The Importance of Foreign Direct Investment within the Life Science Sector for Employment and Economic Development in Ireland.

Gordon Matthews
Department of Organisation and Professional Development, Munster Technological University, Cork, Ireland.

Follow this and additional works at: https://sword.cit.ie/busmas

Part of the Business Commons

Recommended Citation

This Master Thesis is brought to you for free and open access by the Business at SWORD - South West Open Research Deposit. It has been accepted for inclusion in Masters by an authorized administrator of SWORD - South West Open Research Deposit. For more information, please contact sword@cit.ie.
The Importance of Foreign Direct Investment within the Life Science Sector for Employment and Economic Development in Ireland.

Gordon Matthews

Master of Business Administration (Strategy)

(R00194570)

Research Supervisor: Dr Angela Wright

August 2021
The author hereby declares that, except where
duly acknowledged, this thesis is entirely his own work
and has not been submitted for any
degree in any University or Institute of Technology.

Signed; _______________________

(Gordon Matthews)

Date; ________________________
Dedication

I would like to dedicate this work to Orlaith, Daniel and Saoirse.
Abstract

From protectionism to globalisation, the success of the Irish economy over the last 100 years cannot be understated. At the centre of this growth has been a highly educated workforce employed by large volumes of foreign owned companies that have been attracted to Ireland for many reasons, including the country’s favourable Corporate Tax rate. Despite the success of the economy, Ireland’s approach to attracting Foreign Direct Investment (FDI) is often criticised and cited as one of the root causes for the financial imbalances in the world today. This new study examines Ireland’s unique relationship with FDI with a particular focus on employment within the Life Science sector in an attempt to debunk many of the associated misconceptions in relation to growth of the Irish economy.

To answer the main research question on the influence of FDI in Ireland, a qualitative methodology was applied. Ten face to face, semi structured interviews were completed with industry experts from the Life Science sector in Ireland and a detailed review of all relevant literature was also completed. Once all data was collected, analysis was then conducted, and all findings were presented.

Surprisingly this study reveals that although FDI is attracted to Ireland due the favourable tax rates, the role of education in maintaining these investments is drastically understated. Furthermore, this study also highlights the importance of investing in education and the need for government generosity to offset the growing levels of income inequality within the developed world. Considering these findings, this research will be of benefit to all stakeholders interested in retaining FDI in Ireland, this includes Government bodies, educational departments, Trade Union representatives and management within the Life Science companies in Ireland.
Acknowledgements

I would like to thank my employer DPS Engineering, for providing me with the opportunity to undertake this MBA and Thesis. I would specifically like to thank Mike and Emily for their continued time and support throughout the duration of this work. I would also like to thank Dr Angela Wright for all her help over the past number of years. Her guidance and mentorship were a critical component in completing this study. Despite some challenging and colourful discussions, her support and guidance throughout this entire process was outstanding. Angela’s commitment and dedication to her students is exceptional.

Gordon Matthews, 2021
Table of Contents

Dedication ......................................................................................................................................... iii
Abstract ............................................................................................................................................... iv
Acknowledgements ........................................................................................................................... v

Chapter 1: Introduction ..................................................................................................................... 1
  1.1 Introduction ................................................................................................................................ 1
  1.2 The History of the IDA and Foreign Direct Investment in Ireland ............................................. 2
  1.3 Research Context ......................................................................................................................... 3
  1.4 The Research Question .............................................................................................................. 4
  1.5 Research Aims and Objectives ................................................................................................... 5
    1.5.1 Research Aims ...................................................................................................................... 5
    1.5.2 Research Objectives ........................................................................................................... 5
  1.6 Research Focus .......................................................................................................................... 6

Chapter 2: Literature Review ........................................................................................................ 7
  2.1 Introduction ................................................................................................................................. 7
  2.2 Overview .................................................................................................................................. 7
  2.3 Criticisms & Challenges associated with FDI in Ireland and abroad ....................................... 8
  2.4 Challenges Facing American Multinational Corporations ....................................................... 11
  2.5 Financialization and its Global Impact ..................................................................................... 13
  2.6 Brexit ....................................................................................................................................... 17
  2.7 Evolution of the Irish Economy ................................................................................................. 20
  2.8 Misconceptions of FDI and causes of Inequality ...................................................................... 23
  2.9 Conclusion ............................................................................................................................... 24

Chapter 3: Methodology .................................................................................................................. 26
  3.1 Introduction ............................................................................................................................... 26
  3.2 Overview of the Research ........................................................................................................... 26
    3.2.1 Research Philosophy & Epistemological Perspective ....................................................... 26
    3.2.2 Research Paradigm ........................................................................................................... 27
    3.2.3 Exploratory Research ......................................................................................................... 28
  3.3 Research Design ......................................................................................................................... 28
  3.4 Research Question ..................................................................................................................... 29
  3.5 Secondary Research .................................................................................................................. 29
    3.5.1 Limitations of Secondary Research .................................................................................. 30
3.6 Primary Research & Research Methodologies ..........................................................30
  3.6.1 Semi-Structured Interviews .................................................................................31
  3.6.2 The Pilot Interview .............................................................................................32
  3.6.3 The Interview Process .........................................................................................33
  3.6.4 Limitations of Primary Research .....................................................................33
3.7 Presenting the findings...........................................................................................34
  3.7.1 Inductive Theory .................................................................................................35
  3.7.2 Grounded Theory ...............................................................................................35
3.8 Reliability, Validity and Ethical Considerations .....................................................36
3.9 Conclusion ................................................................................................................37

Chapter 4: Research Findings .......................................................................................39
  4.1 Introduction ..............................................................................................................39
  4.2 Summary of Findings..............................................................................................39
    4.3.1 Biggest Challenges for Multinationals in Ireland .............................................39
    4.3.2 The Impact of Foreign Direct Investment in Ireland .........................................43
    4.3.3 Retaining Foreign Direct Investment in Ireland ..............................................46
    4.3.4 Job Losses Due to Automation and Artificial Intelligence .........................51
    4.3.5 The Governments Role in Job Creation .........................................................54
    4.3.6 The Impact of Globalisation on Ireland .........................................................57
    4.3.7 Contract Employment Replacing the Job for Life ........................................60
    4.2.8 The Impact of the Global Financial Crisis on the Life Science Sector ..........65
    4.3.9 The Decline of Trade Unions in Ireland .........................................................68
    4.3.10 The Influence of Shareholder Value ............................................................74
    4.3.11 Recommendations for Future Practice .......................................................77

Chapter 5: Key Findings & Recommendations .............................................................81
  5.1 Introduction ..............................................................................................................81
  5.2 The Impact of Globalisation & Foreign Direct Investment in Ireland ..................81
  5.3 The Emergence of Shareholder Value ..................................................................83
  5.4 The Decline of Trade Unions in Ireland ...............................................................84
  5.5 The Growth of Contract Employment .................................................................86
  5.6 Retaining FDI in Ireland .......................................................................................88
  5.7 Recommendations for Practice .............................................................................89
    5.7.1 Reimagining Trade Unions ..............................................................................89
    5.7.2 Investing in Education to offset Inequality ....................................................90
    5.7.3 The Importance of STEM in 2nd & 3rd Level .................................................90
Chapter 1: Introduction

1.1 Introduction

Over the last 75 years Ireland has moved from an economy solely focussed on protecting local interests to one of the most open economies in the world (Kearney, 2002; Barry 2019). To achieve this, the Irish Government has attracted and retained large numbers of multinational corporations (MNC’s) to these shores by offering access to the EU marketplace, tax incentives and a highly skilled workforce (O'Higgins, 2002; Ruane, 2016). This economic transformation has resulted in Ireland becoming one of the strongest performing economies on a global basis, regardless of restrictions imposed due to a global pandemic (Burke-Kennedy, 2021).

Despite this success, Ireland’s approach to FDI and particularly favourable tax rates are often heavily scrutinised (Taylor, 2016; Wang, 2018; Barry, 2019), while there are also wide-ranging criticisms for all governments that offset employment legislation to attract oversees investment (Olney 2013; Almond et al., 2017). Furthermore, the challenges associated with globalisation, foreign trade and FDI are often linked to rising wage volatility and increased income inequality evident in the world today (Nolan et al., 2019; Heil 2020). This rise in inequality is cited as the cause of the growth of populism (Colantone & Staing, 2018; Wood, 2018; Blancheton and Chhorn, 2019).

Further to this, Ireland is now considered an export platform for foreign trade (Barry, 2019), and although the country’s largest trading partners, The UK and USA have the highest levels of inequality in the developed world (Wood and Allen, 2020), Ireland it is one of the few global economies with a growing middle class and reduced levels of inequality (Reddan, 2019; Leahy 2020). It is also one of the few countries experiencing anti-populism despite immigration reaching record high levels (McWilliams, 2019).
1.2 The History of the IDA and Foreign Direct Investment in Ireland

IDA Ireland is a statutory agency designed to encourage investment into Ireland by foreign-owned companies. Formerly known as The Industrial Development Authority, the IDA was established in 1949 as part of the Department Industry & Commerce (idaireland.com). According to Barry et al., (2016) in 1958 protectionism was removed from the Irish economy and by 1994 The IDA were solely focussed on bringing high quality FDI into Ireland (idaireland.com). According to the Department of innovation there are now over 1,200 overseas companies in operation in Ireland (dbei.gov.ie) which includes many of the world’s leading pharmaceutical, software and financial services companies (idaireland.com).

Over 245,000 people are now directly employed by these multinationals which equates to 10.5% of the workforce and an additional 10% are indirectly employed (idaireland.com). According to McWilliams, (2019) Ireland’s economic growth over the past 30 years has been predominately driven by thousands of well-paying jobs created by investment from US manufacturing companies. Furthermore, Ireland is now the 3rd largest exporter of pharmaceuticals globally with over €2 billion invested in the industry every year (idaireland.com).

*Image 1; Impact of FDI in Ireland (idaireland.com)*
1.3 Research Context

Kochar, (2017) highlights the expansion of the middle class in Ireland noting the rapid growth in income and contrasting this to the shrinking middle classes in the USA and many other Western European countries. This is supported by McWilliams, (2019) who suggests that the long-term expansion of the middle class is Ireland’s greatest socio-economic achievement since the formation of the Free State. Although, this growth is somewhat unique, Ireland is still faced with many of the same issues as other countries. These issues include increases in precarious and contract employment practices, (Murphy, 2017) similar to those witnessed across the EU (Eurofound, 2020) as well as changes to employment legislation to benefit foreign owned companies, particularly in relation to engaging with Trade Unions (Collings et al., 2008; Gunnigle et al., 2013). Despite these challenges Ireland has achieved both high income growth and falling inequality in recent years (Leahy, 2020), in direct contrast to the long-term decline in real wages in the UK (Bell, 2016) and the drastic increases in inequality in the USA (Nolan et al., 2019).

This new research looks to examine what has created this difference in the Irish economy in comparison to our largest trading partners by looking specifically at the workforce within the Life Science sector in Ireland. There is a particular focus on how such a globalised economy that is dependent on foreign trade has managed to avoid so many of the issues caused by globalisation. A deeper examination is needed to understand this success and how this growth can be maintained.

Although there is considerable literature in relation to inward and outward flowing FDI, causes of growing inequality in the developed world, as well as how employment legislation and practices have changed in recent years, there appears to little research into how Ireland has navigated its way through these issues. Furthermore, as we began to enter an era of uncertainty due to global challenges such as, the shortening of supply chains due to the Covid-
pandemic, new trade deals emerging as a result of Brexit, increased competition for FDI and technological advancements through Industry 4.0, further challenges with job creation are expected. This new study aims to examine how Ireland can best retain the current levels of FDI, while also continuing to create new employment opportunities.

1.4 The Research Question

The research question of this new study is to understand “How Important is Foreign Direct Investment within the Life Science Sector for Employment and Economic Development in Ireland?” On review of the literature in relation to the development of the Irish workforce, the importance of FDI was clearly evident, however when examining the wider literature on this topic the role of FDI on economic development also became very apparent.
1.5 Research Aims and Objectives

1.5.1 Research Aims

The overall and overarching aim of this study is to gain a deeper understanding of the importance of the high skilled employment opportunities created by the Life Science industry in Ireland. By doing so, recommendations can be made for practice on how to maintain and increase this investment in Ireland. Furthermore, by ensuring the continuation of this investment, high skilled employment can be retained within the country.

1.5.2 Research Objectives

The main objectives of this study are as follows;

- To review all literature in relation to FDI in Ireland and its influence on employment
- To meet with industry experts and gather meaningful industry insights
- To understand the biggest challenges facing foreign owned corporations currently operating in Ireland
- To ascertain the importance of corporation tax in attracting and retaining FDI in Ireland
- To understand the advantages and the disadvantages of contract employment for all stakeholders
- To make recommendations for practice and policy based on the empirical finding
1.6 Research Focus

This chapter has presented an introduction and an overview of the topic as well as the aims and objectives. Following this chapter is a review of all relevant literature in relation to this topic. Within chapter 2 this literature has been broken down into several sub sections that provide an overview and history of FDI in Ireland and some of the challenges faced by our trading partners.

Chapter 3 provides a detailed overview of how the researcher approached this new study. This chapter explains how the initial theories around the study were formed as well as the researcher’s epistemological perspective. The process of data collection through qualitative methods was outlined as well as the overall results that were grounded in theory. Chapter 4 presents the key findings from the primary research while also identifying themes and patterns among the participants. The themes include the importance of FDI to the Irish workforce, the role of tax as well as the changing employment practices.

Chapter 5, compares and contrasts the finding in chapter 4 to the literature in chapter 2. Considering the large volume of data collected, the most relevant has been presented in 5 key areas. Furthermore, recommendations for practice and future research have been outlined. The chapter concludes by highlighting the role of education in both attracting and retaining FDI, but it also suggests that the type of employment created by the life science sector which is predominately engineering, and science related, helps to offset the potential for inequality within the workforce.
Chapter 2: Literature Review

2.1 Introduction

This chapter will review the literature in relation to the influence of Foreign Direct Investment on the both Irish Economy and its International trading partners. Specifically, this will focus on the evolution of the Irish economy, its reliance on Foreign Direct Investments as well as the challenges and criticisms associated with FDI as globalisation has evolved in recent decades.

2.2 Overview

In 2019 Ireland’s GDP per capita grew to $90,141 USD, the 4th highest in the world (tradingeconomics.com). This was as a result of Irish Exports growing to a record to $170 billion USD in the same year (cso.ie). This increase in exports was attributed to a significant rise in the levels of high value pharmaceuticals (Barry, 2019), coupled with the Irish economies trade openness with America, Britain and the EU, as well as the large number of foreign owned companies operating in Ireland (Dullien, 2018). This was further supported by Barry (2019), who stated that Multinational Corporations (MNC’s) now employ almost half of the manufacturing workforce in Ireland, which is double the EU average, whereas according to the IDA, (idaireland.com) the world’s leading pharmaceutical, software and financial services companies all currently have operations in Ireland, employing almost 10% of the workforce directly as well as additional 10% indirectly (idaireland.com).
Furthermore, although the Irish economy was one of the most affected by the 2008 Global Financial Crisis (GFC) (Gunnigle et al., 2013), as a result of the exporting activities of the multinational corporations operating in Ireland, the speed at which the economy recovered was faster than any other European Union member (Ruane, 2016). Due to this economic performance, attracting FDI become a priority for many national governments in order to increase economic activity and offset the financial damages from the GFC (Economou et al., 2017), however this approach has not been without it challenges or critics.

### 2.3 Criticisms & Challenges associated with FDI in Ireland and abroad

Wang (2018), discusses the multiple tax treaties in place within Ireland, citing that despite their presence, several loopholes exist between different tax systems which provide corporations with numerous opportunities to minimize tax liabilities, with Barry (2019), further expanding on this topic, highlighting that the ‘Double Irish’ tax rule acts as an enabler for MNC’s to avoid taxation, whereas Taylor (2016), claims that Ireland’s GDP growth in 2015 was fictional due to MNC’s manipulating such rules. As well as Tax, Collings et al., (2008), noted the role of employment legislation when attracting FDI, stating that multinationals are more likely to increase investment when host countries make reductions in employment protection rules. This is supported by Olney (2013), who provides statistics detailing how Multinational Corporations identify countries to invest in based on labour standards and as a result, claims that countries are actively lowering their labour standards.

According to Almond et al., (2017), MNC’s now shop between nations resources and regimes before choosing a host location, noting that Employer-friendly or low tax approaches are generally accompanied with incentives to firms, which are in some cases very extensive. O'Higgins (2002), examines this from an Irish perspective, stating that in the case of the IDA, the Irish Government granted considerable autonomy and flexibility to negotiate with overseas
companies while making a significant contribution to industrial policy, whereas (Barry 2019), discusses the multiple changes within Ireland’s Corporation tax regime dating back to the 1950’s. Dobbins & Dundon (2017), believe that these government policies have led the growth in precarious employment conditions for many workers in Ireland, which is a direct result of the state and employers continually minimising the risk of employment. This is further supported by Murphy (2017), who notes the growth of low paid employment in Ireland since 2004 as well as citing additional challenges with progression from temporary to permanent employment contracts causing segmentation within the workforce and rising inequality.

Prior to the GFC, O’Higgins (2002), outlined that despite the economic success attributed to globalised markets via FDI, there was significant potential for growth in inequality. Auguste (2018), discussed this further, suggesting that such large volumes of FDI can lead to rising income inequality in the host country, due to its significant impact on labour market mechanisms, whereas, Graafland and Bjorn (2018), focus on the effects of income inequality as a result of large volumes of free trade, stressing the drastic negative impact on overall life satisfaction for the workforce, with income inequality ultimately causing destructive pressures on both work and home life (Heyes et al., 2018).

Sanchez-Lopez et al., (2019), examine this from an overall European perspective, stating that income inequality is a now dramatic and complex problem that has risen significantly across the European Union. Although unemployment across the 27 countries in the EU fell to a record low level in 2019 (Eurofond, 2020), Da Silva & Turini (2015), discuss the issues with this growth, highlighting a notable decrease in permanent employment and a significant shift towards contract employment. Further to this, there was a decrease in the numbers of fixed term workers transitioning to full time employment, with workers on opened ended contracts earning far more than workers on fixed term contracts (Eurofound, 2020). Da Silva & Turini (2015), believe that permanent wages are now reserved for prime-age and senior
workers only, with temporary contracts used a mechanism to screen new recruits, whereas Chang (2009), identifies the concept of ‘Contractualisation’ outlining how short-term contract workers continue to replace permanent staff. Even though workers are employed on short term contracts, they can be employed by the same company for several years (Chang 2009). These issues are further discussed by Gyes and Szekér (2013), who highlight the changes to employment legislation on temporary and fixed term contracts in parts of Europe, citing that although changes were made to preserve employment, this inadvertently led to increased levels of precarious and contract employment. As well as the growing levels of contract employment in the EU, Da Silva & Turini (2015), discuss the increase in internships across the region, many of which are often unpaid or low pay. This led to Hyman (2018), claiming that EU policy makers are now working against national employment standards in member states to benefit foreign owned companies. The approach to employment legislation is eroding national employment protections instead of working on unification and harmonisation across the members states (Hyman 2018).

Wood and Allen (2020), note that although many advanced economies have been forced to liberalise their employment legislation to adapt to increased levels of foreign trade, it is the UK and USA who now have the highest levels of income inequality in developed countries. In the USA, middle class employment opportunities have disappeared while income among the richest has become extreme (Lazonick, 2017), whereas in the UK there has been a continual fall in real wages for the past 20 years (Bell 2016), and this is further supported by Nowak and Hodder (2019), who stated that since the GFC the UK’s economy had its poorest decade for growth in the post-war era, whereas Lazonick, (2017), states there is a continual increase in the numbers American workers facing high levels of income inequality and unstable employment.

Colantone & Staing (2018), believe that the benefits of globalization have been distributed highly unequally across developed economies, leaving many regions and social
groups much worse off, further claiming that this is as a key reason for growth in support for radical right parties. Similarly, Blancheton and Chhorn (2019), identify negatives feeling towards globalisation among large volumes of low- and middle-class citizens as potential causes for the political shocks of Brexit and Trump in 2016, whereas Wood (2018), states that the impact of globalisation to less-skilled workers has directly led to Trump’s campaign to Make America Great Again.

Tomaskovic-Devey, and Ken-Hou (2011), state that the dominant role of the US in the world economy encourages increased foreign investment and this is supported by (Nolan et al., 2019), who highlight the influence American corporations on the global economy, and coupled with the Irish governments long term commitment to attracting American FDI (Almond et al., 2017), as well as the growing acceptance of American policies in Ireland due to success of American Multinationals (Collings et al., 2008), it is imperative to understand the current challenges facing the American Corporations.

2.4 Challenges Facing American Multinational Corporations

Dunhaupt (2016), states that American Corporations have become entirely focussed on globalisation and shareholder value, which has led to a significant reduction in workers bargaining power, with Sawyer (2017), stating that the growing need for shareholder value has led to American Corporations focussing on the expectations of Wall Street and quarterly earnings as opposed to innovation and job creation. This is supported by Jayadev et al., (2018), who claim that for the last 30 years almost 100% of profits of American Corporations are now paid to shareholders, whereas Sawyer (2017), highlights the continued use of profits to further manipulate share price, which has led to rising pay for top managers causing a significant increase in inequality. This is supported by Lazonick (2017), who states that over past 30 years,
Trillions of dollars have been spent on stock buybacks to increase share prices instead of job creation and innovation.

Davies (2016), classifies this as the ‘uberization’ of labour in America, citing the decline of Trade Unions as the cause of the changing relationship between employees and employers. This is supported by Collins and Nimesh (2019), who discuss the evolution of Trade Unions as a result of World War 2 citing their strong focus on wage and income equality during the 1950’s. This was further supported by Jayadev et al., (2018) outlining that prior to the 1980’s the bulk of profits were retained within American businesses, however as a result of the economic recessions in the 1970’s and early 1980’s, there was substantial change in management beliefs across American corporations (Heilbron et al., 2014).

Lazonick and O’Sullivan (2000), examine the poor economic performance of the 70’s and early 80’s that led to a change in management practices, citing the introduction of Japanese competition in mass production, as well as the poor performance of oversized American Corporations. This was supported by Heilbron et al., (2014) who also noted the competition from Japanese companies as well as the oil crises in 1973 and 1979, whereas Tomaskovic-Devey, and Ken-Hou (2011), discuss issues with low bank profits and high inflation in the 1970’s as well as the perceived political and economic threats to American capitalism due to a rise in Trade Union power. This rise in power placed limits on American Corporations ability to compete with foreign competition (Tomaskovic-Devey, and Ken-Hou, 2011). As a result of this perceived threat to Capitalism, the Reagan administration changed corporate and employment legislation to further protect American Corporations (Heilbron et al., 2014). These changes created a hostile political and economic climate for Trade Unions and Labour movements across the States (Gunnigle et al., 2005), and this is further supported by Davies, (2016), who cites that as well as legislation passed by the Reagan administration, events such
as the introduction of the internet and the outsourcing of various segments of Supply Chains led to significant change with American Corporations.

According to Heilbron et al., (2014), these changes led to shareholders having a much larger influence on companies which resulted in companies continually implementing wage reductions, large scale lay-offs and downsizing production in a bid to maximize short-term profits (Lazonick and O’Sullivan, 2000). This is supported Jayadev et al., (2018) who discuss the significant growth of the shareholder influence on the day to day operations of American Corporation, whereas Lazonick and O’Sullivan (2000), state that the pursuit of shareholder value is detrimental to both a business and an economy and further to this, Piore (2016), claims that the current American economy was not created a by free market, but by large corporate organisation, trade unions, and government agencies working directly with one another for the past number of decades. This is further supported by Grady (2017), who stated that workers and the labour market had become the shock absorber for poor Government regulation allowing organisations to exploit citizens as a key source of value extraction. Sawyer (2017), believes these actions have led to the growth of Financialization.

2.5 Financialization and its Global Impact

Duménil and Lévy (2013), state that Financialization is combination of the Capitalist elite working side by side with the upper levels of financial management to increase their wealth on a global scale. These views are further supported by Dünhaupt (2016), who believes that Financialization is the alignment of management compensation with the interests of shareholders which result in a short-term focus of the management, whereas Sawyer (2017), simplifies Financialization as the growth of the power of the shareholder relative to that of the general workforce.
Tomaskovic-Devey, and Ken-Hou (2011), discuss the emergence of Financialization in America, citing low bank profits and high inflation in the 1970’s leading to the initial deregulation of the financial sector. This was supported by Duménil & Lévy (2013), who note that as well as the deregulation of financial markets, specific monetary policies were introduced to remove inflation, which encouraged corporations to move away from traditional forms of capital accumulation (Sawyer, 2017). Although these policies addressed inflation, the deregulation of the market shifted the basic structure of the economy to favour the financial sector by making it legal for investment and commercial banks, as well as insurance companies, to combine operations (Tomaskovic-Devey, and Ken-Hou 2011). As a result, these policies led to a change in the relationship between the Financial sector and the real sector, which resulted in the financial sector ultimately absorbing the real sector through an increasing number of corporate mergers and acquisitions (Sawyer, 2017). This also led to finance-oriented managers taking control of major corporations with a primary focus of increasing stock prices (Dobbin and Zorn 2005).

Standing (2011), discusses the challenges with this, noting that as corporations are viewed more like commodities, there are increases in insecurity for large numbers of employees who struggle to identify their employer. As a result of this search for financial value, labour has become often irrelevant and disposable (Rubery, 2015). Tomaskovic-Devey, and Ken-Hou (2011), highlight that as a result of this deregulation, firms actively pursued shareholder value strategies such as mergers and layoffs, which directly led to a significant increase in mergers and acquisitions (Duménil & Lévy, 2013), furthermore (Sawyer, 2017) highlights the issues with increasing numbers of corporate mergers and acquisitions outlining how this can lead to the poor decision making on reinvestment and employment strategies. These views are supported by Do Carmo et al., (2019) who examined the Automotive industry in American, highlighting the increases in dividend payments and CEO salaries despite large
scale job cuts and significant financial losses within production whereas Lazonick (2017), states that since the 1980s, financialization has eroded middle-class employment in America by pushing a large percentage of the American labour force into low paid employment.

Flaherty (2015), states that along with globalization, technological and economic developments, financialization has become one of the main causes of rising inequality and this is supported by Heil (2020), who notes that financialization has created a significant void between shareholders and wage earners, whereas Slater & Spencer, (2014), outline that not only has financialization reduced the bargaining power of the worker, it has also led to employers increasing their power over workers. Flaherty (2015), notes that although government policy and worker unionisation reduce top income accumulation, financialization shifts the balance of control to capital and erodes regulatory control. Moore et al., (2019), believe that the current rise in inequality and decline in real wages is a direct result of the reduction in bargaining power of labour forces and not a result of technological advancements. These views are supported by Heil (2020), who suggests that due to growing shareholder value orientation workers bargaining power continues to diminish. Dunhaupt (2016), notes that as a corporation’s overheads increase due to interest and dividend payments, reductions in wages are passed onto workers to cover additional costs. Hyman (2018), states that as a result of these changes, labour has been turned into a fictitious commodity whereas Sawyer (2017), believes there are no short-term fixes for the challenges caused to employment by financialization, stating higher output or productivity does not guarantee improvements.

Despite these issues with labour, according to Atkinson et al., (2011) between 1970 and 1992 the number of globally rich doubled in America and by the year 2000 the average compensation for finance sector employees was 60% higher than the America national average (Tomaskovic-Devey, and Ken-Hou, 2011). Furthermore, although the 2008 GFC, was linked to the American housing bubble, it was deemed to be an indirect consequence of the
financialization of the U.S. economy since the 1970s (Tomaskovic-Devey, and Ken-Hou, 2011), and this is supported by Ansell et al., (2018), who states that the build-up of such imbalances within the financial sector in the early 2000s was one of the key reasons for the Global Financial Crisis of 2008, with almost a quarter of GDP accumulating from the Finance sector (Tomaskovic-Devey, and Ken-Hou, 2011). This is supported by Slater & Spencer (2014), who cite the 2008 financial crisis as a crisis that emerged as a result of the growth of Financialization which led to a considerable decline in employment, job security and wages. This is further supported by Hyman (2018), who states the long-term effects of the GFC are still evident with significant and sustained increases in unemployment still apparent in many countries today.

Murphy (2017), further examines this impact on the labour force, stating that during the crisis the weak implementation and monitoring of employments standards presented an opportunity for employers to move towards more precarious forms of employment. This is supported by Hyman (2018), who states that in most countries since the recession, new labour market entrants had very few employment opportunities available and any opportunities that were available tended to be of a short term or precarious nature. This weakened position of workers has made them more susceptible to longer working hours, wage cuts and precarious forms of employment (Slater & Spencer, 2014). These views are supported by Grady (2017), who looks specifically at the UK, stating the shift away from high skilled, high pay work to low skilled low paid work is a direct result of the workplace reconfiguration that is required to continually increase shareholder value.
2.6 Brexit

In June 2016, large volumes of the regional workforces across UK voted to leave to the European Union, cutting ties with the largest integrated market in the world (Crescenzi et al., 2018). Bell (2016), cites that significant issues within the labour market in Britain had a major influence on this outcome and according to Colantone and Staing (2017), the globalised shock to the British Manufacturing sector was the key driver of the vote for Brexit despite the initial widespread belief that increased immigration was the catalyst behind the Leave vote (Colantone and Staing, 2017). This is supported Crescenzi et al., (2018), who state that despite the focus on immigration prior to the referendum, the growth of immigrants did not spur an anti-EU sentiment in UK, whereas Gingrich and King (2019), believe that the scapegoating of immigrants as competitors for diminishing employment was likely to be agenda driven by the right ring parties.

Becker et al., (2017), highlighted that individuals with lower educational attainments, working in sectors that had been significantly impacted by trade openness such as Manufacturing, Construction and Retail were far more willing to vote for Brexit and these views were supported by Crescenzi et al., (2018), who stated that the most prolific correlation between leave voters of all regions was unemployment and economic conditions. Bell (2016), believes that worsening economic conditions as well as the continual decline in real wages over a 20-year period had a significant impact on voting behaviour. Although the share in wages in national income declined in most countries for the past 30 years, the UK was significantly worse than most other developed economies (Moore et al., 2019).

Grady (2017), believes this is a result of increased Financialisation over a 30-year period, where the deregulation of the employment sector has allowed low wage employment to flourish to favour large corporations. This is supported by Nowak and Hodder (2019), who note that as key employment rights have been weakened and unions have lost the ability to
represent working people, workers have borne the cost of the deregulation of the labour market. Moore et al., (2019), cite a fall in the wage share, which suggests a redistribution of incomes from middle- and low-income households to high-incomes households. This was supported by Heil (2020), who highlights that despite falling incomes across the UK, there is significant wage increase for the top 1% within financial sector. Grady (2017), stresses that this growth in inequality is a direct result of state regulation that has allowed corporations to act in a manner that sees employees as a disposable cost. Political policies have led to the deregulation of labour market policies which has exacerbated low pay benefiting big business (Grady, 2017).

These views are further discussed by Teague and Donaghey (2018), who stated that the UK Government had complete control over it’s on labour market policies despite UK policy makers claiming that issues within the UK labour market were a result of the EU implementing European wide employment Legislation. This is supported by Zahn (2018), who states that the EU has limited competence to legislate in employment matters and as a result, any European Labour laws could only be implemented if agreed by national governments. Further to this Teague and Donaghey (2018), state that rules governing minimum wages, trade union recognition, unfair dismissal and redundancy payments stem from the UK alone with the EU having no influence over them whatsoever. As a result of this control of legislation, the prepossessed ‘bonfire of regulations’ promised as a direct outcome of Brexit never came to light (Teague and Donaghey 2018).

Nowak and Hodder (2019), state that the current framework for employment implemented by the British Government is not suitable for current employment practices, whereas Gingrich and King (2019), believe there have been long standing issues with UK policy makers, citing similar oversights by the Blair administration through the 2000’s. Although the administration increased benefits for working age adults as well as the expansion of education and skills programmes, neglect towards industry resulted in low rates of private
investment which in turn created a shortage of employment (Gingrich and King, 2019), whereas, Hyman (2018), noted that radical austerity measures and legislative attacks on Trade Unions after the Global Financial Crisis were driven entirely by British political agendas and Nowak and Hodder (2019), further examined the impact of these attacks on Trade Unions, citing how Union density dropped to just 21% in 2018 from a high of 56% in 1979. In contrast to this, Teague and Donaghey (2018), cite the historical poor performance of British Trade Unions that led to this decline, outlining multiple proposals made by the EU Commission offering protection to British workers that were rejected as they were not in line with how British Trade unions operated.

Dunhaupt (2016), discussed the speed at which the UK Government was downsizing the public workforce compared to many other Governments, highlighting that reductions to workforce numbers in this sector further eroded the bargaining power of the labour force due to the strong presence of trade unions in the public sector. Grady (2017), stated that these government policies are neoliberal in motivation and far from a natural response to labour market demand. Teague and Donaghey (2018), cite further issues with Government policy that led to the Brexit vote, noting that the employment model implemented by the UK Government across the region had led to the growth of precarious employment, this includes the use of Zero Hour Contracts which ultimately compels workers to take low paid employment and favouring corporations (Grady, 2017), whereas Gingrich and King (2019), discuss the origins of these policies, highlighting the rising levels inequality that go as far back as the Thatcher Government, stating that during this time there was an active move away from the traditional British welfare state and European policies, towards an ‘American model’ which saw the cutting of benefits to working age adults (Gingrich and King 2019).

In contrast to these issues in the UK, Murphy et al., (2019), highlight the unusual characteristics of the Irish Industrial relations system, citing social partnership between
government, trade unions and employers between 1987 and 2008. This is supported by Ryan et al., (2019), outlining the positive impact of Trade Unions on social and economic policies in Ireland which limited and moderated the issues with ZHC’s, whereas Flannery and Turner (2018), discuss the positive collaboration between Governments and Trade Unions, citing public sector wage agreements. Collings et al., (2008) note that although many characteristics of Ireland Trade Unions arise from historical linkages with the UK, the trajectories of both have shifted drastically different directions in recent years.

2.7 Evolution of the Irish Economy

Collings et al., (2008), outlines Ireland’s historical and political ties to the British economy prior to the formation of the Irish Free State in 1922, which includes shared views on Industrial relations and Trade Unions, whereas Barry et al., (2016), discussed the changes that occurred once independence was achieved, noting that after the passing of The Manufacturing Acts of 1932 & 1934, the Irish Free State became one of most highly protected economies in the world. Despite this early protectionism by the year 2000, Ireland was considered the 5th most competitive economy globally due to strong advancements in education and technologically (Gunnigle et al., 2013), with Agenor (2017), stating that of the 101 middle-income economies in 1960’s, Ireland was one of the very few countries that became high income by 2008.

This move towards economic globalisation began the 1950’s when the Irish Government began to actively pursue FDI (Barry et al., 2016), but gained significant momentum when Ireland joined the EEC in 1973, the EU single Market Programme in 1992 and the Single Currency in 1999 (Ruane, 2016). O'Higgins (2002), states that in 1999, Ireland accounted for over 5.7% of all Foreign Direct Investment in the EU despite having only 1% of
the population. This is further supported by Collings et al., (2008), who outlines that between 1993 and 2003 Ireland was the largest recipient of FDI in the OCED. O'Higgins (2002), also highlights that between 1991 and 2001, the number of foreign owned companies in Ireland increased from 847 to 1278, and the total number of employees in these companies grew from 75,000 to 140,000. This investment acted as the catalyst within the Irish Economy that helped achieve growth at an annual real rate of just over 4% for a 40-year period (Ruane, 2016).

Despite these significant advancements, due to Ireland’s economic globalisation and the overdependence on construction as well as the reckless lending by the banking sector, the Irish economy was still one of the most affected by global financial crisis (Gunnigle et al., 2013). Over 27,000 jobs were lost throughout the course of the recession (Murphy, 2017), as well as severe wage cuts and changes to employment legislation (Dullien, 2018), these changes included inadequate protection for workers and a shift towards legally viable but precarious employment practices Murphy (2017). Unemployment rose from under 5% in 2007 to 15% by 2011, with low-income workers been the worst affect (Savage et al., 2019), however during this crisis almost a 3rd of the Multinationals within Ireland expanded their business (Gunnigle et al., 2013). A weak Euro relative to the UK Pound and US Dollar led to employment growth within the export sector (Dullien, 2018), with Ireland becoming an export platform for many high value pharmaceutical and chemical companies selling into international markets (Barry, 2019).

Although, the Irish economy began to experience growth in employment rates from 2014 onwards (Murphy, 2017), as well as having the fastest growing GDP in Europe in both 2014 & 2015 (Ruane, 2016), there were some long-lasting effects of the crisis. There was a rise in both contract and precarious employment practices (Murphy, 2017), as well as Trade Union memberships failing to recover from the GFC (Murphy and Turner, 2020). Prior to the GFC Gunnigle et al., (2005), had highlighted challenges for Trade Unions, citing that due to global
competition for inward FDI, government agencies in Ireland adopted a ‘union-neutral’ stance when engaging with MNC’s. This was a direct contrast to the original agreements with the first MNC’s setting up in Ireland who were required to engage with Trade Unions (Gunnigle et al., 2005), and this was supported by Dobbins & Dundon (2017), who believe that workplace partnerships were no longer pursued due to the fear of deterring US Multinationals who do not encourage any form of collective bargaining. MNC’s tended to have multiple concerns with having a union presence, such as higher labour costs, and the protection of unsatisfactory workers as well as poor responsiveness to change (Flood and Toner, 1997). This is further supported by Collings et al., (2008), who noted the preference of MNC’s to keep workplace disagreements in house and to retain a high level of flexibility when managing employment relationships. Gunnigle et al., (2013), also note that as well as these factors, MNC’s preference to move to towards individual’s performance related pay has led to overall shift away from Trade Unions within the Irish workforce.

Despite these changes as result of the GFC, Gunnigle et al., (2013), reasserted the importance of FDI to the Irish economy, highlighting that the despite severity of the GFC, there was still considerable benefits for the workforce, such as continual pay rises for workers, management and leadership training as well as wage and working time flexibility, with Collings et al., (2008), also highlighting that MNC’s are often prepared to pay above the norm to minimize the conflictual elements of the employment relationship. Further to this, despite the rise in precarious employment and challenges associated with such employment, due to the presence of FDI in Ireland many Irish workers are now employed within in high skilled, temporary employment within the MNC’s in Ireland. (Murphy, 2017).
2.8 Misconceptions of FDI and causes of Inequality

Despite many of the criticism associated with Foreign Direct Investment and globalisation, according to Blancheton and Chhorn (2019), foreign direct investment, globalisation and trade openness have little to no impact on income inequality, particularly in Western countries and should not be a cause for concern. This is supported by Sánchez-López et al., (2019), who cite that although globalisation is often deemed to be the cause of income inequality, globalisation and technological advancements actually reduce inequality within developed countries, whereas Autor and Dorn (2013), examine the specific role of technological advancements on workforce, noting that although computerisation has replaced low-skilled workers, it has in fact complemented the highly educated worker. This is supported by Blancheton and Chhorn (2019), who state that advances in both manufacturing and manufacturing specialisation decreases inequality in many countries.

Nolan et al., (2019), examine the growth of inequality across the developed world in recent decades, citing the difference in growth and rates of inequality in different countries and regions, stating that national economic forces, such as policies and institutional structures are just a likely to lead to inequality as globalisation or Technological advancements. In contrast to this, according to Atkinson et al., (2011), the increase in top incomes in the United States and United Kingdom began during the Reagan and Thatcher administrations, where several threats to the countries’ economies led to the empowerment of large corporate firms and the development of new instruments within the finance sector (Tomaskovic-Devey, and Ken-Hou, 2011). This is supported by Heilbron et al., (2014), who discusses how the Reagan administration stimulated mergers and acquisitions as well as opposed stricter regulation within the financial markets.

Volscho and Kelly (2012), highlight the links between inequality and politics, citing how electoral outcomes and political policies affect the distribution of income. This is
supported by Auguste (2018), who discusses how low inflationary monetary policies lead to increased inequality as they benefit the wealthy and further supported Nolan et al., (2019), who cites the significant role of monetary policy on the rising levels of income inequality, whereas Auguste (2018), also outlines the role of state generosity in offsetting inequality, stating that the role of welfare state still plays an essential role in income distribution in age of globalisation. This is supported by Blancheton and Chhorn (2019), who state that public spending has a far greater influence on inequality than Foreign Direct Investment with Auguste (2018), also highlighting that an increase in a foreign-born population may also help reduce income inequality, despite the popular narratives surrounding immigration.

Lazonick (2017), examines this from a US perspective, highlighting the shortage of well-paid employment opportunities across American, citing that it is little to do with automation and technological advancements but a failure of US Corporations to reinvest their profits for innovation and job creation, whereas Tomaskovic-Devey, and Ken-Hou (2011), cite the deregulation of the finance sector which allowed the continued pooling of corporate profits encouraging CEO’s to focus short term stock market goals. This is further discussed by Lazonick (2017), who outlines the influence of corporate money on U.S politics that led to the obsessive focus on stock price by top executives across American corporations.

2.9 Conclusion

This chapter has presented an extensive review of the literature in relation to the evolution of the Irish economy and the factors that have driven its accelerated growth. Furthermore, considering the impact of globalisation, the influence of American corporations through FDI as well as historical trade links with the UK, an overview of the country’s largest trading partners was also presented. As a result of this research, the overarching finding is that
although FDI is heavily criticised, the literature presented suggests that the influence of Government policy has a more profound and long-lasting effect on the workforce, than the corporations at the centre of the criticisms.
Chapter 3: Methodology

3.1 Introduction

This chapter provides a detailed insight into the research methodology for this new study on the importance of FDI to the Irish workforce, particularly the Life Science sector. Through the use of grounded theory and qualitative methods, the researcher outlines the approach to the collection of primary and secondary data collection, while also discussing the limitations and challenges of the research. Furthermore, within this chapter the researcher presents the research paradigm, philosophy and methodologies used within this study.

3.2 Overview of the Research

According to Creswell (2008, p.4), ‘Through research we develop results that help to answer questions, and as we accumulate these results, we gain a deeper understanding of the problem’. Reswick (1994), also discusses how a researcher begins by creating an initial theory, often one that is based on experience or intuition. Aligned to these views, the researcher embarked on this research journey to gain a deeper understanding of how the Irish workforce had evolved from decades of Foreign Direct Investment. Although the initial expectation was to gain an understanding of what the future might look like, the research process provided a much greater overview of the benefits of Ireland’s unique approach to FDI, particularly in comparison to other countries.

3.2.1 Research Philosophy & Epistemological Perspective

Considering the ever-evolving nature of national workforces, married with the Irish economy’s radical and unique evolution in the past 100 years, an epistemological perspective
allowed the researcher to identify factors influencing employment conditions on an international scale and further examine them within an Irish context. This perspective is aligned to Wisker (2008), who states that a researcher’s approach to research is significantly influenced by their philosophy and worldviews. This is also supported by Henderson (2011), who notes that when conducting research for important social issues it is essential to examine the assumptions of ontology and epistemology. Moon and Blackman (2014), examine this further, by highlighting the differences between both aspects, stating that ontology is what already exists in the world that researchers can acquire knowledge about, whereas epistemology is the creation of knowledge. This is further supported by Bhattacherjee (2012), who suggests that epistemology is the most appropriate method of studying social reality.

3.2.2 Research Paradigm

When the initial research theory and philosophy was identified, the research paradigms were then explored. According to Wisker (2008), there are two main paradigms of research, Positivistic and Post positivistic. Positivistic relates to the scientific study of the social world (Turner, 2001), with views typically based on experiments and surveys that do not express philosophical views (Bhattacherjee, 2012). Its original meanings relate to the collection and validation of factual knowledge through scientific knowledge (Coolen and Jansen, 2012), however as social sciences are about human beings, there are a multitude of variables to consider when conducting research (Bassey, 2001). Considering this research would predominantly focus on the economic factors that influence employment as well as the indirect socio-economic effects of changes to employment practices, a post positivistic paradigm was selected for this new research. Post positivism transforms the narrow perspective of positivism into a method in which the real world can be examined (Henderson, 2011), and it is an approach
that attempts to provide a better empirical view of social sciences as well as offering a more productive approach to social and policy inquiry (Fischer, 1998).

### 3.2.3 Exploratory Research

Despite the diverse range of views on the driving forces behind the growth of the Irish economy as well as factors that effected the workforce, it was important for the researcher to explore all viewpoints. Smith (1998), highlighted the importance of research for social sciences noting that it provided significant benefits for all types of communities. This was supported by Creswell (2009), who discusses the importance of exploratory research when dealing with new topics or certain groups of people, as existing theories may not apply to the research. In comparison to this Bhattacherjee (2012), provided an overview on how this differs to other types of research such as descriptive research that focusses on the what, where and when, while ‘explanatory research looks at the cause-and-effect relationship between two or more phenomena’ (Wisker 2008, p.73).

### 3.3 Research Design

Following on from the formation of the topic and the alignment of the philosophical views of the researcher, the overall design of the research was created. Bhattacherjee (2012), states that research design is the creation of a blueprint to successfully address the preidentified issues or problem. Creswell (2009), also outlines that research design is the intersection of philosophy and strategies of inquiry that span from forming initial theories to applying detailed methods of data collection. Within this new study, the research design included, the formation of the research, the methods of data collection, how this information would be presented as well as the timeline for compiling the study. Furthermore, consultation was made with
lecturers, fellow MBA students as well as Senior Management within the Life Science industry to reaffirm the authenticity and value of the study.

3.4 Research Question

Wisker, (2008) suggests that if knowledge is constructed rather than provable a research question can be more suitable than a hypothesis. This is supported by Bhattacherjee (2012, p.21), who states that ‘research questions are specific questions about a behaviour, event, or phenomena of interest that you wish to seek answers for in your research’. Whereas Coghlan and Brannick, (2014), highlight that the research question is the centrepiece of the study and influences all aspects the research. Although the research question was the initial step in the research design and was a key factor in the research conducted, it took considerable time for the researcher to finalise the question in full. The initial research conducted provided very conflicting and unexpected views on the researchers selected topic. These initial findings did influence certain changes within the research process, however, deeper researcher with a particular focus on FDI in Ireland alleviated these concerns, allowing the researcher to finalise the research question in full.

3.5 Secondary Research

To fully understand the topic on hand, a review of all relevant literature was undertaken. Glass (1976), originally suggested that secondary research is an important process of reanalysing data for the purpose of answering a new question, with Johnston (2014), noting that secondary research was an empirical exercise and a systematic method. In contrast, Carnwell and Daly (2001), highlighted the importance of a strong literature review to identify any gaps in previous research. Considering the diversity of the topic on hand, the literature provided many differing views and opinions particularly when comparing the experiences of
different nations’ workforces engaging with FDI. Furthermore, the initial findings encouraged the researcher to widen the scope of research. By going further into the literature, the researcher was then provided with a greater insight into some of the deeper socio-economic problems evident in many economies today. This additional research was highly relevant when reviewing the implications for the long-term trajectory of the Irish workforce as well as the preparation of the primary research questions.

3.5.1 Limitations of Secondary Research

Within this research the biggest challenge presented was the sheer volume and diversity of literature in relation to FDI and changes to workforce practices. Although the initial research focussed solely on the Irish economy and workforce, the globalisation of Ireland as well as the historical ties to the UK and the influence of American Corporations in recent years resulted in a much deeper research process. Furthermore, considering the diversity of the topic as well as the contrasting opinions, extensive research was required to identify the data most relevant to the Irish workforce.

3.6 Primary Research & Research Methodologies

Once the literature review was completed in the full, the researcher then commenced the primary research. This is the process of individuals collecting and analysing data (Church, 2001). Wisker (2008), highlights the importance of positivist research in this process, stating that it is often measurable and provable, where large amounts of data are collected through quantitative methods. Despite the benefits of this research, Reswick, (1998) outlines some of the limitations of quantitative research noting that it is often linear where the researcher has the ability to define the parameters with precision and accuracy. In comparison to quantitative
research, qualitative research consists of collecting and interpreting data that is not easily reduced to numbers (Anderson, 2010). This supported by Sutton and Austin (2015), who state that quantitative data measures how many people undertake particular behaviours, whereas qualitative methods can help researchers to understand how and why such behaviours take place. Data obtained through qualitative research has often been more powerful and compelling than quantitative data (Anderson, 2010).

Considering the diversity of this topic with results that were difficult to quantify, the qualitative approach was deemed most relevant to this research. Furthermore, and aligned to the literature, the researcher identified the semi structured interview process as the most appropriate method of data collection to identify trends and patterns within an Irish context, while also focussing on the Life Science sector. Therefore, to ensure the accuracy of data collected within the primary research, extensive consideration was given to ensure the most suitable industry experts were identified for interview. The experts were identified as individuals with a minimum 20 years’ industry experience, employed either directly or indirectly within the Life Science Sector in Ireland. Furthermore, the requirement was for each participant to be currently employed in a Senior Management position within the industry as well as having at least 10 years people management experience, also within the industry. It was expected that by conducting such an in-depth interview process, rich data would emerge that would provide the researcher with a much deeper understanding of the future of the Irish workforce.

3.6.1 Semi-Structured Interviews

Creswell, (2009) provides an explanation of the qualitative research process, noting the examination of documents, as well as the interviewing of participants that are purposefully selected to help the researcher address the problem and research question. This is supported by
Anderson, (2010) who outlines the benefits of the semi structured interview process, highlighting that questions are not restricted and can be redirected by the researcher in real time. Furthermore, Bryman and Bell (2015), detail how this semi structured approach allows the researcher to gain rich and detailed information.

To gain a detailed insight of the influence of FDI on the Irish workforce, a list of ten open ended questions were prepared. The expectation was that they would lead to answers that contained significant data. The questions were formed on the theories of the researcher in relation to the role of FDI within this sector in Ireland, while also taking into consideration the literature reviewed within the secondary research. Considering the importance of these questions, three separate attempts were made to ensure the correct questions were asked in the most appropriate manner. Once the correct questions were drafted, one final review of the relevant literature was conducted to ensure that all relevant topics were included.

3.6.2 The Pilot Interview

Prior to commencing the interview process a pilot interview was completed. Pilot interviews are deemed essential to the primary research process as it allows the researcher adjust interview questions and practices before commencing a large study (Hardy, 2013). For this new study the pilot interview provided relevant data rich answers given for each question. As a result of the quality of the answers in this interview, the pilot participant was then included in the overall interview. Furthermore, and in line with the research, the pilot interview allowed the researcher to make subtle changes to the interview process. Within this new study these changes included altering the running order of the questions and changing the mode of video call from Zoom to Teams.
3.6.3 The Interview Process

The interview process was completed in full across an eight-week period. Prior to the interviews all participants were provided with a consent form, an email outlining the interview process which also included a brief synopsis of the study, as well as an explanation of how the information will be stored and presented. Managing the interview process in a professional manner was key because, despite the benefits of qualitative research, it is commonly criticised and seen as biased or small scale. This places an onus on the researcher to ensure the process of data collection is credible and rigorous (Anderson, 2010). Although the interview process was generally in line with the expectations of the researcher one surprising variance occurred. Considering the challenges with scheduling interview times for participants, the time of day and location of the participant appeared to have significant influence on their engagement levels. It was initially observed that participants who took part outside work hours, were a lot more open and engaged, with discussions appearing to go on for longer. In contrast to this, participants who took part during work hours appeared to be far more restricted, however as the process continued it was also observed that participants who took part during work hours but were working from home due to the Covid-19 Pandemic also appeared to be slightly less constrained. As a result, the interviews with participants who took part while office based during working hours were far more concise than other interviews.

3.6.4 Limitations of Primary Research

One of the initial challenges of this study was that due to the emergence of Covid-19, all interviews and meetings could not be conducted in person. As a result of this, meetings were moved and scheduled online often via Zoom. Although the ten semi structured interviews where initially scheduled for Zoom, the pilot interview highlighted some of the challenges with this platform. Time limitations and challenges with meetings transcripts encouraged the
researcher to transfer the process to Microsoft Teams which appeared to provide a much better user experience. Furthermore, the availability of Senior Management was also a significant challenge. Although all participants contacted were happy to support the study, finding a free hour in their busy calendar led to some scheduling challenges. Eventually this issue was overcome, however it did result in the process taking longer than expected. A third issue that was quickly identified was the shortage of female senior managers within the industry. According to O’Brien (2021), the gender divide is improving at graduate level, unfortunately it is yet to impact to the imbalance at Senior Management level. As a result of this imbalance, eight of the participants were male.

3.7 Presenting the findings

Upon completion of each meeting, the researcher took time to transcribe each interview in full. This was completed by comparing the interview recording, transcripts and notes to ensure all relevant information was included in its entirety. The was an extremely time-consuming process, however by reviewing each meeting in full it enabled the researcher the opportunity to review all relevant content with the ability to identify patterns and themes. By compiling all ten transcripts across an eight-week period, specific theme and patterns were much easier to identify. The process was aligned with Bhattacherjee (2012), who noted that qualitative analysis was the process of understanding as opposed to explanation. This analysis is presented in chapter 4, while the themes and patterns identified within this new study are outlined in chapter 5.
3.7.1 Inductive Theory

Creswell (2009), notes that qualitative research is often inductive, where there is a meaning generated from the research and where researchers build their pattern and themes from the bottom up. This is further supported by Bhattacherjee (2012), who outlines the difference between inductive and deductive research, citing that while deductive research is focussed on theory testing, inductive research relates to theory building. The goal of the inductive researcher is draw conclusions from facts or observed evidence and this type of research can be very beneficial when there are few prior theories on a particular research subject (Bhattacherjee, 2012). The overarching aim of the interview process was to identify new patterns and theories evident in the Irish workforce within the Life Science sector, as well as gain an insight into future work practices in Ireland. This process allowed the researcher to speak directly to industry experts and explore their thoughts on this topic, while also using the semi structured approach to look for additional themes not evident within the secondary research.

3.7.2 Grounded Theory

According to Charmaz, (2006, p.10) ‘grounded theory serves as a way to learn about the worlds we study and a method for developing theories to understand them’. Dunne (2011), examines this further by espousing that grounded theory is a research methodology associated with qualitative research, where the researcher develops a new theory that is grounded from empirical data, as opposed to testing hypotheses taken from existing theory. Grounded Theory uses data from multiple sources such as interviews, observation of behaviour, and published reports (Goulding, 1998), allowing the researcher to derive a general abstract theory that is grounded in the views of the participants (Creswell, 2009). Aligned to these views, the researcher conducted ten semi structured interviews with industry experts from the Life
Science sector, with all ten participants answering specific questions on the industry and its impact on the workforce in Ireland. Given the uniformity of the approach as well as the profiles of the participants, the interviews paved the way for the emergence of new theories in relation the influence of FDI, not just on the Irish workforce but on the economy in its entirety.

3.8 Reliability, Validity and Ethical Considerations

According to Bhattacherjee (2012), reliability and validity are the measurement scales on which the adequacy and accuracy of our research is measured and evaluated. In comparison to this, Wisker (2008), believes that ethics within research have been critical since the unethical research evident in World War 2, and this is supported by Weindling et al., (2016), who provide specific examples of coerced research during that time. Within qualitative research Anderson (2010), outlines the influence of the researcher during the interview process while also highlighting issues with anonymity when presenting the research findings. In contrast to this Creswell (2009), highlights some of the challenges with grounded theory, noting that there must be a reciprocal relationship between the theory and data to enable the development of propositions and theoretical frameworks. This is supported by Dunne (2011), who outlines the uniqueness of grounded theory, highlighting that data collection and analysis must occur concurrently.

Further to the challenges outlined within this literature as well as the limitations outlined within the primary and secondary research earlier in this chapter, the researcher took all required steps to ensure the research and findings were conducted and presented in a reliable, ethical and unbiased manner. The accuracy of the research was crucial and conducting the study in an ethical manner was also imperative, especially considering the study was an examination of the changes within the workforce and people’s livelihoods. Therefore, the study
was completed in line with Munster Technological University’s code of conduct as well as GDPR regulations (eur-lex.europa.eu, 2016).

To ensure this compliance, all relevant literature was reviewed in full and once the appropriate secondary data was identified, the origins of this data was examined and referenced accordingly. Secondly the ten participants were identified through relevant industry channels and their role within the industry confirmed prior to interview. Furthermore, although all participants were guaranteed anonymity, each individual provided a signed consent form. All interviews were then recorded, transcribed and stored in a secure location should they be required for review or comparison at a later date. Upon completion of the primary and secondary data, the researcher presented the findings of both sets while also providing literature references and statistics to support these findings and subsequent recommendations. This new secondary information was again sourced, reviewed and referenced in line with standards in place within Munster Technological University’s code of conduct as well as GDPR regulations (eur-lex.europa.eu, 2016).

3.9 Conclusion

This chapter has outlined the researcher’s overall approach to this study with a particular focus on the primary research. While Bhattacherjee (2012), classified this as a functionalistic research process. Furthermore, this chapter provided the researcher with opportunity to reflect, which is documented in the appendices, as well as gain a deeper understanding of the overall research journey. This reflection and deeper understanding will enable the researcher to conduct future research in a more efficient manner while also having a much greater insight into the psychometric properties of social sciences research.
Image 2: Functionalistic research process (Bhattacherjee, 2012)
Chapter 4: Research Findings

4.1 Introduction

This Chapter presents the empirical data collected to answer the research question outlined in Chapter 1. Through the use of Thematic Analysis, the researcher provides a detailed overview of the key findings from the primary research.

4.2 Summary of Findings

The empirical data from this new study highlights the importance of Foreign Direct Investment within the Life Science sector to Ireland. Further to this the data outlines the challenges faced by Multinationals in Ireland as well as their benefit to the Irish workforce and their overall influence on the employment sector. There is also significant information in relation to the many challenges the country is facing to retain the current level of investment.

4.3.1 Biggest Challenges for Multinationals in Ireland

Throughout the research process each Participant outlined what they believed was the biggest challenge facing Life Science Multinationals operating in Ireland today. Although there were a number of issues discussed, the most common theme was the shortage of skilled labour available to the industry. Taxation and costs associated with Brexit were also highlighted however the imperial data highlights the current skills shortage within this sector:

*The number one challenge at the moment is talent availability in complex areas. Finding talent and accessing talent is the main issue.*

[Participant 3].
This was supported by 4 other Participants:

*For me it’s attracting the right staff with the correct qualifications and experience and then retaining those staff.*

[Participant 7].

*The availability of talent, it’s something I come across every day and if you look at the quantity of life science industry in the country today and the education demands that those industries place on people. They expect a certain level of education and a certain level of skill within the resources they hire so the availability of suitable talent that meets their needs continues to be a challenge. You could probably argue that if I go back to when I qualified in the late 90s, the number of people doing engineering degrees, doing biotech degrees, doing all the engineering sciences has increased but so too has the level of participation in those degrees and the level of demand for that talent. I would say it’s a major challenge and one that we see every day.*

[Participant 8].

*I think, coming from the background that I come from, I automatically default to personnel and to the availability of skilled labour. I think we have seen accelerated growth in Ireland in this sector and quite a number of new developments over the last number of years. This has driven a skills shortage particularly in key scientific and engineering disciplines.*

[Participant 1].

*I would say its resource and its people, and everybody seems to be expanding which makes it quite difficult. My background is in construction and projects so now we’re struggling to resource the expansion. This is due to a combination of Brexit, Covid and everything else that is happening so it is just a difficult environment. These waves come in cycles, you get money, then you get nothing, then you get money. Currently we are getting money, so it is our opportunity to invest, and from an Irish Point of view it’s an opportunity to put assets on the ground. In another year or two inevitably the tide will turn, and we will go into a couple of quiet years so we just need to be able to invest as much as we can while we can.*

[Participant 9].

Whereas Participant 6 believed taxation was the biggest challenge and it was closely followed by resources:

*What is coming is taxation and that’s probably going to be the biggest challenge. So, if taxation changes majorly, and I think that is imminent, that is definitely the biggest challenge. There are ongoing meetings at the moment with the EU on harmonization which I think is getting closer and I think that it’s going to happen in the next year or two. There are definitely going to be some changes to taxation in Ireland and they will*
have the biggest impact because obviously that's the bottom line. The second biggest impact from where we are will be around resources. Here in Cork, in Ringaskiddy, there is a small pool of people, with a lot of companies expanding so trying to source skilled people is a struggle. Therefore, tax is number one and trying to get resources is number two.

[Participant 6].

This was supported by Participant 2 who also noted the challenges with taxation and resourcing, but further highlighted the challenges with cost of living in Ireland when attracting overseas talent:

*I would say the biggest challenge is the tax rate and ensuring the government maintains the current corporate tax rate. At times we see pressure coming from our colleagues in Europe on this, but I think the stability of the corporate tax rate is vital and without it I think the landscape would be very different. I think the labour force is another key challenge when Foreign Direct Investment is coming into Ireland. Whether it's in the manufacturing sector, the financial sector or in IT. Resourcing is absolutely key, and the question is, are the resources available to support the investment. I think that housing and accommodation are also key when we are bringing people in externally and trying to keep our cost down, can they afford to pay accommodation? When they arrive they find the cost of accommodation can probably be unsettling, so I think the whole accommodation market is another key challenge.*

[Participant 2].

Similar to this Participant 5 noted taxation as well as challenges with cost of living within the major cities in Ireland. The geographical challenges associated with operating on an island like Ireland as well as the emergences of centres of excellence within some of the larger cities were also noted.

*If you talk about physical challenges the fact is that we are an island so it can be difficult to get products in and out. It’s not to say that you can't overcome these challenges but there are costs involved and cost is always a significant part of anybody's decision to come to Ireland. If we are to be honest it is attractive for companies to invest in Ireland because of the tax situation but I know there have been changes to the tax system in Belgium recently which make it more attractive for foreign direct foreign investment to go to Belgium instead of Ireland...I suppose there are also things like decentralization in Ireland. It would appear to me there are very much centres of excellence in Ireland and I would say that Dublin, Cork and Galway appear to be becoming centres of excellence as well as Limerick and Waterford. Ultimately, if you're investing in Ireland you're going to have to go to one of the centres which have the critical mass of*
population and where the third level institutions are available to support that population. Then you must consider your workforce as the cost living in Ireland is expensive. If you are going to have significant investment are you going to attract the right demographic in terms of workforce? Can those people get on the on the property ladder and can they get to their place of work? All these small things make a difference to people and that’s what makes it attractive for them to work there. The transportation network in Ireland is poor at best and we are slow to respond. We still rely on cars and it's essentially ‘one person one car’ to get to work and while there is a train service it is limited and the bus service is non-existent. It's the linked-up thinking about how your workforce works that is important. This includes how people are getting to work and are living and also the ability to afford housing in those centres of excellence.

[Participant 5].

This was supported by Participant 4 who also outlined the geographical challenges faced citing the issues with the transportation of goods due to Brexit as well as challenges with a shortage of graduates:

*Historically the issue was having the companies to support the industry but that network is very strong now and there is a lot of choice. I would say that from a business point of view there probably aren’t enough technical graduates available and the likes of Brexit and having to landbridge your product out of the country is an issue i.e., because of Brexit both getting material onto the island and off the island is becoming an issue.*

[Participant 4].

Participant 10 felt the greatest challenge was getting government funding for new projects:

*I think it's very difficult for them to get government aid for project funding. The only way that you can get funding is if you can verify that it is in an R.& D. funded project. I guess it is kind of government grants for specific businesses or industries is the biggest challenge.*

[Participant 10].
4.3.2 The Impact of Foreign Direct Investment in Ireland

When considering the impact of Foreign Direct Investment on Ireland it became apparent how important this investment was to the Irish economy and to the workforce. The research highlighted the career development and opportunities for those employed directly within the multinationals. It also outlines the role of indirect employment as well as the opportunity for Irish owned companies to expand overseas based on the capabilities they have already developed serving these multinationals:

*I have to say it’s a significantly positive impact and you also have indirect employment as well, it’s massive for the Irish economy.*

[Participant 5].

This was supported by two other Participants:

*Major and without them I think we would all still be picking spuds. I worked in the food industry and it’s brought everything up. Food is a very stable job in Ireland because we are an agricultural country and we manufacture a lot of our food products. The pay in the food industry is not as good as in medical devices or pharma or any of those but it has brought the standard of living up considerably by providing well paid pensionable jobs. I don’t know what else there is besides the food industry in Ireland except maybe tourism? Without the multinationals and foreign direct investment we would still have unemployment and we would still have people leaving the country and since workforce immigration commenced that is all stopped.*

[Participant 6].

*I think they have provided a lot of high paying jobs for people who are very highly qualified. I think it has pushed people to progress their educational achievements further and higher knowing that there will be jobs for people who have master’s and PHD’s, etc. in the science subjects. I also think that it’s kind of push on schools as well to focus a little bit more on STEM subjects. It has had a very positive impact on the educational system which in turn then means you have a more highly qualified versatile workforce.*

[Participant 7].
Whereas Participant 10 provided a more in-depth comparison to other countries:

*I think they've had a huge impact and the amount of people that are employed by multinationals in Ireland is incredible. I work across a number of countries in medical devices and the medical device company that I'm in, in many cases, is the only avenue for people to get work in that particular area. In Ireland in our catchment area, I can list 10 companies where you can get a role that is similar to medical device or pharma so I'd say the impact has been absolutely huge on the industry here.*

[Participant 10].

With Participant 1 breaking down how the FDI policy has benefitted the workers across the board:

*There is a uniformity in how these large companies approach employment and Human Resource Management. It is quite structured in that first of all there is normally quite a good salary plus bonus. There are also different schemes like salary forgiven and share schemes which have become standard across that entire sector. This gives people stability as when they join a major multinational straight out of college they tend to be going into a job with a structured financial package. They also enjoy considerable scope for further training to develop a career path but it’s that stability of the income and knowing that there is a decent salary that is a major benefit.*

[Participant 1].

Whereas Participant 9 highlighted the influence foreign owned companies had on Irish companies, citing the stringent approach to safety and quality standards.

*You have direct employment and it is high value employment, as well as that, for every manufacturing job there are four to five spinoff jobs and they are not exactly bad either. The multinational sector tends to have high standards and they don’t want trouble at their gates so they tend to pay the going rates. The site where I work is unionized so everything is paid out of sectoral rates. The terms and conditions are good and that tends to trickle across to the indirect employees as well. They observe the correct standards and do things well as they are held to certain standards as set out in a corporate manual in terms of safety and quality. Companies that never have worked in this kind of regulated environment come here to get experience of this type of environment. It brings up the overall standard in the construction sector as any contractor who comes in here, or to an equivalent company, will be held to a high standard on safety. When they have to manage things to these standards it has to be good for them because they then get used to working to these standards as this is the norm here.*

[Participant 9].
Participant 3 expanded on this by providing details of a third significant benefit from the presence of FDI in Ireland:

*I think it’s important to look at that in 3 key areas, direct employment, indirect employment and the exporting of services. It’s important to highlight this 3rd area as it is the companies that have grown up with the pharmaceutical industry in Ireland that now export services from Ireland to other countries as a result of the experience gained working in the pharma sector here. It is a 3rd level and there are now a substantial number of Irish construction and engineering companies that have experience in the pharma sector that are working in pharma outside of Ireland. ### wouldn’t exist without the pharma industry in Ireland as we grew up with the pharma industry and that is where we have developed the capabilities that we are now selling abroad. We are now exporting these services like many other construction and engineering companies. This is another sector that has been created because of the pharma investment and it simply wouldn’t exist without that investment.*

[Participant 3].

This was supported by Participant 8:

*I have to say it had a huge impact. If I go back to when I started out, I was in a very small company and the number of jobs out there was at a certain level. That number of jobs now, and the impact of the level of employment by the Life Sciences companies both directly and indirectly, has been huge. The companies that evolve on the back of their being in the country is also a huge benefit.*

[Participant 8]

This was supported by Participant 2:

*A massive impact in terms of direct employment and in the amount of opportunity they provide through indirect employment which has been significant. Companies like ### who are service providers have been able to build capability out of the service industry over the last 40 years. This has enabled Irish companies to maximise the capability that they have built up servicing these foreign companies in the Life Science area in Ireland. They have been able to leverage that and now that they have expanded overseas, they have been able to grow on the back of that as a company. It has been fundamental to our company growth over the last 25 years.*

[Participant 2].
Whereas Participant 4 also highlighted the benefits, reference was made to the potential inequality arising in regions not within the previously outlined centres of excellence:

_I think it's probably a twofold positive for those that are in it and it is probably having a disproportionate impact on those that aren't in it. For permanent employees it includes good pay, health insurance, good holidays etc., shift premiums. Whereas working in your local retail convenience store or local garage etc. is like working in a different world and the Cork region has benefited hugely from F.D.I. When you look at the map of the businesses in the harbour area you can see that you have 15 of the top 20 Life Sciences companies based there. Dublin has done extremely well also, but the economy is unbalanced compared to the border region or to the midland regions._

[Participant 4].

4.3.3 Retaining Foreign Direct Investment in Ireland

The empirical research also highlights some of the challenges that Ireland faces trying to retain this foreign investment. The research has already highlighted the current skills shortage within the life science sector and the importance of the Irish educational system has been cited as key to retaining this investment. Taxation and infrastructure also appear to be key to Ireland’s sustained economic success:

_I think we need to focus on education and qualified people and that's not just engineers it is also qualified apprentices. Creating a good pool of trades people which is available to support industry is hugely important. If I was to say 'what is the one thing that will drive the industry forward or sustain it then I would say that you need an excellent conveyor line of qualified people available. I do not think the cost of people is big a factor, but I do think the cost of flexibility and the lack of flexibility that you get for the money you invest is the problem._

[Participant 9].

These views were supported by Participants 4 &10:

_Are our schools and universities pivoting enough to give us the type of people that we want and to give us enough of them - such as engineers, scientists and data analysts? I am referring to a broad range of the STEM or STEAM subjects and maybe even to the business side, such as accountancy, and not just to the STEM. Maybe our population demographics will work against us if we fail to import more labour because not everybody can, nor should everybody, go to university. Education is important as a way of thinking and openness to learning is very important but it isn’t essential or realistic that your dog groomer or your hairdresser have a Level 7, 8 or 9 degree. It's keeping
the value on education and ensuring that we have the right learning mechanisms in place.

[Participant 4].

I think that Ireland will need to keep the standard of education high but the standard of technical writing is failing drastically. Across the colleges people are graduating now that have no standard of technical writing even though you need to have it when you’re working in a highly regulated environment. I think we need to keep the standards extremely high in the candidates coming out of colleges as I think we need to teach our students how to problem solve and how to have the right attitude when it comes to work. They also need to have the right attitude in how to approach something and in how to have the edge on others or they will never have the edge in terms of finances. If you go to places like Bangalore or Mexico, you can access workforces that offer these skills at much cheaper rates but our drive and our ability to get work completed has been a contributor to FDI but I think it’s slipping. I think that hunger is slipping. . . Often there are courses available which are taken mainly by people who are trying to do bridging studies to gain entry into the industry. Unfortunately, the focus on many of these courses is more about trying to get people into work rather than making sure that they gain the skills to do the jobs that they are assigned to do. They are often not the right candidates for the roles that they are being put forward for and they frequently are not candidates that would be suitable for the industry or suitable for a Life Sciences type of a role. We need to review the process for vetting candidates and do a little bit more than consider somebody who has been unemployed or who hasn’t been successful in terms of grants.

[Participant 10].

This was further supported by Participant 6 however the importance of taxation was also noted:

We need to keep our tax base low and I think the colleges need to evolve. I did Food Science in college and here I am working in life sciences. There are very broad, and they don’t specialize enough on what industry is doing. It is a bit like the apprenticeship program which is very directed. They should come out and ask what is it that graduates are looking for and they need to tailor their courses. . . I think we are missing a trick, I do think we can do much better. I think the tax thing covers up why most of the foreign direct investment comes to Ireland.

[Participant 6].

Whereas Participants 2 & 8 agreed with the other Participants, they also noted the importance of secondary level education:

I think again it’s about making sure that you have stability on the corporate tax rate now and into the future. The second thing is that the universities are there and performing their tasks but we need to go back another step and look into the secondary
schools. I also think we are struggling to get females into engineering and technical related industries which needs to be altered because gender balance and gender diversity is absolutely key. Females just don’t seem to see it as a career which is a shame, because it’s a super career, where they can earn a lot of money. I recently looked at the CAO points and one particular area went up by 8% and I thought students really do not realize what they’re missing out on. I think the whole area of going back into the schools and changing the image of engineering and science is really key to be honest. There needs to be greater focus in order to get more people into the universities and colleges, are we doing enough to get them?

[Participant 2].

We have been successful because of our tax rates, the skills and the experience of our people, our educational system, our membership of the EU and our access to the EU market. . . Is our education system keeping up or do we need to start looking at more innovative ways of educating our kids? I think education is huge and our competitiveness is huge, but we can be more effective and efficient in this area. There can always be more and there are areas in our educational system that we’re not focusing on properly that will contribute to future jobs. Areas like artificial intelligence, automation and robotics have huge potential for growth. Innovation in education and focusing on these types of areas will create jobs in the future for our kids. Also, our education system at second level hasn’t changed in a good number of years and perhaps this needs a substantial review. This has been highlighted more and more in the media recently and it is something that needs to change. People are not getting jobs for life anymore and people need to be able to adapt and to change and to be innovative about how they get through life. Our second level model is not preparing children as well as it could and a rethink is needed. We think the education system is fair when we put our kids through the Leaving Cert, - an exam for which we all study the same curriculum, we all answer the same questions and we all come up with the correct answer (hopefully) and we convince ourselves it’s fair. Is this assumption correct? Is it fair to people who are disadvantaged, or to people off different social classes or to people who continue to underperform based on their parents’ status? So perhaps that’s an area they need to look at.

[Participant 8].

Participant 1 further discussed education and tax as well as infrastructure and highlighted the importance of continual investments by existing Foreign companies:

*I am not an expert on the political or geopolitical side of this, but I think at a base level it is very important that the preferential tax rate is protected in Ireland. This has been the cornerstone of attracting that investment and it has been protected fiercely over a long number of years and it has really been the foundation for attracting these companies. I think that is the first thing and I think that is very important to ongoing success in this area. I think the next area for consideration is the broadband network nationally and I think that the Telecoms networks really need to be as advanced as*
possible. It is very good in the large centres such as Cork and Dublin and potentially Galway, but if the country is really to benefit from attracting more multinationals, then developing the networks and the infrastructure in the less congested parts of the country is both vital and urgent. We also need to focus on transport infrastructure and on our network of airports. The road network needs to be as good as it possibly can be and needs improvement in many areas. The next thing I would look at is education as we are not seeing enough people coming through with a strong enough maths or science background to do the science and engineering subjects. If they are not coming in at the entry level then they are not going to come out with PhD’s or master’s at the other end. I think that will always be a consideration for a large multinational coming in, if there is the sustainability of skilled people... It is also worth mentioning that the majority of the major multinationals are here for a considerable number of years so you are looking at the possibility of them investing further rather than having to win brand new investment for the country. If you are looking for them to expand further in Ireland then it is even more important to have the education system and to get all the infrastructure in place because those companies now have a lot of experience in Ireland. They know the country very well, they are very clear on how feasible it is to support a major expansion within the country and whether the country can support it.

[Participant 1].

Participant 5 provided an overview of the challenges faced by existing companies while also supporting the views on education and Tax:

*In my opinion we have to maintain our tax incentive and always at least try to be aligned with the other most incentivized countries but there are other challenges as well. We as a company compete for new product introductions and we are always on the lookout for new products as that’s life blood of any company. The last time we bought an NPI into Cork was probably back in 2010. We are not seen as a launch and grow site but we are seen as a Centre of Excellence for certain operations and I think that over the years the incentivization of Ireland has been eroded. You can see new products coming in all the time but I think from an API perspective that option is shrinking and it's becoming much more difficult to play in that space and I think what’s important going forward is R&D. You need to be in at the R&D phase of drug discovery, whether it be bio or pharma or even med device, and you need to be developing the IP in Ireland. If you don't have IP situated in Ireland it's not going to come to Ireland. There are certain key things you need to do and I would think R&D and IP being located in Ireland are key to getting that foreign direct investment and keeping it. What we are seeing is that there is definitely a bigger drive towards external manufacturing and even the manufacturing of new product. It is something that is growing in the last four to five years and that wouldn't have been considered previously. It’s not necessarily a bad thing because the product can still come to Ireland but it's not necessarily coming to our site. When we can do all the R&D then we can own all the IP and we can have the supply chain but not necessarily have the headache of the manufacturing.*

[Participant 5].
Whereas Participant 7 noted the ease of doing business in Ireland as a key factor:

As we bring in new financial systems one of the things that’s very clear to us, is that compared to some of our colleagues in other countries, we have a very simplified rule system. There is great ease of doing business here and when it comes to vat the rules are generally very simple. Customs regulations are generally very simplistic and very easy to follow also. There’s an ease of doing business that American companies and other international companies like about doing business here. When you go to France, Germany or Italy they find it a lot more difficult and more complex to do business. I think that this started in the 70’s and 80’s when the government really tried to simplify things here with the legal processes. If you’re setting up new company structures here you will find that going through the Irish legal process has, due to successive governments being pushed by the IDA and American companies, been simplified and access to legal services is easy and it takes away complications. I work in contracts quite a lot, so when you work with an Irish contract you will see much more simplified language over the last 10 to 15 years. In a UK contract there is a little bit of older English and you can American contracts with language from the 1700’s.

[Participant 7].

While Participant 3 summarised, the biggest challenges facing Ireland but also noted the importance of education:

Ireland is driven by tax and that’s the main reason companies come to Ireland and not for the skilled labour force. However, these tax rates are being threatened from a number of different areas. One is the drive for a European common tax base, second is a worldwide push to tax multinationals which is coming from Europe and finally there is a reduction in corporation tax in the US - all of these are going against our tax system. There is a feeling that this will result in us being forced to push up our taxes from our current 12.5% rate which is the main reason they are here. The second challenge is that there is a whole new wave in the pharma industry which is around novel therapies. Therapies such as vein to vein fall into this category and Ireland isn’t suited to this because you need to be in a good central location to compete in this space. You need to be near a big airport so while other countries are attracting them, we are not attracting any investment in that sector which is a big issue. The third reason foreign companies were here over the last 10 years was our available workforce and lower labour costs, but those costs are increasing. We are still attractive relative to the countries that compete with us for investment and while all other countries may have the same problems this levels the playing field and reduces our advantage. The fourth reason is the political push in the US, driven by Trump to get manufacturing jobs into the US, which is a problem for FDI into Ireland. The fifth issue is the supply chain shortening and that has an impact on moving stuff because if you shorten the supply chain enough, they go straight into the US. You have to look at those factors that are influencing FDI into Ireland. . . We need to increase the supply of engineering and the attractiveness of engineering; we spend billions in Ireland on the SFI (Science Foundation of Ireland) on early-stage R&D trying to develop our own high-tech companies and personally I think it’s a waste.
The money should be spent on improving our universities as creating graduates is going to be key going forward.

[Participant 3].

4.3.4 Job Losses Due to Automation and Artificial Intelligence

From the primary data collected for this research it is strongly apparent that automation & artificial intelligence do not affect jobs within the life science industry. Further to this given the nature of the industry, the advancements in these areas have often been beneficial to Ireland’s highly skilled workforce. These benefits have led to some Participants believing that this is an area that the Irish educational system should focus on further:

*I haven't seen to date any negative impact of increasing automation in the industry and I don’t know how that will fare out in the coming years.*

[Participant 8].

This was supported by Participant 9:

*I don't see that it will, not in Life Sciences anyway.*

[Participant 9].

Whereas Participant’s 3 & 6 provided further insight into the role of AI:

*I don’t think Automation is an issue. Artificial intelligence is more of an issue, but it’s impacting other sectors rather than pharma. Pharma manufacturing is relatively low labour intensive and much more capital intensive. I don’t think either of those has a significant impact on Ireland in terms of pharma manufacturing.*

[Participant 3].

*I think we are not at that level yet. I think artificial intelligence is giving us data much quicker and it gives us a lot of good quality data. I don't think it's going to be robots replacing people, but I do think it's going to be very good at driving up the speed of information. Its going to change how adjustments can be made in processes and stuff like that and I think it's going to be good for saving money and saving in processes. I can't see it replacing people right now because at the end of the day when you first get*
the data you need the people to analyze that data and see what it’s telling you and to look at trends and stuff like that. I think it’s more important that we make what we do more efficient but I don't see a massive number of robots replacing people.

[Participant 6].

Participant 1 provided an overview of how it is affecting other industries, but positively affecting the Life Science industry in Ireland:

*I do think it will impact at the manufacturing base but when you look at advanced medical devices, pharmaceutical or bio companies, I think artificial intelligences and automation only enhance the human element that is required. I think that if your major Foreign Direct Investment is high volume assembly then you would have serious concerns about where it is going. You are seeing some food plants now where you have 6 or 7 people running them whereas in the past it would have taken 30 people to run the same production facility. Now because of automation they don’t need to hire as many people at technician or operator level. A lot of that work is gone and you now have somebody with a diploma or degree being able to run multiple systems within the facility. I think the fact that we are dealing with very advanced manufacturing operations and in some cases, very sensitive material in those operations you will always have a place for experienced professionals. The value chain in Ireland is a little bit more advanced than heavy assembly.*

[Participant 1].

Participant 5 provided some further specific examples of the Life Science sector highlighting the benefits of automation:

*If you look at ####### you have a fantastic example of automation driving a business. Their efficiency and how they've integrated their equipment is absolutely amazing. It's a massive building with production line after production line. You see the older ones all the way up to the much newer ones and it's just so automated. What is also great is that they've used Irish companies to build whole capability where they are linking different machines together. You're putting raw material in one end and at the other end you're getting a finished product with very little interaction in between. From a quality perspective everything is monitored and you have real time monitoring. I find that the industry is definitely moving in that direction, it's moving in the direction of automation, artificial intelligence and robotics. We are currently way off having a lights off plant but we're definitely looking at it. We have funding in place to do a further study on it and I think this will help keep the multinationals here. . . If I go back to 1994, when I started in the industry, and compare what operators were paying then to what we're currently paying operators it seems that we are overpaying now. It's not highly skilled work and we are paying way over the odds and companies are definitely aware of that. We have guys here who have got a leaving cert and are earning over €120k a*
year and that’s without breaking a sweat. It's disproportionate and a lot of companies are in that situation. Whereas you pay an automation engineer the same money but he’s automating your system, and one automation engineer is equivalent to four or five operators so you're incentivizing that high scale.

[Participant 5].

Whereas Participant 7 outlines the type of jobs that are affected by new technologies:

A little bit, but mainly the lower paid jobs that would have been in accounts payable and order processing which are the kind of jobs that have already left Ireland. I think the new robots they have put in place and the new AI that they have put in place will hit those kind jobs as opposed to the harder jobs. You still need the free thinking, innovative problem solving, higher level jobs and I think that Ireland is very well positioned for that. The impact will be minimal and so rather than being a servant of the technology, we will make the technology work for us.

[Participant 7].

This is further supported by Participant 4 who outlines some of the further benefits and challenge of these technological advancements:

I think it all adds up if it's correctly implemented. With artificial intelligence and assistance there's still somebody there, it's assistance, it's mistake prevention, it’s mistake proofing. It's taking the dirty environmentally heavy repetitive tasks away in terms of automation but all that really happens is that you start doing twice as much. Instead of the single line, you start looking at spreading the portfolio or other options. I suppose you have to embrace that AI, embrace the robots and technology but if you haven't figured out what you want to do then it's the greatest waste of time in history. There will be plenty of places that will have invested in AI and won't know what's going on and may find they run aground.

[Participant 4].

While Participant 2 discusses the impact on indirect employment:

I think digitalization is going to be big in change management over the next number of years, maybe not so much in the Life Sciences end of things, but probably more in the management of data and data analytics in terms of industry4.0 and capturing all the data. I think it will provide efficiencies in terms of operating the plants but I’m not sure how it will affect the head count of running a Life Sciences or pharmaceutical plant as head count wouldn’t be huge presently as it’s already highly automated. I’m sure it can become more automated but more in terms of becoming more efficient operating and handling data. Maybe it will have more of an impact on the indirect employment. I do
I think it will make an impact on the engineering and service sector, but I do think industry 4.0 is still a fair bit away in terms of making an impact that changes our model of delivery. There are so many different platforms out there and they are all discrete so it’s very hard to get them to talk to each other. I think we’ve got a bit of work to do before you start reducing headcount, but I think it will happen gradually over the years.

[Participant 2].

Participant 10 highlights the importance of the correct educational systems to support these advancements:

I think that if you are looking at artificial intelligence and all of this type of computer-based science then you need to have a massive workforce that will understand it in the background. I think that in the long run it may make manufacturing cheaper but we also have to have a huge amount of resource behind it that will keep it running and maintain it. It's a new science and we need to make sure that we have the right science associated with it as well. We should also make sure that we are on the cutting edge of these new technologies and that we have the correct courses available.

[Participant 10].

4.3.5 The Governments Role in Job Creation

In relation to the Governments role for job creation for the Life Science sector this study has found very mixed opinions on this issue. Overall the research shows that the Irish Government, through Corporation Tax, and the IDA have performed exceptionally well in attracting large scale FDI to Ireland. However, beyond that there are very mixed opinions on job creation within the sector:

The government has driven the low Corporation tax rate and I think the central parties have done a great job. We are at the top of the stats when it comes to encouraging large multinationals to come here spending a lot of money giving high paid jobs. I think the government has done a great job.

[Participant 6].

This was supported by the first Participant:

Governments change and their focus changes from year to year and I do think that in Ireland, the Government has been very aware, of the importance of the Life Science
Sector. They have protected it from their taxation policies right through to ensuring that the education system is geared towards delivering as many graduates with the appropriate skill sets as possible. From what I see, I do think the overriding output from Government demonstrates that they are aware of the importance of this sector and ensuring that the colleges are properly resourced to deliver the graduates.

[Participant 1].

Whereas Participant 7 highlighted the outstanding efforts of the IDA and certain individuals within the organisation:

The years that I've been involved it has been good. We have had some very good engagement with the IDA and with the exception of last year, I was on trade missions with the IDA where they had set up an arm to help smaller companies get engaged with bigger companies. The whole idea of it being that rather than buying it aboard is to buy it here. You can then develop your talent base and the subcontracting base in Ireland. They've been really trying to use their influence with the big multinationals, to introduce us to the really small companies that normally find the doors were very firmly shut. Now some of that is probably down to the personalities of some people in key positions within the IDA who've been really passionate about these incentives. It will be interesting to see when covid dies away will the newer people still maintain the drive and be as keen to build those relationships. In some ways it was a pain in the rear end having to take a day off site and go through speed dating with 100 companies. It's amazing what you learn and it's amazing that we have so many Irish companies. I would never have known that if we didn't have those sessions. Those kinds of events are critical and they literally get 3 minutes for them to sell you what they were doing, it's a really fantastic process that's very well managed.

[Participant 7].

Whereas Participant 8 looks at the education system as an area that should be driving job creation through innovation:

I suppose the IDA are very focused on bringing in the foreign direct investment to continue to support the jobs in the economy. There is a focus on, and not just in the Dublin centric model, but in the regional areas to encourage jobs outside of the big cities. There are retraining schemes available and there are other support structures for people where they are funding degrees for people who are upskilling. They have those initiatives to try and support people in continuing to get the right education for working in these jobs. There always can be more and there are areas in the educational system that we're not quite focusing on it, that will contribute to future jobs, like artificial intelligence and automation and there's mention of more robotics. These types of areas will create jobs in the future for our kids. Our education system at second level, hasn't changed in good number of years and perhaps that's something? It's more and more in the media now, it's something that maybe needs to take change. People are not
getting jobs for life anymore and people need to be able to adapt, to change and to be innovative about how they get through life. Our second level model perhaps is not setting them up as best as it could be. We think the (education) system is fair, where we put our kids through a Leaving Cert, where we study the same curriculum, where we answer the same questions and where we come up with an answer and we convince ourselves it's fair. It's not necessarily fair to people who are disadvantaged, or different classes of people who continue to be underperforming so perhaps that is an area they need to look at.

[Participant 8].

In contrast to this Participant 10 does not see the benefit in some of the available schemes:

I don't see it as being very visible within the life sector. They have these courses whereby they take people who are trying to do bridging studies and come into industry. Unfortunately, the focus is more about trying to get people into work rather than making sure that they have the skills for the jobs they are assigned to do. They're not necessarily always the right candidates for the roles that they'd be put forward for. They are not necessarily always the right candidates who would be suitable for industry or suitable for Life Sciences type of a role. Maybe they need to be vetted a little bit more.

[Participant 10]

This is further questioned by Participant 5:

With the third level piece as well are they really investing in third level? I know that the various third levels are always moaning about the lack of funding and I know there's always two sides to every story, but I would think that they're probably underfunded. You need to make sure that they're properly funded and I think the government are probably doing a good job with the likes of the IDA. In terms of the links with the EU and how we're fighting back against the constant sniping at the double Irish or triple or whatever you want to call the whole tax thing. This is done very well and the structures that were put in place there were done well. To incentivize and initially bring in foreign direct investment.

[Participant 5].

This is summarised by Participant 9:

My own opinion is that the best thing they could do is ensure that plenty of qualified people with the right skills and plenty of them are available to work in the sector.

[Participant 9].
Participant 4 highlights that the issues with the skill shortage at technician level:

*I suppose what I expect out of them is that they can deliver trades people and run an effective apprenticeship program that can get us the likes of calibration technicians, technicians, and fabricators. We can't all be sitting behind a desk with a calculator somebody needs to go and cut the steel or weld it or polish it. It is those skills and it is trying to find an effective leaving cert system that gets people in the right stuff. The dropout rate is brutal. People are disappointed by what they think their careers are. How do you get kids educated and get them experience in these things so they can understand where their career can go?*  

[Participant 4].

Whereas Participant 2 does not see any government support:

*In terms of the service sector we wouldn’t see a huge amount from our side of things.*  

[Participant 2].

While Participant 3 believes the reason for lack of additional spending on job creation is due to restrictions on Government spending:

*The IDA do a decent job attracting pharma investment against other countries. To be honest I’m not sure what else they need to be doing. Any additional spending in Government support has to be paid for from taxes, so you’re increasing taxes. That makes us less attractive.*  

[Participant 3].

4.3.6 The Impact of Globalisation on Ireland

From the empirical research it is profoundly evident that Ireland has significantly benefitted from Globalisation. Initially this was through foreign owned corporations establishing operations in Ireland, however it has also allowed Irish businesses and workers expand opportunities on a European and global scale:

*Ireland has been very good for a lot these multinationals and obviously we have had a reciprocal effect on employment and revenue here.*  

[Participant 1].
These views are supported by a number of Participants:

_I suppose if you think about it Ireland it is a very small country with a very small population. The amount of FDI investment we have in Ireland doesn't make sense and what globalization has meant is that we can encourage FDI into Ireland. Globalization has allowed for FDI investment into smaller countries like Ireland._

[Participant 6].

_There are more opportunities for us to work in more global roles to support a global organization rather than just support its local sites. It’s opened up opportunities for the workforce in Ireland._

[Participant 5].

_I think it's been fantastic. I have a European role and I look after quality in 22 different countries from a commercial distribution standpoint and I look after a distribution model of product on a global scale. I think globalization has really opened up opportunities for people in Ireland to take on bigger roles than previously._

[Participant 10].

_I think there is a cohort in the labour force in Ireland that are now very mobile. If you look at our day-to-day jobs we see people who are willing to up sticks and move to European countries and other foreign countries to follow the project. Access to these jobs is so easy that with the click of a mouse they can find opportunities in any country in the world. This is definitely is taking some of our labour force abroad for the opportunities out there and then they come back. They do come back and bring that experience with them so it maybe it comes back to eventually. However, it will attract people away from the country also but in the other direction, people are coming from other countries into Ireland. Ireland is a place where they know they can get really good experience where they can get well paid and it's a nice stable country to live in. Overall, I think globalization hasn’t done us any harm to date._

[Participant 8].

Participant 2 provides details on how globalisation has allowed Irish businesses to expand internationally:

_There are a number of other companies like ### who, over the last 40 years, have grown up in the Life Science industry and have been able to expand overseas because of these relationships. With ### when you look at the relationship with our clients, 15 years ago it was all very concentrated in Ireland but now we have got US operations and we have strengthened our European operations and which are now linked up. Globalization has been really positive from the ### Point of view in that we’re working with a client in the US, we’re working with the same client in Switzerland, and in Belgium and we’re_
all linked up. It allows ### to collaborate globally in terms of bringing the right people to those clients and projects. . . It’s allowed us to grow as a company and it helped with strengthening our financials but it has also allowed us to trade through peaks and troughs that are the nature of the projects part of our business. The Cork office is currently going through a trough as a number of large projects have just finished, but because of our reach the Cork office is currently supporting projects in Switzerland, Belgium and the Netherlands, and this week we are probably going to be supporting projects in the US as well. Fifteen years ago, that wasn’t possible, we would have had to release people, it’s also really positive in terms being able to provide the expertise and the knowledge that we’ve gained over a number of years. I mean, it’s great to be able to support clients outside of Ireland as well.

[Participant 2].

Whereas Participant 3 highlights future issues with Globalisation:

Multiple studies show that Ireland probably one of the most globalized countries in the world and is one the biggest beneficiary of globalization . . . The issue for Ireland is really the slow down in globalization. Less globalization and more nationalism will have a negative impact on Ireland as well as the life science industry in Ireland.

[Participant 3].

While Participant 4 highlights some of the good and the bad aspects of globalisation:

Globalization is the good the bad and the ugly of everything. If we didn't have it how would we have managed to get through the pandemic, but is globalization the reason we got the pandemic? It brought the jobs, it was the catalyst for us. We have huge companies now that are Irish and have gone global and it’s powering the economy. I suppose the challenge for the employee is that you have to mind yourself and you have to look after your career even now as an operator. You have to perform because you know you could be chewed up and spat out on your own. You could be chewed up and spat out as a result of corporate decision to close a plant or just down size. For employees it’s about staying on top of your game and performing and for some that brings stress. In General Semiconductor in Macroom there were 1000 people employed and it was booming and then it went bust. It was still a hugely profitable plant but the .com bubble burst and there was stock market cut, and in globalization innocent bystanders got caught. You can be performing but you can just be in the wrong place at the wrong time.

[Participant 4].
4.3.7 Contract Employment Replacing the Job for Life

This study has shown that over a period of 20-30 years, the job for life has been eroded and replaced more commonly with contract employment. The underlying belief is that this is driven by Multinational companies’ headcount and financial targets, however the research demonstrates that there are additional factors at play, such as technological advancements, requirements for companies to scale up or down to meet market demands, supply of employment opportunities and changing mindset of younger generations. The empirical data also highlights that although this change of employment conditions may be driven by companies, it is not always to their benefit:

I definitely see it but I see it slightly differently as I am here 27 years one site. I’m not in a job for life because I have moved jobs since I got here. When I started here first contract work just didn't happen. Nowadays there are more contractors on site and now such a substantial part of my team is made up of contractors that I'm nearly measured on it. What I see is more people who are more willing to change roles or take risk which I think is a generational thing. I’m not a millennial, I’m the previous generation and I’m probably more risk adverse when it comes to changing role. However, I do see that the younger generation are more willing to risk rates and not necessarily for contract roles. They don't see it as a bad thing, and they will take risks to change job to a different company. It’s not for everybody but I do see a big shift in terms of generations and in people in their 30s now and younger. If an opportunity comes up somewhere else they won't think twice. I think maybe it comes from the fact that when I went looking for work after finishing college there was nothing. There was very little work so when you got something you tried to hold onto it and that was the psyche all along. When you grew up in the 80’s in Ireland you saw the massive drain of immigration so when somebody got a job they clung onto it whereas now there’s lots of work out there and there is lots of opportunity for people. I don't think they're looking to constantly move but I think they're more willing to take a chance and that’s different - it’s not that they want to move but they would take a chance. I also think there’s definitely a confidence level in that age group that wasn't there in the previous generations. I think if you look back to the 80’s, when somebody went away to Australia they were gone for a long time but now it’s different as it’s easier to get back so you see a lot of people travelling back. It's not only easier to move but you can Skype somebody or you can FaceTime somebody so it's far easier to stay connected, whereas before if you went away you didn't see anyone for a year at least.

[Participant 5].
This is supported by Participant 1 who cites the Global Financial crisis as the catalyst for in this change:

*Yes, that’s been a definite change. I think years ago that when you got a job in the local dairy or a job in the local bank and you had a job for life. You were seeing people with long tenures and it wasn’t unusual to see people spend their working life in one organisation. Now you’re seeing that change dramatically and I think one of the things that has changed is that even when people spend quite a number of years at a one multinational it is not unusual to see that they have worked at three completely different jobs or disciplines. This means they effectively had three careers but all hosted by the one company. You have the element of international travel where individuals go into a company at a certain level in Cork or Dublin but end up employed in the US or somewhere in Europe. You are also seeing change driven to the level of employment as this sector has been a consistently high employer of people in Ireland through thick and thin. In 2009/10 there was a dip in employment and while there were still opportunities they tended to be for shorter contracts. People were far more accepting of that because it was becoming part of the culture that people would take a job, work for a year to gain experience and then move onto the next contract or to the next opportunity. Given that so many of these multinationals have quite similar practices, systems and producers its relevantly easy for someone to move from one organisation to another and yet be quite comfortable with the infrastructure of how it works. As a result of this I think we are seeing a far more flexible and mobile workforce in Ireland.*

[Participant 1].

Both Participants 9 &7 further supported this by providing an employer’s perspective of the differences between employee and contractor in the workplace:

*We have two categories, we have contractors that are not directly employed - they are here to fill a specified purpose and when that project, or when the job is complete, they will move on because there is no need for them. On the other hand we have staff who we hire directly. They are hired almost inevitably with a view to a permanent job and so, you're looking at them on the basis that this person will be employed for a long time. It is, therefore I suppose, easier to hire contractor. You would be much more willing to take a chance on somebody if you are saying this isn't a definitive commitment and you have the option, if it worked out well, to keep them, or maybe move them over towards the staff role. Whereas when you are hiring somebody for a staff role, it is like getting married, you want to be really, sure.*

[Participant 9].

*The product technology jobs which for us, being a pharmaceutical company, are anything to do with the microbiology, chemical and process engineering side are effectively is still a job for life. The supporting roles, though, are specialist and*
transitory so what we’re finding is the business support roles are the ones you can outsource. They’re the ones where you don’t have to have that same person in role for years and years. You’re hiring the specialist of the day for the day or for the year because your technology will have changed in two or three years’ time and at that stage you might need a different skill set so you’re seeing other people transitioning through. ###### is probably slightly different to many pharma companies in that we have a lot of contract staff supporting the site because the site has been growing so dynamically. Some companies are very, very rigid and even if it’s an eleven months contract or 23 month contract we’re probably gone quite a bit beyond that. We acknowledge that this probably opens us up to employment risk but at the moment we’re seeing the benefit that we are driving from those contractors which we feel is more important than the potential leakage through compliance. We are trying to manage this and we are trying to make sure that we have that fine balance established which ensures you keep the core technology jobs as jobs for life but all the other supporting functions will be contractor roles.

When probing further, the researcher found the major benefit of the contract workforce for the employer:

One benefit is that from your ratios with the investor market it shows that you have a lower employee base. You might have the same expenses and the same expense number but in terms of employees and your ratios it looks much better with the investor market. It probably gives you a lot more flexibility as well as projects ramp up and then goes down as technologies change again if you go back fifteen years ago, ###### was very much a small molecule and a traditional chemical manufacturing site but now we have transitioned into one of the biggest biotech manufacturing sites in Europe. We thought that small molecule was gone three years ago because the small molecule and technology was fading away, but biotech was overtaking at very serious rate and the newer drugs which can be through in small molecule were much lower in volume but much higher potency. Three or four acquisitions later and now suddenly it’s the small molecule business that we thought was fading away that is back competing head on with your large molecule biotech business and what you’re seeing is a lot of transition back and forth. As you scale one down you ramp up another even though some of those people may not be easily transferable from one part of business to another. It gives you more flexibility in having contract staff so that you can let off some staff when you need to but then very quickly staff up again for short periods of time when you need to which gives you more flexibility in your staffing. It allows you hire specialists for a short period of time that are quite expensive and then when the need for the absolute specialist is gone you drop to a tier below that.

[Participant 7].
Participant 2 provided a similar overview, while also outlining some of the challenges a contractor workforce can cause:

It’s driven by companies that want to have a flexible workforce and be able to ramp up and ramp down as required though in terms of our own sector I feel at times that it’s actually driven up costs. For example when I look at our own company and when I compare Ireland to the US we can see that there is a very strong contractor employment type approach in Ireland and our headcount here is 50% staff and 50% contract whereas in the US, it’s probably 10% contract to 90% staff. I think that foreign direct investment may have facilitated that contract employment. They look at it and they say that it’s a cost issue and to drive down costs they need to have a certain head count on site. In my own view I think it has driven up cost for example, an engineer finishes college and joins a company like ours and after about three years can probably double his income by going contract but if he stayed within a staff role we could probably manage the costs more effectively. I think in some respects it has actually driven up costs as you need to invest a lot in people in terms of getting them trained up and getting them proficient and then they’re off again. It can also be unsettling in terms of being able to build a cohesive strong team as it can lead to a large turnover in personnel. One of the things that our clients ask about is how long are your team together and have they worked together as a cohesive team. If it is very repetitive work then staff turnover may not have such an impact but when it’s complex work requiring a lot of coordination and communication it doesn’t help when you’ve got high turnover of staff.

[Participant 2].

This is supported by Participant 8 who further highlights the challenges for employers while also noting the generational change of mindset:

From an employer perspective it makes our life difficult because we want to keep the good people here. We invest time and effort in training people and in working with people and if there is a continuous movement of these people away or into other jobs or other opportunities then it costs employers money. From that perspective it can be challenging for an employer to retain people. On the flip side we want our employees to develop so we have to create an environment where they learn and where they feel challenged which in turn may also mean they will ultimately move on. It’s a bit of a catch 22. From an employee perspective it’s probably a feature of the younger generation. They’re more willing to move and they are more willing to stand up for what they want. If they want a particular rate they will go for it and they are probably more demanding in what they want and where they want to be based. They have expectations of life that I personally didn’t have 20 years ago when I was just happy to have a job, but I do think it’s a generational thing.

[Participant 8].
Whereas Participant 6 provides further insight into the need for flexibility from an employer’s perspective:

*From a business perspective this is what is needed. The flexibility is good for FDI for Ireland as when we are trying to encourage people to invest money in Ireland we have that flexibility that we don’t have to go permanent employment straight away as we can use the contractor model. This is important because a lot of the FDI industry labour in Ireland is non-unionized. That is not the situation everywhere but it is true that the vast majority of FDI multinationals are non-unionized and that is a major factor. I know that in America in two or three of our sister sites the labour force is unionized so if they want to expand or contract, they don’t have the flexibility to take on extra people or to take on contract people as we do in non-union sites. We have a contractor model here for our operators and for support staff and we are able to be flexible and that’s the important part for us as we can flex up and down with demand grows or falls.*

[Participant 6].

While Participant 3 believes the change of employment type it is firmly driven by the need for headcount reduction:

*A job for life is gone for 20/30 years now. People move between jobs and don’t stay in one company the whole time. There has been a shift and that shift has been driven by people who were being paid as an employees and are now being paid as a contractor. It’s been driven by companies wanting to be flexible in terms of the fear of the liabilities with permanent staff. It’s also an accountant’s point of view that headcount is bad and reducing headcount is good.*

[Participant 3].

Whereas Participant 10 believes that contract employment is hugely beneficial to employee’s as it can keep them fresh and engaged:

*I think it's great. I think it's very hard to stay motivated and engaged in the one job for life and I think you have to keep reinventing yourself to be able to stay engaged and stay committed and energized. That's not easy if you're doing the same role but if you're specializing in contracts for specific bodies of work it's probably easier to stay motivated. Of course it comes down to personality type as well but the biggest drivers of productivity are engagement and motivation. If somebody is moving to something new where they are engaged and motivated by the new experience they will be more productive.*

[Participant 10].
4.2.8 The Impact of the Global Financial Crisis on the Life Science Sector

It is observed from the research conducted that the Global Financial Crisis or Crash of 2009/2010, unlike most other industries, did not have a significant impact on Life Science Sector in Ireland. Despite this, throughout the course of the research, there are examples of where permanent jobs where made redundant, albeit it on a voluntary basis but were replaced by short term contract employment:

*It had an impact but it didn’t have as serious an impact as it might have had on other sectors within the country because quite a number of those companies still had projects running. What we found was that budgets were controlled far tighter and it wasn’t unusual to see people take contract jobs for three-month stints or six months. What had affectively happened was these companies had over cut on headcount as they responded to the down turn. They had long serving members of staff and redundancy packages which were generous and were accepted. As I said at the very start the Life Science sector tends to be pretty rewarding for individuals who have worked there for a period of time, so they took their packages. . . As time passed companies found that they had a number of different tasks or opportunities on the site that were really significant to that plant and they realised they didn’t have the cover internally and so they had to bring in external resources in to fill gaps.*

[Participant 1].

These views were supported by Participant 7 who cited pay freezes and the removal of all non-discretionary spend:

*It had an impact in the construction sector that would have supported us because we might have been a bit more conservative in our investments. . . We backed off on a lot of our discretionary spend and if it wasn't mission critical or if it wasn't going to stop production tomorrow then we would do our best not to spend that money. In terms of rate increases for contract staff, they were either kept to zero or absolute minimum. Employees went through a pay freeze as well for a time and anything that was discretionary was kept to an absolute minimum. Only the mission critical spend happened and then that has a knock on effect and you're not spending as much with your suppliers. Therefore they're cutting back on their funding and the number of employees they have cascaded downwards.*

[Participant 7].
Whereas Participant 2 noted that any slow down within the sector was as much about activity within the sector as the global financial crises:

*It is probably all tied in together to be honest with you and I suppose at that time in 2008 it had a significant impact in Ireland but there’s a couple of things that happened. We had the financial crisis number 1 and number 2 we had mergers and acquisitions in the pharmaceutical industry. We had a couple of major acquisitions and on top of that we had some traditional products that had gone off patent. There were a lot of things happening in the industry back in 2008 and you would wonder was it all because of the financial crisis. I think it did have an impact on the Life Science industry in terms of investment and because there were lots of mergers and acquisitions and consolidation of manufacturing. From a ### point of view it probably wasn’t as bad as commercial engineering, but looking back on it from a ### point of view, it was probably one of the few years that we lost money as a company. It must be have been tied into the global impact, and it was very difficult time. . . There was a big impact in Ireland when the financial crisis happened but I think it may have been more driven out of mergers and acquisitions and product patent than the financial crisis. I do think then probably clients did have more raising finance for investment because of it as well, so it’s the perfect storm.*

[Participant 2].

This is supported by Participant 5 who cited cut backs due to industry activity:

*My impression is that had very little effect. We did a small bit of a contraction on this site at that time and we did have job losses but that wasn’t really linked in any way to the financial crisis that was going on at the time. It was more linked to volume on site as our volumes were going down and you’re not going to maintain the same workforce to produce smaller volumes. We had a small consolidation but we cut and we had to bring back in a whole tranche of people, because people who wanted to leave left. It was voluntary, so nobody was forced into redundancy at the time.*

[Participant 5].

Whereas participant 10 noted cut backs in R&D that were later replaced by government funding to stimulate the industry:

*I really don't know from an industry perspective. At the time I was in research and I know that when the financial crash happened. some of the research money was pulled but then there were big grants put back in to try and reenergize the Life Sciences sector. There was a lot of government funding pumped into research about 13 or 14 years ago so in some ways things might have slowed down a little bit but the money that was pumped into research certainly then fed industry afterwards.*

[Participant 10].
Participant 3 outlined that any slowdown was only short lived:

Definitely a slowdown in investment because of overall uncertainty with companies pulling back and retrenching. This only lasted a year or two and then the FDI continued. It was a short-term issue, not a fundamental issue.

[Participant 3].

This was supported by all other Participants:

It just hit us a little like a pause button. Healthcare and all those industries are dependent on more people entering the middle class to drive growth especially in the BRIC countries (Brazil, Russia, India & China). The US will grow as the population grows because it's a huge economy. The untapped population of China, India, Russia, Brazil and getting them into the middle class is key to the growth of the industry. It was about analysing what's the effect of that on our growth model and it drove a pause, that caused a hold off on investing.

[Participant 4].

I don't think it had any direct impact and while my experiences are limited to one company, what I've seen is the company tends to go through their own cycles' ups and downs. If you look around at every other Life Sciences company in the Cork area, you can see that they all seem to go through phases of expansion and phases of contraction. They all seem to happen at different times. It seems to me that those big corporations did their own internal cycle and that appears to be independent of the client to crash.

[Participant 9].

Maybe I'm being a little bit naive, but I would say it didn't have a huge impact. Things certainly got tighter in the Life Sciences industry, but I would say if you look at the industry or look at the country more broadly the Life Sciences weren't the worst hit. I think there was a dip in 2009/2010 but I think Life Sciences recovered very quickly. Maybe I'm wrong, but I would say other industries suffered more.

[Participant 8].

Very little so if you look at where we are in medical devices our growth trend has been huge since then. Maybe it some effect because look it hit America as well and there are a lot of hospitals in America or private hospitals, so it depends on who is affected. There might be some effect on demands that we might have seen, but across the world very little because it's medical devices and if people are in pain and our products make people's lives better, they're going to spend the money. It might have had some small impact, but I'd say very quickly it moved on, so not a huge impact.

[Participant 6].
4.3.9 The Decline of Trade Unions in Ireland

This new study shows that the role and presence of Trade Unions Ireland has declined considerably in Ireland in recent decades. There appear to be a number of reasons for this decline including, improvements in working conditions, as well as employer-employee relations, an anti-union stance by a large number of foreign owned corporations as well as the evolution of manufacturing and production in Ireland leading to a more knowledge-based workforce. Despite this decline and the challenges associated with dealing with Unions many Participants felt there was a need for some union presence within the Life Science sector, as well as some of the benefits and advantages of working with Trade Unions.

Participant 6 outlines some of the reason why many foreign owned corporations have adopted an anti-union stance:

*FDI has not encouraged union membership because of the flexibility of not having a trade union - having a union definitely makes it a lot more difficult and it's like having another stakeholder. It’s important to stress though that because of FDI these jobs are really well-paid with pensions and bonuses. Every person is treated really well and that applies to all levels in the organisation. It just means that unions sometimes are fighting for something that they think people should get because of entitlement whereas within FDI there are well paid jobs and people are well looked after. The first thing is that all employees are well paid and looked after properly. Second thing is we need the flexibility to allow for demand shocks allowing us to move up and down and to be able to negotiate with the employees directly and to be able to move faster. Trade unions have got a very bad name in manufacturing in Ireland outside of FDI. If you were in Waterford Crystal or Dunlop’s in Cork, both of which were heavily unionized, you will know that unionisation cost the workforce money and they didn't see the benefit after.*

[Participant 6].

This is supported by Participant 10 who further stresses the need flexibility within the sector:

*My personal view on trade unions is that they think they can slow things down and make change very, very difficult. In order for the Life Sciences sector to succeed you have to be able to change, you have to be able to adapt and I think a lot of private companies have really educated the workforce on this and the staff now know where
their bread and butter comes from. It's about foreign investments and it's about maintaining it and over time the work conditions were improved. They're now at a point whereby people understand the nature of their business, they're engaged, they're motivated, they'll go the extra mile and they're not terribly interested in trade unions within the private sector. I suppose they do view them as maybe blocking progress in some ways especially when you hear about teaching unions and hospital unions and what they do in the public sector. There's also a huge focus in the private sector on employee engagement, there's a huge focus on ensuring that employees are heard and on diversity and inclusion. I think that workers appreciate the transparency and the openness and the collaboration that the sites would have in order to ensure that the companies stay here. I think the trade unions haven't gained popularity in the private sector because people are happy enough with their working conditions. They're happy enough with their roles, they can have direct conversations with management, and they can also see that management take action because the management do not want trade unions coming in as they can hinder progress and they can slow things down and make Ireland non-competitive in a multi-sector world. If Ireland becomes non-competitive then we really are in trouble so I think both management and workers can see the benefits of working together without a trade union.

[Participant 10].

Whereas although Participants 1 & 3 align with these views, they provide an overview from both an employer an employee perspective, while also outlining the need for some Trade Union presence:

In the Life Science sector the large manufacturing facility plants are very complex and highly automated facilities. The trade union influence and base would be more focused on the operator or technician level which wouldn’t be as significant here as it would be in more traditional industries. I also think as these companies evolved the individuals they brought in tended not to have any union background because they simply were not in those types of jobs in the first place. You also have to take into consideration the fact that remuneration was quite good with very good packages and good benefits so there wasn’t really a strong requirement for a trade union. Due to the good working environment and the fact that the whole thing was designed well enough that employees felt rewarded and I think because the large Multinationals particularly in Life Science tended to be anti-union, the unions struggled to get any great traction in the sector and as time went by they became a little bit out-dated. They still have a part to play in certain companies, particularly at technical level, but more and more you are seeing the companies move away from that model. I think trade unions also probably struggled a little bit to keep pace with the explosion of these companies in Ireland. Unions not only struggled to keep pace, keep modern, and keep relevant to what the requirements of people on the ground were but were in fact were sometimes seen more as maybe
hindering progress at times. With this in mind I think the trade union movement would have quite a difficult time in trying to become relevant in this sector.

[Participant 1].

I would say that the decline in general is partially because trade unions have always been more focused on basic manufacturing and low skilled or lower wage industries. The type of people employed in the private sector are more knowledge workers and the demand for their skills has meant that they can move to another company easily so they don’t need to stay with companies all their lives. They can take their knowledge and move on somewhere else so they don’t need a trade union to represent them. I think they don’t see it as a good way of spending money and they feel the union is driven by people not seeing the benefit of it. I suppose in general, employers don’t want an organized workforce. Ireland’s approach to this has been a centralized kind of bargaining, so the country as a whole sort of agrees that we keep inflation down and limit it to two / three percent so there’s not a lot to be done at a local level.

[Participant 3].

Whereas Participant 2 felt the decline was due to improved management practices as well as evolution within the Irish production sector:

Within the engineering space there would not be trade unions particularly within the service industry. I would say in general their decline is probably more about ethics and good corporate governance in companies as well as the engagement of staff. I think the whole ethics and culture within companies, with their leadership or management style changing to become more inclusive, has resulted in employees feeling more engaged and there’s less need to have a union to defend people. I think also we have probably moved up the value chain as well in terms of what we are producing so I think the whole education and employee engagement has probably helped remove the need for a union.

[Participant 2].

Participant 7 provided an historical view outlining the rise and fall of Trade Unions, while also stressing the continual need for unions:

If we go back to 80’s, the employer-employee relationships were very different, with a much more hierarchical and more closed-door type relationship. There wasn’t just a glass ceiling there was a glass skyscraper and relationships like that were very adversarial. I think that some advocates were required for industrial relations and I think some of them maybe went a little bit too far. I think we went to the cycle where
unions were very good at helping people. When they were opening doors, they were getting engagement with management and they were helping people. Then some of them just went off on complete tangents and they became very disruptive and destructive. As a result of this barriers went up very quickly on the management side and there was a cold war between unions and management in some cases. American companies coming here generally tried to break down the barriers between management and staff. The fact that you didn't have to call your boss Mr. O'Brien every morning and that everything was on a first name basis helped. I've worked in small companies and larger companies where there were industrial issues and where there were friendly issues and I certainly think that the American way of doing business helped resolve those issues. This is the opposite to the English or Continental way and it certainly helped release that tension and started creating a lot more one to one relationships and friendly relationships along with a management team that was more willing to listen to what was actually happening on the production floor with the employees. . . We don't have unions here instead we have personal representatives who are attached to our HR team. They are our employees voice and the employees advocates within our management team. Their role is to make sure that they gather and engage the sentiment of employees, that they act as problem solvers for them and that they try to head off any issue before it becomes an issue. They will act as an intermediary between employees and supervisors if there's an issue or if there's friction there. The whole idea is that they get to the problem before it fester and becomes something so much worse than it needs to be. Lots of other companies have developed these kinds of relationships and I think in some cases unions have abused their position and the employees felt let down by them. There was a lot of populist politics in the workplace and the unions were promising the sun, moon and the stars and things that they could never ever achieve for employee. I think the employees got a bit deflated with that approach and then the unions lost some of their power. There are some very good unions out there and some of them acted in a very responsible manner and they've maintained a very good, healthy relationship with management teams. I think in general there has been a softening on both sides and now employees and employers can talk openly and freely and they have adopted a win / win policy. This occurs where both parties feel like they are receiving something otherwise you just get nowhere and you've cold strikes like the ones that occurred in the 1980's or the, the big strikes that were in the 70's and 80's. Ireland have lost so many big companies because of strikes and in some cases I'm pretty sure that some of those strikes were provoked just to give an excuse for companies to pull out. I think that a lot of that has died down significantly and I do still think that in some instances there is a role for unions epically where you don't have a strong PR type engagement from the companies. I think it's important for them to maintain the right level of activism and communication back to their employees and to not over promise.

[Participant 7].
This was further supported by Participant 8 who also felt there was a role for Trade Unions within the sector while also supporting the notion of their decline:

_I would think they have a role in life Sciences, but I would think it's quite minimal from my knowledge and I think where we come across trade unions is in the older companies. The older pharmaceutical plants in Cork dating back to the 70’s, 80’s and 90’s, those companies are where we come across trade unions._

[Participant 8].

While Participant 9 provides detail of the challenges of working within a Unionised company:

_We work a unionized plant and let's just say there are areas that would be less than flexible. You might be paying an employee a €100k per year and he could be working very hard and doing an awful lot for that or you could equally be paying €100k per year and you have a very poor employee but his wages are mandated and there are very strict rules, and what he'll do is sit there and say no, I'm not doing that, that's not my job._

[Participant 9].

Despite these challenges, Participant 9 further supported the view that some form of Trade Union presence was required:

_My view of trade unions is like a lot of other things ‘too much of them is a problem and not enough of them is problem’. I know people who work in non-unionized plants and I would say they're probably not being treated very well. I am not referring to the Life Sciences here I’m talking about people who work in call centres or in the IT sector where conditions are not great. I can see where it has led to some very strange situations. I know the government is looking at mandatory recognition of trade unions and I think that would be alarming to a number of US multinationals as they would be very anti that particular situation. Now we already have it so it does not bother us, but I know of people working in other plants and they would be firmly of the view that they don't want the unions on site, but they are needed. There is a counter balance effect, they have to be there, too much of them is bad not enough of them, or none of them will be bad also._

[Participant 9].
These views were further supported by Participants 4 & 5. Although, both Participants cited the challenges associated with dealing with the unions, both also discussed the need for Unions based on some of the benefits that were observed from dealing with unions in the past:

I've seen both sides fence during my career. I did a lot of negotiation with unions over the years and we had some tough discussions obviously enough. It may seem unpopular to some but I can see some of the benefits of the unions and I can see where it has benefited both sides. Collective bargaining often gets a bad name and I am aware of occasions when companies actively try not to have union membership on their site and they have gone to the Labour Court to say we're not going to recognize the union. I can completely understand why a company would not want to have union recognition on site because I've seen some of the practices that they have negotiated that have evolved over time that are sub optimal and really inefficient. They are in place because they were either written into union agreements or they were custom practice. There are examples of these practices and in order to get rid of them you need a buyout clause which invariably, with the unions, comes down to money and in my experience here in this site it all boils down to cash. The positive they would see from a negotiation perspective is that you are negotiating with smaller groups. If you have a group of 100 employees who are part of a collective agreement you are only negotiating with a group of five or six people on their behalf. You do not have to have people leaders negotiating with 100 different people and I definitely see that as being a positive. I may be speaking out of both sides of my mouth here but when I started work here the rates of pay for that type of work were ok, but they were probably still on the low side. The unions have definitely driven up the rate for people who are operators on the floor and craft, and I think they definitely needed to increase but where it's gone is probably different. I can see both sides of the coin and I and I've sat on both sides the fence as well! I can see why companies coming into Ireland are not keen on having union recognition on site. I think what you tend to find in unions is that it's not the younger guys it's more the guys who have been there for longer. They are more set in their ways and I would say that it can be very difficult to drive change, flexibility and cost reduction programs. I do still think that from a protection perspective they have something to offer and that they offer some protection for workers. I see it from both sides and I see the inefficiencies that are there and I see how difficult it is to make changes. It can be very difficult but if you can get the unions on board than positive things can happen because if you think about it, you can influence six people and they basically influence 80 rather than having to go to 80 people individually. They can get it over the line through a vote or whatever and you can definitely make progress as we've done here on this site. We have achieved many things though the union over the years. We have got pay agreements passed, we've got changes to shift patterns agreed and we have bought in contract operators all of which we have done through the Union. They have kicked back on certain things and we have had arguments and they may block stuff, so you have to be aware of that and follow due process in order to deal successfully with unions. I can see the positives and negatives of having unions and I can also see why companies wouldn't want to have them either. I think it is a bit naive to think that if you don't have a union that everything's going be hunky dory because making wholesale change can leave you with a very disgruntled workforce.

[Participant 5].
I suppose our company is a little bit hybrid as we acknowledge the union but we don't always deal with the union. We have shop stewards but really we have a consultation forum. We meet with the employees, we've stopped the efforts to block unions and we have focused our efforts on looking after the people. The feeling is that we can look after the people better than the union. . . Behind it all we’ve been able to achieve more structural change with union support than we had been able to achieve when we were thinking we were in control of our own destiny. By bringing people in and explaining to them what we wanted to do and here’s what it is and here’s the fair process, objectors were brought into line by their colleagues. Unions develop strength when people don’t communicate, and rumours thrive. Rumours like did you hear what he did to that person, did you know that he's been sanctioned, that's not fair and this isn't fair and they are treated differently over there and that shift is better all serve to further discontent which the unions exploit. The result is that inconsistencies occur because you start applying policies differently but when you have the union, you have a policy which you have to apply fairly and that actually drives better management practices. It's not something people would want to admit to, that they have inconsistencies in their organization, but when you go to the WRC, they will ask did you follow procedure? Did you give notice? Did you properly apply your procedure? If the answer is yes to these questions then you're right to continue but if the answer is no, and you haven’t followed due process, then it all falls apart.

[Participant 4].

4.3.10 The Influence of Shareholder Value

The empirical data shows that shareholder value is very much evident within the Multinational Life Science sector in Ireland, however the influence of shareholders or investors appears to vary greatly between the different corporations. Further to this, the data presented highlights that the expectations of shareholders and investors appears to have significant ramifications for the employees of a corporation. Participant 9 provides an example of the influence of share price:

I suppose it has from the point of your mergers and acquisitions. The first thing a corporation does when it takes over another corporation is go looking for efficiencies which is basically where will try and slash and burn. All mergers and acquisitions are driven by the need to pump the share price.
A CEO takes over and if the price isn’t rising then he has only a couple of options, firstly, the first thing he can do is go on a cost cutting spree to save money and then the next thing he will do is go for the big merger.

[Participant 9].

This is supported by Participant 5:

We’re going through something at the moment that’s driven by that, an announcement three or four years ago. Yes, it does absolutely, it trickles all the way down to smaller company like us.

[Participant 5].

Whereas Participant 4 highlights the short-term vision in both the Life Science and Electronic industries:

I am not an expert in this but I would say the problem with shareholder value is the quarter to quarter viewpoint of some companies. The challenge is who can actually set a vision that is longer than quarter to quarter. It is evident in my company and it was evident in the electronics industry.

[Participant 4].

This is further supported by Participant 7 who provided a comparison between Life Sciences and Electronics industries in Ireland, noting how shareholder value influence differs from industry to industry and highlights why long-term investment is more prevalent within Life Sciences:

That's a tough one. Electronics! I actually saw first-hand with Motorola where shareholders just destroyed one of the greatest technology companies ever run by one of the best technology groups. Shareholder swooped in and two years later Motorola was done completely. I probably haven’t seen as much in the pharma side because you have such long-term investments and it is probably a lot slower moving in some ways. It's perceived as slower moving in that your product lines and your product duration is a lot longer than in electronics. Mobile phones change every year, computers change every year to two years. Where drugs might have had a 20-year lifespan before but now it’s probably more 5-10 years until some new technology comes in and replaces it. I don’t think the life science companies have been hit quite as bad as the electronics ones would have been. Again, partially because of the investment in the infrastructure. If you look at our facility in Ireland, in the last 10 years, we’ve probably invested about $1.2 billion in just totally new builds probably. The latest building for a new drug is somewhere around the $250-$300 hundred million mark and when you look at the
investment required and the amount of cash tied up in buildings and plant it is significantly greater than you would have had in electronics, where electronics move so much faster, every year, a new phone or a new chip is out. Pharma tends to be a bit more grounded in that respect. I'm not probably seeing it as much as I would have in electronics.

[Participant 7].

Participant 1 further discusses the difference between short- and long-term investors as well as the potential disruption within a corporation that can be caused by short term investors:

If you have short term shareholders you are effectively looking at people who are getting in for a specific period of time and getting back out again and obviously that will impact the philosophy that organisations adapt. If you have somebody going in for two years they want a return so it then becomes an extremely commercial enterprise and they are going to focus on getting things done quickly. Whereas if you have a set of shareholders that are saying ok it’s a very stable industry and we have a product here that’s addressing an illness over a certain period of time and it’s a market leader well then you have a different culture. I think if you get shareholders involved where they are very much in it for the short term they are going to influence the culture in these organisations. However, if you have shareholders who are sitting back and taking a long view, a twenty- or thirty-year view, then obviously the culture and everything else is influenced by the direction of leadership that’s in the companies.

[Participant 1].

Whereas Participant 2 identifies that long term investment is essential to grow an organisation:

I really can’t answer that in terms of the foreign direct investment but in terms of ### shareholder value. Absolutely you want to increase shareholder value, and that’s about growing the business. In terms of ###, it is about reinvesting profits back into the business so that our balance sheet is strong so that we can expand and grow the business. Shareholder value is not about a quick profit and getting the dividend it’s about reinvesting in the company and strengthening the company and being able to grow and make it more successful and provide greater opportunities for the staff etc.

[Participant 2].

Despite the issues associated with shareholder value as well as it’s decline in recent time, Participant 3 notes that shareholder value was one of the key reasons for FDI coming to Ireland:

Shareholder value is declining. That whole concept was something that happened in the 80’s and it’s now declining in power. There’s now a thing called stakeholder value which looks at areas of ESG which are environment, social and governments, but there are other issues like sustainability and everything else which means that shareholder
value has gone down in importance. Shareholder value was the number one thing for 20 years until a few years ago and shareholder value was focused on tax. If a company is trying to maximize the earnings per share and earnings per share are driven by corporation tax or if you reduce your corporation tax, you increase earnings per share. That is why the tax piece helped Ireland.

[Participant 3].

These views are supported by Participant 6:

Is the shareholder and profit important? I do not think FDI investment would come to Ireland unless they thought there was going to be a profit and parts of that profit, if the business is doing well, leads to a good share price. The short answer is yes, I think it's very important.

[Participant 6].

4.3.11 Recommendations for Future Practice

From the primary research conducted for the purposes of this study the importance of the Irish educational system as well as a competitive tax rate cannot be understated when attempting to maintain a high level of Foreign Direct Investment within the country. Although the views on the most essential qualifications vary between Participants the overall theme appears to be that further a funding is required across the board:

It always comes back to when you are dealing with pharmaceutical products or medical devices as these are something that people are going to ingest or used in some way. A medical device an artificial hip or knee that is going into somebody’s body, so quality is absolutely paramount. I think that’s where Ireland really wins in that we have a track record of building these facilities, staffing them and adhering to very strict quality standards and understanding what is required. I think it’s back to Government to ensure that we continue to create an environment where individuals with that experience and the educational background to work within those parameters are continually produced.

[Participant 1].

These views on education were supported by Participant 8:

I also think education. I think we have to be hugely focused on where that's going next. I think that we can't sit back and think, brilliant, we have the Life Sciences industry here and we're doing great and we have tech and we have other FDI. I think they will
move and that they have good reasons to be based in countries like Ireland. That is likely to change and we need to be somehow slightly ahead of the curve where we continue to be attractive to these companies and education is a huge part of that. I think education is a big reason that these companies are based in Ireland and if we didn't have the educated workforce that we have it simply wouldn't be here.

[Participant 8].

Participant 9 also noted education while referring to the benefits of the educational advancements in the 1970’s as well as the needs for trades and apprenticeships:

I think Government or somebody somewhere needs credit for the work they did back in the 70’s because they shoved a huge amount of people through the education system and then made the decision to provide free third level education. I think it opened up the whole thing. Now college isn't the be all and end all and we are probably at the point where there are people going to college who would be better off in vocational scheme but having enough qualified people is definitely something. If you don't have the people you can forget it. I don't know that college the way to do it either it’s fine for a certain amount of people but you have technically minded people going to college purely because they are being told this is where the money is. You go in there, you get a job, you get good money and then they have to do the work whether they like it or not. They have to put up with it whereas I think there is definitely something to be said for a strong apprenticeship section or apprenticeship route. It doesn't get the value or even the recognition that it should.

[Participant 9].

Although Participant 10 agreed with further investment in education, the focus was on new and emerging technologies:

I suppose it is all the new technologies, artificial intelligence, 3D printing and all of these new things technologies that are coming out but I think we can't forget the basics either. Good technical writing, being able to problem solve, being able to understand the regulations and changing regulations. I think there's more that can be done to help connect the dots between the students in those courses and what jobs they go into afterwards, because sometimes they don't even know that those jobs are out there.

[Participant 10].

Whereas Participant 5 noted the importance of corporate taxation as well as the importance of advancements within education to attract and maintain Research & Development as well Intellectual Property in Ireland:
I think R&D is a big thing I think we need to ensure to our third levels are tuned into what industry is looking for. We need to make sure we maintain a competitive advantage or at least competitive parity in terms of our tax offering and that IP piece in Ireland. What are the new technologies and the growth areas in terms of the Life Science and pharma sector into the future.

[Participant 5].

Participant 2 also noted the combined importance of education and taxation while also highlighting the challenges differing political views:

How do we make sure that the message is out there from a political point of view whether it’s the right or the left political priorities about corporation tax. It’s really important that all across the political divide that they stick to the corporation tax rate as it is at the moment, because if there is any kind of uncertainty, I think that’ll hurt the country. We have to make sure that the left-wing parties which have gained momentum in Ireland are aligned with and maintain corporation tax. If it is not, it will hurt jobs and that will hurt the country. . . I think it’s important to get ahead of the whole third level again. Try to increase or better the image of technical and science subjects. Do schools reach back out enough to industry to get people in and talk, I’m not sure if they do?

[Participant 2].

Participant 6 further notes the joint importance of Tax and education:

The Irish government needs to work hard to make sure that we can keep our low corporation tax. The second thing is the colleges; we are seeing with the foreign direct investment coming in plus with the extra few jobs coming in because of Brexit, we are struggling to get skilled labour. Nearly everyone that goes to secondary school now nearly goes to college and its just trying to get them focused. Courses like art degrees need to be focused, because what are they for? Years ago there were no jobs in Ireland and it was important just get your people educated but now that we have full employment we need a college system that is really working towards what the government, the country and FDI needs.

[Participant 6].

Whereas, although Participant 7 also noted the role of taxation, as well as investing in schools & universities, Ireland’s ease of doing business compared to other nations was also considered a significant factor:

I guess if you look back to the Irish side of the IDA and the government. It's keeping the ease of business moving, keep the incentives for large companies coming in. Keep
them going and don't put up barriers. You know the UK a few weeks ago said they were increasing corporation tax. Ireland has one of the lowest corporation tax rates out there that is declared but there are lots of industries in France and Germany where they get huge rebates that they don't ever talk about. Keep it consistent and keep it open, keep it transparent and maintain the current incentives you have. You don't necessarily need to go much further than that. . . You keep the education supports in there, keep the education system going to make sure that you still have a pool of very highly qualified people coming through to feed those large organizations and invest in the universities to make sure that they have access to the latest technologies. . . On the employer side I guess it's a more open to local Universities and giving them access to your technology for research. To help get people into the right zone, give them access to technology to help them capture people at a very young age, keeping moving through the process so that in 10 years’ time were going to get another great batch of employees. . . I think it's making sure that the companies that invest in Ireland in the education system and invest time and mentor ship in secondary schools to help push people towards STEM subjects, because that's where you get the higher value jobs coming back.

[Participant 7].

Participant 3 further noted Corporation Tax as well as the cost of living in Ireland and a potential move towards the further development of Irish businesses:

Number one is to defend our corporation tax. Number two what we need to do is make Ireland attractive for living and working in but we need to keep our income tax down because labour and engineers are now in short supply. You need to go to a country that is attractive so we need to keep our tax down. We are also going to have to work harder at getting investment in because it is going to be harder. Maybe we need to rethink our whole FDI. Maybe it is over in a sense and we need to shift more towards indigenous companies and to supporting them.

[Participant 3].

Whereas Participant 4 noted the role of universities and academic staff in the development of Irish owned businesses:

How do you get the university's side by side to do more? How does Stanford and UCLA have their spinoff businesses. Are our academics to academic or do we need some academics with the business? How do I monetize it all? How can I grow a company from scratch? Look at what the Collinson’s brothers are doing. How do you create more of them? Do we take the top three in the young scientists, teams and singles and do we wrap around them and get them through, you know? Or is it their teachers that did the project and we need to get their teacher?

[Participant 4].
Chapter 5: Key Findings & Recommendations

5.1 Introduction

This chapter compares and contrasts the views of the participants in Chapter 4 (identified as P.#), to the literature presented in chapter 2, while also using the findings of this new study to make recommendations for practice and future research. This chapter also allows the researcher to provide an insight into how Ireland’s unique approach to FDI has benefited the Irish workforce and economy. These benefits are further compared to the current challenges faced by both the UK and USA as a result of their differing approach to Foreign Direct Investment.

5.2 The Impact of Globalisation & Foreign Direct Investment in Ireland

Despite Globalisation and Foreign Trade (Grady, 2017; Lazonick, 2017; Wood and Allen, 2020), often being cited as the cause for increasing levels in income inequality, the importance of FDI to the Irish economy and workforce is clearly evident “Ireland is probably one of the most globalized countries in the world and it’s one the biggest beneficiary of globalization”, (P.3), (Chapter 4, p. 62). Although one participant acknowledges some of the issues with globalisation, “Globalisation is the good the bad and the ugly of everything”, (P.4), (Chapter 4, p. 62), the benefits for Ireland seem to have far outweighed the negatives. An additional participant presented a very simplistic view of the foreign owned companies operating in Ireland, “without them I think we would all still be picking spuds” (P.6), (Chapter 4, p. 46).

Further to this, the easing of employment legislation is often discussed when countries attempt to attract FDI, (Collings et al., 2008; Hyman, 2018; Wood and Allen, 2020) and although this is evident in Ireland (O’Higgins, 2002; Collings et al., 2008; Murphy, 2017), this
new study shows that the Irish workforce has significantly benefitted from the presence of so many foreign owned companies, “they've had a huge impact, and the amount of people that are employed by multinationals in Ireland is incredible”, (P.10), (Chapter 4, p. 46). There is also recognition of the large volume of indirect employment in Ireland as a result of FDI, “You have direct employment and . . . for every manufacturing job there are four to five spinoff jobs and they are not exactly bad either”, (P.9), (Chapter 4, p. 47). Further to this, this new study also highlights a third distinct advantage of FDI in Ireland, highlighting the growth and exporting of services by indigenous Irish corporations, “we grew up with the pharma industry and that is where we have developed the capabilities that we are now selling abroad. . . like many other construction and engineering companies”, (P.3), (Chapter 4, p. 48).

This new study also provides contrasting views on the rising levels of inequality as a result of increased levels of inward FDI. Within the secondary research it is cited that the erosion of employment rights and increases in Foreign Trade (Dobbins & Dundon, 2017; Murphy, 2017; Auguste 2018) leads to an increase in income inequality. This is most evident in both the UK and USA, where the middle classes have disappeared (Grady, 2017; Lazonick, 2017; Wood and Allen, 2020), and inequality is at its highest in the developed world. In direct comparison to this, within the primary research only one participant referenced the potential for inequality in Ireland as a result of FDI, “twofold, positive for those that are in it and it is probably having a disproportionate impact on those that aren't” (P.5), (Chapter 4, p. 48). Further to this, despite the elevated levels of FDI in Ireland, (O'Higgins, 2002; Collings et al.,2008; Murphy, 2017), the literature also highlights that Ireland is one of a very few economies (McWilliams, 2019; Reddan, 2019; Leahy 2020) that has a growing middle class and a reduction in the levels of income inequality. These contrasting outcomes on the proposed inverse relationship between foreign trade and inequality encouraged the researcher to examine the literature further, where it became obvious of the importance of government spending and
generosity when engaging with foreign owned MNC’s for job creation. According to Martin et al., (2018) differing national political policies have led to very different outcomes in the benefits in globalisation, and this is further supported by Blancheton and Chhorn, (2019), who believe that public spending has a far greater influence on inequality than Foreign Direct Investment.

5.3 The Emergence of Shareholder Value

The secondary research within this new study linked the growth in inequality to the emergence of Shareholder Value (Lazonick and O’Sullivan, 2000; Tomaskovic-Devey, and Ken-Hou, 2011; Sawyer, 2017; Jayadev et al., 2018), where corporations focused on short term share price and profits. Although this study notes that the influence of shareholder value is apparent in Ireland, “shareholder value is the quarter to quarter viewpoint of some companies . . . It’s evident in my company” (P.5), (Chapter 4, p. 75). It’s influence seems to vary drastically between industries and is not as apparent within the Life Science sector in Ireland. “In the pharma side because you have such long-term investments. . . your product lines and your product duration are a lot longer” (P.7) (Chapter 4, p. 76). These views were supported by a second participant, “Shareholder Value is not about a quick profit and getting the dividend, it’s about reinvesting in the company and strengthening the company. It’s about being able to grow and make it more successful and provide greater opportunities for the staff” (P.2) (Chapter 4, p. 77).

Despite the positive views by two participants the challenges associated with shareholder value was discussed by four of the ten participants “We're going through something at the moment that's driven by an announcement three or four years ago”, (P.5), (Chapter 4, p. 77), with two of the four participants sharing personal experiences from other industries, “I actually saw this first-hand with Motorola, shareholders just destroyed one of the greatest
technology companies ever. . . shareholder’s swooped in and two years later Motorola was
done completely”, (P.7) (Chapter 4, p. 76). The second participant also previously worked in
the electronics industry, “General Semiconductor. . . there was 1000 people employed there . .
. . a hugely profitable plant . . . there was a stock market cut . . . innocent bystanders got caught”
(P.4) (Chapter 4, p. 62). Furthermore, the role of Mergers and Acquisition was also
highlighted, “All the Mergers and Acquisitions are driven by the need to pump the share price”
(P.9), (Chapter 4, p. 75). These views were strongly aligned to the secondary research where
corporations focused on mergers and acquisitions for short term profit gain, (Lazonick and
O’Sullivan, 2000; Sawyer, 2017; Jayadev et al., 2018), as opposed to investing in innovation
and job creation.

These views on the requirement for long term investment within the Life Science
industry further highlight the importance of this industry specific FDI to Ireland. The evidence
(McWilliams, 2019; Reddan, 2019, Leahy 2020), of the reduction in the levels of income
inequality in Ireland is a direct contrast to the secondary research. It is noted that one of the
key reasons for rise in inequality (Lazonick and O’Sullivan, 2000; Tomaskovic-Devey, and
Ken-Hou, 2011; Sawyer, 2017; Jayadev et al., 2018) is the short-term focus of corporations in
other industries. This drive for share price increases has resulted in workforces in many other
countries have been viewed as irrelevant and disposable (Duménil and Lévy, 2013; Rubery,

5.4 The Decline of Trade Unions in Ireland

As well as the emergence of Shareholder Value, the decline in Trade Unions and
reduction in workers bargaining power (Davies, 2016; Dunhaupt, 2016; Grady, 2017) is closely
linked to the increased levels of inequality. Although Trade Unions have declined in Ireland
(Collings et al., 2008; Murphy, 2017), their presence within the Life Science industry is still
apparent, “we come across trade unions in the older companies, the older pharmaceutical plants in Cork dating back to the 70’s, 80’s” (P.8) (Chapter 4, p. 73). These statements are strongly aligned to the secondary research where it was claimed that the Irish Government changed the requirements for foreign owned companies to recognise trade unions (Gunnigle et al., 2005; Dobbins and Dundon, 2017), when engaging with the Irish workforce.

Although there are challenges associated with Trade Unions such as protection of unsatisfactory workers (Flood and Turner 1997; Collings et al., 2008) and poor responsiveness to change, four of the participants identified the need for Unions in Ireland in some capacity. They noted that a complete removal of unions could be detrimental, “I think it is a bit naive to think that if you don’t have a union that everything’s going be hunky dory” (P.5), (Chapter 4, p. 75), while the workers point of view was also highlighted, “too much of them is a problem and not enough of them is problem, I know people who work in non-unionized environments . . . who are not being treated well” (P.9), (Chapter 4, p. 73). Furthermore, the third participant in support of trade unions discussed some of the benefits of partnering with them. This included better management practices, “when you have the union, you have a policy which you have to apply fairly and that actually drives better management practices” (P.4), (Chapter 4, p. 75). These views on positive collaboration are in line with the literature (Flannery and Turner, 2018), and evident between the Irish Governments, public sector and Trade Unions. It is also a direct contrast to the problems created by the UK Government when eroding the presence of trade unions within in the public sector in the UK (Dunhaupt, 2016; Grady, 2017).

Despite the support for Trade Unions, six of the participants felt that their presence wasn’t required within the industry whatsoever, “Every person is treated really well and that applies to all levels in the organisation” (P.6), (Chapter 4, p. 70). Improvements in education were also noted, “education and employee engagement has probably helped remove the need for a union” (P.2), (Chapter 4, p. 71), whereas, the negative impact of unions was raised as a
national concern “they can hinder progress and they can slow things down and make Ireland non-competitive”, (P.10), (Chapter 4, p. 71).

5.5 The Growth of Contract Employment

Increased levels of Foreign Direct Investment in both Ireland and the EU has resulted in a move towards contract employment (Da Silva & Turini 2015; Murphy 2017; Auguste 2018). Despite the long-term issues and challenges associated with this type of employment (Graafland and Bjorn, 2018; Heyes et al., 2018), within certain types of FDI, there are opportunities for high skilled and well-paid contract employment (Murphy 2017; Eurofound, 2020). The primary research in this new study supports these views, citing that the change of employment type is often driven out the of the need for financial gain for corporations, “an accountant’s point of view is that headcount is bad and reducing headcount is good”, (P.3), (Chapter 4, p. 66). The importance of employee numbers for investors also stressed within the primary research “in terms of employees and your ratios, it looks much better with the investor market”, (P.9), (Chapter 4, p. 64).

Furthermore, this new study provides an insight into the evolution of this changing employment model, with both secondary and primary research highlighting that the Global Financial Crisis was the catalyst for the drastic increase in contract employment, “In 2009/10 there was a dip in employment, and while there were still opportunities they tended to be for shorter contracts” (P.1), (Chapter 4, p. 63). This is closely aligned to the secondary research where it was noted that on a global scale, there was a decline in job security and wages, (Slater and Spencer 2014; Grady 2017; Hyman, 2018), making it possible for employers to move towards more precarious forms of employment.

Despite the similarities between the primary and secondary research, by exploring this topic further this study suggests that the emergence of contract employment at the expense of
permanent jobs appears to be far less cynical than outlined in the secondary research. One participant provided a detailed overview of their experience citing the generous voluntary redundancy packages on offer, “people who wanted to leave, left, it was voluntary, so nobody was forced into redundancy at the time” (P.5), (Chapter 4, p. 68). Further to this, the same participant highlighted, that as a result of this generosity, the move towards contract employment seemed more incidental than pre planned, “we had to bring back in a whole tranche of people”, (P.9), (Chapter 4, p. 68), and this was further supported by a second participant who also cited the incidental move towards contract employment, “companies had over cut on headcount. . . it wasn’t unusual to see people take contract jobs for three-month stints or six months” (P.1), (Chapter 4, p. 67).

This new study suggests that some of the benefits of the contract employment model, such as the overall competitiveness of the workforce on a global scale may be overlooked within the secondary research. “The flexibility is good for FDI in Ireland as we are trying to encourage people to invest money in Ireland”, (P.6), (Chapter 4, p. 66). This new study highlights that this is especially important for a smaller economy like Ireland which attempts to keep up with the ever-evolving multinationals “I know that in America in two or three of our sister sites, the labour force is unionized so if they want to expand. . . they don't have the flexibility”, (P.6), (Chapter 4, p. 66). Specific examples and comparisons of staff percentages were also provided by a separate participant, “in Ireland our headcount is 50% staff and 50% contract, whereas in the US, it’s probably 10% contract to 90% staff”, (P.2) (Chapter 4, p. 65). Further to this, the role of changing technology was also addressed, “You're hiring the specialist . . . for the year because your technology will have changed in two- or three-year’s time and at that stage you might need a different skill set”, (P.7), (Chapter 4, p. 64). A simplistic analogy was also presented, “when you are hiring somebody for a staff role, it is like getting married, you want to be really sure”, (P.9), (Chapter 4, p. 64).
5.6 Retaining FDI in Ireland

This new study highlights that there are many factors involved in the retention of, and further attraction of FDI in Ireland. Although the primary research suggests that the low corporation tax rate wasn’t the biggest challenge to the Irish economy, its importance was acknowledged in both the secondary (McCullough et al., 2016; Taylor 2016; Wang 2018;), and primary research “The Irish government needs to work hard to make sure that we can keep our low corporation tax” (P.6), (Chapter 4, p. 80). Further to this, both sets of data highlight that proposed changes to international tax laws (Barry, 2019; Christensen and Hearson, 2019; Taylor 2019; Cantillon, 2021) will significantly affect Ireland’s relationship with these multinationals “stability of the corporate tax rate is vital and without it I think the landscape would be very different” (P.2), (Chapter 4, p. 44).

Despite these views and in contrast to much of the literature, the new study shows the current most pressing issue in Ireland is a skills shortage and the supply of suitably qualified professionals. Seven participants cited this as a problem, ‘The number one challenge at the moment is talent availability in complex areas’, (P.1) (Chapter 4, p. 42), and this is further supported by a separate participant who stated, “For me it’s attracting the right staff with the correct qualifications and experience and then retaining those staff”, (P.7) (Chapter 4, p. 43). As a result of this skills shortage six of the participants of this new study suggested that the key to retaining the investment is through a successful education programme at all levels, rather than just taxation. “We need to focus on education and developing qualified people and that’s not just engineers, it’s also qualified apprentices”, (P.9), (Chapter 4, p. 49). Integration with secondary schools was also noted, “we need to go back another step and look into the secondary schools” (P.2), (Chapter 4, p. 50).

Furthermore, given the complexities associated with FDI, there were several additional challenges apparent in both data sets in this study. This included Brexit (Ruane, 2016; Leahy
2017; Abdou et al., 2020), where trade barriers have been highlighted, “because of Brexit, both getting material onto the island and off the island is becoming an issue” (P.6), (Chapter 4, p. 45). While increased competition from other nations (Economou et al., 2017), as well challenges associated with rising costs (National Competitive Council, 2019), and infrastructure were also evident, “It's the linked-up thinking about how your workforce works . . . how people are getting to work, living and the ability to afford housing” (P.9), (Chapter 4, p. 45).

5.7 Recommendations for Practice

5.7.1 Reimagining Trade Unions

Within the primary research of this new study the decline of Trade Unions in Ireland is evident. Although the benefits of Trade Unions to both employers and employees were highlighted, it was apparent that the current approach of Trade Unions was not welcomed by foreign owned corporations. Furthermore, it was also noted that the educated workforce in Ireland no longer recognised the value in joining a union. Despite the decline of union presence, the need for worker support in Ireland is still very much apparent with job stress more than doubling between 2010 and 2015 (Russell et al., 2018) and the Workplace Relations Commission receiving over 20,000 worker complaints in 2019 (workplacerelations.ie). Further to this, it is also noted that Ireland has one of the highest rates of mental health illness in Europe (mentalhealthireland.ie).

Considering Ireland’s unique position with a highly flexible and skilled workforce employed through a number of large-scale employers, there is an opportunity to rethink and reimagine the approach of workers protection. It is therefore recommended that partnerships between governments bodies, industry leaders and Trade unions are formed. The aim of the collaboration is to protect the rights of our workforce while also maintaining Ireland’s
international competitiveness through flexible employment practices. All stakeholders should have a vested interest in maintaining high levels of FDI in Ireland, while also working in tandem to identify the new challenges faced by a younger, higher skilled contract workforce.

5.7.2 Investing in Education to offset Inequality

Within the primary research of this new study the skills shortages in the Science and Engineering sectors (often referred to as STEM) was noted as a key challenge to maintaining the current levels of FDI in Ireland. Further to this, the Irish educational system was unanimously viewed among participants as the key to addressing this shortage. Despite the views of industry experts, between 2007 and 2016 there was a decrease of 34.4% of government expenditure per third level student (cso.ie), while it has also been noted that many third level institutes are now relying on oversees students to address the funding shortfall (McGuire, 2016). These cutbacks on government spending are cause for concern. The Life Sciences industry now accounts for 32% of GDP (idaireland.com) but is heavily dependent on third level education. Furthermore, these cutbacks in government spending are a direct contrast to the literature within the secondary research where the importance of government generosity was considered key to offsetting inequality. It is therefore recommended, that if the Irish Government would like to continue benefitting from FDI in Ireland as well as avoid inequality, increased levels of investment in third level education is essential.

5.7.3 The Importance of STEM in 2nd & 3rd Level

Despite the need for additional funding within third level in Ireland, appropriate investment within STEM subjects is key to the long-term sustainability of the Irish economy. According to Murphy et al., (1991, pg. 1): Countries with a higher proportion of engineering college majors grow faster; whereas countries with a higher proportion of law concentrators
grow slower. Although Ireland did have the highest percentage rate of STEM graduates across the EU in 2018, this has not always been the case. In 2017, Business, Administration & Law accounted for 23% of total third level graduates, compared to 18% for STEM (ida.ie). Further to this the country’s smaller population must be taken into consideration when examining the percentage number of graduates to meet the expectations of the large volumes of FDI in Ireland. It is therefore recommended, that although further investment in education is required in Ireland, funding STEM subjects within the third level institutes becomes a priority for the Irish Government. Furthermore, and in line with the views of three of the participants, additional support should be provided to secondary schools to encourage students towards STEM subjects in third level institutes. It is therefore further recommended that collaboration between Government bodies and the private sector be encouraged to highlight the career opportunities with STEM qualifications prior to the commencement of the Leaving Cert cycle.

5.7.4 Diversity in the Workplace

To support such large scale FDI with a small population, Engineering and STEM courses must be a viable option for all secondary level students in Ireland. Although the country has witnessed a percentage increase in the total number of STEM graduates (cso.ie), Ireland is ranked third last of thirty-six OECD countries in terms of gender balance among graduate engineers (engineersireland.ie). Furthermore, according to Delaney and Devereux (2019), although females are less like apply for engineering courses, the gender divide significantly widens in less affluent schools. Further to recommendations on increases in funding for 3rd level education as well as an increased focus on STEM subjects, it is also recommended that government bodies significantly increase the supports to schools in lower socio-economic areas to increase participation within STEM. This additional government funding will help address
skill shortages currently witnessed in the Life Science sector while also preventing the potential for future growth in inequality.

5.7.5 Country of Engineering Excellence

Within this new study it was highlighted that an increase in STEM graduates was required to address the current skills shortage in Ireland. Furthermore, it was also noted that as competition for FDI increased, innovation within the Irish educational system would ensure the longevity of this investment and provide jobs for our children. Although challenges with corporation tax, increases in wages and the cost of living in Ireland consistently raise questions on Ireland’s competitiveness, advancements in technology continue to provide opportunities for the Irish workforce. These opportunities are aligned to the secondary research where it was noted that advancements in technology can positively impact job creation within a highly educated workforce. Further to this, within the primary research, the importance of research and development as well as Intellectual Property were cited as critical to maintaining overseas investment in Ireland.

It is therefore recommended that investment should be made into making Ireland, as a country, a centre of excellence for Science and Engineering. As well the overall targeting of an increase in STEM students, third level institutions through government funding should look to form close partnerships with Multinational Organisations at the forefront of Research and Development with additional supports in place for PhD. students. Further to this, additional attention should be paid to emerging technologies like 3D Printing, Robotics and autonomous equipment. Although Ireland will never be able to compete with emerging nations on the cost of labour, by further advancing the skills of the workforce, and having graduates with experience in new technologies entering the workforce every year, foreign owned companies will continue to reap the benefits of investing in Ireland.
5.8 Recommendations for Future research

5.8.1 The Long-Term effects of Contract Employment

Within this new study, the growth of contract employment in both Ireland and the EU is clearly evident and the Global Financial Crisis of 2009/2011 has been noted as a turning point for many employers looking to offset the risks associated with permanent employment. Despite this study highlighting the benefits of the significant concentration of Foreign Direct Investment in Ireland driving the presence of well-paid contract employment opportunities within the Life Science sector, the long-term effects on less secure employment within a knowledge-based workforce are yet to be fully understood. Although the researcher acknowledges that a similar study has already been completed by O’Sullivan, *et al.*, (2015), examining the impact of Zero Hour contracts in Ireland, O’Sullivan, *et al.*, focussed on lower skilled and part time employment. Further studies on the long-term impact of less secure employment within higher skilled sectors could provide valuable information for policy makers into the future wellbeing of the Irish workforce.

5.8.2 Evolving Employment Practices in Ireland

This new study has highlighted the importance of employment legislation and government policy when engaging with Foreign Investment. Further to this, within Chapter 2 the researcher provided a brief overview of the evolution of the Irish workforce, noting the evidence of UK employment practices shortly after the formation of the Free State which have now evolved due to the influence of FDI. Further to this, considering the number of American owned companies in Ireland, it is apparent that many aspects of modern-day Irish Employment Legislation have been influenced by American human resources and industrial relations policies. However, as the IDA (ida.com) begin to proactively target and source foreign
investment from new regions and continents the researcher believes that further studies into employment practices within these target regions are required. Given the influence other countries have had on Irish employment practices over the past century, it is important to manage the expectations of both new and old foreign investment while at all time looking after the best interests of the Irish workforce. It is therefore recommended that in-depth studies are conducted on countries that are likely to have an impact on the future Irish workforce.

5.8.3 The Housing Crisis

The impact of the housing crisis in Ireland cannot be understated. Although to date, the Irish population has not been subjected to the levels of inequality observed in both the USA and UK, the continual and ongoing issues associated with the shortage of housing market could be detrimental to the Irish economy. Although there are wide-ranging issues associated with a housing shortage, the researcher has examined this issue within the parameters of this new study only, identifying two key issues. Firstly, the wellbeing of the younger generations who are needed to work within the foreign owned organisation. According to Asad Poor and Jusan (2012), who use Maslow’s Hierarchy of Needs, housing can be identified as a basic need, however in Ireland over the last 5 years average house prices have increased by 35% compared to a 16% rise in the average income. This has made the basic need of housing unattainable for many of the young workers in Ireland. Secondly, many employers are now looking overseas to address the current skills shortage in Ireland, however as the shortages and cost of accommodation continue to rise, Ireland could easily lose its attractiveness for many overseas skilled workers.
5.8.4 Apprenticeships

Within this new study, the shortage of technicians and suitably qualified trades people were identified as a key challenge to the Irish workforce. Furthermore, two of the participants within the primary research suggested that not all students are suited to engineering studies and highlighted that a stronger apprenticeship programme could address the high dropout rates evident in many 3rs level STEM courses (O’Brien, 2021). Further to this, although the Irish Government has recently announced plans to increase the number of apprenticeships in Ireland, the primary research within this new study suggests that the shortage of trade qualified professionals may be the result of narrow preconceptions within career guidance services within the secondary level education system. It is therefore recommended that further research be conducted into ensuring that new apprenticeship programmes in Ireland attract the right type of personalities and profile to address this skill shortage in Ireland.

5.9 Conclusion

This research acknowledged that many of the issues associated with FDI are apparent in Ireland today, however this new study has displayed how the Irish workforce has avoided many of the problems caused by the rise of shareholder influence, while at the same time becoming one of the most globalised economies in the world. To understand this success, the primary and secondary research within this study presented comparisons with Ireland’s largest trading partners the UK and USA. This showcased the importance of Government generosity and free tertiary education in Ireland in 1980’s was contrasted to welfare cuts by the Reagan and Thatcher administrations during the same period. It was further noted within this study that these governments cuts were strongly linked the growth to of inequality in both countries, as well as the rising influence of the financial sector which ultimately led to the GFC 2009/10.
Furthermore, within the primary research, the stability of the Irish workforce was linked to the long-term investment required by companies within the Life Science sector. Although this investment has significantly benefitted the Irish workforce with long term employment opportunities, this new study has highlighted the importance of the type of employment created by this sector. These employment opportunities have predominately focussed on Engineering and Scientific disciplines and according Murphy et al., (1991), countries with a larger proportion of engineer’s grow faster. This was evident throughout this study where the growth in the Irish economy and increasing level of income equality were noted. While in contrast to this, this new study made comparisons to the economies of the UK and USA, where it was cited that both economies were heavily dependent on financial services for employment which has resulted in significant increases in income inequality.

Although a favourable Corporate Tax rate is highlighted within this research as key to Ireland’s success, the results of study suggest that the Irish education system is of far more importance to the workforce and economy. It is therefore recommended that Ireland should invest further into education, particularly STEM related subjects, for the Irish workforce and economy to continue evolving. Furthermore, based on the data presented within this study, increased investment in education will continue to support the growth of indigenous Irish companies as well as offset some of the additional challenges on the horizon for the Irish economy. These include the rising costs of living, increased competition for FDI and uncertainty surrounding the global corporate tax rate.

Most importantly, increased investment in education will continue to provide well paid employment opportunities for the next generation of the Irish workforce.
References


97


Kearney, A.T, (2002), “Globalization’s Last Hurrah?”, Foreign Policy, Jan./Feb,


Mental Health Ireland, [Online] Available at: https://www.mentalhealthireland.ie/research [Accessed 10 January 2021]


Appendices

Appendix 1. Communication with Participants

1.1 Initial Correspondence

When initially engaging with interview participants, the following template was used with minor edits made to each mail.

Hi,
As part of my thesis research, I am currently conducting interviews with Senior Management from the Life Science industry in Ireland. The purpose of the research is to examine ‘The Importance of Foreign Direct Investment within the Life Science Sector for employment and Economic Development in Ireland’. Within this study there is a particular focus on the evolution of the Irish labour force as well as the challenges associated with Foreign Direct Investment in both Ireland and abroad.
I appreciate you are very busy but if you are free at some point over the next week it would be great to speak further. I am currently scheduling meetings via Microsoft Teams and I am very happy to work around your calendar.
Look forward to speaking soon.
Gordon
1.2 Confirmation Mail

Once the participant had confirmed they were happy to partake a confirmation mail was sent with the consent form attached. The template is as follows;

Thank you,
I look forward to speaking with you tomorrow.
As discussed the purpose of this study is to examine ‘The Importance of Foreign Direct Investment within the Life Science Sector for employment and Economic Development in Ireland’. Within this study there is a particular focus on the evolution of the Irish labour force as well as the challenges associated with Foreign Direct Investment in both Ireland and abroad.
As mentioned, I have scheduled the meeting for 1 hour, however, I would hope that we can conclude it within 45 minutes. For the first few minutes of the call we can discuss the topic on hand and I can answer any questions you may have. Once you are ready, we will then commence the interview which will be recorded. Once the interview is completed, the recording will be stored in a secured location and destroyed once the thesis has been graded for the award.
I would like to assure you that your details will remain anonymous and at no point will your name or company information be used. A record of our discussion will be included within the research paper, however, you will be assigned a generic title such as Interviewee#5.
I have attached a consent form for you to sign and return and look forward to speaking with you.
Gordon
Appendix 2. Consent form

The image below is a screenshot of the consent form sent to all participants prior to interview

CONSENT FORM

MBA (Strategy)
Foreign Direct Investment in Ireland
University MTU
17th March 2021
Gordon Matthews/Dr. Angela Wright

I, ____________________________ (Print Name)

• consent to be interviewed for the purpose of the research named above.
• have had all of the details of the research explained to me.
• am happy that my quotes can be used for the purpose of the research
• can ask for clarification about the research at any stage
• understand that I can withdraw (opt out) from the process at any stage
• understand that my data will be stored in line with CIT GDPR regulations and policy.

Signed:

__________________________

Date;

__________________________

By undertaking this survey I agree to partake in this research process.
Appendix 3. Semi Structured Interview Questions

1) What do you feel are the biggest challenges for Life Science Multinationals operating in Ireland?

2) In your opinion, what impact do you feel Life Science Multinationals have had on the Irish employment sector?

3) Much of Ireland’s Economic success has been built on a highly skilled workforce, but as costs continue to increase and many other economies attempt to attract foreign Investment. In your opinion what steps should be taken to ensure Ireland remains a primary destination for FDI and Life Science Multinationals

4) In recent years there has been a lot of discussion around Artificial Intelligence & automation affecting employment. How do you think this will impact the high skilled labour force in Ireland’s life science sector?

5) The Irish Government, like most other governments are tasked with developing jobs within the economy, how do you view the government support and focus on job creation within the life science sector?

6) Globalisation has brought about change in many industries. How do you think this has impacted the labour force in Ireland’s life science sector?

7) Within the Irish employment sector, there has been a move away from the ‘job for life’ to specialised contract work, what are your thoughts on this change of employment?

8) The Global Financial Crash of 2008 had a global impact on employment. Looking specifically at employment within the Life Science sector in Ireland, what impact, if any did this crisis have?

9) Over the past few decades, Trade Union membership has been on the decline within the private sector in Ireland. What do you believe has led to this decline? And what are your thoughts on their role within the Life Science sector?

10) Shareholder value is a growing concept that emerged within American Corporations in the 1970’s. This saw shareholders, who had a short-term financial focus, gain a much stronger influence over the day to day running of a business. Do you feel Shareholder value has had influence on the Life Science sector in Ireland?

11) What do you now recommend for practice based on our conversation?
Images

Image 1

This infographic is taken from IDA’s website [idaireland.com](http://idaireland.com) and provides a snapshot of the importance of FDI in Ireland.
This image is found on page 20 of the book, Social Science Research: Principles, Methods, and Practices by Anol Bhattacharjee. It presents the functionalistic research process.