qualcomm Incorporated	1985	Manufacture of electronic equipment and boards	Qualcomm Incorporated is engaged in the development and commercialization of a digital communication technology called code division multiple access (CDMA). The Company is engaged in the development and commercialization of the orthogonal frequency division multiple access (OFDMA) family of technologies, including long-term evolution (LTE), which is an Orthogonal Frequency Division Multiplexing (OFDM)-based standard that uses OFDMA and single-carrier Frequency Division Multiple Access (FDMA), for cellular wireless communication applications. The Company's segments include QCT (Qualcomm CDMA Technologies), QTL (Qualcomm Technology Licensing) and QSI (Qualcomm Strategic Initiatives). The Company also develops and commercializes a range of other technologies used in handsets and tablets that contribute to end user demand. The Company's products principally consist of integrated circuits and system software used in mobile devices and in wireless networks.	26,487	48,574

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
Raytheon Company	1922	Manufacture of measuring, testing, navigating and control equipment	Raytheon Company is a technology company, which specializes in defence and other government markets. The Company develops integrated products, services and solutions in various markets, including sensing; effects; command, control, communications, computers, cyber and intelligence; mission support, and cyber security. The Company operates through five segments: Integrated Defence Systems; Intelligence, Information and Services; Missile Systems; Space and Airborne Systems, and Forcepoint. The IDS segment develops and produces sensors and mission systems. The IIS segment provides a range of technical and professional services to intelligence, defence, federal and commercial customers. The MS segment is a developer, integrator and producer of missile and combat systems. The SAS segment is engaged in the design, development and manufacture of integrated sensor and communication systems for missions. The Force point segment develops cyber security products.	22,826	27,716
Southwest Airlines Co.	1971	Passenger air transport	Southwest Airlines Co. operates Southwest Airlines, a passenger airline that provides scheduled air transportation in the United States and near-international markets. The Company provides point-to-point service. The Company offers ancillary service offerings, such as Southwest's EarlyBird Check-In and transportation of pets and unaccompanied minors, in accordance with Southwest's respective policies. Southwest's Rapid Rewards frequent flyer program enables program members to earn points for every dollar spent on Southwest fares. Its Internet Website, Southwest.com, is an avenue for Southwest customers to purchase and manage travel online. As of December 31, 2016, Southwest operated a total of 723 Boeing 737 aircraft and served 101 destinations in 40 states, the District of Columbia, the Commonwealth of Puerto Rico, and eight near-international countries: Mexico, Jamaica, The Bahamas, Aruba, Dominican Republic, Costa Rica, Belize, and Cuba.	18,605	19,723

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
Staples, Inc.	1985	Retail sale of books newspapers and stationery in specialized stores	Staples, Inc. is a provider of products and services that serve the needs of business customers and consumers. The Company offers a range of print and marketing and technology services. The Company's segments include North American Delivery, North American Retail and Other. The North American Delivery segment consists of the United States and Canadian businesses, including Staples Business Advantage, staples.com, staples.ca, and quill.com, that sell and deliver products and services primarily to businesses. The North American Retail segment includes its retail stores in the United States and Canada. As of January 28, 2017, its North American Retail segment consisted of 1,255 stores in the United States and 304 stores in Canada. The Company has other businesses in Australia, South America and Asia. Staples Australia serves primarily contract and government customers in Australia and New Zealand. The Company also has operations in China, Argentina, Taiwan and Brazil.	23,114	10,308
Starbucks Corporation	1985	Restaurants and mobile food service activities	Starbucks Corporation is a roaster, marketer and retailer of coffee. As of October 2, 2016, the Company operated in 75 countries. The Company operates through four segments: Americas, which is inclusive of the United States, Canada, and Latin America; China/Asia Pacific (CAP); Europe, Middle East, and Africa, and Channel Development. The Company's Americas, CAP, and EMEA segments include both company-operated and licensed stores. Its Channel Development segment includes roasted whole bean and ground coffees, Tazo teas, Starbucks- and Tazo-branded single-serve products, a range of ready-to-drink beverages, such as Frappuccino, Starbucks Doubleshot and Starbucks Refreshers beverages and other branded products sold across the world through channels, such as grocery stores, warehouse clubs, specialty retailers, convenience stores and the United States foodservice accounts.	16,448	10,753

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
Sysco Corporation	1970	Wholesale of food, beverages and tobacco	Sysco Corporation is a distributor of food and related products primarily to the foodservice or food-away-from-home industry. The Company's segments include Broadline, SYGMA and Other. The Broadline segment includes its Broadline operations located in the Bahamas, Canada, Costa Rica, Ireland, Mexico and the United States. Broadline operating companies distribute a full line of food products and a range of non-food products to both traditional and chain restaurant customers, hospitals, schools, hotels, industrial caterers and other venues where foodservice products are served. SYGMA operating companies distribute a full line of food products and a range of non-food products to certain chain restaurant customer locations. The Other segment includes the Company's specialty produce; custom-cut meat operations; lodging industry segments; a company that distributes specialty imported products; a company that distributes to international customers, and Sysco Ventures platform.	46,517	17,989
Target Stores, Inc.	1962	Retail sale in non specialized stores with food, beverages or tobacco predominating	Target Stores, Inc. is a supermarket/grocery store, primarily engaged in the retail sale of all sorts of canned foods and dry goods, such as tea, coffee, spices, sugar, and flour; fresh fruits and vegetables; and fresh and prepared meats, fish, and poultry.	71,279	41,172
Tech Data Corporation	1974	Wholesale of computers, computer peripheral equipment and software	Tech Data Corporation is a wholesale distributor of technology products. The Company serves as a link in the technology supply chain by bringing products from the technology vendors to market, as well as providing its customers with logistics capabilities and services. It operates through the segment of distributing technology products, logistics management and other value-added services. It operates in two geographic segments: the Americas and Europe. It provides resellers training and technical support suite of electronic commerce tools customized shipping documents product configuration or integration services and access to financing programs. Its customers include value-added resellers, direct marketers, retailers and corporate resellers who support the diverse	26,822	6,137

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			technology needs of end users. It sells its products to customers in approximately 100 countries throughout North America, South America, Europe, the Middle East and Africa.		
Time Warner Inc.	2001	Television programming and broadcasting activities	Time Warner Inc. is a media and entertainment company. The Company operates through three segments: Turner, which consists of cable networks and digital media properties; Home Box Office, which consists of premium pay television and over the top services and premium pay, basic tier television and services internationally, and Warner Bros., which consists of television, feature film, home video, and videogame production and distribution. It also holds interests in companies that operate broadcast networks. The Company holds interest in Central European Media Enterprises Ltd. , which is a broadcasting company that operates television networks in Bulgaria, Croatia, the Czech Republic, Romania, the Slovak Republic and Slovenia and The CW broadcast network, which includes a lineup of advertising-supported original programming, such as The 100, Arrow, Crazy Ex-Girlfriend, DC's Legends of Tomorrow, The Flash, Frequency, iZombie, Jane the Virgin and No Tomorrow.	27,359	63,146
Tyson Foods, Inc.	1935	Processing and preserving of meats	Tyson Foods, Inc. is a food company, which is engaged in offering chicken, beef and pork, as well as prepared foods. The Company offers food products under Tyson, Jimmy Dean, Hillshire Farm, Sara Lee, Ball Park, Wright, Aidells and State Fair brands. The Company operates through four segments: Chicken, Beef, Pork and Prepared Foods. It operates a vertically integrated chicken production process, which consists of breeding stock, contract growers, feed production, processing, further-processing, marketing and transportation of chicken and related allied products, including animal and pet food ingredients. Through its subsidiary, Cobb-Vantress, Inc., the Company is engaged in supplying poultry breeding stock across the world. It produces a range of fresh, frozen and refrigerated food products. Its products are marketed and sold by its sales staff to	37,580	23,956

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			grocery retailers, grocery wholesalers, meat distributors, warehouse club stores and military commissaries, among others.		
Union Pacific Corporation	1969	Passenger rail transport, interurban	Union Pacific Corporation is a railroad operating company in the United States. The Company operates through its principal operating company, Union Pacific Railroad Company. Its business mix includes Agricultural Products, Automotive, Chemicals, Coal, Industrial Products and Intermodal. Its freight traffic consists of bulk, manifest, and premium business. Bulk traffic primarily consists of coal, grain, soda ash, ethanol, rock and crude oil shipped in unit trains-trains transporting a single commodity from one origin to one destination. Manifest traffic includes individual carload or less than train-load business involving commodities, such as lumber, paper, food and chemicals. The transportation of finished vehicles, auto parts, intermodal containers and truck trailers are included as part of its premium business. As of December 31, 2016, its network included 32,070 route miles, linking Pacific Coast and Gulf Coast ports with the Midwest and Eastern United States gateways.	23,988	52,372
United Continental Holdings, Inc.	1968	Passenger air transport	United Continental Holdings, Inc. is a holding company and its principal subsidiary is United Air Lines, Inc. The Company transports people and cargo through its mainline operations. It has global air rights in North America, Asia-Pacific, Europe, Middle East, Africa and Latin America. The Company, through United and its regional carriers, operates flights from its hubs at Newark Liberty International Airport, Chicago O'Hare International Airport, Denver International Airport, George Bush Intercontinental Airport, Los Angeles International Airport, A.B. Won Pat International Airport, San Francisco International Airport and Washington Dulles International Airport. It has contractual relationships with regional carriers to provide regional jet and turboprop service branded	38,901	36,595

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			as United Express. These regional operations are an extension of the Company's mainline network.		
United Technologies Corporation	1934	Manufacture of air spacecraft and related machinery	United Technologies Corporation is engaged in providing high technology products and services to the building systems and aerospace industries around the world. The Company operates through four segments: Otis; UTC Climate, Controls & Security; Pratt & Whitney, and UTC Aerospace Systems. Otis operates as an elevator and escalator manufacturing, installation and service company. UTC Climate, Controls & Security segment is engaged in providing heating, ventilating, air conditioning and refrigeration solutions. The Pratt & Whitney segment supplies aircraft engines for the commercial, military, business jet and general aviation markets. Pratt & Whitney segment provides fleet management services and aftermarket maintenance, repair and overhaul services. The UTC Aerospace Systems segment provides aerospace products and aftermarket service solutions for aircraft manufacturers, airlines, regional, business and general aviation markets, military, space and undersea operations.	65,100	91,206
United Parcel Service, Inc.	1907	Courier activities	United Parcel Service, Inc. is a package delivery company. The Company is a provider of global supply chain management solutions. The Company operates through three segments: US Domestic Package operations, International Package operations, and Supply Chain and Freight operations. As of December 31, 2016, the Company delivered packages in over 220 countries and territories. The Company offers a spectrum of the United States domestic guaranteed ground and air package transportation services. The International Package segment includes the small package operations in Europe, Asia-Pacific, Canada and Latin America, the Indian sub-continent, the Middle East and Africa. The Supply Chain & Freight segment includes its forwarding and logistics services, truckload freight brokerage, UPS Freight and its financial offerings through UPS Capital.	58,232	35,440

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			The Company serves the global market for logistics services, which include transportation, distribution, contract logistics and ground freight.		
Verizon Communications Inc.	1983	Wired telecommunications activities	Verizon Communications Inc. is a holding company. The Company, through its subsidiaries, provides communications, information and entertainment products and services to consumers, businesses and governmental agencies. Its segments include Wireless and Wireline. The Wireless segment offers communications products and services, including wireless voice and data services and equipment sales, to consumer, business and government customers across the United States. The Wireline segment offers voice, data and video communications products and services, such as broadband video and data, corporate networking solutions, data centre and cloud services, security and managed network services, and local and long distance voice services. The Company provides these products and services to consumers in the United States, as well as to carriers, businesses and government customers both in the United States and around the world.	127,079	232,616
Walgreens Boots Alliance	1901	Retail sale of pharmaceutical and medical goods, cosmetic and toilet goods in specialized stores	Walgreens Boots Alliance, Inc. is a holding company. The Company is a pharmacy-led health and wellbeing company. The Company operates through three segments: Retail Pharmacy USA, Retail Pharmacy International and Pharmaceutical Wholesale. The Retail Pharmacy USA segment consists of the Walgreen Co. business, which includes the operation of retail drugstores, care clinics and providing specialty pharmacy services. The Retail Pharmacy International segment consists primarily of the Alliance Boots pharmacy-led health and beauty stores, optical practices and related contract manufacturing operations. The Pharmaceutical Wholesale segment consists of the Alliance Boots pharmaceutical wholesaling and distribution businesses. The Company's portfolio of retail and business brands includes Walgreens, Duane Reade, Boots and Alliance	76,392	37,250

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			Healthcare, as well as global health and beauty product brands, including No7, Botanics, Liz Earle and Soap & Glory		
Wal-mart Stores, Inc.	1945	Other retail sale in non specialized stores	Wal-Mart Stores, Inc. is engaged in the operation of retail, wholesale and other units in various formats around the world. The Company operates through three segments: Walmart US, Walmart International and Sam's Club. The Walmart US segment includes its mass merchant concept in the United States operating under the Walmart or Wal-Mart brands, as well as digital retail. The Walmart International segment consists of the Company's operations outside of the United States, including various retail Websites. The Walmart International segment includes various formats divided into three categories: retail, wholesale and other. These categories consist of various formats, including supercentres, supermarkets, and warehouse clubs, such as Sam's Clubs, cash and carry, home improvement, specialty electronics, apparel stores, drug stores and convenience stores, as well as digital retail. The Sam's Club segment includes the warehouse membership clubs in the United States, and samsclub.com	476,294	203,490
Whirlpool Corporation	1898	Manufacture of domestic appliances	Whirlpool Corporation is a manufacturer and marketer of home appliances. The Company's segments include North America; Europe, Middle East and Africa; Latin America, and Asia. In North America, the Company markets and distributes home appliances and small domestic appliances under a range of brand names. In EMEA, it markets and distributes its home appliances primarily under the Whirlpool, Bauknecht, Ignis, Maytag, Laden, Indesit and Privileg brand names, and domestic appliances under the KitchenAid, Hotpoint and Hotpoint-Ariston brand names. In Latin America, it markets and distributes its home appliances and small domestic appliances primarily under the Consul, Brastemp, Whirlpool and KitchenAid brand names. The Company markets and distributes its products in Asia primarily under the Whirlpool, Maytag, KitchenAid,	19,872	20,002

Company Name	Incorporation Date	ISIC Rev 4 Description	Business Description	Sales US$ (mil) 2014	Assets US$ (mil) 2014
			Amana, Bauknecht, Jenn-Air, Diqua and Royalstar brand names. It manufactures and markets a line of home appliances and related products.		
Xerox Corporation	1906	Manufacture of optical instruments and photographic equipment	Xerox Corporation is engaged in imaging, business process, analytics, automation and user-centric insights. The Company's segments include Services, Document Technology and Other. The Company's Services segment includes service offerings, such as BPO and Document Outsourcing. It provides business services in markets across various industries and to government agencies. The Company's Document Technology segment includes the sale of products and supplies, as well as the associated technical service and financing of those products. The product groups offered under this segment are entry, mid-range and high-end products. Other segment includes paper sales in its developing market countries, wide-format systems, licensing revenue, global imaging systems network integration solutions and non-allocated corporate items, including other expenses and net. Its DO offers services, such as managed print services include workflow automation and centralized print services.	19,540	27,658

9.4 Appendix 4 Summary Table of Empirical Research

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
Adams and Ferreira (2009)	US sample: Standard & Poor's (S&P) 500, S&P MidCaps, and S&P SmallCap firms collected by the Investor Responsibility Research Center for the period 1996–2003. Sample 1,939 firms; 86,714 directorships	DV: gender IVs: attendance behaviour, committee assignment, CEO turnover, equity based compensation for CEO, stock performance	Women have better attendance records than men and more likely to join monitoring committees. Diverse boards more likely to hold CEOs accountable for poor stock price and CEO turnover more sensitive to stock return performance in firms.
Altshuler and Grubert (2002)	Impact of taxes on repatriation on MNE behaviour. 1996 tax returns. Largest 6000 CFCs in terms of assets. Country statutory tax rates and withholding taxes on dividends. Calculate country average ETR to construct the CFC's repatriation taxes.	DV: financial assets held by CFC (various asset items / total CFC assets). IVs: repatriation taxes (statutory and actuals); total foreign taxes paid to foreign net income; country ETR, age of CFC. Controls: GDP, GDP per capita.	When retained lightly taxed earnings are 'trapped' because of the repatriation tax, they are trapped in all foreign subsidiaries as a group. CFCs that face high repatriation taxes make greater investments in related affiliates, send a greater share of dividends to other foreign affiliates, and pay off more local debt.
Altshuler and Newlon (1993)	1986 tax returns for US MNEs and their foreign subsidiaries to consider structure and coordination of the repatriation of foreign income and how affected by tax liabilities.	DV: dividend remittances to parent IVs: tax cost of dividends, CFC after tax income, other CFC characteristics, parent characteristics	MNEs can use foreign credits and deferral to reduce US tax liability. CFCs with parents in net credit position pay out more dividends as these will not incur tax.
Azemar (2010)	Regresses US capital invested abroad on foreign average corporate tax rates. Uses 1992, 1994, 1996, 1998, and 2000 US Treasury CFC files compiled by the IRS. Includes the 7,500 largest foreign corporations controlled by US MNE with total assets in excess of 500 million USD.	The average tax rate for each country is calculated controlling for the impact of other determinants of US activity abroad - host country GDP, GDP per capita, and trade openness, real exchange rate, physical infrastructure, and a Law and Order index.	Investment is strongly influenced by average tax rates, particularly for low-tax rates. Firms report higher profit, higher Subpart F income, and are less likely to repatriate dividends when in low-tax jurisdictions. Low degrees of law enforcement are also associated with higher income shifting.

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
Barrios, Huizinga, Laeven and Nicodeme (2012)	Large international firm level data set incorporating a range of European countries and companies. Consider the interaction between home and host country corporate and withholding tax systems on the location decision of MNEs. Sample analysed over multi country framework.	DV: location. IV: tax (corporate statutory rate) Controls: for market size (GDP as a ratio of the GDPs of all potential host countries); contiguity (common border); difference in labour costs (log of ratio of labour costs in home and host country), economic freedom, EU membership.	Even with deferral parent country taxes exert an effect on MNEs. Location decisions for highly profitable subsidiaries are less responsive to tax inducements than for less profitable subsidiaries. Location decisions of foreign subsidiaries with low fixed assets are more sensitive to parent and host country taxes.
Barua, Davidson, Rama and Thiruvadi 2010	Sample of 1559 firms in 2005. Hypothesise that women are more cautious and therefore have lower abnormal accruals. Firms (non financial) for which data available in Compustat.	DV: total accruals IV: size, (log assets), ratio book to market equity, revenue growth, changes in receivables, PPE, ROA, book value debt, big 4 auditor (dummy) female CFO (dummy)	Companies with female CFOs have lower performance-matched absolute discretionary accruals and lower absolute accrual estimation errors, after controlling for other factors that prior research has shown to be associated with accruals.
Boise and Koenig (2002)	Practitioner focused article providing overview of the US tax system with particular focus on inversions.		
Barrios, Huizinga, Laeven and Nicodeme (2012)	Examine effects of host and parent country taxes on location decision. How parent company taxation interacts with host country. Consider structure of European companies using data from Amadeus. 909 subsidiaries.	DV: location. IV: host and home country taxes. Controls: GDP, distance, difference in labour costs, economic freedom, EU membership.	Double taxation by the parent company is important in shaping the structure of the MNE. Estimate that home and host country taxation is of equal importance. Location decisions of highly profitable subsidiaries are less elastic.
Bartelsman and Beetsma (2003)	Isolate the income shifting effects from tax rates on real activity by controlling for the effects of taxes and unobserved productivity. Regress the ratio of total value added to wage payments on tax rate differences.	OECD data on labor compensation and value-added for 16 countries and 15 sectors for 1979–1997. PWC data on tax rates. Control variables: long-term interest rate and the price deflator for investment.	Income shifting responds to differences in corporate tax rates. Revenue from a unilateral increase in the tax rate is lost because of a decline in reported income. Can increase revenue through tighter control of TP but enforcement of TP rules by high tax countries may cause shifts real activity to lower tax countries.

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
Bear, Rahman and Post 2010	Explores relationship between CSR, women on the board and corporate reputation. 689 companies take from Fortune 2009 World's Most Admired Companies. KLD index to measure CSR. Diversity and CEO duality from Mergent. COMPUSTAT	DV: reputation Mediator: CSR rating IVs: diversity of directors, number of women on board Controls: CEO duality, firm performance (change in stock price) ROA,	Number of women on the board had a positive association with the strength ratings for CSR.
Benvignati (1987 60 (3))	Uses confidential data from US Federal Trade Commission to test of MNEs report higher rates of profits on domestic profits than non MNEs.	DV: domestic profits IVs: multinationality, industry level multinationality, industry concentration industry export share, R&D intensity, industry advertising intensity, industry asset ratio, industry minimum efficient scale, industry growth, market share.	MNEs do have profits advantages when domestic activity aligned with international.
Brajcich, Friesner and McPherson (2013)	Consider potential gains from tax from establishment of foreign subsidiary. Use a gravity model to consider the impact of tax distance (and others) on impact of establishing CFC. Use US tax return data from 2004, 2006 and 2008. Plus other government (BLS) data.	DV: measure of resource shifting potential; real value of assets of US CFC IV: economic activity and flow, geographic distance, tax related distance, firm related distance, business climate related distance, time related distance.	Tax rates do influence where MNCs shift income, but to a limited extent and only after foreign operations are established. Tax rates are an incentive but only when zero, when CFCs are established with larger asset base.
Buckley and Pearce (1979)	Sourcing policy of MNEs and how decision made about which production facilities serve which markets. Tests whether R&D intensive firms have greater incentive to internalize. 172 largest MNEs in 1972 (questionnaire).	DVs: multinationality of production; multinationality of sales; export behaviour; two sourcing ratios. IVs: size, country, industry, research intensity.	MNEs run international networks linking production to market. The larger the firm the more likely it is to service foreign markets by production there. Considerable variation exists in sourcing policy but national characteristics are stronger explanatory variables than industry.

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
Buettner and Ruf (2007)	Sample of German MNEs over the period 1996-2003. Panel data examining impact of tax on location decision of German MNEs. Based on FDI data from German Bundesbank.	DV: ETR; statutory tax rate; effective marginal rate. Control: market size (log GDP); labour costs (log hourly labour wage published by US Bureau of labor statistics).	MNEs are affected more by host country statutory rates than average ETRs. Find impact of tax incentives, market size, and labour cost have more significant impact on cross-border location decisions than marginal effective tax.
Buettner and Wamser (2007)	Choice of intra-company loans and profit shifting. Uses micro level data from Deutsche Bundesbank. Examines 80 countries over a 9 year period.	DV: loans received by a foreign affiliate from other foreign affiliates, scaled by total capital IV: tax rate differences, statutory tax rate of affiliate receiving loans Controls: borrowing costs	Significant impact of tax-rate differences within MNE group on the use of intracompany loans as evidence of profit shifting. Implied tax revenue effects are small; costs of adjusting the capital structure for profit-shifting purposes are large.
Buettner and Wamser (2013)	Role of internal debt as a vehicle for shifting profits to low tax countries. German MNE in 100 different countries (1996-2005). Deutsche Bundesbank data.	DV: internal loans as proportion total capital IV: host country tax rate, time, alternative tax rates, loss carry forwards, sales (size), ratio fixed to total assets (tangibility). Control: factors related to costs of borrowing.	Internal debt is used more by MNE with affiliates in low tax countries. Increases with the spread between the host country tax rate and the lowest tax rate among all affiliates. Magnitude is small. Anti tax avoidance provisions may curb profit shifting through the use of internal debt.
Chan and Chow (1997)	Study of 81 tax audits in China undertaken in 1992-93 on TP. Analysed characteristics and results of tax audits. Six cases then selected for examination to confirm and reinforce the findings of the overall analysis.		TP tax audits in China are confined mainly to smaller, lower-tech companies and transfer of tangible goods. Persistent losses, low profits and lack of local partners in JV management trigger tax audits. Tax differentials not the most important inducement to TP manipulations.
Clausing (2003)	Monthly data on US international trade prices over 1997, 1998, and 1999 to investigate the impact of tax on intrafirm trade prices. 425,000 observations of monthly prices. 33% of these observations are for exports. 38%	DV: prices of products – intrafirm and non intrafirm IVs: ETR and statutory tax rates Control: exchange rates, industry, whether price originally in $.	Substantial evidence of tax-motivated TP in US intrafirm trade prices. Strong and statistically significant relationship between countries’ tax rates and the prices of intrafirm transactions. As country tax rates are lower US intrafirm

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
	observations are intrafirm trade. 54 countries.		export prices are lower, and US intrafirm import prices are higher.
Clausing (2009)	US MNE 1982-2004. Financial effect of taxes - income shifting in terms of US affiliate profit rates and host country tax rates. Real effect -. regresses employment on the tax rate differences.	DV: profit rate (Gross income / sales). IV: ETR difference (ETR US – ETR foreign hosts). DV: employment rate. IV: ETR difference. Controls: market size (GDP), wealth (GDP per capita), distance from US.	1% fall in host country tax rate associated with a 0.5% increase in profits booked by affiliates in that country. Tax factors led to the relocation of real economic activity that in effect shifted approx. $80 billion of US profits to low tax countries.
Clemmons and Kinney (2008)	Consider the AJCA and which firms were induced to repatriate funds. Use data from Compustat – 364 repatriating firms.	DV: repatriation IVs: size, foreign ROA, foreign tax rate, tax difference, CAPEX/ Total assets, Growth, R&D / Total assets.	Substantial funds were repatriated but were not used to fund significant changes in debt levels, R&D spend, capital expenditures, or acquisitions. Stock purchases did increase in the year of repatriation.
Davis, Guenther, Krull and Williams (2016)	Whether CSR and tax payments are seen as complements or substitutes.. Construct CSR index from MSCI annual dataset on environmental, social and governance (ESG) ratings.	DV: 5 yr cash ETR, lobbying spend (dummy) IVs: CSR Control: size, leverage, intangible assets, pretax profitability, foreign income, admin expenses, R&D, Loss carry forwards, PPE.	CSR index is negatively related to ETR. Also CSR positively related to tax lobbying. Conclude socially responsible firms do not necessarily regard paying taxes as complementary to CSR.
De Mooij and Ederveen (2006)	Based on met analysis to understand variation in elasticity FDI to corporate tax rates. Transform findings from each study into tax rate elasticities – how FDI changes in response to tax rate change.	DV: FDI (range of measures). IV: Tax rate (range of measures). Control for study characteristics – type of capital data used; type of tax data used; whether home country adopts credit or exemption system; distance; time.	Heterogeneity of approaches in research means can't make single estimate. Median value of elasticities of 2.9. Type of capital data used is important – amount of capital invested is more responsive to taxes than the location itself.
Desai and Dharmapala (2006)	Analyse link between tax avoidance and management incentives. Theoretical model of the impact of incentives on	DV: book - tax gap less accruals IV: incentives, index of corporate governance quality, ratio of value of	Incentive compensation appears to dive tax avoidance. Particularly true for firms with weak governance arrangements.

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
	choices. Use data from Compustat and Execucomp. 1993-2001.	stock options / total compensation top 5 executives Controls -size (logs of assets, sales, market value)	
Desai, Foley and Hines (2006)	Consider the types of firms that use tax havens and the purposes that they are used for. Sample of US MNE between 1982 and 1999 using BEA survey data.	DVs: haven dummy, share of affiliates in havens, share affiliate sales in havens, share haven affiliates in Big 7 havens, share affiliate sales in Big 7 havens, ratio foreign taxes to sales, affiliate sales growth in non tax havens, affiliate net PPE growth in non tax havens. IVs: log of non haven sales, log of parent sales, av non haven tax rate, ind. Av non tax haven tax rate, ind share of sales to related parties abroad, parent ind R&D ratio, own affiliate in haven, parent owns affiliates only in dot tax havens, country tax rate, leverage, leverage interacted with country tax rate, begin of period sales in havens, beg period net PPE in havens, GDP growth rate.	Larger, more international, more R&D intensive firms and those with more intra company transactions are more likely to have tax haven companies. Find that use of large tax haven countries are to reallocate taxable income. Smaller tax havens are used more to defer repatriation
Desai and Hines (2002)	Case study on Stanley Works expatriation decision. Statistical analysis of factors that contribute expatriation: analyse the correlation of measurable firm attributes with decision to invert. Small sample of inverting firms so combine with information on a sample of firms that do not invert, and analyse inversion decision as a logit model. Data from 10-Ks of inverting firms with and Compustat for other firms. Examine	Consider price and volume history of Stanley stock trades, along with the movements of the S&P 500 index from surrounding the announcement. DV: expatriation IVs: Log total assets, foreign asset share, leverage, av foreign tax rate, interaction of leverage and foreign tax rate.	Price changes in market mean participants expect inversion to be accompanied by a reduction in tax liabilities. Inverting firms tend to be large, have sizable foreign assets, extensive debt, and face low foreign tax rates meaning that can gain from inversion. Share prices rise by an average of 1.7% in response to expatriation announcements. 10% higher leverage ratios are associated with 0.7% greater market reactions to expatriations,

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
	stock price reactions to inversion announcements.		reflecting the benefit of avoiding the US rules concerning interest expense allocation.
Devereux and Griffith (1998)	Panel of US MNE – how tax affects location decision for subsidiaries in France, Germany and UK. (1632 US MNEs 1980-1994). Models location decision vs export or not serve market.	DV: location decision (where subs are). IVs: Effective average tax rates and marginal rates; Profitability. Controls: segment data (sales, profits, assets) and export data. Industry level data on labour costs, demand, production, trade flows used to measure agglomeration.	Av ETR plays a role in choice between locations but not in choice of whether to locate in Europe or alternative. Agglomeration effects also important.
Devereux and Griffith (2003)	Develops theory and new measure of average ETR to consider the choices made by MNE in particular location. Estimates EATR for series of countries 1979 – 1999.	Forward looking average ETR measured using weighted average of an effective marginal tax rate and an adjusted statutory tax rate with weights dependent on profitability.	Concludes that more profitable investments are more responsive than less profitable investments.
Dharmapala, Foley and Forbes (2010)	Uses BEA survey data from 1996 and 2005 supplemented with data from Compustat and Execucomp.	DV: earnings repatriated scaled by assets; IVs: high costs of repatriation (dummy), tax haven company (dummy), leverage, Tobin's q, cash / assets, profitability.	AJCA did not increase domestic investment, employment or R&D. $1 increase in repatriations was associated with a $0.92 increase in shareholder payouts.
Dharmapala and Riedel (2013)	Uses exogenous earnings shocks at the parent firm level and investigates how these impact on profit shifting – how shocks move across the low tax and high tax MNE subs. Large panel of European multinational affiliates over the period 1995–2005. 18,000 observations on 4,000 firms.	DV: log of PBT. IV: construct and use measure of profit that would have expected before profit shifting. Control: for variations in country characteristics.	Parents' positive earnings shocks are associated with a significantly positive increase in pre tax profits at low tax affiliates, relative to the effect on the pre tax profits of high tax affiliates. 2% of parents additional earnings are shifted to low tax subsidiaries due to the strategic use of debt across affiliates.
Dischinger and Riedel (2011)	Use panel data from AMADEUS on European MNEs and control for heterogeneity between affiliates. Focus	DV: intangible assets	The lower a subsidiary's corporate tax rate relative to other affiliates of the group the higher is its level of intangible asset

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
	on industrial EU parent and subsidiaries-25 1995–2005. At least 3 subsidiaries to ensure sufficient size so that can observe strategic allocation intangibles. Exclude MNE with losses.	IVs: statutory tax rates (home and host), unweighted average corporate tax rate relative to other subsidiaries Control: GDP per capita, population, R&D expenditures as % GDP, corruption index, unemployment rate	investment. Effect is statistically and economically significant, even after controlling for size etc. Mean value of intangible assets for both parent and subsidiaries is increasing over time.
Dyreng, Hanlon and Maydew (2008)	2,077 firms (1995–2004). Only those with profits. Extent to which some firms are able to avoid taxes over periods as long as 10 years, and how predictive one-year tax rates are for long-run tax avoidance	Develop and describe new measure of LT (10yr) corporate tax avoidance (Cash ETR).	Find considerable cross-sectional variation in tax avoidance. Annual cash ETR are not good predictors of LT cash ETR. Low annual cash ETR are more persistent than are high annual cash ETR. Firms successful at keeping their cash ETR low over long periods are well spread across industries but with some clustering.
Dyreng and Lindsey (2009)	Use of tax havens and other locations on tax rates of US MNE. Use financial accounting data to examine average worldwide, federal and foreign tax rates on worldwide, foreign and federal pre tax income. Large sample US MNE incl those with and without tax haven subs.	DV: Tax rate measures IVS: tax haven use and other locations Control for tax loss carryforwards, firm size, long term debt, advertising expense and R&D expense. Tax haven average rates over time. Tax haven defined as in 3 /4 source lists.	On average firms with at least operations in at least one tax haven country have world wide tax burden on world wide income that is 1.5% lower than firms without. US firms with tax haven subs may pay a higher domestic tax rate as pay less in overseas foreign countries.
Dyreng et al (2015)	Look at global equity chains MNE to see how tax and other characteristics affect decisions about where to base holding companies. 916 US MNE and their subsidiaries.	DV: whether foreign subs has foreign holding company. IV: withholding tax rate on dividends from foreign country to US; whether there is a bilateral tax treaty with US; statutory tax rate in host country of subs; corruption in host (data from Transparency International; investment risk in host (Political Risk Services data).	Find US MNE HQ distribute finance to overseas subs via holding companies based in low tax countries. Foreign holding companies are disproportionately found in low tax countries with lower corruption and investment risk. Tax and non tax factors are important in locating holding companies.

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
Eagly, Johannesen-Schmidt and and van Engen (2003)	Meta analysis of 45 psychological studies.		Female leadership styles varied significantly from those of men, in particular, women exhibited more 'transformational' leadership then men.
Eden and Kudrle (2005)	Discussion of the OECD's Harmful Tax Competition initiative.		
Eden, Valdez and Li (2005).	Event study methodology using the stock market prices of American Depository Receipts of all Japanese MNEs with US subsidiaries over the 1990s to assess the impact of the US TP penalty on the stock market valuation of Japanese MNEs with US subsidiaries in the 1990s.		Find that the penalty caused a drop in their cumulative market value of $56.1 billion, representing 12.6% of their 1997 market value
Egger, Eggert, Keuschnigg and Winner (2010),	How financial decisions affected by tax. Considers debt to asset ratio for domestic and foreign owned plants and the extent to which difference is systematically related to corporate taxation. Data from 32,000 European MNE.	DV: debt ratio IV: statutory tax rate, loss carryforwards to correct statutory rate. Controls: Foreign MNE ownership, firm age, plants per region and industry, employees, regional worker compensation, cost intermediate goods, total assets.	Find that foreign-owned firms have higher debt ratio than domestically owned counterparts in the host country. Difference increases with the host country's statutory corporate tax rate.
Foley, Hartzell, Titman and Twite 2007	Consider whether the tax costs of repatriation lead firms to hold cash. Sample from Compustat 1982-2004	DV: cash /assets ratio IV: book value / equity, R&D spend / total assets, SD of operating income, log assets, dividend payout (dummy), capex / total assets, market leverage.	Firms with higher costs of repatriation hold more cash. Higher foreign cash holdings are not completely offset by lower domestic cash holdings. Technology intensive firms more sensitive.
Francis, Hasan, Park and Wu 2014	Focus on firms with male to female CFO change.	TA- tax sheltering, UTB discretionary book-tax differences.	Female CFOs associated with lower levels tax aggressiveness.

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
		Compare pre / post male – female CFO transition.	
Fuest, Spengel, Finke, Heckemeyer and Nusser (2013)	Background paper that discusses profit shifting and potential policy options.		
Gordon and Lee (2001)	Time series data; US corporate income tax returns (1954-1995) and balance sheet data on all corporations, to estimate the effects of changes in corporate tax rates on the debt policies of firms of different sizes..	DV: debt ratio (total, LT and ST debt) IVs: statutory and ETR Controls: real assets per return, net assets, land/assets, cash/assets, accounts receivable / assets, intangible assets / assets.	Taxes have had a strong and statistically significant effect on debt levels. If the corporate tax rate is cut by 10%, holding personal tax rates fixed, this will reduce the fraction of assets financed with debt by around 3.5%.
Graham, Hanlon and Shevlin (2011)	Analyze survey responses from nearly 600 tax executives about corporate decisions on real investment location and profit repatriation.	DVs: Deferral GAAP expense, deferral cash expense. IVs: public sector, assets, foreign source earnings, foreign asset %, GAAP ETR, R&D spend.	Avoiding financial accounting income tax expense (GAAP) is as important as avoiding cash income taxes when MNEs decide on location and repatriation.
Gravelle (2009)	Article reporting on use of tax havens and their definition. Estimates amount of tax revenue lost to US government from use of havens.	Literature review summarising previously published research and concluding on potential policy options.	Corporate profit shifting may cost the US government up to $60 billion in revenue and remedies are likely to involve tax law changes.
Grubert (1998)	Analyses the way that firms divide foreign affiliate operating income among royalties, dividends, interest, and retained earnings. Uses tax return data for US MNE and CFCs.	DVs: R&D, advertising, tax price on dividends, witholding tax on royalties, withholding tax on interest, statutory tax rate IVs: earnings and profits, royalties and interest, dividends to US, all dividends, royalties, interest, retained earnings.	Taxes have large effect on the composition of payments; interest, royalties and dividends are a significant deterrent to the respective payments. Royalties and interest payments are highly substitutable. Dividend taxes are not significant in increasing retained earnings, so companies find other means to repatriate earnings.

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
Grubert (2003a)	How tax planning and use of IP and debt affect ETR. To which subsidiary profits should be allocated when made across countries.	Calculates overall ETR on US manufacturing abroad and decomposes. Then uses data from company reports to Treasury to calculate ETR at subsidiary level to see which pay above / below average in different locations.	Taxation of royalties, use of tax havens, and allocation of interest expenses impact ETR. Host countries favour mobile investment and those offering employment to locals. Exporters are treated favourably but importers are penalized. Subsidiaries of R&D intensive companies pay higher ETR - host country governments extract rents.
Grubert (2003b)	Investigates links between intangible income, income shifting, intra company transactions and location choice.	DV: ratio of CFC pre tax earnings / CFC sales IVs: CFC age, Parent R&D/sales, parent advertising / sales, parent domestic profit / sales, local statutory tax rate, log of parent sales, CFC assets / sales, GDP per capita, CFC debt / asset ratio.	Half of profit shifting comes from R&D based intangible assets. R&D intensive subsidiaries have more intra company transactions so greater opportunity re TP. Subsidiaries in very high / low tax jurisdiction have stronger motivation to profit shift. Difference in profits between high and low tax subs are accounted for by IP and debt.
Grubert and Mutti (1991)	1982 data on a cross section of 33 countries. Manufacturing companies. Considers relationship between profit margins and tax rates. Consider host country tax rates and tariffs on stock of real capital	After tax profit as % net sales, after tax RoR on equity. Uses both statutory tax and average ETR as DV. Second part of research uses net plant and equipment to measure capital investment.	Taxes contribute significantly to the distribution of MNE real capital locations. There is a disproportionate shifting of income into very low tax countries.
Grubert and Mutti (2000)	Data from tax returns from 1992 of more than 500 US manufacturing MNEs to identify the role of host country tax rates in determining the amount of capital invested in 60 potential locations. Carries out a cross-sectional analysis of the relationship between real capital stock and local tax rates. Includes only CFCs with positive income.		

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
Grubert and Mutti (2007)	Uses US Treasury tax return data from US CFCs. Compares earnings from royalties etc in 1996 and 2002 after introduction of check the box. Also uses BEA data on affiliate operations and royalty payments.	Some regression analysis but largely discussion of trends in data on royalties, CFC income and IP.	Hybrid firms have enabled greater migration of IP assets out of the US. Firms have incentive to leave returns to R&D abroad. Parent R&D was a more important determinant of royalty payments to US parents than affiliate earnings and profits in 1996, but played a larger role in earnings and profits than royalties by 2002.
Gupta and Newberry (1997)	Micro level longitudinal data considering impact of 1986 Tax Reform Act.	DV: ETR IVs: capital structure (gearing), asset mix, industry, performance (ROA) Control: profitability	ETRs are not related to firm size. ETR is associated with capital structure, asset mix, and performance.
Hanlon and Heitzman (2010)	Literature review covering: (1) Financial accounting for income tax expense, (2) corporate tax avoidance, (3) corporate decision-making (4) taxes and asset pricing.		
Harrington and Smith (2012)	Use accounting and stock market data from Compustat and US corporate bond yields from the Federal Reserve Bank of St. Louis FRED database. Excludes utility firms from sample. Period 1994 to 2008.	DV: Leverage -defined as total long-term debt divided by total assets (use book and market measures) IV: LR Cash ETR to measure tax avoidance. Controls: profit, firm size, market-to-book assets ratio, asset tangibility, industry median leverage, and expected inflation	Regression results indicate that general tax avoidance has a positive influence on leverage. Firms that focus on general tax avoidance use relatively more debt in their capital structures.
Hillman et al 2002	Fortune 100 companies. Tracked sample of 100 male, 100 female, and 100 African American directors from 1993 to 1997. Education – doctoral degrees.		Most racial minority and female directors come from non business backgrounds. More hold doctorates than the white males (56.25% African American women; 52.81% white women; 19.19% white men)

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
Hines and Rice 1994	Considers ability of MNEs to shift real activity and profits between tax jurisdictions. Identify 41 countries as tax havens, the split between 'dot' havens and larger.	DV – pre tax non financial income. IV – tax rate Control for capital and labour inputs. Control for productivity (log GDP per capita)	Tax haven subsidiaries account for more than 20% of US FDI and a third of profits. Revenue maximizing tax rate for tax haven is 5-8%. Find tax rate has significant negative impact on income. 1 % higher tax rate results in 3% lower reported profits.
Hoi et al 2013	Accounting data from Compustat. CSR data from KLD database. Exclude utilities and finance companies. 2003-2009. Coverage 2620 companies.	DVs: Discretionary book – tax differences, permanent book tax differences. 1 yr cash ETR. Tax sheltering dummy IVs: negative social rating (KLD database), Controls: ROA, gearing, R&D spend, size, industry	Firms with excessive irresponsible CSR activities have a higher likelihood of engaging in tax-sheltering activities and greater discretionary/permanent book-tax differences
Huang and Kisgen 2013	Look at financial decisions made by male and female executives in field of corporate finance. Data from ExecuComp database supplemented with hand picked data from annual reports. Large firms 1993-2005, gives 12,348 firm years.	Compare activity before and after transitions from a male to a female executive (after been in power 3 years) with a control sample of male-to-male transition firms.	Find male executives undertake more acquisitions and issue debt more often than women. Acquisitions made by women post 2% greater returns. Women are more likely to exercise stock options early. Conclude women less 'over confident' than men.
Huizinga and Laeven (2008)	Firm-level information on the parent companies and subsidiaries of European multinationals (Amadeus) and information about the international tax system, to test the model.	DV – log of earnings before interest and tax, log of earnings before tax but after interest. IVs – capital (measured by log of assets, employment (log of labour compensation, log of number of employees), financial leverage (debt/total assets)	Reported pre tax profits in Europe reflect the tax rates: a semi-elasticity of reported profits with respect to the top statutory tax rate of 1.3, while shifting costs are estimated to be 0.6% of the tax base. European nations appear to gain revenue from profit shifting by MNEs, at the expense of Germany.
Huizinga, Laeven and	Data from Amadeus on European multinationals and their subsidiaries, combined with newly collected data on	DV: leverage IV: effective marginal tax rate, tax incentive to shift debt	Level of debt in a country depends on weighted average of national tax rates and differences between national and foreign tax rates. Foreign

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
Nicodeme (2008)	the international tax treatment of dividend and interest streams. 10 years 1994-2003.	Controls: tangibility, log of sales, profitability, creditor rights, political risk, inflation, growth opportunities.	subsidiary's capital structure reflects local corporate tax rates as well as tax rate differences with the parent and other foreign subsidiaries.
Huesynov and Klamm 2012	Sample of firms that use auditor-provided tax services. Uses S&P 500 firms (between 25 and 425 per year). Compustat for financial data and 3 (from 7) measures of CSR performance from the KLD database.	DV: GAAP and Cash ETRs (3yr averages), IVs: (1) corporate governance; (2) community; and (3) diversity. Tax fees paid to auditors scaled by PBT	Interaction of community concerns with tax management fees positively affects both GAAP and Cash ETR. Interaction of corporate governance strengths and diversity concerns with tax management fees negatively affects Cash ETR. Those that pay higher tax consultancy fees have lower ETR.
Klassen and LaPlante (2012)	Compare two time periods: 2005-2009 and 1998-2002. Construct proxy to measure profit shifting over multi period time frame. Use accounting data. Sample US firms 1998-2009 with 5 years data and positive income. Sample of 380 companies with low average tax rates.	DV: average foreign tax rate, variable whether foreign rate higher than US rate, unexpected foreign income (after allowing for incentives to shift) Regress total foreign profits on average profitability with residual capturing unexpected foreign income. If unexpected income correlated with tax incentives assume profit shifting. Controls: industry, year, regulatory cost.	Sample companies shifted an extra $10bn income out of the US between 2005-2009 compared to 1998-2002. Analyses with single year measures are not effective
Konrad, Kramer and Erkut 2008).	Qualitative: Interviews with 50 board directors, 12 CEOs and 7 company secretaries.		A single woman on a board of directors may have little influence but more (3) will have more impact as critical mass is achieved.
Kopits 1972	Concerned with explaining the behaviour of dividend remittance. Builds theoretical model. Uses US Treasury Dept statistics from 1969 re US MNE and CFCs. Includes manufacturing CFCs in developed countries.	DV: dividend remittances IVs: earnings after foreign income tax, difference in foreign tax between retained and distributed income, foreign corporate tax rate, price of output, quantity of output, depreciation rate of	The higher the net earnings of CFCs or lower the growth of their desired capital stock, the larger is their dividend payout to the parent company. Remittance of earnings is sensitive to variations in United States and foreign direct tax rates.

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
		fixed assets, domestic corporate tax rate, foreign withholding tax on dividends.	
Kopits (1976)	Background paper on the influence of tax on the decisions of the MNE. Theoretical development of model.		
Lall (1979)	Considers the issues for governments and in particular developing governments in tracking the behaviour of MNEs in relation to TP. Concludes that inter country cooperation is essential.		
Lanis and Richardson (2011)	Studies board composition – insider and outsider directors. Small sample 32 companies (16 non aggressive companies and 16 aggressive companies). 5 year time period.	DV: tax avoidance (dummy: firms involved in tax cases) IV: outside board members; 'grey' directors who have some non board affiliation with the company. Control: size, financial health, age, CEO tenure.	Increasing the number of independent directors on the board increases the effectiveness of its scrutiny of top management. Direct relationship between a larger proportion of independent (outside) board members and a reduction of tax avoidance.
Lanis and Richardson (2015)	Whether CSR performance is related to corporation tax avoidance. Matched sample US companies 217 tax avoidance years and 217 non tax avoidance firm years. 2003-09.	DV: tax avoidance (dummy: firms involved in tax cases) IVs: 7 categories from KLD database Controls: board independence, management stock ownership, age, CEO tenure, CEO duality, use of Big 4 auditor.	Statistically significant negative relationship between CSR performance and tax avoidance. CSR categories community relations and diversity are the most important elements of CSR performance in relation to reducing tax avoidance.
Louie and Rousslang 2008	How host country tax treaty with US and governance affect the required rate of return on FDI. Use data from US tax returns for 1992, 1994 and 1996.	DV: after tax rate of return from foreign subsidiary IVs: required rate of return, host country GDP, host country GDP growth, GDP growth variance, host country statutory	Investment in countries with poor governance and instability require higher rates of return. No evidence that a bilateral income tax treaty with the United States reduces the required rates of return to US FDI.

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
		tax rate, quality of governance, whether has a tax treaty with US.	
Markle and Shackelford 2009	Financial statement data to estimate ETRs for 10,642 corporations from 85 countries from 1988 to 2007.	DV: ETR IVS: Country, foreign subs (dummy), industry, size (assets, revenue, equity)	MNEs and domestic companies face similar ETRs. ETRs declined by 20% over the period. German, Japanese, Australian and Canadian decreases were large. American, British, and French declines were more modest.
Muller and Kolk 2015	Investigates relationship between CSR and tax avoidance, particularly whether international firms pay higher taxes than local firms in India. Sample of 82 firms. Automotive; IT and finance; chemicals and pharmaceuticals. Used consultancy to gather firm level data. Foreign ownership from Dun and Bradstreet.	DV: GAAP ETR. IVS: foreign ownership, CSR (inclusion in Dow Jones Sustainability Index).	MNEs pay considerably higher ETR than local firms and MNEs that are known for 'CSR' pay more than those that don't have the same reputation.
Mutti and Grubert (2009)	Considers how MNEs reach cost sharing agreements with tax haven subsidiaries and how facilitated by check the box regulations. Focuses on aggregate level data (IRS and BEA) from 1996 and 2002.	DVs: CFC profits/sales, royalties / sales, cost share/ sales. IVs: age of firm, parent, R&D / sales, advertising / sales, affiliate assets / sales, tax havens, manufacturing.	Find large migration of IP assets out of the US facilitated by hybrid entities. R&D activity has not been shifted. Firms more likely to pay royalties when they can shield from US taxation. Payments for royalties etc. have increased over time.
Overesch and Schreiber (2009)	Whether R&D intensive MNE have more opportunities to profit shift. Firm-level data on German outbound FDI (1996 – 2005). Data includes subsidiaries in 36 countries.	DVs: current assets of which claims on affiliated enterprises, total debt / capital ratio, internal debt / capital ratio, fixed assets. IVs: loss carryforwards (dummy), sales, tangibility (fixed / total assets), GDP, GDP per capita, lending rate.	Tax response of intragroup transactions depends on the R&D intensity of MNEs. Impact of taxes on investments decreases with increasing R&D intensity. Local tax rate becomes less important for investment decisions of R&D intensive MNE.

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
Nguyen (2013)	Uses finance capital structure theories in combination with internalization. Original primary dataset collected by a survey of 101 foreign subsidiaries of British MNEs in six emerging economies in the ASEAN region.	Reports results from survey on funding sources – internal and external, using countries across ASEAN.	Support for pecking order theory. Subsidiaries rely on internal funds from within the MNE with less external debts raised in the host countries. Foreign subsidiaries have capital structure influenced by the home country and the parent firm's financing sources. These subsidiaries have used the financial resources to develop business networks with local SMEs which contribute to economic development of the host countries.
Nguyen and Rugman (2015)	Original primary dataset collected by a survey of 101 foreign subsidiaries of British MNEs in six emerging economies in the ASEAN region	DVs: subsidiary financial performance, subsidiary non financial performance IVs: subsidiary internal equity financing, subsidiary level financial decision making Controls: host country institutions, subsidiary characteristics, parent firm characteristics, industrial sectors.	Find that internal equity financing is an FSA and improves subsidiary performance. More than 90% of financing sources in the British subsidiaries come from internal funding. Subsidiary-level financial management decision-making has a statistically significant positive impact on subsidiary performance.
Pak (2007)	Constructs a 'price filter matrix', using information on US trade to identify transactions with excessively high or low prices. The construction of the matrix means that it will always show that there is some mispricing as by definition there are always goods at the higher and lower extremes of pricing.	The price filter assumes that goods traded at significantly above or below the average for their category are evidence of transfer pricing manipulation.	He concludes that imports into the US were underpriced by 12.1% and that US exports were overpriced by 5.5%.
Porcano (1986)	1300 companies taken from Value Line Database II.	ETR – calculate for different groups of companies	Finds that corporate taxation is regressive rather than proportional as designed to be.
Post, Rahman and Robow 2011	Considers relationship between board composition and environmental CSR (ECSR). 78 Fortune 1000 companies – mix electronics and chemical industry.	DV: Environmental CSR (2 proxy measures) IVs: directors age, gender, education.	Higher proportion of outside directors results in more emphasis on ECSR. More than 3 female directors is associated with stronger KLD scores

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
			but not the measure from company disclosures.
Rugman (1985)	Theoretical paper applying internalization theory to the Canadian petroleum industry and criticizes a paper on TP.		
Shackelford et al (2011)	Theoretical paper presenting a formal model of the idea that some investment decisions may be more attractive because they provide managers with discretion over the timing of taxable income and/or book income		
Shevlin and Porter (1992)	Considers impact of 1986 Tax Reform Act up to 1989. Use Compustat data plus other.	Consider ETRs by groups of companies – large and small and pre and post 1986 changes.	Find that tax base was broadened and ETRs increased post 1986.
Singh et al (2008)	Considers 'human capital' of new board appointees in UK FTSE 100 companies.	Uses Hillman (2000) taxonomy to classify experience: Insiders, Business Experts, Business Support Specialists and Community Influentials.	Newly appointed women more likely than men to have an MBA. Male appointees more likely to have CEO / COO experience. Women more likely to have smaller company board experience.
Torgler and Valev 2010	Consider whether attitudes to corruption and tax evasion differ systematically between men and women.	Eight western European countries from World Values Survey and European Values Survey. 1981-1999.	Women have significantly greater aversion to corruption - holds across time and countries.
Vaitsos (1974)	Examines contracts between wholly owned foreign subsidiaries and unaffiliated licensors and those between foreign subsidiaries and parents to look at TP. Includes 5 Andean countries. Finds evidence of TP		

Reference	Research Design / Sample	Measures Key Variables	Key Findings / Results
	particularly in pharmaceutical sector in Colombia.		
Wang and Coffey (1992)	78 Fortune 500 firms from 1984.	DV: charitable contributions, (% of pretax earnings given to charities). IVs: ratio of insiders/outsiders, insider ownership, concentration ratio, and the proportion of women and minority directors	Ratio of insiders to outsiders, the proportion of women and minority directors are positively related to corporate giving.
Williams (2003)	Continuous Fortune 500 firms 1991-94 (sample 185 firms).	DV: firm charitable giving (5 measures) IV: percentage of women on board Control: ROE, reputation (dummy)	Higher proportion of women on the board results in more philanthropy – charitable giving and community service and the arts.
Zimmerman (1985)	Examines association between firm size and ETR. Uses firm level data from Compustat from 1946-1981.	Time series analysis	The fifty largest US listed firms, have higher worldwide ETR than other firms due to the political cost of size. Time series analysis shows 'large' MNEs have higher ETRs in 20/35 years.
Zucman (2014)	Uses national balance sheet data to estimate amount held in tax havens. Overall more financial securities are recorded as liabilities than assets. Estimates overall tax loss to governments. Computes ETR at US national level.	BOP statistics to show where income is held (not generated). BEA data – estimate taxes paid by US firms on the profits recorded in tax havens. US national ETR – divides all corporate taxes paid by US firms by US profits.	From 1998 – 2013 US ETR fell from 30% to 20% - 2/3 this change can be attributed to tax avoidance. Concludes that 2008-2013 the amount of money in tax havens increased by 25%. Hidden wealth accounts for $7.6trillion.

Source: author's compiling