The Luck of the Irish

- *A Study of Irish Economic Development* –

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Abstract

This paper set out to discover why Ireland experienced such successful economic development. In doing so, three concepts were outlined as being crucial to an understanding of Ireland's economic development: Trade openness, Foreign Direct Investment & Human Capital. This paper has tracked Irish economic development with these concepts in mind by offering two hypotheses:

1- ***Increased Irish openness towards trade through trade liberalization triggered economic development by attracting substantial inflows of foreign direct investment.***
2- ***Irish human capital played a significant role in attracting Foreign Direct Investment, and thus played a significant role in Ireland's successful economic development.***

This paper analysed Ireland's economic development from the 1949 to the present day. The decision to abandon trade protectionism came in the 1950s against a backdrop of Irish crisis and Ireland was one of the first countries in the world to adopt an FDI-orientated development strategy.

This paper has tracked Irish economic development since the initiation of a more open economic policy over four distinct periods. Providing a description of the major factors determining Irish economic performance over the decades since the move from trade protectionism. This paper also explores the role of institutions and government in facilitating crucial economic policy changes. The 'Celtic Tiger' Economy reached unheard of levels of economic development in the 1990s and 2000s, before crashing in 2008 bringing about a substantial decline in gross domestic product, a trebling of the unemployment rate and increase in public debt.

This paper has also given attention to the increasing Europeanisation of the Irish economy and how this has also contributed to Irish economic development. This paper has identified important variables in Ireland's economic development: its well-educated workforce, forward looking business leadership, cooperative labour environment and its EU integration. The case of Ireland highlights the effect of low taxation in promoting economic development. This paper has found that low corporate taxes are integral to encouraging foreign direct investment and thus contributed greatly to the successful economic development of Ireland.

TABLE OF CONTENTS

<u>IRISH TIMELINE</u>

1800	*Act of Union*
1845 - 1849	*The Great Famine*
1922	*Anglo Irish Treaty*
1932	*Control of Manufactures Act first imposed*
1957	*The Control of Manufacturers Acts were abolished*
1958	*The Whittaker Report*
1959	*Sean Lemass becomes Taoiseach*
1960	*Export Sales Relief enacted*
1966	*Anglo-Irish Free Trade Agreement*
1973	*Ireland joins the EEC with Denmark and the UK*
1979	*Exchange Rate Mechanism*
1981	*Ireland adopts 10% corporate tax rate*
1992	*Maastricht Treaty*
1999	*Euro adopted*
2003	*Ireland changes to 12.5% corporate tax rate*
2008	*Global Financial Crisis*
2010	*Ireland bailed out by the Troika*
2016	*European Commission battles Ireland over Apple arrangement*

INTRODUCTION

Ireland has not always been the open shop to high-technology and foreign trade that it is today. Rather the opposite could be said to be true, the nation's early economic emphasis was on self-sustainment through agriculture. Therefore, this paper seeks to explore:

why did Ireland experience such successful economic development?

The reason for Ireland's inward-looking mentality can be said to be based on a number of factors; history, emotion, even necessity. Ireland's sense of itself derived greatly from its historic breaking away from the United Kingdom in 1922, with the Anglo-Irish treaty. The treaty was the result of the Irish War of Independence, fought between the Irish Republican Army and various British forces (Foster, 1988). Ireland's 26 Southern counties gained independence from the United Kingdom, while the 6 Northern counties remained British. The partition of Ireland would prove to be a controversial issue and remains so to this day. William Crotty surmises Irish mentality post-independence particularly well "…the pastoral, idyllic, rural virtues and way of life, self-contained and independent of others (and particularly Great Britain), resonated with Ireland's sense of itself" (Crotty, 2000, s. 799).

To explore Irish history without mention of its often troubled past would be short-sighted. The Act of Union in 1800 brought Ireland (including what is now Northern Ireland) together with the United Kingdom. The Act of Union had a profound effect on Irish policy with control coming from London. Britain at the time was a global super-power and Ireland was subjected to the pains of competition that came with Britain's economic hegemony. Johnson and Kennedy (1991) posit that a long period of economic decline followed the Act of Union, negatively affecting public finance, agriculture and industry, which can be attributed to the removal of any Irish autonomy under the Act of Union. The period following the Act of Union witnessed more impressive economic performance in Ireland's North East, particularly Belfast and this can be attributed to the advantageous terms of the Act that only applied to Ulster (one of what is now Northern Ireland's six counties) (Johnson & Kennedy , 1991). The Great Irish Famine (1845-1849) tore apart Ireland's fragile social and economic fabric. John Bradley (The History of Economic Development In Ireland, North and South, 1999) aptly describes the extent of economic and societal damaged triggered by the Irish Famine:

"By devastating the population through death and emigration, the famine prevented the emergence of a dynamic home market for local industry. By bearing most heavily on the more agricultural south, it further accentuated separation from the north and by setting in train a tradition of emigration, it dampened internal pressures for economic reform and innovation." (Bradley, The History of Economic Development In Ireland, North and South, 1999, s. 38)

Eamon DeValera's approach to presidency would reflect perfectly the virtues of independent Ireland: firmly nationalist and proudly anti-British. DeValera symbolized the Irish free state and served as both President of Ireland (1959-73) and Taoiseach (1937-48, 1951-1954, 1957-1959). Ireland's early economic policy was largely dictated by DeValera. The Irish Constitution was written in 1937 by DeValera and commits Ireland to a simple, agrarian lifestyle dedicated to virtues of the Catholic Church. The constitution emphasized that the mother's contribution was to be "her life within the home" (Crotty, 2000). It is indeed a far cry from the Ireland of today, where the world's largest companies are queueing up to erect homogenous, sterile headquarters along Dublin's reimagined River Liffey.

Ireland in the time of DeValera was a parochial and deeply suspicious Country. The governing economic principles of the time were simple: self-sufficiency through protectionism and agriculture. The Catholic Church played an important role in the establishment of society and government policy. Ireland was insular and removed from the rest of the world, and proud of it. The economic benefits of independence for Ireland were hardly realised between the 1920s and late 1940s and the result was a dwindling labour force that had seen no growth since the establishment of the Irish state. O'Grada remarks that between the 1920s and 1950s almost a million young people left the country never to return (1997). Cathal Guiomard in explaining why Ireland could not seemingly turnaround its economic fortunes refers to the "Irish disease" or lack of vision and the unwillingness to initiate change embedded in the psyche of Irish people at the time.

"To achieve economic and social modernization, we must… throw off our ruinous defeatism and negativity, our anti-intellectualism, our tolerance of mediocrity, our inclination towards dependency, and our never-ending demand for subsidies.". (Guiomard, 1995, s. 2)

Ireland is undoubtedly a success story. The transformation of the economy from the mid-to-late 1980s to now is striking. National income has risen, unemployment has fallen, government debt has fallen and the perennial thorn in Ireland's side, emigration, has been replaced by substantial immigration (Barry , 2006). How can this be? How can a country with alarming budget deficits and high unemployment be transformed into one with almost full employment? The Irish economy is a fascinating case, not only because the extent of its transformation but also the speed at which it transformed.

Locating the Irish story is difficult. It is a story of macroeconomic stabilization and adjustment in a small and open economy. It is a story of industrial approach and above all else it is a story of transformation. Going from a weak peripheral economy to a prominent location for high-tech manufacturing and services. Ireland is also a story of European integration and the ups and downs this entails. The purpose of this paper is to interpret Ireland's economic development. When reading literature regarding the topic of Irish development, many variables are mentioned, however three variables seem to appear consistently; the trade openness embedded in Irish society and with that the significant amounts of FDI going inward each year, and lastly the attractive quality of the Irish human capital. Of importance are also the cultural and social environments where an economy is located and how this plays a part in determining the success of economic policy. Similarly, the technological and infrastructural changes that facilitate and enable further development are of critical importance.

This paper first focuses on Ireland's economic journey and the economic policies and changes that can explain why Ireland had success developing. This is done by exploring Ireland's economic development over four distinct periods. Secondly, human capital will also be explored in this paper, with its criticism included. Though scholars have disputed the theory as lacking application to reality, there is consensus that investment in human capital is beneficial for national growth and development. And thus this paper will explore the effect of human capital in both attracting FDI and contributing to Irish economic development.

The economic development of Ireland is complicated and there are more actors involved than could ever be fully explored. This paper finds that the Irish government, including ministers, agencies and legislature have all played a role in the devising of economic policy. There is also the European Commission, the United Kingdom, now planning its departure from the European Union. Similarly, there are the large companies operating significant parts of their business in

Ireland in the name of tax benefit. There are the Irish people employed in these corporations as well as the scholars, investors and economists who are indirectly involved. These actors' perspectives will be considered in understanding the factors behind Ireland's economic development.

This paper has endeavoured to reflect the diverse range of actors involved in Ireland's development through employment of a diverse range of sources. In constructing the transforming nature of Irish economic health, this paper has relied on periodicals like newspapers and economic journals. Similarly, statements by Irish officials and economists will support the aforementioned purpose. Academic journals have proven to be an extraordinarily useful source of data on the actions of foreign companies in Ireland, and how investment into Ireland has developed over time. The principles of trade openness and linkages between foreign direct investment and development are used as a framework to track and understand Irish economic development. A wide range of quantitative sources act as empirical evidence of Irish economic development.

The analytical chapter of this paper begins by looking at the policies that enabled Ireland's development from 1949 to Ireland's accession to the European Union in 1973. Ireland's initiation of a series of trade and tax policies in the 1950s gradually opened its economy to the world. The policies initiated from 1949 and in the years afterwards have created a society with trade openness deeply embedded and a welcoming attitude towards FDI. The first hypothesis that this paper posits is that **Increased Irish openness towards trade through trade liberalization triggered economic development by attracting substantial inflows of foreign direct investment.**

The hypothesis is tracked over four periods of time: From Protectionism to Accession (1949-1943), Deepening EU integration (1973-1987) and The Emergence of the Celtic Tiger (1987-2008), Is Ireland a Model for Development? (2008-).

The second hypothesis being explored in this paper is: **Irish human capital played a significant role in attracting foreign direct investment, and thus played a significant role in Ireland's successful economic development**. This paper will begin by presenting the policies enacted by the Irish government that had an effect on Irish human capital. Subsequently, this paper will look to explore how these policies effected foreign investment locating to Ireland.

Ultimately a question of significance arises. Why bother posing the question of why Ireland had success developing? If this paper concludes that it was Ireland's opening to trade that did trigger economic development, what can one ascertain from that? Running very close to the surface of this paper's point of interest is a deep curiosity of what economic development means in a hyper-connected and "flat" (as per Thomas Friedman) world. Ireland's model of economic development could prove to be a significant one. While Ireland's own road to development was unique and often challenging, it is a model that could be replicated. Take a small, open economy and douse it in international partnership and inward investment. The case of Scotland springs to mind and would prove to be an interesting test case for the hypothesis proposed by this paper. Scotland also has a well-educated, English speaking labour force. If Scotland were to separate from the United Kingdom and join the European Union, the country would find itself in a similar position in many ways to Ireland in the 1960s and 70s.

HISTORY OF IRISH ECONOMIC DEVELOPMENT

The Irish economy of today is one doused in globalisation, with a preponderance of Foreign Direct Investment, particularly from large American companies. The situation today stands in stark contrast with the economy of the past. In the 1950s Ireland's economy was much more inward-looking, and its relations with the outside world were marked by high tariffs and quotas and a wealth of restrictions on imports and inward investment (Breen & Dorgan, 2013). Trade protectionism was the name of the game, a policy catalysed in the 1920s and 30s in the years following the Anglo-Irish treaty of 1922 and Ireland's emancipation from the United Kingdom. The immediate 10 years after gaining independence, Ireland did still trade freely with the United Kingdom and when the Irish Pound was established in 1927 it maintained parity with the British Pound. All of this changed in 1932 when Irish revolutionary Eamon De Valera took office (Murphy, 2000). Trade war with the United Kingdom reduced openness to stoke the fires of Irish infant industries. Significantly, the Control of Manufactures Act first imposed in 1932 prohibited foreign ownership of Irish industry, demanding that Irish people had to control 51 percent of the voting shares in Irish companies (Murphy, 2000). These protectionist measures did initially raise the rate of economic growth in manufacturing from 1.6 percent in 1926 to 4.4 percent over the 1930s and 40s, but by the 1950s growth had dwindled and manufacturing employment growth sank to 0.8 percent per annum over the decade (Barry, 2003). A stark contrast to the 6 percent growth per annum of Western Europe (Barry , 2006). During the 1950s the Irish population lost

400,000 people from its 3,000,000 previous total. The prohibition of foreign capital investing in Ireland left the country underdeveloped economically having been unable to benefit optimally from the European post-war boom. Maddison (2006) points to the liberalizing of western European economies as a factor of their growth. Particularly important was the influence of Marshall Aid that required recipient countries to remove the bilateral trade barriers and quantitative restrictions that had been built during the previous decades by signing up to the Organisation for European Economic Co-operation.

The decision to abandon protectionism came in the late 1950s, during a period of Irish crisis where many questioned the credibility of the Irish Free State. Poor economic performance was accompanied by inconsistent political direction, shown by four changes of government in 9 years compared to just 1 over the previous 26 years (Breen & Dorgan, 2013). The Control of Manufacturers Acts were abolished in 1957 and many point to this as the beginning of the end of Irish trade protectionism (Murphy, 2000). There exist different causal arguments as to why Ireland experienced such extreme policy change but Breen and Dorgan point to leadership as the key explaining factor, specifically that of Sean Lemass and T.K. Whittaker. Lemass was Taoiseach (Prime Minister) from 1959 to 1967 and Whittaker is the author of 'Economic Development' and was Secretary of the Department of Finance from 1956 to 1969 (Breen & Dorgan, 2013). 'Economic Development' was a report that was critical of the infant industry argument used by previous governments and proposed encouraging foreign capital with tax concessions (Murphy, 2000). Lemass succeeded De Valera as Taoiseach in 1959 and Girvin (1994) notes that he had abandoned the cautious economic policy, and budgets began to expand. Others, like Frank Barry are sceptical of the impact of Whittaker's report and argue that key economic changes were already underway well before the report had time to make an impact (Barry F. , Politics, Institutions and Post-War Economic Growth in Ireland, 2006). Other theories for explaining Ireland's shift towards economic liberalism revolve around the effect of outside forces. Roy Foster argues that the Marshall Aid Programme specifically forced Irish policy makers to think about economic development and the potential of trade with continental Europe (Foster, 1988).

The change of policy in 1957 implemented by the second coalition government had an immediate impact, contributing to a 30 percent rise in manufactured exports in 1957, and a 200 percent increase between 1956 and 1960 (Barry , 2006). Fitzgerald (1968) notes that public opinion began to look more positively on free trade. Noting that public opinion shifted rapidly in response to a

1957 Organisation for Economic Co-operation and Development working party on the creation of a free trade area in Europe. So much so that "those who had an interest in maintaining industrial protection found it impossible to resist this movement of opinion, and the proposal (Ireland's joining the proposed area) met with surprisingly little opposition." Historians have commented on the sense of failure that was present in Ireland in the 1950s that was heightened by the feeling that other countries were doing better (Garvin, 2004). The process of European economic integration was in full swing with Belgium, France, Germany, Italy, Luxembourg and the Netherlands forming the European Economic Community and most Western European countries had begun negotiating the European Free Trade Agreement (EFTA). Agriculture proved to be a major sticking point for Irish membership of EFTA. Up to Ireland's joining of the European Union, its external economic relations were dominated by a dependent relationship on the United Kingdom. By the 1960s Ireland had still not converged with average Western European income levels, O'Grada and Rourke (1996) put this down to the share of agriculture in the economy, the delay in dropping protectionism, excessive interventionism, low educational throughput and rent seeking in industrial relations. Barry casts doubt over these factors, however, pointing out that Spain and Portugal (the cohesion countries) held similar limitations yet still experienced convergence over this period (Barry, 2003). Barry points out that although Ireland did have a higher share of agriculture in national product it experienced less state interventionism and was, in fact, the most export-focused of the three countries. Similarly, Ireland experienced higher educational throughput than Spain or Portugal. The divergence, according to Barry, lies in the effect of emigration on unemployment levels. Ireland experienced high emigration as a result of high unemployment and simultaneously experienced rapid real wage growth. Ireland at the time had an unemployment rate greater than the EU15 average. O'Rourke (1995) explains that Irish real wages for the previous century tended to mirror those in the United Kingdom for equivalent operations, while productivity was substantially lower. Barry argues that the Irish real wage levels in the 1960s were too high for labour-intensive industries to prosper, meaning that domestically-owned firms in the low-skill-intensive sectors couldn't gain foreign market share and simultaneously saw their share of the home market eroded (Barry , 2006).

The move towards openness had undoubtedly begun by the 1960s emphasized by the introduction of a zero-tax rate on profits derived from manufacturing. In 1958 the total stock of US FDI in Ireland was USD 6 million, with 80 percent of this attributed to the petroleum sector and none to manufacturing. By Irish EU entry in 1973 this had risen to USD 269 million of which 90 percent was attributed to manufacturing (Barry, 2003). Manufacturing employment growth resumed again in the 1960s, at a growth rate of 2.3 percent per annum. Employment increased in the foreign owned sector. O'Malley (Industry and Economic Development: The Challenge for the Latecomer, 1989) identifies three expanding indigenous sector industries: (i) nontraded goods, which enjoyed a degree of natural protection within the local market, (ii) sectors engaged in processing of local primary products, and (iii) the few exceptional industries which had had long-established track records in Ireland and which did not therefore need to overcome barriers to entry as newcomers. The other sectors of indigenous industry suffered as a result of the growing import penetration.

Ireland joined the European Union (EEC) in 1973 with the United Kingdom and Denmark against the backdrop of two oil crises. This did not help Ireland's economic convergence and Barry (2003) shows that the cohesion countries had less macroeconomic stability after these crises than the European average. Barry puts this down to a decline in policymaking in the cohesion countries. All had higher inflation than the EU average which suggests lax monetary policy (Barry, 2003). Irish public debt as a proportion of GDP rose with EEC accession from 40 percent in 1973 to 100 percent in 1985. In response to the first oil crisis in 1973, the Irish government instigated a counter-cyclical fiscal policy which broke traditional rule that there should be no government deficit (Barry, 2003). The government increased spending to try and maintain aggregate demand (Barry , 2006). By 1977, higher taxation and economic recovery had almost halved the current budget deficit (Barry, 2003). The following (Fianna Fail) government of 1977 channelled Keynesianism by instituting a pro-cyclical fiscal expansion assuming the increased growth would generate enough tax to eliminate the budget deficit. Murphy (2000) points out that in order to finance the high public sector borrowing requirement, the government borrowed significant amounts of money. The policy neglected the marginal propensity of Ireland's imports, which meant most of the budget went on imports. This increase in imports triggered substantial deficit in the balance of payments. By 1981 the balance of payments deficit was 14.6 percent of GNP (compared to 5.3 percent in 1977 and inflation was 20.4 percent, the UK on the hand had an inflation rate of 11.9 percent and the EU average was 12 percent) (Barry F. , Irish Economic Development over Three Decades of EU Membership, 2003). Barry (2006) pinpoints political "wrangling" as the reason for the lack of a retrenchment policy in the Fine Gael/Labour coalition governments. Macroeconomic failure during this time is highlighted by the lack of any economic growth between 1982-86 and from the growing government indebtedness which reached 125 percent of GDP in 1987, over 50 percent of which was held externally (Murphy, 2000). Ireland committed to the European Monetary System in 1978 despite its simultaneous engagement in fiscal abandon. By breaking one-to-one parity with the sterling by joining the ERM Ireland seemed to come of age. As the Deutsch Mark weakened and the pound strengthened, the assumptions of some that Ireland's new European orientation was purely an anti-inflation strategy were put to bed (Barry F. , Irish Economic Development over Three Decades of EU Membership, 2003).

1987 would prove to be an integral year in Irish economic history. Fianna Fail were elected promising public expenditure but ended up committing to fiscal retrenchment instead. The country's newly developed "social partnership model" would bolster cost competitiveness with wage determination, whilst the doubling of EU structural funds in 1989 allowed for badly-needed infrastructural projects that had been halted during the change in fiscal strategy to resume (Barry F. , 2006). Similarly, the combination of the European Single Market and a worldwide tech-boom resulted in a huge increase in FDI in Ireland. The decision to revert to fiscal retrenchment found a rare moment of economic consensus in Irish politics. With main opposition party Fine Gael promising not to instigate an election so long as appropriate fiscal measures were taken by the government (Murphy, 2000).

Finance minister in 1987 stated that "In 1987, for the first time, a political consensus on fiscal policy was beginning to emerge to underpin the economic consensus already outlined in the NESC report Strategy for Development 1986–1990 (National Economic & Social Council, 1986). 1987 was the year of Irish pay determination via social partnership. Government officials, unions and employers agreed to come together every three years to set future wage increases. As alluded to previously, expansion of EU Structural and Cohesion funds allowed Ireland to raise the level of FDI inflows, which impacted on the type of FDI Ireland could attract. Similarly, the development of the Single European Market proved to be a great boost to the Irish economy which led directly to a doubling of the amount of US firm investment in EU countries between the early and late 1980s, and a quadrupling of Irelands share (Barry, 2006). Of particular benefit to Ireland was the liberalization of public procurement policies that the Single Market entailed. What this was meant was that larger EU countries could no longer use the threat of blacklisting publicly-funded purchases as a means to influence choice of location decisions. Ireland attracted its fair share of newly-offshored international companies over the course of the 1990s, areas like computer software and international finance gave Ireland its position as the most FDI intensive EU economy (Barry , 2006). Through commitment to Europeanisation Ireland felt obligated to exchange rate maintenance within the narrow European Exchange Rate Mechanism bands, even after the sterling was devalued in 1993 (Barry , 2006).

The Irish boom of the 1990s saw it dubbed the 'Celtic Tiger economy'. This paper best understands the Celtic Tiger economic expansion as two distinct periods. Firstly, 1993-2002 a period characterized by export-led growth and prepondering FDI and secondly, 2002-2007 which consisted of a property boom consisting of Irish developers bankrolled by Irish banks borrowing from European banks. Many use a series of famous Economist headlines to track Ireland's rapid growth. In January 1988 they published a survey of the Republic of Ireland with the title 'the Poorest of the Rich' and it showed a photograph of a young girl begging in the street with her child. The accompanying lines further reinforced the bleak picture.

"Take a tiny, open ex-peasant economy. Place it next door to a much larger one, from which it broke away with great bitterness barely a lifetime ago. Infuse it with a passionate desire to enjoy the same lifestyle as its former masters, but without the same industrial heritage of natural resources. Inevitable result: extravagance, frustration, debt…ireland is easily the poorest country in rich north-west europe. Its gross domestic product is a mere 64 per cent of the european community average" (Cairncross, 1988)

Some nine years later The Economist would brand Ireland 'Europe's shining light' (The Economist, 1997). Ireland's real national income per head rose from under 65 percent of the EU average at the beginning of the 1990s to almost parity by the end of the decade (Barry, 2003). Unemployment plummeted from a record high of 17 percent to 4 percent and employment rose by 50 percent, triggered by increased female participation and levels of net immigration never before seen (Barry, 2003). This boom is often attributed to increased FDI inflows, making Ireland the most FDI dependent EU country at the time. Demonstrated by almost 50 percent of Ireland's manufacturing workforce finding employment at foreign-owned firms compared to an average of 19 percent for the rest of Europe at the time. The key foreign sectors in Ireland in the early 1990s were pharmaceuticals and electronics. By the late 1990s nine out of the top ten and six of the 20 pharmaceutical companies in the world had bases in Ireland (Barry, 2003). As alluded to previously, Ireland's corporation tax regime has been tempting for decades. These new MNCs were attracted to its initial 0 percent tax rate on the profits of manufactured exports that would grow to 10 percent and then 12.5 percent. Further advantages like capital grants and tax exemptions relating to research and development activities (Donovan & Murphy, 2013) This tax rate remains one of the world's lowest nominal corporate tax rates. Barry (2003) mentions the important role of the Irish Industrial Development Agency (IDA) and credits their expertise in Ireland becoming one of the first countries in the world to adopt an FDI-based strategy.

The Irish economic model that prevailed between 1993 and 2007 was held aloft as an example of the benefits of deep liberalization to a small economy, through embracing of deregulation, entrepreneurial freedoms, free-market principles and aggressive high-value-added export-oriented FDI (O'Riain, 2004). The result was a rapid shift to high-skilled manufacturing accompanied by intense growth in the service and domestic consumer sectors and huge population growth. In 2008 then Taoiseach, Bertie Ahern, articulated what he believed was Ireland's magical development potion.

"Sound, evidence-based policy-making is clearly critical to our economic success, but other factors like workforce adaptability and business innovation have huge roles to play. What we are seeing in this country is that all of the factors which allow us to continue to succeed and to develop are here. So I think the future is bright." (Sweeney, 1998, p. 86)

Murphy is sceptical of this, however. Stating that this interpretation places too much emphasis on Irish activity and not enough on the major role of developments in the world economy. Murphy understands the spark that set off the Celtic Tiger as two-fold: firstly, the US information revolution in Silicon Valley and the process of progressive economic and monetary unification across Europe (Donovan & Murphy, 2013). In contrast to the industrial revolution and the post-World War II period, Ireland had positioned itself perfectly in the centre of a booming Silicon Valley and a flourishing European Union.

Between January 1996 and December 2005 more than half a million housing units were built in Ireland to reach a total stock of 1.733 million units in 2005. By 2007 Ireland was building two times as many buildings per capita than anywhere else in Europe (Kitchin , O'Callaghan, Boyle, & Gleeson, 2012). Housing prices soared with the building frenzy, with the average price for a new house in Dublin rising from 78,715 EUR in 1991 to 416, 225 EUR in 2007, an increase of 429 percent. Similarly, the price of a new house in the rest of Ireland grew 382 percent over the same period. The price of second-hand homes rose over the same period, unsurprisingly. An average second-hand home in Dublin cost 76,075 EUR in 1991 and 64, 122 EUR in the rest of Ireland, by 2007 a 551 percent increase saw that figure rise to 495,576 EUR in Dublin and a 489 percent increase in the rise in the rest of Ireland.

As a consequence, the cost of land in Ireland went out of control. increasing in price in 2005 and 2006 with land jumping in value from just under 10,000 EUR per hectare in 1998 to over 58,400 EUR per hectare in 2006 (Kitchin , O'Callaghan, Boyle, & Gleeson, 2012). This jump made Irish land the most expensive in Europe, almost twice as expensive as any other European country. Ireland had a relatively unrestricted planning system, the price hike was driven by developers competing for urban brownfield sites, agricultural land being sold for housing development and individuals buying one-off sites (Kelly, 2009). Land, then, became a significant component of housing cost, as much as 50 percent against a European average of 10-15 percent (O'Toole, 2009). As one would expect, the value of mortgage debt increased. from 47.2 billion EUR in 2002 to over 139.8 billion EUR at the end of 2007, with the average size of a new mortgage being 266,000 EUR—nearly double the 2002 figure (O'Toole, 2009).

Crisis struck in 2008, as Ireland's Celtic Tiger was exposed to four connected crises. First of all, Ireland's property market crisis was followed by a banking and subsequent fiscal crises. A domino effect of these three crises triggered Ireland's financial crisis which resulted in a Troika (EU Commission, ECB, and IMF) bail-out. Irish real GDP fell by 3 percent in 2008 and then 7 percent in 2009. Economic deterioration would continue to unravel, the budget deficit would reach 31 percent of Irish GDP and the debt to GDP ratio would rise to nearly 110 percent in 2010 (Donovan & Murphy, 2013).

As the global crisis worsened, Ireland's property bubble burst and the toxic international loans borrowed by Irish banks were a primary cause (Kitchin , O'Callaghan, Boyle, & Gleeson, 2012). It would be incorrect to state that only Ireland suffered in 2008. Truthfully, it was a global downturn. The US financial system was on the brink collapse following the bankruptcy of Lehmann Brothers. During the property bubble massive overvaluations were driven by false logic that property was the fastest way to gain wealth. Irish banks could access seemingly limitless amounts of money from abroad at very low interest rates, whilst simultaneously facing very little domestic financial regulation (Donovan & Murphy, 2013). The collapse of the property bubble led to the banking crisis, over-reliance on borrowing from abroad left the banks exposed to liquidity issues from 2007 onwards, made much worse by the collapse of Lehmann Brothers in September

2008. Throughout 2009 and 2010 assistance from the public purse was required to keep Irish banks afloat. The fiscal crisis occurred as the government became increasingly dependent on tax revenue related to property transactions. including stamp duty, capital gains tax, VAT, and direct taxes levied on the property sector. As the property market began to stall, tax collections from these sources dwindled. Rising unemployment associated with the crises imposed even more expenditure on social protection (Donovan & Murphy, 2013).

Ruane (2016) tracks patterns of GDP growth in Ireland and the other cohesion countries following the crash. Ruane found that Ireland's GDP level was 10 percent higher in 2015 than in 2007. While Greece still had less than 75 percent of its 2007 level. Ireland was hit very hard by the financial crisis in 2008 and 2009 but the GDP did recover slowly and then grew very quickly from 2013. Ireland was early to embark on its austerity path and Ruane posits that Ireland's recovery owes a great deal to its speedy austerity process. Ruane shows that exports were the vital variable in Ireland's economic recovery, exports from Ireland dropped minimally in the years following the crash and then by 2015 had grown to 40 percent their 2007 level. Ruane puts this down to the structure of Ireland's economy, particularly its focus on exports. MNCs dominate Ireland's export figures, with focus in the pharmaceutical and ICT sectors. These MNCs still flourished during the financial crisis as they had export markets outside of the euro area to countries like the UK and US that had experienced stronger growth in the years following the crash. Ireland's performance between 2010 and 2013 owes a great deal to its export sector (Ruane, 2016). Domestic demand during the same period of time fell after the financial crash. By the end of 2015, however, domestic demand was 97 percent of its 2007 level (Irish Fiscal Advisory Council, 2015).

Ireland's recovery from the financial crisis was quick by comparison with the other cohesion countries. However, Ireland's debt level still remains above the Maastricht criteria level. Ireland's recovery clearly owes a lot to growth in GDP rather than debt-reduction. Another lingering issue from the financial crisis, is the state of the banking system. Ireland has been left with just two major banking competitors and one of these is state-owned. The consequence of this is higher banking margins which does little to benefit Irish businesses and households. Ireland still finds itself in the midst of a serious housing crisis as the supply of houses (particularly in Dublin) comes nowhere near close to meeting demand (Ruane, 2016).

THEORY

ORIGINS OF FREE TRADE

There are few ideas as thought provoking as the notion of free international trade. Economists likely would base their acceptance of the system on the basis of the mutual benefits of trade on the concept of comparative advantage. Today, world trade agreements are coming increasingly under attack and topics like outsourcing and location of firms concern many. This theory section will begin by exploring the origins of free trade as an economic thought, before moving on to explore more specifically the concepts of trade openness and foreign direct investment as developmental tools.

Early economic thought was based largely in the work of Adam Smith in the 'Wealth of Nations' (Smith, 1776). According to Smithian logic, the division of labour is a key function in increasing the wealth of individuals and national economies. In Smith's work producers specialize and trade with each other inside and across national borders becoming more productive and obtaining more commodities in doing so. The concentration of work on a particular commodity pays off as trading is a more efficient means of commodity procuration for consumption than self-production. This is because it requires less labour. Smithian logic posits that free trade increases the wealth of individuals and nations as the extension of the market beyond national borders encourages division of labour and encourages labour at home. Myint (2007) refers to Smith's logic of trade as 'Smith's productivity theory of trade' due to the emphasis on economic growth and development.

The most prominent logic of trade in today's economic world is, however, often attributed to the work of David Ricardo. The Ricardian logic of trade has its origins of exchange in the differences between individuals or countries with regard their capacities to produce different goods. In the case where differences exist, specialization will prove to be mutually beneficial. Trade between two countries with identical preferences and capacities to produce goods would not produce any benefits.

"The motive which determines us to import a commodity, is the discovery of its relative cheapness abroad: it is the comparison of its price abroad with its price at home. If a country exports hats, and imports cloth, it does so because it can obtain more cloth by making hats, and exchanging them for cloth, than if it made the cloth itself" (Ricardo, 1817, p. 173).

The difference between the work of Smith & Ricardo then is that according to Smith, exchange occurs because of the advantages of specialisation. The differences between trading partners are the results of their specialisation. Smith wrote in the Wealth of Nations that the differences between a street porter and a philosopher was small prior to their commitment to their respective professions. Ricardo, on the other hand, takes specialization and trade as being inherently predicated by the differences between trading partners.

Adam Smith is attributed to have devised the absolute cost advantage theory of trade. Bloomfield (Aspects of the Theory of International Trade in France: 1800-1914., 1989), finds that the absolute theory of trade posits that

"Countries tend to export those goods that can be produced at lower costs at home than abroad and to import those goods that can be produced at lower costs abroad than at home or that cannot be produced at home at all. And it was implied or explicitly stated that under free trade commodities would in fact be produced in countries where their absolute costs were lowest" (Bloomfield, 1989, p. 621)

Ricardo's theory of comparative advantage offers similar principles. Ricardo states that states should specialize in the goods they have the greatest advantage, or least disadvantage in producing. Ricardo outlined two different forms of advantage. First, absolute advantage, where two countries are undoubtedly better at producing a particular commodity and therefore trade those commodities. Comparative advantage on the other hand, occurs when two countries have different opportunity costs of production, i.e the cost of producing something measured in terms of another commodity not being produced. Ricardo posits that each country specializes in areas where it has the lowest opportunity costs thereby optimizing efficiency.

Smith and Ricardo are considered 'classic' economists. They posited that an economy where each agent was free to follow his or her own interest would create an optimal distribution of society's resources. Intrinsic in this, is that any state interference in the market would likely by disadvantageous. The work of Ricardo and Smith has been disputed by many other economists. John Maynard Keynes, on the hand, devised what is known now to be 'Keynesian' economics. Keynes disputed that market equilibrium could be naturally caused. Keynes posited that the instable and uncertain nature of markets meant they could not be left to themselves and therefore should be regulated (Eatwell & Milgate, 2011). German economist Friedrich List was similarly doubtful of classic economics (Shafaeddin, 2000). This paper does not take the view that List was opposed to international trade nor export expansion. Rather, List emphasized the importance of trade and free trade as the ultimate aim of all nations. List, however, believed that protection was a necessary means to protect infant-industries from excessive competition. This protection, however, was to be temporary and not excessive.

TRADE OPENNESS

"The main losers in today's unequal world are not those too much exposed to globalization but those who have been left out" - ***Kofi Annan***

The aim of this paper is to explore why Ireland experienced successful economic development. One of the hypotheses offered by this paper is that it was **Increased Irish openness towards trade through trade liberalization triggered economic development by attracting substantial inflows of foreign direct investment.**

This chapter will explore the theoretical principles behind a policy of trade openness. The first logical step here is to define trade openness. The concepts of trade openness and trade liberalisation are oft mistaken as the concepts do truthfully borrow from each other. Trade liberalisation refers to policy measures that increase trade openness, while trade openness is understood to be the size of the Country's trading ratio in relation to total output (Pritchett, 1996). Increased openness can but is not necessarily caused by trade liberalisation. Pritchett argues that 'openess' & 'free trade' have come to mean the same thing. I.e. a system where all impediments to trade have been removed (Pritchett, 1996). Stenses (2006) posits that it is more precise to understand openness in relation to the government-imposed barriers to international trade. An even more all-encompassing view of trade openness covers non-policy factors like geography and infrastructure which do also affect trade and the policy orientation of nations. In this paper we argue that trade openness is a multidimensional concept that cannot be measured by a single variable. With this in mind, we propose that in measuring trade openness and exploring its effects on Ireland we must also look at multiple dimensions of a country's integration in world trade.

Winters posits that trade openness is a faster and more secure process of economic development (2004). Particularly in developing countries where more sustained economic growth is required for convergence with advanced economies to occur. Trade openness is considered as a policy which enables developing countries to affect the nature of their participation on the international market and thereby also promote economic growth. It is considered that an openness to trade improves economic performance by increasing competition and giving domestic industry access to foreign technology which raises local productivity, commonly referred to as the spill-over effect (Winters, 2004). The topic of trade openness and its effect on economic development is a hot topic and has received a great deal of attention from researchers and policy makers as many countries revert to the liberalization of their trading systems and sign bilateral and multilateral trade agreements. Despite the proliferation of trade openness as a policy variable for developing countries, its impact on economic development remains a question in both theory and practice. There are, truthfully, a plethora of studies that have assessed the matter. Krueger (1998), found that it was straight forward to demonstrate empirically that an "outer-orientated" trade policy was conducive to better economic performance. Similarly, Romer (1986) and Lucas (1988) found support for the argument that openness affects growth positively. Romer (1992), Grossman and Helpman (1991) and, Barro and Sala I Martin (1995) argued that countries more open to the rest of the world are better able to absorb the technological advances generated in leading nations. Edwards (2001) found that more open countries embodied quicker productivity growth.

Perera-Tallo (2003) makes a crucial point that the relationship between trade openness and economic growth may be related to the adoption of technological progress and increased international and domestic competition. While Spilimbergo (2000) develops a model that borrows from Ricardo in positing that international trade can benefit a developing country in regards to welfare gains. Trade openness, in this case, connects developing countries to more advanced countries to acquire foreign exchange and also through access to high-tech goods via import.

While a good deal of work exists highlighting the benefits of trade openness on economic development, this paper must accept that it can also be detrimental to economic development. Rodriguez and Rodrik (1999) point at difficulties in measuring trade openness. Some authors have measured trade openness in regard to trade restrictions/distortions like average tariff rates, average coverage of quantitative barriers, frequency of non-tariff barriers or collected tariff ratios (Pritchett, 1996). These measures are not ideal as they only provide a very rough estimates of countries' openness. Other criticisms of the effect of trade openness on economic development feature work by Dowrick and Golley (2004) who showed that trade openness benefits rich countries more than poor countries due to poor countries inability to fully take advantage of knowledge accumulation and technological spill-over. Similarly, Kali et al (2007) note that the volume of trade and the structure of international trade affect significantly the implications of an openness to trade on economic development. They stressed that the number of trading partners a country has is crucial in how able the country is to benefit from the impact of trade openness. This highlights the vulnerabilities of being dependent on few trading partners, as it decreases the competition and market size. Furthermore, they posit that what a country actually exports also matters in regard to benefitting from international trade. These arguments depart from the position that not all countries benefit from international trade, if the activities engaged in are of low-value. The level of development already attained also plays a significant role in determining if trade openness can positively impact on economic development.

FOREIGN DIRECT INVESTMENT AND ECONOMIC DEVELOPMENT

This paper will be studying the phenomenon of foreign direct investment, therefore the following will amount for what defines FDI in this paper, and discuss what is the impact for the host country in terms of economic development. FDI is described in the Palgrave dictionary as "…when an individual or firm acquires controlling interest (typically defined as at least ten per cent ownership) in productive assets of another country" (Blonigen, 2008). FDI is different from foreign portfolio investment in the aspect of control. Foreign portfolio investments is the acquisitions of a passive investment made with a expectations of earning a return. Portfolio investment is the acquirement of foreign bonds, currencies and stocks in minor amounts, that does not give power in the company. FDI typically involves the establishment manufacturing plants or other branches of a business. FDI is typically divided into *greenfield* and *brownfield,* where greenfield is the constructions of e.g. new plants or new departments in a foreign country and brownfield can be investment into foreign companies or joint ventures (Blonigen, 2008).

FDI is considered a more long-term interest in the specific location e.g. the economy of a country. The time frame for expected return is usually anticipated to be longer on FDI than portfolio investment, because they are much easier to liquidate and require less investment capital and research. The transactions costs related to FDI are generally higher than portfolio investments, and therefore they are often undertaken by MNCs or institutions (Blonigen, 2008).

The economic impact of FDI on a host country has been widely studied, particularly in the areas of host country wages, technology spill-over and economic development. A classical assumption of the economic impact of FDI on a host country, is that it raises wages in the host country. In fact, empirical evidence points clearly to show that multinational corporations pay higher wages than local – in both developed (Globerman, 1994) and less developed countries (Brian Aitken, 1995). However, the linkages to whether it raises local wages as well, has only been explored by a positive (Maria Carkovic, 2002) correlation between the presence of FDI and an increase of local wages.

FDI can complement domestic investment and can help host countries with capital accumulation and growth - the South and East Asian economies are testament to this. FDI brings with it benefits of advanced technology management and marketing and distributing processes which increase production and distribution efficiency (Bhattarai, 2016). MNCs provide management ideas and experience. Another benefit of FDI is that it stimulates competition in the host country's domestic market and has the effect of destroying monopolies. Competition is a way for domestic firms to become increasingly efficient if they can survive (Zhang, 2001). The effect of competition may be greater efficiency and thus lower production costs and possibly better quality products. Di-Benedetto et al. (2003) posit that enhanced product quality generates greater domestic and international competition. Foreign firms can also help host countries access international markets as MNCs have better knowledge about international markets, this may lead to an expansion of the host country's exports. A hugely important benefit of FDI to host countries is the improvement of employment. A United Nations report found that foreign subsidiaries of 64,000 MNCs provided 53 million jobs. The Combined effect of increased productivity and widening export markets can also increase employment (Zhang, 2001).

The topic of trade and Foreign Direct Investment (FDI) is one deeply rooted in the ongoing international integration of the world economy. Since its establishment, the World Trade Organisation (WTO) has endeavoured to remove the barriers to free trade (Goldstein, 2007). Involved in this process is the work to ensure that trade occurs seamlessly across borders without any impediments, be they quota's, tariffs or otherwise.

The role of multinational corporations in the global economy is linked to how FDI impacts the economic success of recipient countries. Of notable interest to the direction of this paper is the policy context in which FDI flows into the host country and the ways in which a host government can influence the impact of those flows. The point of interest for this paper is whether FDI has played a role in Irish economic development since the 1950s. Technological transfer leads to an improved technological progress in the host country, giving rise to efficiency in the host country. Greater output with fewer inputs creating a reduction in prices and sparking economic growth. Similarly, transnational companies play a significant role in conducting Research & Development (United Nations Conference on Trade and Development, 1999). Moreover, FDI plays an important role in enhancing the flow of investment funds. FDI can if attracted in the right manners also fill the gap between desired governmental tax revenues and locally raised taxes. Development projects can be funded from the taxation of MNCs profits (Michael P. Todaro, 2003). In 1966, Vernon developed the product cycle model which sought to explain the foreign activities of MNC's. He found that the likelihood of countries engaging in trade depended on their ability to improve technological capacity (Dunning, 1992). Vernon found that the movement of capital to less-developed countries made more investment capital available and sped up development. Similarly, Vernon argued that by providing managerial capability, FDI allows host countries to better use their comparative advantages. Blomstrom et al (2000) posit that the high managerial capacity of MNCs gives them an ability to think on a global scale and by tapping into this global way of thinking, developing countries can benefit by penetrating foreign markets.

The above arguments highlight that FDI inflows can be an effective way of generating and sustaining economic development through improved technological capabilities, supporting domestic investment, creating competition, expanding export markets, transferring managerial expertise, generating employment, improving financial systems and increasing government revenue.

Literature attempting to grasp the overall impact of FDI on the host nation, have been met with the obstacles of the vast variety of endogenous factors that influence how FDI is being facilitated and managed, and therefore been criticized for the sensitive empirical data (Maria Carkovic, 2002)

CRITICAL VOICES OF FOREIGN DIRECT INVESTMENT AND ECONOMIC DEVELOPMENT

FDI can be praised for bringing the aforementioned benefits to host countries. FDI can, however, bring detrimental effects to economic growth. FDI may lead to monopolies, current account deficits, unemployment, environmental degradation, poor economic welfare and bad trade practices. Zhang (2003) notes that FDI may drive domestic firms out of the market with overly intense competition. Foreign firms take advantage of the lower production costs (economies of scale) and thus charge lower prices. Infant industries still producing at higher production costs often cannot survive this sort of competition. The argument here is that while infant industries may be inefficient in their early stages, they do have potential in the long term. Monopolies are not ideal as they can denote substantial losses to the consumer and higher welfare losses. Similarly, FDI can cause host countries to lose control over important industries like telecommunication, banking, electricity, water and transport (Siddiqi, 2005). Domestic management of these sectors can generate greater citizen welfare if operated domestically. Foreign competition will look to maximise profit and save resources that undermines citizens use of the service. Another potential pitfall of FDI, according to Marroti, Mutinelli & Piscitello (2003) is that foreign firms exploiting cheap production in the host country tend to substitute domestic employees with foreign employees. Zhang & Ram (2002) note that FDI can cause host nation policy distortion. Host countries may be forced to reduce their taxes and increase subsidies to attract foreign investment. The result here is that citizens economic welfare is undermined as taxes are a necessary contribution to education, health, housing and other development programmes.

In the 1970s, a scepticism emerged towards the increasing trade liberalisation; and its name was Immanuel Wallerstein. Wallerstein was eager to find an explanation for the unequal distribution of wealth between societies in the world, and second to understand the cyclical patterns of expansion and contraction, that he believed characterized this world. Wallerstein is considered as the father of World System Theory, which is highly influenced by dependency theory and draws similarities to the work of Karl Marx and Friedrich Engels. The world systems theory stresses that poorer countries, what is referred to as *peripheral* countries have been systematically exploited and underdeveloped by the *core,* which he refers to as the rich and powerful countries (Chirot & Hall, 1982). Due to the exploitation and underdevelopment peripheral countries stand little chance to reach the level of prosperity that the core has attained, without revolution. Wallerstein argued that the thoughts behind free trade emerged from capitalism and argued the success of the school was due to its ability to exist in a variety of political systems and environments. However, unlike the popular claim that capitalism is a system based on the non-interference of the state in economic matters, Wallerstein posits, that capitalism has been successful due to the absorption of economic loss by the state entities, while the generated profit has been allocated to the private sector. It is thereby not due to the state's non-interference but their active interference that capitalism has continued expanding. Capitalism is continuously expanding in scope, because it operates in an arena much larger and beyond any political entity has yet been able to control. This fact has given capitalism the freedom to manoeuvre that is structurally based (Wallerstein, The Modern World-System: Capitalist Agriculture and the Origians of the European World-Economy in the Sixteenth Century, 1976). Wallerstein furthermore argues in his world system theory, that the boundaries of the world economy "…is a function of the state of technology, and in particular of the possibilities of transport and communication within its bounds" (Wallerstein, The Modern World-System: Capitalist Agriculture and the Origians of the European World-Economy in the Sixteenth Century, 1976, s. 230). Because technology and the means of transport and communication are ever-evolving it makes the boundaries for capitalism fluid and thereby the expansion of capitalism has not seen its boundaries

As a new element, Wallerstein added *semiperipheral,* countries that find themselves between the core and peripheral countries, ones that act "…as a kind of global middle class" (Chirot & Hall, 1982, s. 748). The semiperiphery are thereby an important element to stabilize world order between the core and peripheral areas. According to Steiber, the semi-periphery gains some of the same benefits as the core status, by exploiting the periphery, but are then in return exploited by the core (Steiber, 1979). Conventional world system theorists and Marxists have suggested that semi-peripheries are *comprados* of the core, which is defined as a subservient tool of the capitalist core (Chirot & Hall, 1982), however Chirot and Evans suggest, that close linkages with the core can heighten prosperity and technological advantages (Chirot, World System Theory, 2015; Evans 1995).

From the early days of world system theory in the 1970s to present day, the theory has evolved and different scholars have suggested variations through time. Whilst Wallerstein stands his ground quite firmly and argues, that the only way to escape the peripheral and semiperipheral status is to break free of capitalism through a global socialist revolution. Even after the financial crisis in 2008, still few are likely to consider worldwide socialism as the answer to economic hardships (Chirot & Hall, 1982). Chirot has stated that World System Theory is greatly flawed, that its economic history is off, that it is guilty of political bias and revolutionary polemic and that the criticism of capitalism has not been followed by a convincing argument of what should replace it. However Chirot concludes, that the theory cannot be deprived of its importance and real virtues (Chirot & Hall, 1982). Chirot represents a contemporary and less revolutionary branch of world system theory, one that emphasises on the holistic global analysis that creates *awareness* of the dangers in an unbalanced capitalist world system. Quite interesting, Chirot notes that the import-substitution policies as seen in Latin-America after World War II, as well as in India lead to slowed economic growth that blocked innovation and reform and further notes that complete withdrawal from the world capitalist system has produced economic disasters (Chirot, World System Theory, 2015)

Peter Evans, thus suspicious of core power, recognizes that development is possible for periphery and semi-peripheries areas if they hold skills in combining effective bureaucratic leadership with entrepreneurial spirits. Those states can succeed in the world system, if they are able to absorb and diffuse its advanced technology and market opportunities (Evans, 1995). Evans' approach brings the old saying of *if you can't beat them – join them* to mind as it suggests that peripheries are secured better chances if they engage in the capitalist playing field. The contemporary interpretation of World System theory suggests an increasing consensus in regard to the effect of increased interaction among developed and less developed countries. Whilst Wallerstein stills stands as a representative of the original school, the more recent world system theorists seem to be more aware of the challenges of free trade and FDI than trying to overthrow the current world system.

LINK BETWEEN TRADE OPENNESS AND FOREIGN DIRECT INVESTMENT

Kandiero and Chitiga (2006) posit that trade openness is one of the strongest influencers in determining the extent of FDI inflows in host countries. National trade policies in particular can have a significant effect on FDI inflows according to Ponce (2006). Ponce points to the staggering increase in FDI following the implementation of Free Trade Agreements. Free trade areas were a part of Latin American economic policy in the 1980s and stemmed from the need to trigger trade liberalization via an adjustment of the economic structure towards privatisation of state-owned companies and deregulation of their markets. There is a wealth of evidence to support the thought that trade openness is positively associated with FDI inflows. Trade liberalization can thus be understood as a motivator for FDI.

HUMAN CAPITAL

As mentioned, the aim of this paper is to explore why Ireland experienced successful economic development. The second hypothesis offered by this paper is that **Irish human capital played a significant role in attracting Foreign Direct Investment, and thus played a significant role in Ireland's successful economic development.**

Human capital has been highlighted as an important variable in the successful economic development of Ireland and therefore the theory of human capital will be explored in this section.

Measuring the stock of human capital can be done to serve several purposes; to better understand what is driving economic growth, to assess the sustainability of a country's development path or to measure the output and productivity of the educational sector. According to the OECD, human capital refers to: "knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being" (OECD, 2001). Human capital are the skills and knowledge of people, and by investing in or enhancing a person's skills and earning power the return can be increased. Human capital theory suggests, that an individual's earnings are influenced by the amount of human capital which they possess. The focus' on the individuals earning and yield is known as the microeconomic effect of human capital.

The ownership of the human capital lies within the individual, at least in a free society. According to Paul Romer (1990), human capital has two different variations; the cognitive skills, that are tied to an individual and secondly, aggregate knowledge that is not tied to an individual. Cognitive skills are often quantified as years of education, which has a natural limit and has not been able to explain a sustained growth in terms of economic output. Whereas, aggregate knowledge, understood as the stock of human knowledge has the possibility to grow without limitations – and thereby the key to growth and development lies within the ability to exploit this. Romer's argument is that an efficient use of human capital will lead to a development of innovation and newer products that are more productive than earlier versions. The example of modern technology, can be shown to prove that productivity can be optimized with new inventions (Romer, 1990). As a continuation of Romer's work, Nancy Stokey (1991) has also addressed the external effects from investing in human capital. The external effects stems from the individuals' investment in human capital. The conscious decision of a human agents choice to accumulate knowledge by e.g. entering school, affect not only the individual, but it also increases the aggregate stock of knowledge in a society. Additional human capital can improve the labour force's quality of work and thus affect the patterns of production and finally lead to the development of a new product or innovation (Stokey, 1991). The work of Romer and Stokey, presents insights to how the characterization of human capital functions as a igniter of growth and how the management of human capital can increase output, both on an individual and societal level.

This point has more recently also been explored by Stefan Bergheim (2005), who using the model of Robert Lucas (1998), argued that a rise in human capital leads to a rise in national income, and argues therefore, that economic policies encouraging a rise in the growth of human capital will lead to a higher growth of GDP. This is opposing to Romer's aforementioned model of knowledge spill-over, where the aggregate stock of knowledge determines the output and essentially the rate of GDP. However, the motives of attaining more human capital can be varied – and having the opportunity to attain more human capital does not necessarily guarantee an increased output (Bergheim, 2005). Put briefly, because an individual attains a degree, does not mean that this person will have an increased productivity – it has to be transformed into actions.

The boundaries of human capital depend on the scholars; Schultz (1961) represents a wider understanding of human capital, and included workers' skills, based on education and training, quality of life and the capacity to educate the population to make more efficient and intelligent economic decisions. Starting from Adam Smith's tripartite division of production (Land, Labour and Capital) economists have sought to understand the role of human capital, and Schulz argued that, the value of labour contribution to output human beings productive capacity are of larger significance that all other wealth (Schultz, 1961). Categorizing labour and human capital is thus not without challenges. The free human being is not easily categorized by economic endeavours, and they are not property or marketable assets and labour has therefore been somewhat treated as a unique bundle of innate abilities freed from capital. Adam Smith considered all useful abilities of all inhabitants of a nation to be capital (Smith, 2000). Another theorist H. von Thünen, argued that the concept of perceiving humans as a marketable items did not degrade or impair them, but quite the contrary gave them dignity over material items (Schultz, 1961). The skills and knowledge of an advanced country is a great part, along with other human investments, in what makes them superior and technologically advanced. So to study development without human capital would be flawed and incomplete.

The next big question is how to study and estimate the magnitude of human capital and possible investment. With physical goods, one can measure the output by subtracting the capital going into the production. In principle, one could measure by yield rather than by cost. Even though any capabilities produced by a human beings become an innate part of the human and therefore cannot be extracted and sold on the marketplace, it still affects the wages and salaries that a human agent can earn, and thereby the increase in earnings can be considered a return on the investment (Schulz, 1961). Schulz notes, that the highest observed rise in earnings is linked to education. Though investments in human capital can seem intangible and difficult to quantify, measuring the individuals level of education has proven successful. Gary Becker (1975) did a case study of the United States, to study the yield of education. Becker distinctively links the level of education of an individual to their productivity as a worker, and thus implies that workers with higher education are more productive and are thus receive higher wages. In the question of available education, Richard Easterlin (1981) did a cross country study and found evidence of linkages between widespread public education and economic growth. Along Becker's thesis of the external effects of education, Easterlin argued that modern growth was highly dependent on the ability of a nation to diffuse and advance knowledge. Evidence suggests that the rate of technology transfer is boosted by human capital, which is essential when striving for continuous development. Subsequently, he argues that access to mass education is a key variable in securing upward mobility to a wider group of the world's population.

An important aspect, according to Ellis Tallman & Ping Wang (1992), is that human agents do not take the positive external effects into consideration when investing in their human capital. More likely is that individuals are more prone to underinvest in their education – and thereby the aggregate knowledge. Therefore, policies to encourage the accumulation of human capital can be a beneficial tool for governments and such policies can both accelerate and maintain aggregate knowledge (Tallman & Wang, 1992). The literature on human capital also suggests certain fields or characteristics of human capital, that might be more appropriate for growth. These characteristics may also require policies to achieve the most desirable outcome and in order to withstand developments. It is suggested that different policies should be in place for both less developed countries and developed countries. Whereas securing primary education is mostly seen as a challenge in less developed regions, the educational improvement within a more developed country are more focused on higher level education and increased quality.

Human capital theory has been met with criticism for not bridging the gap between theory and the real social and economic world (Marginson, 2019) and subsequently the theory's weakness has been highlighted as lack of applicability. The criticism of human capital theory can be divided into four areas i) human capital theory uses a limited analytical system and sees variables as independent, whilst the reality is that few of the variables being addressed can be isolated or denied co-dependence ii) human capital theory is considered to be a linear theory applied to variables that are non-homogenous in space and time. Put in other words, humans have a tremendous diversity and therefore assuming linear progress is erroneous iii) human capital unifies education and work as a single variable, when in reality the two are quite distinct
(Marginson, 2019).

Conclusively, numerous studies propose a link between human capital and, increased earnings for individuals and increased growth and development. Although the measurable impact and quantification of human capital has been discussed, all studies suggest a beneficial effect of education on output and the wage of individuals (Tallman & Wang, 1992).

The theory will be applied to understand human capital in an Irish context, and in the context of the overall question that has been posed in this paper: ***why did Ireland experience such successful economic development?*** The paper will explore the aspects of Irish human capital, first how it has developed and how it has been strengthened by the Irish government. Secondly, the forces and weaknesses will be explored to understand how and if the Irish human capital has played a role in the development of Ireland. To measure the human capital of Ireland, the indicators-based approach will be used. The indicators-based approach is a method that applies indicators, that may not study the direct human capital, but rather proxies that are more or less directly evident. This model has been chosen rather than model-based approaches due to the nature of this paper not being equation-based (cost- and lifetime income-based approach) (United Nations, 2016). UN posits, that variables for measuring the state of human capital in a nation are: literacy rates, labour force and employment, years of schooling, educational attainment indicators, and adult skills indicators. And these will thus be explored in order to test the hypothesis (United Nations, 2016).

The theory of human capital has been acclaimed to be more efficient at examining data rather than generating testable predictions. Therefore, the use of human capital theory can be perceived as a guide to the process of the data analysis. As noted in the work of, Tallman & Wang (1992) , studies carried out on human capital overlooked variables that are immeasurable e.g. effort and innate ability. The investment going inward is not guaranteed to yield, if the human agent is lacking effort or abilities. Second, although there has been found correlations between education and income – and education and development, the nature of the underlying linkages are connected to uncertainty.

ANALYSIS

HYPOTHESIS I

Ireland experienced a fundamental transition in its economic life, one that has affected society across the board. The shift in living standards and expectations alongside Ireland's participation to a global interdependent world has been catalysed by structural changes in the Irish economy. This article looks at Ireland's economic development starting from 1949 until present day - essentially a restructuring of its economic base and international outlook-the changes evident, present conditions, and the problems encountered. Theories of trade openness and FDI have been outlined previously in this paper and will be tested in the coming section. This following section will look to discover whether it was Ireland's economic opening and receptiveness to foreign investment that caused its economic development.

1949 - 1973

From protectionism to accession

A deal of attention has been paid by this paper to a historical overview of Ireland's economic transition. This paper will begin by looking at the policy changes that occurred in the 1950s and analysing the role these changes played in Ireland's economic development. In exploring Irish economic development, this paper offers the following hypothesis:

Increased Irish openness towards trade through trade liberalization triggered economic development by attracting substantial inflows of foreign direct investment.

This paper has explored the concept of an openness to trade, its origins, embodiments and hindrances. The thrust of this argument is that the enactment of policy changes in the 1950s put Ireland on a path of trade openness. This paper will look at Ireland's journey towards trade openness over 70 years, exploring the effect this had had on Irish economic development. An important point to mention is the jurisdiction of trade openness. This paper departs from the position that trade openness is understood as the nature of the orientation of a given country's economy and in exploring Ireland's trade orientation a number of factors will be examined: Ireland's barriers to trade, Ireland's trade policy regime, Ireland's openness to FDI and Ireland's infrastructure in relation to trade. This chapter will begin by analysing Ireland's transition from a protectionist economy to one much more open to foreign trade.

The 1950s are regarded by many scholars as a time of innate Irish crisis. The rationale of Irish independence from the United Kingdom and Ireland's historic freeing from centuries of oppression was in serious question. Imports were rising fast due to the domestic economy's inability to meet the demands of the consumer economy. Donovan and Murphy (2013) point out that there was a growth in national consumption between 1953 and 1954 of 6 percent and then an increase of 23 percent the following year. These increases in consumption could be put down to an increasing availability of bank credit and were combined with a simultaneous decrease in the willingness of the populace to save. An increase in real term wages and the resulting inflation left the Irish government with little choice but to seek new sources of capital (Donovan & Murphy, 2013). Ireland's decision to revert to trade liberalization was a conscious one, it sought to save Ireland's economy through a re-orientation of the economy towards inward investment. A number of steps were taken to revolutionize the Irish economy; new public organizations and policies were created to address shortcomings. An important element here being that new industrial policy brought strong fiscal and financial incentives to possible inward investors and indigenous enterprises alike- an approach that still continues to this day. In the late 1950s until Ireland's joining of the EEC in 1973, this period of time was quipped "industrialization by invitation" (Donovan & Murphy, 2013).

Irish historian Eoin O'Malley published a summary of Irish history in his book 'Contemporary Ireland' which offers insight into Irish economic development. O'Malley makes the point that Ireland did not undergo an industrial revolution despite it being a part of the United Kingdom from 1800 to 1921 and only a few localized industries advanced. The thrust of O'Malley's argument is that a series of political initiatives post World War II allowed Ireland to join what would later become the European Union, and subsequently develop into an advanced economy. Already mentioned in this paper are the protectionist policies of the Irish government in the 1930s and 40s, self-sufficiency manifested itself in aggressive tariffs and a trade war with England. Similarly, a policy of import substitution and high import tariffs combated against British influence. As time progressed, rising levels of poverty, immigration and unemployment began to force Ireland's hand. Ireland was viewed by many as a backwards land where the church played a pervasive role in life (O'Malley, 2011).Already mentioned were the partial repeal of the Control of Manufacturers Acts of 1932 and 1934 in 1956, crucially allowing for foreign ownership, which has played a major role in Irish development as the abolishment of these acts would allow for the influx of foreign companies setting up shop. Barry (2006) argues that the drive towards trade liberalization began with the non- Fianna Fail coalition governments of 1948-51 and 1954-57. The first of these coalition governments would develop the Industrial Development Authority (IDA) in 1949 under the umbrella of the Department of Industry and Commerce. The IDA was tasked with the creation of proposals for the initiation of industry and to attract foreign industrialists, in retrospect the IDA would later play a pivotal role in the attracting and sustainment of foreign companies. The second coalition government would go on to grant the IDA authority to offer industrial grants, which had up to this point only been used to relocate industrial activity to Ireland's less- developed western regions (Barry , 2006). These grants were often subsidies in the form of nonrepayable capital grants, ready-made facilities, training and research and development (R&D) (Burnham, 2003). The IDA sought to stimulate, support and develop export-led business and Barry (2008) argues that it is one the world's first investment promotion agencies. The aforementioned steps do represent a conscious decision on the behalf of Irish policy makers to orientate the Irish economy towards foreign investment. The role of the IDA in Irish economic success is a point of great inquest, with some scholars critical of their aggressive courting of foreign investment. However, it can also be argued that without the IDA, Irish economic development might not have occurred in the same manner.

The Irish city of Shannon was established as an industrial hub with the creation of the world's first free-trade zone, the Shannon Free Zone. The city was an important trans-Atlantic base for commercial air traffic between North American and northern Europe in the early 1960s (Burnham, 2003). The free-zone was formally inaugurated in 1960 and would become a key part of Ireland's development. In 1965 Shannon accounted for almost one third of the national total of manufactured exports (Shannon Chamber, u.d.). As foreign ownership was allowed at this point of time, this highlights the embeddedness of seeking to create a welcoming environment for foreign companies and foreign direct investment. The Shannon Free Zone remains the largest cluster of FDI outside of Dublin. The theoretical principle; that increased integration with the world economy is good for small, lower-income countries does seem to have catalysed Irish policy. In the theory section it was noted that an openness to trade is a faster and more secure process to development. It is based on the notion that developing countries benefit from the transfer of both knowledge and resources brought by advanced economies.

The period of time under consideration is one in which agriculture dominated the economy in regards employment and GDP contribution, and some argue that the Irish foreign policy of this time was purely a response to the threats facing that sector. The amended Anglo-Irish Trade Agreement signed in 1948 sought to enhance Irish agriculture's access to the British market with concessions to British exporters by adjusting the tariff obtained in the original Anglo-Irish Trade Agreement signed in 1938. In 1957 when the proposal for a European Free Trade Association (EFTA) was announced, Irish policy makers worried that to keep access to British markets, Ireland would need to participate in the trade agreement and thus lose its protection over the industry. In 1959 the Irish Department of Agriculture decided against joining EFTA as they adjudged that the United Kingdom would have to offer the same access to their agriculture market to all EFTA countries, not just Ireland (Breen & Dorgan, 2013). In 1961, the United Kingdom applied for membership of the EEC and with that the Irish government's disdain for trade agreements disappeared. The EEC did cover agriculture meaning that Ireland's most significant agricultural export market would be cut off, making membership virtually mandatory (Breen & Dorgan, 2013). Significantly, the EEC's Common Agricultural Policy (CAP) offered protection and subsidies for agriculture, protecting Irish industry from any increased competition from other EEC members for the British market. Breen and Dorgan express surprise at the lack of resistance to Irish EEC membership, pointing out that industry employment had grown during the protection years from 62,000 in 1931 to 146,000 in the mid 1950s It is arguably a move of both potential and necessity as The figure below demonstrates that in 1951 agriculture had dominated Irish employment but these figures began to dwindle during the 1950s as shown below, as they did throughout Europe.

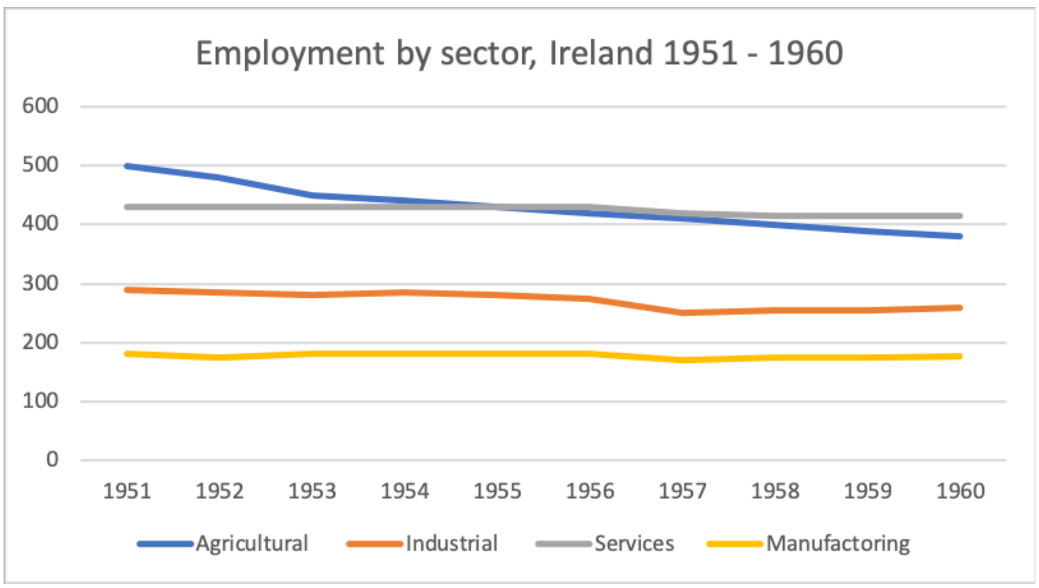

Figure 1: *Employment by sector, Ireland, in 000s, 1951-1960. Adapted from "The Death of Irish Trade Protectionism: A Political Economy Analysis" by M. Breen & J. Dorgan, Copyright 2013 The Royal Irish Academy*

The late 1950s also saw noteworthy developments in the form of Ireland's joining the International Monetary Fund in 1957 and its application for a World Bank loan in 1958 (2008). An important economic policy at this time was the Export Sales Relief which began in 1960 (although officially introduced in 1956), the Export Sales Relief exempted all exported Irish goods from taxation. Barry argues that it was this policy that accelerated the entry of foreign companies as they could see the immediate benefit of lowering their tax rates. Few topics reach consensus in Irish history, however the leadership of Taoiseach Sean Lemass is regarded by many as an integral moment in Irish economic development. Lemass' spell in charge began in 1958 and he instigated new policies which sought to incentivize foreign inward investment. A reasonable argument is that the change in government gave credence and creditability to further pursue trade liberalisation. The Lemass government brought with it a strategy of Export-led industrialization as demonstrated by the 'Programme for Economic Expansion' released in 1958. Irish industry began to orientate itself towards exports, demonstrated by a 200 percent increase in manufactured exports between 1956 and 1960 (O'Malley, 1968). Similarly, employment in manufacturing rose. The number of foreign companies relocating to Ireland began to rise in 1955 and would increase exponentially throughout the 60s towards Irelands accession to the European Union as demonstrated below. The figure below clearly demonstrates an impressive increase in the number of foreign companies locating in Ireland. This highlights that Ireland's attempt to increase its attractiveness to foreign companies did have the desired effect.

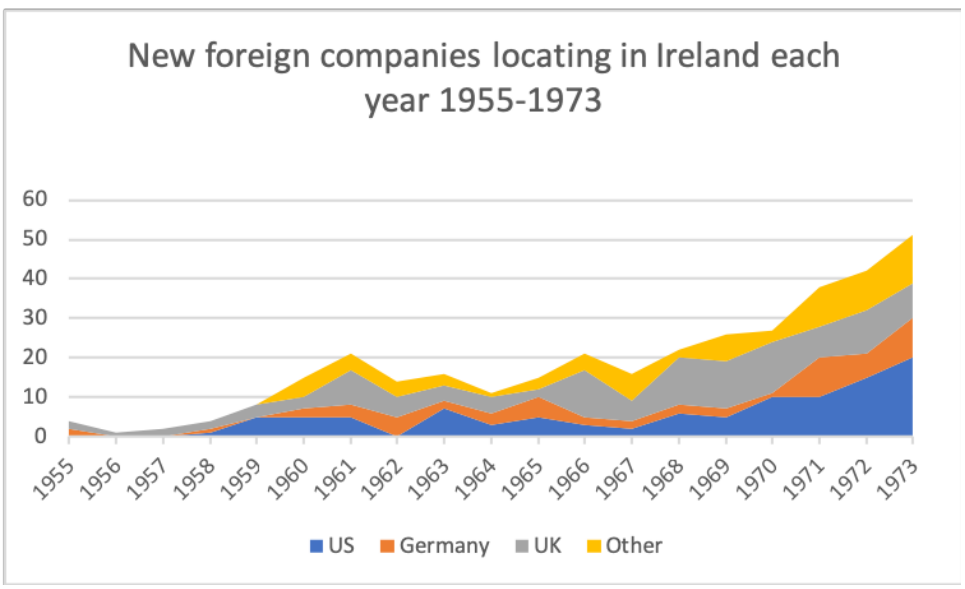

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Figure 2: *New foreign companies location in Ireland each year 1955-1973. Adapted from "Understanding Ireland's Economic Growth", edited by Frank Barry. Macmillan Press LTD, 1999.*

Frank Barry highlights the sequence of events that triggered Ireland's reversal of protectionist policy:

"The change of government allowed new policy initiatives – particularly on attracting foreign industries – to be tried. Their subsequent success facilitated a change in ideology on foreign ownership and, by stimulating growth, appeared to reduce fears concerning the removal of protection. The widespread respect with which the public service bureaucracy was regarded provided "political cover", which further facilitated the reversal of policy." (Barry , 2006, p. 7)

Trade liberalization took further forward strides during the 1960s. The Anglo-Irish Free Trade Agreement of 1966 eliminated all tariffs between Ireland and its biggest trading partner the United Kingdom (Herd, 2017), this is a remarkable step in moving towards trade openness. So far, this paper has shown that a number of policy and institutional changes took place; the creation of the IDA in 1949, The abolishment of the Control of Manufactures Acts in 1956, Export Sales Relief in 1956 and the establishment of Shannon Free-Zone in 1960. Contrary to the hypothesis, Ireland's rejection of EFTA showed reluctance towards trade openness.

By the end of the 1960s Irish efforts to entice foreign investment began to bear fruit as also indicated in the graph above. Ireland's new outward-looking strategy appeared at first-glance to be successful, by the end of the 1960s 350 foreign companies had set-up shop in Ireland. (Burnham, 2003). Economic performance during the 60s was satisfactory with annual growth in real GDP exceeding 4 percent. The problems of unemployment and emigration, did however, persist from the 1930s. Unemployment rose as the rise in manufacturing employment was offset by job declines in agriculture. It wasn't until 1972 when the switch occurred between net emigration and net immigration. Net immigration would peak at 20,000 in the mid 1970s (Burnham, 2003).

Measures of Irish Economic Performance, 1961-80
(Average Annual percent Change)

Period	***1961 – 70***	***1971 - 80***
Real GDP	4.2	4.7
Real GNP	4.2	3.9
Employment	0.0	0.9
Unemployment (average level)	4.8	6.8
Consumer Prices	4.8	13.6
Net Migration (decade total)	-165,000	96,000

Table 1: *Measures of Irish Economic Performance, 1961-80 (Average Annual percent Change). Adapted from "Why Ireland Boomed" by J. Burnham in The Independent Review V. 7, N. 4 2013.*

At this point it is necessary to investigate the hypothesis. Did a pursuit of trade liberalization trigger Irish economic development by attracting foreign direct investment? The Export Sales Relief 0 percent tax-rate on exported products, proved to be an attractive motivation for foreign investment. However, there were still obstacles to yet overcome. As alluded to previously, unemployment and emigration were still big issues for Ireland.

In 1967 Ireland would join the General Agreement on Tariffs and Trade in supplementing the Anglo-Irish Trade Agreement, removing even more obstacles to free trade. Financial and bureaucratic barriers to trade were reduced and the Irish export and import market became less regulated and the market expanded significantly. Prior to Ireland's EU entry most of the growth experience was in low-tech sectors e.g. textiles and clothing. Barry (2008) highlights that this period also saw Ireland develop a competitive edge in chemicals where share of all exports grew from less than 1 percent at the end of the 1950s to 6 percent by the time of EU entry. Growth in numbers of foreign companies brought with it the benefits of diversification of export destinations. New foreign companies, and arguably the increasing amount of US companies, are thought to have focused their exports into continental Europe which increased the EU share of Irish exports by 10 percent between the late 1950s and early 1970s (Barry, 2008).

In Whitaker's document 'Eonomic Development '(addressed previously) calls were made for a significant reduction in taxation and for public capital investment to be switched from social projects to productive projects. Whittaker's proposals were not heeded by the Lemass government at the time however. The role of the Irish state increased during the 1960s with public expenditure growing from 32 percent of GNP in 1960 to 42 percent in 1973 (Dorgan, 2006).

As stated previously, the period of 1958-1973 is best understood as a transitory period where important policy and societal changes were made. Rather than allowing the market to dictate, Irish regulation into social sectors of the economy increased. The period of time did not witness a drastic change in economic development in and of itself, rather changes that would arguably go on to facilitate long-term development. Various policy and institutional developments have been explored and suggests Ireland's orientation to trade of being more outward-facing. It would, however, be an oversimplification to state that this period of economic transition profoundly affected Irish economic development at this time. Many understand the 1960s as somewhat of a boom for Ireland and Europe generally. However, Ireland still lagged behind the United Kingdom in relation to national income per capita (Barry, 2003).

During the period under analysis here, Ireland was still battling with unemployment and emigration. Ireland's unemployment rate was still 4 percentage points higher than the EU15 average. Barry (2003) puts this down to Irish real wages being pitched too high for labour-intensive industries to flourish. Irish-owned firms saw their share of the home market eroded whilst simultaneously failing to gain foreign market share. Ireland's investment as a share of GDP was also way below the EU15 average (Barry, 2003). By way of summarizing, this paper has found that Irish trade openness took huge leaps forward from 1949-1973. Whilst Irish economic performance at this was still way below EU15 average levels, important policy changes took place. This paper would argue that these policy changes did showcase an attitude of trade openness and a welcoming

These policy changes would go on to be pivotal in Ireland's boom in the 1990s and 2000s as the soil was fertilized with the policies that would later enable Ireland to attract foreign direct investment.

This paper will go on to look at the period from Ireland's accession to the European Union (EEC at the time) until 1987.

1973 - 1987

DEEPENING EU INTEGRATION

The period of time under analysis here is motivated by Ireland's accession to the European Union and the profound effect this has had on Irish economic development. The point of investigation is why Ireland experienced successful economic development. This paper is working with the hypothesis that **increased Irish openness towards trade through trade liberalization triggered economic development by attracting substantial inflows of foreign direct investment.**

Ireland's transition to a more open economy made it a candidate for EEC membership even though Charles DeGaulle was opposed to EEC expansion. Ireland, however, made membership their top priority (Sharp, 1990).The European Community at this time had been limited to the coal and steel production of “the six” (France, West Germany, Italy, and the Benelux countries). Ireland did eventually accede with Denmark and the United Kingdom in 1973 as a founding member of the new European Economic Community (Herd, 2017). A motivating factor in Ireland’s push for EU membership was the possibility of receiving the benefits of the EU’s Common Agricultural Policy and the Structural Funds for economic development. Ireland’s adjustment to European market integration yielded profound changes regarding trade. Exports in 1973 accounted for 38 percent of GDP and this number had risen to 67 percent by 1989. While imports increased from 45 percent of GDP in 1973 to 56 percent in 1989. Lessening dependence on British markets and greater diversification of export destination is highlighted by share of Irish exports going to the UK falling from 61 percent in 1972 to 35 percent in 1988, with the share going to EC countries other than the UK rising from 17 percent to 39 percent over the same period (O'Donnell, 1998). The composition of Irish exports is further evidence of the dramatic change EC membership had on the Irish economy. Food, drink and tobacco accounted for over 45 percent of the value of exports in 1972, but these were soon to be overtaken by the value of manufactured exports. Exports from the chemical and engineering industries grew from 15 percent of total exports in 1972 to over 46 percent in 1992 (O'Donnell, 1998). Taking the above empirical evidence in mind, it is clear to see that EU accession did bring with it increased trade, through export destination diversification. Ireland experienced a significant increase in its trading ratio of total output.

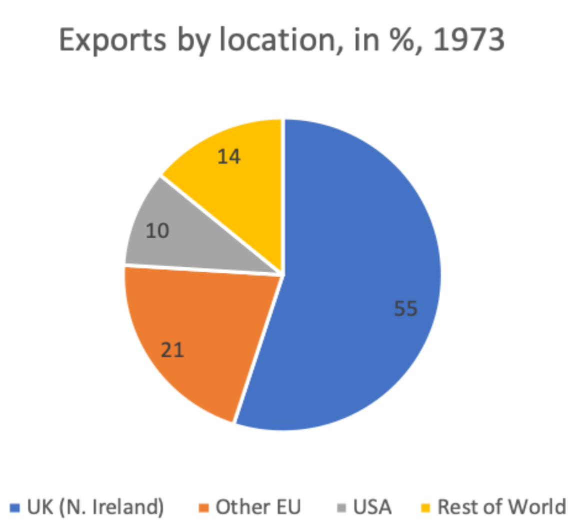

Figure 3: *Exports by location in percentage 1973 – 2003. Adapted from "Statistical Yearbook of Ireland 2004 edition". Copyright Central Statistics Office 2004.*

In 1979, Ireland broke one to one parity with the sterling with its joining of the European Monetary System. The breaking of parity with the sterling is another marker of Irish intention at this time. An official statement of the ideals behind Irish foreign economic policy is as follows:

"One of the central thrusts of Irish economic policy… has been to reduce the country's trade dependence on the UK. Policy initiatives with this aim in mind have included EU entry in 1973, the break with sterling in 1979 and subsequent entry of the Irish pound into the European Monetary System, support for the establishment of the Single European Market in 1992, and adoption of the euro in 1999" (Forfas, 2003).

Ireland's relationship with the EU is a marker of its increased openness to trade. Accession in 1973 was the first step on the ladder, and as seen above it shifted the export receipts. European Union membership makes sense from the standpoint of trade openness, as it offered increased seamless trade and gave Ireland increased creditability as a location for foreign investment. Joining the EU expanded the market for Irish exports (domestic and foreign) and it was also served as trade enhancing, as many standards were streamlined. The unity of the Common European Market is according to trade openness theory as positive effect as products would need less altering to comply with national standards. Joining of the EMS marked deeper integration with the European Union and a move away from the traditional Irish dependence on the United Kingdom. Ireland's EU membership would prove to be a liberating experience. Ireland's accession and subsequent deepening European integration gave Ireland a larger common market. As noted by Kali et al (2007) the volume of trade has a significant implication on the effect of trade openness on economic development. They argued that the number of trading partners a country has is vital in how able a country is to benefit from trade openness. In this case, joining the EU offered an extended trading platform that enabled Ireland to increase its export markets.

However, Irish economic fortunes did not immediately improve with its EU accession. This paper has already alluded to the oil crises of the early 1970s that plagued European economies and Ireland was not immune to these crises. This is clearly a risk associated with deeper integration.

Irish public debt as a proportion of GDP would rise throughout the 1970s and the response from the Irish government according to Frank Barry was domestic macro policy that created deficit through the government's counter and pro-cyclical policies. By 1977, higher levels of taxation and economic recovery halved Irish current budget deficit. The figure below highlights the connection between real GDP growth and real growth in governmental consumption. Increased government spending stimulated employment and triggered high levels of migrant inflow from the UK. Growth in employment, however, came at the cost of huge national debt, why? (Barry, 2003). Barry and Bradley (1991) found that Ireland's policy of fiscal expansion knocked 3 percent off the Irish unemployment rate, albeit at the cost of huge increase in national debt.

However, as a stick in the wheel, a global increase in world interest rates in the early 1980s triggered a slow-down in British economic fortunes and further reduced the incentives for Irish workers to migrate. This triggered Irish unemployment which subsequently triggered social welfare pay-outs, which then increased governmental expenditures. Barry notes that the response of the Irish government was further pro-cyclical policy. Financial adjustment was achieved by raising taxes and not by cutting spending. (Barry & Bradley, 1991). The logic behind this move to avoid adverse effects on unemployment, particularly in the public sector where job losses were to be avoided. Furthermore, the government at the time had thought that creation of deficit in previous regimes had caused the country's financial woes and so went about eliminating deficit. The consequences of this policy became clear after 1982 when Ireland had the fastest growing ratio of tax revenue to GNP among OECD-countries, while growth in government spending continued to grow relative to GNP. Increased tax burden raised wages, which further exacerbated unemployment. Barry and Bradley (1991) find that the fiscal contraction added some four and a half percentage points to unemployment up to 1986, more than offsetting the reduction in unemployment achieved over the expansionary period. Adverse external factors (including high interest rates and the generally weak world economy) is estimated to have added a further three percentage points to the unemployment rate. The goal to reduce budget deficit did not work and despite strong fiscal contraction measures between 1981 and 1984 the real current budget deficit rose (Barry, 2003). Irish unemployment reached 17 percent by the end of this period and (Fischer, 1993) argues that poor macroeconomic policy was the main reason behind Irelands inability to converge over this period. Budget deficit, inflation and the balance of payments would all increase exponentially, while public debt as a percentage of GNP reached a peak of 130 percent in 1987.

The above section shows why Ireland failed to converge with the average EU15. As in regards to the hypothesis, Irelands deeper integration with the EU did not shield them from global cycles.

Nor did it bring with it, immediate economic development. The Keynesian measures outlined above show that Ireland's failure to converge at this period had little to do with its accession to the European Union. The hypothesis that this section departs from states that it was Ireland's increased openness to trade that triggered its economic development. However, joining the EU (previously shown to be an act of trade openness) did not bring economic development. Rather Ireland entered a very difficult economic period. It would be, however, wrong to lay the blame for Ireland's poor economic performance at this time on the EU, rather global financial swings caused Ireland to enact aggregate spending.

In manufacturing, EU entry brought a 40 percent increase in the number of jobs between 1973 and 1980 but this was not enough to offset the decline in Irelands own industries (Barry, 2003). Does this then point to Ireland developing as a result of an increased openness to trade? The answer is obviously unclear in this case. EU accession brought with it a benefit of an increased open trading platform that enabled a broader spectrum of trading partners within the Common External Tariff area. Ireland's entry into the European Community in 1970s, did, increase its attractiveness to investors from out-with the EU, particularly American investors seeking production bases inside the Common External Tariff area. According to the Product Life Cycle theory by Vernon, countries tend to engage in trade dependant on the country's ability to upgrade their assets or create new ones, technological capacity in particular (Dunning, 1992). According to Bradley (2001) a great bulk of the the FDI located in Ireland have been attracted by the IDA at a relatively early stage in the product life cycle. In late 1970s IDA was among the earliest national trading agencies to entice Apple to move production sites outside of the US, to Ireland. As mentioned above, the IDA's targeting of companies resulted in a rapid growth of modern manufacturing sector – that were all primarily in their early stages of development.

Similarly, through the provision of experienced management and technology, FDI with MNCs is trade enhancing, as FDI will improve production and export capacity (Buckley & Ruane, 2006). Buckley and Ruane argue that in the early 1970s Ireland benefitted from the product cycle theory by becoming a low-cost manufacturing base within the EU for US enterprises. Ireland's export tax incentives made it even more appealing as an export-platform. Ireland's FDI policy became more specialized in the 1970s, with greater encouragement placed on investment into the production of modern high-tech goods, leaving Irish entrepreneurs to operate in the traditional sectors (Bradley, 2004). The IDA proactively sought investors in the high-tech sectors, namely electronics and pharmaceuticals and provided greater financial assistance in these promoted sectors (Buckley & Ruane, 2006). The early 1970s witnessed the beginning of Ireland's IT sector. In 1971, Digital Equipment Corporation became the first company to create a computer-manufacturing base in Ireland. They were followed by Amdahl in 1978 and Apple and Wang in 1980 (Kraemer & Dedrick, 1998).

There were a number of factors as to why Ireland was an interesting proposition for high-tech firms. Firstly, Ireland's (now) well educated population meant Ireland could be a reliable production base for MNCs. Similarly, there was little domestic competition in these high-tech sectors which meant there was very little opposition to increasing employment within these sectors (Kraemer & Dedrick, 1998). Frank Barry notes that the English language environment was another factor. He mentions that Spain and Portugal experienced similar FDI booms for their own EU-accessions, albeit much smaller relative to the size of their economies (Barry F. , 2003).

Blomström posits, that another benefit of interaction with MNC's is that these companies possess the bulk of all patents worldwide and most of the world's R&D takes place inside MNCs. In this case FDI is a simple way to obtain technological competencies for a developing country. The integration into this network for a developing country can provide advantages, through the use of the worldwide marketing outlets used by MNCs, developing countries can market and sell products in countries that would have otherwise required huge marketing investments (Blomström et al., 2000). Ireland began to become an attractive proposition for large companies due to its increasingly educated and tech-savvy populace. Efforts to generate a workforce that could sustain the influx of higher technology companies began in the 1980s when the government realised that a significant number of skilled workers would be required, as the increase of high-tech companies has increased after the policies targeting them. The result was a reform of third level educational institutions with an increased emphasis on engineering, computer science and other technical degrees. The IDA was able to use these increases in educational throughput as a further selling point to potential foreign investors.

The question of whether MNC's brought benefits of technological spill-over is unclear and many have given their 10-cents. Neil Coe writing on the Irish manufacturing industry in 1997 described foreign MNCs which invested in transfer of knowledge to domestic employees as 'embedded'. Coe makes the argument that by utilizing large numbers of local employees to perform high-skill tasks MNC's embed knowledge in a domestic workforce, and thus create a technological spill-over. Thus, a host country crafting economic policy to attract FDI as Ireland did benefits by the absorption of technological innovation by the domestic workforce (Coe, 1997). Garrick Blalock and Paul Gerler (2008) are sceptical of this, however, arguing that in some cases the technological gaps are too big for transfer of knowledge to occur. Ireland, did however, have a well-educated workforce and was therefore a good fit for this type of investment. There is little evidence to support a huge transfer of skills between 1992 and 1999. Coe posits that much of Ireland's interaction with MNCs came in the form of supplying inputs to the software manufacturing industry and that the more demanding and desirable functions of the software manufacturing industry were still being predominantly performed by American employees (Coe, 1997). Ireland's IT sector in the 1970s took predominantly the form of sub-assembly operations. Basic components or partially finished products were sent to Ireland for assembly and the final product was sent elsewhere to be packaged and shipped to distributors (Coe, 1997). O'Malley (1989) posits that Ireland was, in fact, suited to this activity. As a product reaches its final stages of production, pricing becomes an issue of competition and therefore, moving labour-intensive production to less developed countries takes advantage of lower labour cost and supplies an important cost advantage.

The focusing on FDI-led strategy by the Irish government highlights that they believed this method of economic development was a sound one. Reformation of the Irish education system towards the needs of incoming MNC's shows the extent to which Irish policy at this time was motivated by foreign trade and attraction of FDI, the argument of linkages between development and human capital will be explored further in the next hypothesis, however, as a tool for attracting FDI, it is also an important variable.

Buckley and Ruane (2006) highlight the approach taken by Irish policy makers in their approach for attracting FDI:

"(i) finding niche high-value/volume product markets with European growth potential; (ii) identifying enterprises in these markets, which were already exporting large volumes into Europe likely, in terms of the product cycle, to consider a European production base; (iii) persuading these enterprises to consider Ireland as an investment base; and (iv) agreeing an incentives package which would both secure the investment and ensure maximum benefit to Ireland as a host country "(Buckley & Ruane, 2006 p. 1615).

This project-focused rather than sectoral-focused approach meant that Ireland could exploit the heterogeneity of MNC's and their varying degrees of potential. This approach would also prove beneficial in the development of the agglomeration policy that would take place in the 1980s. There were however, limitations to this approach. Several foreign enterprises closed their Irish operations as soon as their grant allocation had expired. The National Economic and Social Council (NESC) (advisory board to the Irish Government) invited US Telesis Consulting Group to undertake an independent assessment of Ireland's industrial strategy. The assessment found that:

"foreign-owned industrial operations in Ireland with few exceptions do not embody the key competitive activities of the businesses in which they participate; do not employ significant numbers of skilled workers; and are not significantly integrated into traded and skilled sub-supply industries in Ireland" (Telesis Consultancy Group, 1982, p. 24).

The report goes on to state MNCs themselves are not at fault for this, rather Irish suppliers lacked essential technical and managerial capabilities and were less capital intensive than their overseas competitors (Kraemer & Dedrick, 1998). This paper proposed that Ireland's trade openness triggered economic development by attracting FDI. However, the findings so so far suggest that Ireland was unable to absorb the capabilities brought by foreign companies as they lacked essential skills to meet the demands of the inward investing companies.

The opening of the Irish economy through EU accession and policy caused what economists term a "cold shower effect". There is evidence of industry adjustment in Ireland following the reduction of tariffs and EU accession. O'Donnell (1998) posits that following the reduction of tariffs, firms were able to specialize particular segments of their industry. O'Donnell goes on to mention that a highly significant feature of Ireland's transition to the common EU market was that of significant industry adjustment. Foreign-owned, grant aided and (largely) export-orientated industries (chemical, pharmaceutical and electronics) experienced export growth throughout EU membership. While the industries within the domestic market (printing, drink and tobacco, food, small-scale metal and woodwork) did well during the 1970s when domestic demand boomed, they suffered during the 1980s when the Irish economy fell into recession.

Between 1980 and 1987, employment in furniture declined by 25 percent, in metals by 33 percent and in dairy products by 25 percent. Ireland's EU accession opened up the large-scale market of textiles, clothing, footwear, leather, motor vehicles, shipbuilding, bread, biscuits, flour and other food industries to international competition. Import penetration following accession was quick and the competitive environment caused great sectoral decline which eliminated large swaths of Irish producers. The majority of problems occurred in the 1980s: motor sector employment declined by 59 percent, textiles and wool sector employment declined by 40 percent and leather goods by 67 percent. The replacement of these industries by foreign-owned firms in high-technology sectors constituted a more significant industry adjustment than was found Denmark or the UK who acceded to the EU at the same time. This adjustment caused huge long-term unemployment. The opening up of Irish industry dwarfed Irish indigenous manufacturing firm size, reversing the infant industry policies of the 1930s and made it increasingly difficult for Ireland to build its own indigenous industrial sector (O'Donnell, 1998). Radical adjustment of the Irish economy was understood as purely adjustment to European integration (National Economic and Social Council, 1989). Removing inefficient practices (cold-shower effect) and the elements of product specialization did offer some comfort to indigenous manufacturers. However, Irish firms were in general too small compared to their new international competitors to offer any real form of competition. The opening up of the Irish economy to the European Union can therefore be seen to have had multiple effects. For firms, it meant widening opportunities coupled with less security through the increased competition. For employees, higher productivity meant higher wages for those with the right educational background to suit the demands of the system. These employment gains were then compounded with lessening job security and in increase in working hours.

Annual Hours Worked Per Employee 1950 - 92

	1950	**1973**	**1992**
Ireland	2,250	3,010	1,700
European average	2,098	1,745	1,541

Labour Productivity (GDP) Per Hour Worked (U.S = 100)

	1950	***1973***	***1992***
Ireland	30	43	71 (1991)
European average	46	70	87

Table 2: *Hours worked and labour productivity. Adapted from "Ireland: Economics and the Reinventing of a Nation" in Policy Studies Journal p. 799-814, 2000.*

The restructuring of the Irish economy did not come without its upsets. Unemployment and poverty were rife in the 1970s and 80s.

Unemployment in percentage

	1950 – 73	*1974 – 83*	*1984 - 93*
Ireland	5.2	8.8	16.1
European average	2.4	4.9	6.9

Table 3: *Unemployment in Ireland and Europe 1950 – 1993 in percentage. Adapted from "Ireland: Economics and the Reinventing of a Nation" in Policy Studies Journal p. 799-814, 2000.*

From 1950 to 1983 Irish unemployment is high but it goes through the roof from 1984-93. Unemployment during these years was to be found in the more rural areas, where the less educated and older sections of the population were unable to achieve the skills needed to benefit from Ireland's newfound prosperity (Crotty, 2000).

Ireland's low corporation tax remained a key mitigating factor in its development. Economist Jonathan Haughton remarks on the GNP growth of 4.1 percent from 1960-73 and argues that using GNP as a measure of Irish growth is problematic in that it measures total output and has therefore grown less consistently than the GDP. The main difference between GDP and GNP is the boundaries of production. GDP measures all goods and services being produced in the country, whether it is by domestic or foreign companies. GDP however excludes goods and services that have been produced in other countries. GNP on the other hand measures all production by domestic companies regardless of where in the world the production takes places (Costanza et. al 2009). Because Ireland have a large share of foreign companies, Haughton argues that it is more representative to measure the total output with the criteria of GDP.

Ireland's low corporation tax allows multinationals to adjust their income to be taxed in Ireland rather than face tougher tax levels in their home country (Haughton, 1998). This is of course the price paid for an open economy and reliance on international trade. Similarly, multinationals can just move to another location if they are offered better tax incentives. Crotty argues that GDP may be a better indicator of economic development. In examining economic change in Ireland he finds that prior to 1950 Ireland does worse than the countries understood to be the continent's poorest. However, while Ireland still trails behind the European average in 1973 there are signs of improvement in absolute terms and manages to lessen the gap between itself and other European nations. It is important to explain why low tax environments were and continue to be attractive to foreign firms. Corporation tax is hugely important in determining FDI flows and the EU pressure to adjust Irish tax rates has been fixture of Ireland's life in the European Community. Irish tax policy would continue to adjust in response to EU grumblings. In 1978 The European Commission objected to the tax exemptions on export-derived profits concluding that they were overly-discriminatory. In 1978, a new 10 percent rate on all manufacturing rate was negotiated. The Irish Government honoured the zero-rate that had been made to earlier investors (Macsharry & White, 2000). Ireland's economic position was and remains distinct for its low corporation tax regime aimed at attracting foreign direct investment. The Irish government intentionally sought out potential investors that suited their desired model.

The periods of time under analysis so far have not borne witness to extreme Irish economic development nor even convergence with EU averages. What we see instead is a gradual shifting of the economy towards a more trade open position. The rewards of Irelands tax and economic policies were most greatly realised in the 1990s and 2000s.

In 1980, Ireland's telecommunication system was, according to Burnham (2003) the worst in Western Europe. This system had been operated as a governmental department and was overstaffed, their equipment was dated and the charges for international calls were some of the highest in Europe. Hall (1993) states that it was even the subject of questions in the Irish parliament. Foreign investors began to complain that factories had difficulty keeping telex lines open to customers. Clearly, in a competitive situation where investors can up stick at any time, something as vital to business' as sound communication infrastructure should be able to support demand. The IDA became an important lobbying force for change emphasizing the linkages between new jobs and upgrading the outdated telecommunications system. One possibility for revolution of Irish telecommunications was to open the market to the private sector, What did happen was the telecommunications services were removed from the Post Office Department and transformed into a self-financing state enterprise, Telecom Eireann (Hall, 1993). The newly formed organization set targets for service levels, debt reduction and profitability. By 1988, the government told members of parliament that the service "had been improved to such a degree that it is now a major contributing factor to present day successes in wooing foreign firms to our shores" (Dail Parliamentary Debates 373, 1988). The revolution of the telecommunications sector occurred out of the realization that it had become an impediment to Irish economic success and the creation of jobs. Deregulation of the telecommunications sector was a successful step in facilitating FDI. Another successful example of deregulation was in Ireland's breaking of Aer Lingus' monopoly on cross-channel flights to England. Up to 1984, the government had restricted the discounting of air fares in order to protect state-owned airline, Aer Lingus. Aer Lingus was underperforming and the government's response was to open up Irish and UK flight routes to outside competition. Ryanair, a fledging airline at the time was only too eager to take up the offer. Ryanair's competition had a dramatic impact as passenger volume increased 65 percent between 1985 and 1987. The economic impact of deregulation was staggering. Barrett (1997) highlights that a government paper at the time estimated a 60 percent increase in visitors between 1987 and 1993, generating additional tourist earnings of 560 million Irish pounds and an additional twenty-five thousand jobs. The decision to deregulate these elements of the Irish economy show a further conceited effort to link Ireland with the rest of Europe.

Analysis of Irish economic development thus far has highlighted the turnaround in economic policy going back to the 1950s. This paper identified the Lemass government and the Whittaker report in 1958 as an important turning point in Irish economic policy. There were upturns and downturns since 1957, including periods of recession and longer periods of high unemployment. One consistency is the governmental pursuit of policies in line with those put forward as trade opening and welcoming to FDI

Put simply these were:

- An open, free trade economy competitive in a global economy
- Commitment to the European Union
- An attractive tax policy to foreign multinational investments
- Modernized infrastructure and increased competition through deregulation

Consolidated and consistent pursuit of these principles over four decades would pay great dividends in the 1990s and 2000s. This paper will go on to analyse the period of time dubbed 'The Celtic Tiger'

1987 – 2008

EMERGENCE OF THE CELTIC TIGER

The late 1980s was to be a period of profound change in Ireland, where intense reflection on European integration and internationalization brought new perspectives on what it meant to be Ireland in an integrated EU. These changes were evident in the new social partnership approach to economic and social management which brought innovation across several policy areas (O'Donnell, 1998). The social partnership process is understood as integral to the outbreak of the Celtic tiger. While European Community integration in the 1970s and 1980s did not bring with it immediate economic convergence. Irish economic policy makers began to realise that small states tended to do well from the formal, legal, supranational elements of integration with EU.

The National Economic and Social Council created a strategy of social partnership to improve economic fortunes, titled 'Strategy for Development' (1986). This strategy was to be the first of four agreements that brought Ireland to negotiated economic and social governance. The Program for National Recovery 1987-1990 was an agreement between employers, trade unions, farming interests and government on wage levels across the private and public sectors. Centralised wage bargaining was agreed to increase Ireland's international competitiveness and further changes included agreements on tax reform, the evolution of welfare payments and health spending.

A further important development with Program for National Recovery was agreed adherence to the Narrow Band of the Exchange Rate Mechanism (National Economic & Social Council, 1986). The narrow band refers to the agreement between member states to limit fluctuations of their currencies relative to those of other members to 2 percent (Oxford Reference, n.d.) Three subsequent agreements: the Programme for Economic and Social Progress 1990-1993, The Programme for Competitiveness and Work 1994-1996 and Partnership 2000, 1997-2000. These agreements all took similar form by covering a three-year period, setting out a wide range of policy commitments. The Programme for Economic and Social Progress is noteworthy as having initiated an initiative whereby local partnerships sought innovative approaches to combat long term unemployment (National Economic & Social Council, 1986). An OECD evaluation of Ireland's local economic development policies found that the local partnership approach was an experiment in economic regeneration that was of potential worldwide significance (Sabel, 1996). Clearly, the point of interest for this paper is Irish economic success and whether it was the inflow of FDI caused by trade openness that enabled it. Contrary the hypothesis that FDI and trade openness was the main culprit in Ireland's successful development, this paper finds that the Social Partnership reform did also have a positive effect. Evidenced by the average growth of real GDP of 4.9 percent between 1986 and 1996. Between 1993 and 1996, growth of real Irish national output averaged 4 percent a year. Public finances also transformed under the social partnership model. Government deficit as a percentage of GDP declined from 8.5 percent in 1987, to 2.3 percent in 1994. The debt /GDP ratio showed similar movements, falling from 117 percent in 1986 to 76 percent in 1996 (O'Donnell, 1998). O'Donnell further argues that social partnership aided Irelands Exchange Rate Mechanism participation and subsequent transition the European Monetary Union (EMU). These statements are supported by the NESC themselves:

"After considerable initial difficulties, it was recognized that satisfactory participation in EMS and EMU requires not only conduct of monetary policy consistent with the exchange rate peg, nor the private sector's acceptance of modest wage increases, *but also* consensus on the management of the public finances, including taxation". (National Economic & Social Council, 1989, p. 216).

As previously mentioned, The Celtic Tiger is understood to have taken off in 1987. Frank Barry identifies the crucial revolution of fiscal strategy in 1986 as the trigger moment. The fiscal policy will be explored in the following section.

Previous governments had attempted to fight deficit with higher taxes to no avail. The public finance crisis was resolved through a cut in government spending, allowing room for tax reductions. Similarly, the lead up to the European Union's single market witnessed a massive increase of FDI into Europe and Ireland was, of course, in pole position to soak it up.

Expenditure reduction occurred both organically and through government policy. The economy of the United Kingdom picked up and drew labour from Ireland which had the effect of minimizing Ireland's Social Welfare bill. Government expenditure fell between 1983-91 well below its peak in 1982. Frank Barry (2003) notes the other factors that caused an improvement in Irish economic fortunes going into the 90s: freezing public service salaries, an embargo of public service recruitment combined with an early retirement plan which meant public service employment would drop significantly and save 2 percent of GNP and cash limits for autonomous agencies. Significantly, by 1987, the debt-GNP ratio (which had been concerning) finally stabilised which made controlling the budget deficit much easier.

Giavazzi & Pagano (1990) echo the arguments made by Frank Barry and posit that Irish recovery after 1987 was an example of “expansionary fiscal contraction” where inflation, unemployment and interest rates fell sharply whilst private sector consumption and investment increased. Barry & Devereux (1995) were surprised to find that fiscal consolidation at this time actually triggered employment in the tradable sectors of the economy. Manufacturing employment increased by 8 percent between 1987 and 1990 which was much higher than the average rates for the OECD and the EU at the same time. While this upturn is significant, it loses somewhat its sheen when compared to the rest of the global market. Frank Barry (2003) argues that because Irish and British labour markets are so closely linked, the gap between Irish and British unemployment is more telling than the Irish unemployment rate alone. During Ireland’s fiscal contraction period the gap between British and Irish unemployment rose, in contrast to the growth experienced during the expansive years (mentioned previously). Furthermore, growth in employment in Ireland was significantly lower than in the EU or UK over this period, and emigration was a persistent thorn in the side. These factors in Irish development somewhat shows a somewhat blindside of the hypothesis as we witness factors unrelated to FDI and Irish trade openness.

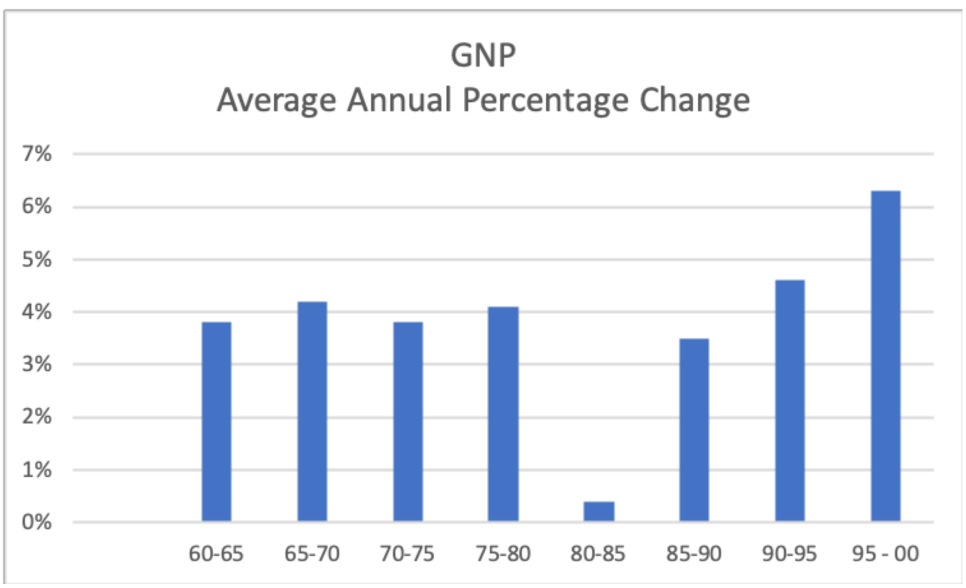

Figure 4: *GNP, Average Annual Percentage Change. Adapted from “Irish Economic Development over Three Decades of EU Membership, Czhech Journal of Economics and Finance, 53, p. 394-412, 2003.*

The above figure shows the growth of Irish GNP for each 5 ysear period from 1960-1990. The period 1980-1985 suggests that the fiscal retrenchment policy had a negative effect on Irish economic development. The increase in manufacturing is undoubtedly linked to foreign investment and further analysis of the increase of FDI into Ireland over the late 1980s and early 1990s will occur after investigating the effect of an increase in EU structural and cohesion funds.

The hypothesis that this chapter seeks to explore relates to the effect on Ireland's economic opening on its economic development. We have seen that in many cases Ireland's economic opening can be shown to have facilitated economic development, often through the attractive atmosphere created for foreign investment. There are, however, some points that this hypothesis and the theories applied cannot account for, that did play a role in Ireland's economic development.

Between 1989 and 1999 funding through the Structural and Cohesion Funds amounted to almost 3 percent of GDP per annum, similar levels to the amount that entered Ireland via the Common Agricultural policy. Barry identifies that the increased aid into Ireland was spent on human resource development, physical infrastructure and on production and investment aids to the private sector. Barry (2003) mentions that EU aid did help converge on the above areas. The European Commission said that:

"While investment in peripheral regions has improved accessibility, it has been accompanied by similar investment in neighbouring regions and more central ones, which can counteract any relative gain" (European Commision, 2001).

Barry, Bradley and Hannan (2001) are sceptical of the direct effect on GDP of the EU regional aid programmes. Estimating that they would have contributed at most half a percentage point to the Irish GDP during the 1990s. Direct effects in this case meaning the increased demand as a result of EU transfers as well as the supply-side effects associated with improved human capital and infrastructure. Indirectly, Barry (2003) suggests that the timing of EU aid coincided perfectly with Ireland's fiscal contraction and relaxed the Irish governments budgetary constraints. In relationship to FDI, the EU's aid programmes would have delayed the emergence of infrastructural constraints. Expanded levels of EU funding allowed for greater inflows of FDI into Ireland and allowed for more high tech industry investment. High tech sectors demand a steady supply of skilled labour and the human resource development programmes initiated by the EU's structural funds did contribute to this demand. Similarly, increased research and development funding will have played an important role in increasing Irelands labour capabilities.

Manufacturing FDI into Europe boomed in the late 1980s in anticipation of the European single market signed in 1992. As mentioned in the historical overview the single market benefitted Ireland as it banned restrictive public procurement practices which made Ireland a more attractive location for foreign direct investment. Barry (2008) notes that as the share of high-tech sectors in European Manufacturing increased so also did Ireland's share. (Altshuler, Grubert , & Newton, 2001) point out that US foreign investment has become increasingly sensitive to the differences in host nation tax rates thus meaning that the single market programme has allowed Ireland to obtain enough US firms in certain sectors for agglomeration and demonstration to occur. Agglomeration refers to the increase in efficiency experienced by firms by moving closer to other firms. Demonstration effects refers to current firms sending signals to potential new investors of the reliability and attractiveness of a host country (Barry, Gorg, & Strobl , 2003). These factors will have undoubtedly played a role in the 50 percent increase in the number of jobs in foreign-owned manufacturing between 1987 and 2000. Ireland could advertise itself to potential investors as being fully English speaking and fully committed to the Europeanisation process, unlike the United Kingdom who broke away from the European Exchange Rate Mechanism in 1992 and decided to let the sterling float independently (Murphy, 2000). McCarthy (1999) shows that U.S. FDI in Ireland averaged around 2.75 percent of GNP between 1994 and 1998. Krugman (1997) pointed out that US FDI in Ireland was 50 percent higher per capita than in the U.K. and six times as high as in France or Germany and in 1997 Ireland was ranked fifth in the world as a US FDI destination (OECD, 1999, p. 12).

An increase in manufacturing FDI was coupled with an increase of service sector FDI inflow. Grimes & White (2005) show that from having almost no base in the late 1980s, the Irish foreign-owned offshore services sector would match employment in each of Ireland's FDI- intensive manufacturing sectors. For example, international finance services, business process offshored activities and computer software employment would all grow. McKinsey Global Institute (2003) identified Ireland and India as the most popular locations for offshored business services. Between 2002 and 2003, Ireland would attract 50 percent of all new shared services projects in the EU15 and 8 percent of regional headquarters projects despite only having 1 percent of the EU15 population (United Nations Conference on Trade and Development, 2004).

The Celtic Tiger period witnessed Irish intense Irish economic development. When Ireland adopted the Euro in January 1999 the country had experienced six years of GDP growth rates between 6 and 8 percent, the highest in Europe, and only beaten by the Southeast Asian tiger economies (Martin, 1999). Paul Sweeney an Irish economist praised Ireland's economic transition in his book 'Celtic Tiger: Ireland's Economic Miracle Explained". Sweeney noted Irelands incredible GDP growth rates and estimated that Irish growth would continue to average around 7.5 percent, while unemployment would continue to fall. Sweeney admitted that the success of Irish development was aided by MNCs and foreign direct investment (Sweeney, 1998, 1).

Thus far the in the period of the Celtic Tiger, the hypothesis has been supported with presented evidence, the policies that the earlier years brought with them have created an inviting environment for foreign companies data suggest that this correlates with the increase in economic development.

Ireland up to the outbreak of the Celtic Tiger had pursued FDI through a wide range of policies and changes over 4 decades. A point previously brought up is that of transfer pricing and it is often the stick used to beat Ireland's economic success. Herd points to the differential between GDP and GNP as evidence of the effect of transfer pricing. As GNP accounts for only goods and services produced by Irish corporations, the large profits earned by foreign investors are ignored. Between the late 1980s and early 1990s, the differential between GDP and GNP was as high 10 percent (Herd, 2017). Measuring Irish national income as GDP showed that Ireland did converge with average EU incomes.

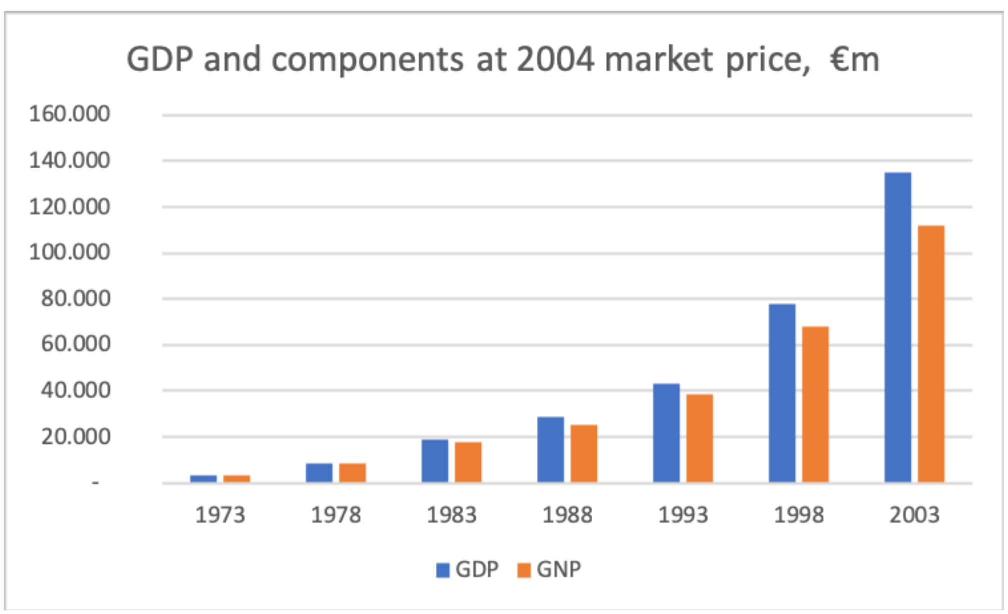

Figure 5: *GDP and components at 2004 market price in millions of Euros. Adapted from "Statistical Yearbook of Ireland 2004 edition". Copyright Central Statistics Office 2004.*

The growth of foreign industry in Ireland over this time is undeniable and impressive (Ruane & Gorg, 1996). There can be no doubt that Ireland did experience economic success by following a policy of trade liberalization and subsequently an open-door to foreign investment. Criticism, can however, be aimed at Ireland's domestic industries. Even Sweeney who was so positive on Irish development noted that Ireland was "one of the most successful state agencies to encourage foreign direct investment… it is far less successful in building its own indigenous industry" (Sweeney, 1998, p. 9). By 1993, foreign owned companies accounted for two thirds of total net output and in chemicals and electrics and electronic engineering the share of net output was over 90 percent for foreign owned MNCs (Ruane & Gorg, 1996). Roper & Love (1999) surveyed product development across Ireland, the UK and Germany. They looked at how frequently domestic-owned manufacturing plants employed R&D as opposed to technology transfers from parent, or plants within the same group of companies. They found that Irish businesses were more likely to employ technology transfer than R&D.

Furthermore, Love and Roper found that Irish businesses were less innovation intense than their German or British counterparts. Irish businesses produced less new or improved products. What this data highlights is that there is no link between R&D or technology transfer, and product innovation. Ruane and Gorg broke down the specific industries that promoted Ireland's growth and focused their research on the concentration of foreign direct investment in Ireland's high-tech sectors. They found that in 1993 68.4 percent of net output from Ireland was owned by foreign companies (Ruane & Gorg, 1996). Frank Barry found similar results by studying the share of all US direct investment in Ireland of the European total. Given Ireland's small size, Barry found that shares of 4 & 5 percent in chemicals, electronics and professional and technical services is highly surprising (2008).

To further reinforce the crucial point of this paper, the proliferation of foreign investment into Ireland did trigger economic success. Scholars like Sweeney, Ruance and Gorg portray Ireland developing as a result of its attractive tax policies and environment for foreign manufacturing.

However, this paper believes a hugely influential part of Ireland's economic success was the increased confidence in Ireland as a result of upcoming Eurozone membership. This paper argues that Ireland's convergence to European Union averages in the 1990s had the effect of increasing Ireland's economic reliability which further allowed Ireland's longstanding tax policy to thrive. With this understanding of Irish development, FDI acted both as a means and measure of Ireland's economic development. Ireland's tax policy did (and continues) to come under scrutiny, however. The EU "Code of Conduct on Business Taxation (1997) and "Guidelines on Harmful Preferential Tax Regimes from the OECD (1998) highlighted concerns regarding poor sportsmanship. Ireland was quick to react and raised its corporate tax rate to 12.5 percent in 1998, regardless of whether firms were engaged in manufacturing or services (Killian, 2016).

During the 1990s economic commentators were quick to praise Ireland's economic journey but there was the odd doubting voice. A New York Times article by James Clarity in 1997 posed the question of whether or not the Celtic tiger was in fact a 'kitten' (Clarity, 1997). Clarity pointed out that markets can dip and even in the late 1990s there was awareness that the high growth levels Ireland was experiencing were unsustainable. Herd points out that commentators believed that when growth rates did level out it would cause a 'soft landing' and that Ireland would not follow the Asian tigers (Hong Kong, Singapore, South Korea and Taiwan) by descending into financial crisis after a prolonged period of growth (Barrons, Celtic Tiger Burning Bright, Ireland Won't Follow Asia's Script, 1999). Ireland's dip is something this paper will come back to.

The forthcoming section relates to Ireland's convergence with EU averages. In order to adopt the euro, EU countries had to meet specific conditions designed to ensure economic convergence. These critera were known as the convergence criteria (European Commision, u.d.). Specifically,

1) An inflation rate that did not exceed 1.5 percent above the average of the three highest performing economies, in this case, not exceeding 2.67 percent.

2) A national budget deficit that did not exceed 3 percent of Gross Domestic Product.

3) National debt that did not exceed 60 percent of Gross Domestic Product. (Kahrs, 2005)

Ireland's economic success measured against the above points highlights just how successful the 1990s were. Kahrs examined how well the 12 prospective Eurozone members performed relative to the Maastricht criteria. He found that, with the exception of Luxembourg, none of the twelve actually met all the basic economic requirements. Ireland was in fact performing better than some of the original members of the Economic Community. Ireland's inflation rate stood at 2.1 percent by the end of 1996, the same as France and higher than Denmark and the United Kingdom who accessed at the same time. Budget deficit is even more impressive, by the end of 1996 Ireland's budget deficit stood at 1.6 percent of GDP, only beaten by Luxembourg and Denmark. The only area where Ireland didn't meet the Maastricht criteria was in relation to national debt. Ireland's national debt stood at 74.7 percent of GDP by the end of 1996 ((Kahrs, 2005). Thus Ireland was in a comfortable position leading to the adoption of the Euro in 1999.

This paper argues, that it was the pursuit of trade liberalisation and increased trade openness that are the main factors behind Ireland's deepening EU integration. The benefits gained from joining the EU as highlighted above are; the increased open free trade market, the increased attraction to foreign investment and then the movement away from British dependency which increased the volume of trading partners. Nonetheless, there are certain scholars who take a critical view regarding Ireland's intentions with the EU. Sara Dillion, a law professor, argued in 2010 that Ireland sought EU membership purely for economic gain. "Ireland treated its access to the European market, and the extremely low tax environment for U.S. based multinationals, as a kind of get-rich-quick scheme;" (Dillon, 2010). Tony Judt in Post War suggested that countries like Germany and France realised that Ireland were not dedicated to the European cause and subsequently bribed them via the Cohesion Funds (Judt, 2010). Laffan and O'Mahoney are more moderate and posited that increased structural funding was an important result of the Single European Act and a commitment to the European Union (2008).

In support of Dillon's views outlined earlier, Ireland received huge amounts of structural funds, whilst simultaneously receiving six to seven times the amount of capital expenditure that would be expected Frank Barry (2003) further reiterates the importance of Ireland's tax regime in attracting FDI. He highlights that if there ever was to be EU tax harmonization policies, Ireland's FDI inflows would fall. Barry references Altshuler et al's (2001) estimate that the stock of US manufacturing investment is 70 percent higher than it would be if tax rates were harmonized (has us investment abroad become more sensitive to tax rates, international taxation and multinational activity).

Another important factor in Ireland's fight to attract FDI was the country's comparatively low labour costs by EU standards.

Hourly Compensation costs for production workers in manufacturing, 2001

Country	**US $**	**COUNTRY**	**US$**
Germany	23.84	*UK*	16.14
Denmark	21.98	*France*	15.88
Finland	19.94	*Italy*	13.76
Netherlands	19.29	*Ireland*	13.28
Sweden	18.35	*Spain*	10.88

Table 5: *Hourly compensation for production workers in manufacturing, 2001. Adapted from "Tax Policy, FDI and the Irish Economic Boom of the 1990s" by F. Barry in Economic Analysis & Policy, p. 231, 2003.*

Frank Barry argues that as Ireland and the UK are known to compete for US FDI that comparing labour costs in Ireland with those in the UK evidences Irish cost competitiveness. Barry ascribes Ireland's competitiveness in the midst of the boom to the system of wage determination introduced in 1987 (outlined previously). The social partnership approach purchased wage moderation via the promise of future reductions in income tax. The successive three year social partnership deals had the effect of lowering the higher rate of income tax between 1995 and 2001 from 48 percent to 42 percent, the standard rate from 27 percent to 20 percent and the threshold for both taxes (in 1995 prices) doubled (Barry F. , 2003) The view of this paper is that agreed wage moderation was a crucial part of attracting foreign companies to invest and open shop in Ireland. Ireland's international competitiveness was improved via wage moderation and the improvements in competitiveness catalysed the Irish economy's ability to attract FDI.

The Celtic Tiger period saw Ireland become one of the most open economies in the world measured and the AT Kearney Globalisation index had ranked Ireland first place for several years since 2000 (AT Kearney, 2004). Ireland's openness during this period stems from its pro-trade policy going back to the 1960s. Similarly, Ireland has benefitted from European integration in the form of the reduction of barriers to economic activity brought with the Single Market Programme. The graph below indicates the increasing economic development that Ireland was experiencing through the Celtic Tiger. The expanded market as a result of EU integration and the resources being investing through FDI are impacting the trading balance of Ireland.

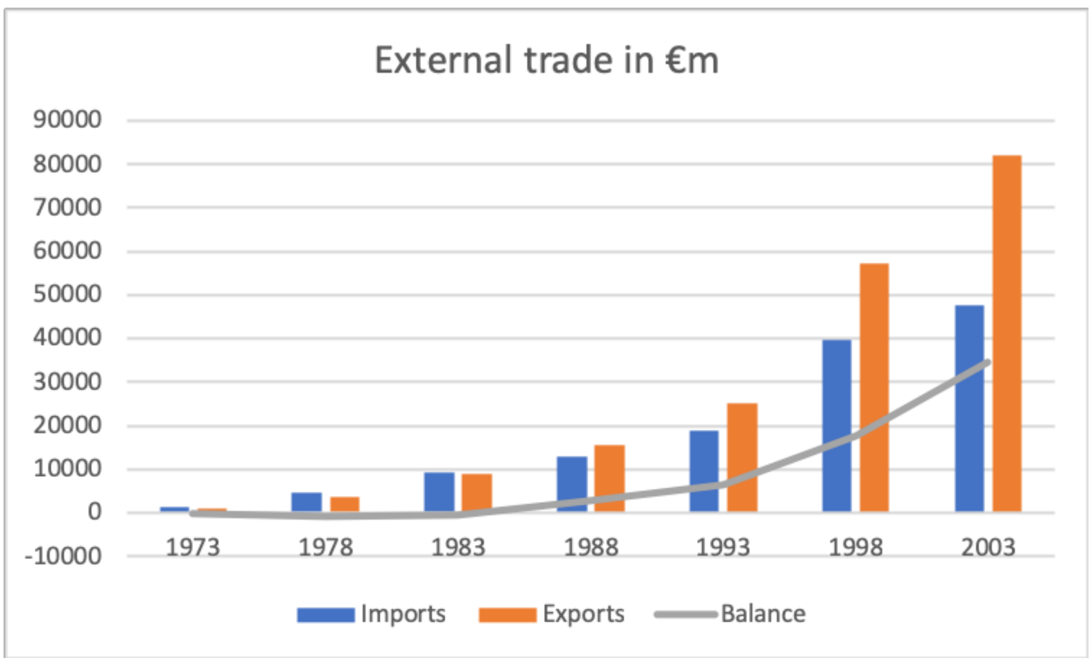

Figure 6: *External trade in millions of Euros. Adapted from "Statistical Yearbook of Ireland 2004 edition". Copyright Central Statistics Office 200*

The growth of the Irish economy is fascinating, the extent and speed at which Ireland has transformed begs the question of how a country can go from having chronic budget deficits and indebtedness to one with rising budget surplus and a low level of indebtedness? Thus far, this paper has argued that Ireland's economic success can be very much related back to the adoption of trade liberalizing policies and Ireland being an early adaptor to and foreign direct investment.

Another significant development during the Celtic Tiger years was the deregulation of various state owned companies. Aerlingus (mentioned previously) was privatized in 2006 and other transport, electricity and postal services were privatized between 1997 and 2007. Extensive use of Public Private Partnerships took place in areas like public schools, housing, water treatment and roads and rail infrastructures. The intense economic transformations that occurred during this time were impressive. However, the proporotion of Irish GDP per capita spent on social protection dropped from 23 percent in 1992 to 19 percent 2001, making it the lowest in the EU alongside Greece, Spain and Portugal (Hearne, 2001). The effect of disinvestment and deregulation was widening Irish inequality. In 2006 (peak Celtic Tiger) Ireland was ranked first in the 15 EU countries in regards to income earnings inequality, with the populations top 1 percent earning 20 percent of national wealth. With the rise in inequality, higher consumer prices were compounded with lower labour protection (Hearne, 2001).

TRANSFER OF SKILLS

This paper has mentioned that a key benefit of foreign investment is the ability of the host country to use the capabilities of foreign subsidiaries in their own business pursuits. Inward FDI is more beneficial to a host country if there is a high transfer of skills. The corporate investor also gains from a transfer of skills to the local workforce as a highly trained workforce promotes greater productivity and quality control (Blalock & Gertler, 2008). Irish economists Patrick Collins and Seamus Grimes argue that a transfer of skills was evident in Ireland. They note that the shift from manufacturing to services employment in foreign subsidiaries in testament to this. They broke down the distinct levels of work within the major technological companies in Ireland. It levels within Ireland was found to be i) was manufacturing, ii) basic services like call centres and iii) high level research and design (Collins & Grimes, 2008). Collins and Grimes suggested that in the 2008 the Irish people were quite well represented in mid-level positions. At major companies e.g. IBM, Microsoft, Analog and Xilinx a fair portion of Irish employees were engaged in high-value added jobs. Which is quite a stark contrast to the 1990s where (as mentioned previously) manufacturing was the dominant function of foreign subsidiaries. Evidence suggests that the strategy ignited by the government in the early years to enhance the quality of education and more importantly the moulding done to link the skills of the population with the skills needed for the companies attracted, has paid off. The tax incentives offered by Ireland to foreign companies helped to attract valuable sources of capital and industry knowledge that would not have been available otherwise. Having been exposed to this potential transfer of skills over the past 60 years, it can be argued to be one of the reasons to why Ireland is considered as being a forerunner in high tech industry. However, as there remains no clear evidence to confirm the direct connection between the spill-over foreign and to local population and indigenous companies. Measuring the transfer of skills remains difficult to conclude on.

IS IRELAND A MODEL FOR DEVELOPMENT?

15 years of prosperity under the Celtic Tiger period unravelled in just two. In September 2008, Ireland would enter recession. Ireland been one of the Euro area's fastest-growing and most well-off countries in relation to GDP per capita (Eurostat, 2008). From 2001 to 2007 Irish GNP growth rates averaged 5.6 percent and by the end of the Celtic Tiger period, in 2007, only three EU countries (Luxembourg, Sweden and the Netherlands) were doing better (Eurostat, 2008). This paper has alluded to the nature of the Irish crash; the bursting of the housing bubble triggered the fall of the Irish banking system, unemployment tripled to 14.4 percent in 2011 Irish GNP per capita shrank by 10 percent in 2008 and then by another 12 percent in 2009. Public debt rose from 24 percent in 2007 to 123 percent of the GDP (Eurostat, 2011).

Eventually, a bank bailout was agreed with the Troika. John Fitzgerald of the Irish Times, argues that there wasn't a family in Ireland untouched by the crisis. "Over the course of the crisis, the combined effects of the in cuts in welfare rates and increases in taxes meant that most people experienced a fall in income of around 10 percent (2015). Furthermore emigration, which had stopped in 1995 as the Tiger rose, increased again. Gartner, Griesbach and Mennilo concluded that "the achievements of 20 years of economic reforms, budgetary discipline and consensus under the Celtic Tiger had been lost in as little as four years" (Gartner, Griesback, & Mennilo, 2013). There can be no doubt the Irish crisis was a bad one and its effect was profound. Does it render Ireland's development strategy unfit for purpose then? Ireland, since 2012, has been recovering. GNP per capita has risen again and unemployment is low at 7.7 percent according to Eurostat.

As this paper has demonstrated, Ireland has pursued an export-led development strategy backed by FDI since 1958. Ireland has been very successful at attracting FDI thanks to a number of factors. The openness of the Irish economy, solid national infrastructure, European Union integration. Other factors motivating foreign investment in Ireland have been its low cost, skilled workforce and crucially – the favourable Irish corporate tax rate.

Is Ireland's model of development one to follow for other developing countries? Ireland had always marketed itself as a low-cost country and after the recession in the 1980s, labour costs were comparatively low in Ireland. The social partnership agreements also played a role in keeping wages under control. The cost of doing business in Ireland increased significantly during the Celtic Tiger years and this meant that some manufacturers moved their production to cheaper countries. Dell, for example, moved their facilities to Poland. The EU now hosts 28 countries, and the influx of cheaper production bases into the EU has meant that Ireland can no longer be considered a cheap place to do business (Boullet, 2015). This paper has demonstrated that Ireland's low corporate tax rate was a pivotal variable in its economic success. The generous fiscal policy has however tightened over the years. The initial 0 percent corporate profits tax on manufactured exports was replaced by a 10 percent tax rate in 1980 and then in 2003 it rose to 12.5 percent (Boullet, 2015). Ireland has been accused in recent years of being a tax haven where American firms can set up branches to reduce taxes and then funnel profits through island tax havens like the Cayman Islands. This mechanism has been nicknamed the "double Irish" and pressure from the OECD as well as the EU and the US has forced Ireland to put an end to it. Finance Minster Michael Noonan, in 2014, introduced a new tax scheme which requires multinational firms to be tax resident in Ireland (Noonan, 2014). The old system of taxation was closed to new entrants in 2015 (Lynch, 2014). In order to attract inward investment, new measures have been introduced. A crucial change established in 2016 is the lower tax rate offered to companies on profits derived from intellectual property activity. A similar system exists in the United Kingdom, called the patent box (Taylor Wessing, 2015)

Another important development in Irish policy relates to industrial policy. The Culliton report in 1992 recommended that Ireland promote industrial clusters in niche markets of national competitive advantage (Culliton Report, 1992). As established previously, The IDA and Enterprise Ireland have targeted sectors performing well internationally. The IDA has turned to selling Ireland as a research, development & innovation platform. In achieving this, the Irish state has put in a place a 25 percent R&D tax credit to “encourage companies to undertake new or additional RDI activity in Ireland” (IDA Ireland, n.d.).

The crash knocked Irish confidence but it still finds itself in a comparatively attractive position in relation to its tax system. Ireland finds itself today as an experienced and mature FDI manager. Ireland has a track record of being a reliable location for possible investors. The question begged going forward though is how viable an approach to economic development is Ireland’s model? With FDI increasingly recognized as a solid means of development, competition is increasing. Ireland’s clustering of ICT and Pharma companies is undoubtedly a benefit due to the demonstration and agglomeration effects shown earlier. However, with more EU countries trying to create these same clusters it will become difficult for Ireland to hold on its pole position. Countries like Bulgaria, Latvia, Lithuania and Romania all offer similarly low levels of corporation tax (KPMG , n.d.). By way of summing up then, the crisis put a halt (temporary or otherwise) to Irish growth and cancelled out the Celtic Tiger. With the worst of the crisis behind Ireland, and all seemingly well. A question of longevity arises, can Ireland preserve its competitive advantage. Vultures have circled in the form of the EU and more recently the US attempting to force Ireland to change tax policy.

There were undoubtedly, however, side-effects to this trade promotion policy. Sweeney in Celtic Tiger: Ireland’s Economic Miracle Explained (1998) on Ireland’s economic boom in the 1990s wrote that the incredible growth rates were “slightly undermined” by price inversion by MNCs. Herd goes a step further and argues that the speed of Ireland’s economic development was completely predicated by the 10 percent corporate tax rate. He argues that the tax environment motivated foreign multinationals to engage in “transfer pricing”, the transaction between a parent and subsidiary company where the parent company purchases goods produced by the subsidiary (Herd, 2017). Transfer pricing is used to attribute profits to the country in which goods are made for the purposes of making a greater profit by attributing the profits to the country that offers the lowest corporate tax rate. One could argue, that Ireland took on this role consciously as part of its policy strategy. Sweeney used the example of transfer pricing in a coca cola plant in county Louth which claimed to have earned 400 million (Irish pound, before adoption of Euro) for only 200 workers. This had the effect of creating a larger profit margin as each worker was reportedly producing 2 million pound a year for a salary of around 30,000 pound. This sort of scenario was possible if the last step of production took place in Ireland, even if the most labour and capital intensive parts of production took place elsewhere. Companies took advantage of Ireland's system by creating final production steps that could be easily done in Ireland, from computer assembly to artificially ripe fruit in Irish warehouses (Sweeney, 1998). Our hypothesis states that it was Ireland's openness to trade that triggered its economic success.

In 2015 when Ireland experienced a GDP growth of 26.3 percent, it seemed to take even the Irish government by surprise, as it had estimated 'only' a 7.8 percent growth. It was met with scepticism as many pointed out that, that the numbers was not representative for an organic growth taking place in Ireland, but rather the increasing interest and opportunity for foreign companies to use tax inversion as a tool of minimizing costs. An important note is that, tax inversion is though frowned upon, not illegal and not to be mistaken for tax evasion. Michael Connolly, a senior statistician at the Central Statistics Office in Ireland, also points to the practice of tax inversion, as a key element of why Ireland experienced a booming GDP growth in 2015 (Inman, 2016). Connolly states that several US companies, e.g. the medical technology company Medtronic acquisition of Covidien, have domiciled in Ireland by merging or acquiring a smaller Irish-registered company – and then inverting to a Irish corporate structure, this way they are to be taxed in Ireland, but the operations can continue abroad as well (Inman, 2016).

A research project carried out by Thomas Tørslev, Ludvig Wier & Gabriel Zucman (2018) noted that between 1985 and 2018 the global average corporate tax rates has fallen from 49 percent to 24 percent. As to why the corporation tax is being cut, Tørslev et. al points to the fact that globalisation makes countries fight harder for productive capital. By cutting tax rates it becomes more attractive for companies to settle in a location. However, it is not necessarily the tangible assets e.g. production plants that are moved to low-tax areas. In 2016, Google Alphabet made an impressive 19.2 billion USD revenue in Bermuda, a location where they hardly have any employees or tangible assets (Tørslev, Wier, & Zucman, 2018) (Tørslev et. al., 2018). By moving intangible assets like brand or algorithms to residence in Bermuda they are taxed in that location – with a 0 percent tax rate in the case of Bermuda.

When Ireland in 2016 experienced an astronomic GDP growth of 26 percent, Tørslev et. al's research suggest that it was among other factor due to large companies i.e. Apple, moving non-tangible assets to Ireland to benefit from the low tax-rate. The practice of transfer pricing is difficult to battle, as the resources are simply not allocated for it. The principle of arm's length, used as the framework for bilateral treaties within OECD countries, allows parent companies to trade with sub-companies, as if they were independent companies trading. The principle of arm's length should avoid companies being double-taxed, but the intention was not to extract tax from countries, that are entitled to receive taxes. For officials to battle un-fair transfer pricing, it would require that the tax officials in the country had the capacity to asses and determine whether the pricing was correct. As an example of the complexity, Tørslev gives the example of Google's newest optimizing of their search algorithm, how does one value that? (Lønstrup, 2019). The expertise required to assess these trades is according to Tørslev not present in tax officials – and secondly, the willingness of the major corporations and the countries of low tax, to cooperate is very limited. The Commissioner of Competition, Margrethe Vestager has also addressed this, "As humans try to understand technology, corporate taxation should also understand how digital business models work…how value is created and what does it mean to have a taxable presence." (Burke-Kennedy, 2019).

Ireland has also been in the spotlight due to their hosting role of Apple. In 2014, the European Commissioner for Competition opened a case to investigate if a discretion of transfer pricing had been used to give Apple a selective competitive advantage. In August 2016, the European Commission came to the conclusion that Apple had in fact been given special tax treatment by the Irish state, which had given them a advantage over their competitors. The claim of The Commission was, that it was considered a violation of the EU state aid rules and that Ireland was due to collect 13 billion EUR plus interest from Apple, representing the negative balance from 2003 until 2014 (Yang & Lauricella, 2017). The crucial point of The Commissions argument was that Ireland had allowed Apple to collect income throughout Europe that was not subject to any tax. This was deemed as a violation of the principle, that a state has a right to rightfully claim tax on income made within its jurisdiction (Yang & Lauricella, 2017). To some surprisingly, Ireland was opposing of the Commission's order to Apple to pay 13 billion EUR, that it even secured a majority of votes in the Dáil Éireann (Assembly of Ireland) to appeal the ruling of the European Commision (O'Halloran & O'Regan, 2016). As a comment, Tørslev has added that Ireland have billions of euros waiting, but they strongly refuse to accept them and are defensive of Apple (Lønstrup, 2019). Ireland are likely unwilling to accept the money due to the precedent it sets.

As to how much MNCs have actually avoided due to transfer pricing, the report “The Missing Profits of Nations” has calculated how much non-tax havens are missing out on. By asking the question, how much profits move across borders today because of differences in corporate income tax rates, Tørslev et. al. explores macroeconomic data and estimates that close to 40 percent of multinational profits are each year being moved to tax havens on a global level (Tørslev, Wier, & Zucman, 2018). The report furthermore adressed how tax optimization behavior from multinationals affects the measured GDP, trade balances and labor of the country in which they operate in. The statistics have not been available, because companies usually do not publicly disclose where their profits are booked, and the national data availble did not make it possible to seperate and distinuish indiviudal companies from the mass. However, recently the most developed countries have started to disclose foreign affiliates statistics, which records the amount of proftis made by affiliations of foreign companies and the wages which these affiliates pay. So what does this imply for Ireland and their development? As stated above, strong evidence suggests that the massive GDP growth in 2015 was due to transfering of intangible assets. Tørslev et. al have divided the tax minimizing actions of multinationals into real effects (tangible assets used by foreign firms in low-tax areas) and profit shifting effects (above-normal returns to capital and interest) (Tørslev, Wier, & Zucman, 2018). This distinction is important according to Tørslev, because movements of tangible assets e.g. production sites and offices affect wages but by contrast paper profts do not.

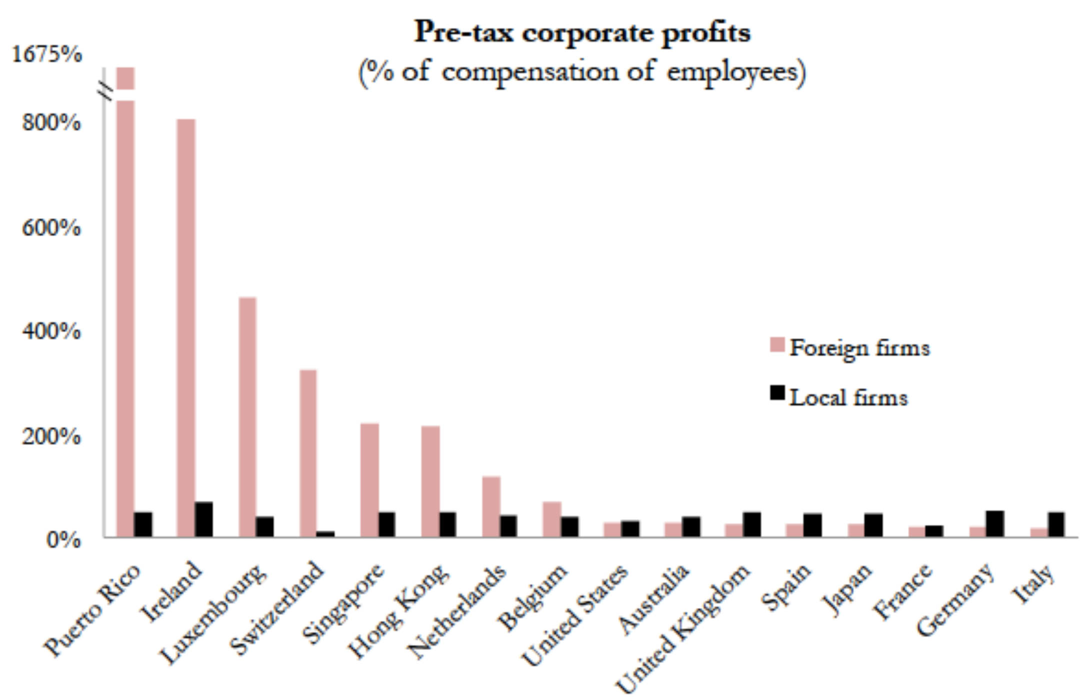

Figure 7: *Productivity in foreign and local companies (percentage of compensation of employee). Adapted from "The Missing Profits of Nations", National Bureau of Economic Research, 2018.*

A high shift of profit paper can lead to increased profitability pr. employee. As seen above, foreign firms have in the area of 800 percent return on an employee's wage. On the contrary, in countries that are not considered low-tax areas, foreign firms are not more profitable than local firms. The report concludes that this is due to paper shifting, and thus the profitability increases, but doesn't necessarily bring more jobs. Tangible assets are recognized as being internationally mobile, as seen with factories in India and China, and evidence suggests that this movement has also correlated with tax rates over the past two decades. However, Tørslev states "…globally, machines don't move massively to low-tax places: paper profits do" (Tørslev, Wier, & Zucman, 2018, p. 3). The countries in Europe which do not have low tax rates appear to be losing the most. The governments of low-tax areas i.e. Ireland are receiving a sizeable amount from paper shifting.

Stormy weather concerning transfer pricing and tax inversion, might challenge Irelands competitive edge – or will it? In 2016 US Pfizer Inc agreed to terminate their 160 billion USD bid on Irish Allergan Plc, after the US treasury presented new legislation to curb inversions (Humer & Pierson, 2016). The buy would have brought an immensely large tax attribution to Ireland, but it was curbed because American authorities strongly desired to hinder these practices that legally deprives the US state of tax funds. The current policy framework within the EU has not been able to tackle the transfer-pricing or constitute a harmonized tax system. The incentives to do so from Ireland, is according to Tørslev, not present, as the light taxation they are receiving from the astronomic amounts, tax havens have been able to generate a positive tax revenue.

To the Irish's good luck, both theory and data, suggest that the vast majority of high-tax countries tax enforcement are targeted at other high-tax countries. Chasing profits and taxes booked in another high-tax country is often done because i) the information is available ii) the difference is rarely noteworthy for the companies, so they are willing iii) it is fast as there is often a framework set up to settle disputes. This could not be said of low-taxes areas. Ireland's position and reputation are being tested as their tax system is being challenged by not only EU, but also several international actors e.g. OECD. (Barrera & Bustamenta, 2018; Tørslev et. al . 2018).

HYPOTHESIS II:

The following hypothesis that will be explored in the coming section is: **Irish human capital played a significant role in attracting foreign direct investment, and thus played a significant role in Ireland's successful economic development.**

To test the hypothesis the following section will first of all explore how Irish human capital has been developed. Secondly, the role Irish human capital has played in Ireland's successful economic development will be explored.

As explored in the theory section above, increases in GDP pr. capita can either be generated through real output e.g. an increase in productivity through technology or better education – or by increasing the workforce. As Ireland is a medium-sized country their strength is, unlike larger countries e.g. China and India, not necessarily the size of their workforce, but the quality of it. The development of Irish human capital can be traced back to the 1960s. Significant changes began to take place regarding the orientation of Ireland's economy, which meant that Ireland was held against international benchmarks. Ireland recognised that a growth in manufacturing was likely to place stress on its education and training systems. White (2001) notes that Ireland volunteered to have its educational system assessed by the OECD in 1965.

The report titled 'Investment in Education' found that over half of Irish children were leaving school at or before the age of 13, this was much higher than in the rest of Western Europe. The report stressed that education was a crucial aspect of Ireland's future society and economy. As a result of this the state would go on to pay for all secondary schooling and transportation to school from 1967. This triggered a significant rise in the level of education. Thirty years later, the number of children enrolled in school had trebled, with 80 percent completing their education (20 percent in 1965). Numbers of pupils enrolled in tertiary educated increased six-fold (Barry F. , Politics, Institutions and Post-War Economic Growth in Ireland, 2006).

Further improvements to the Irish education system would occur in the 1980s, efforts to generate a workforce that could sustain the influx of higher technology companies began in the 1980s when the government realised that a significant number of skilled workers would be required. The result was a reform of third level educational institutions with an increased emphasis on engineering, computer science and other technical degrees. However, even as far back as the 1960s regional technical colleges were established to provide apprentice and technician training in various technical fields. With the development of Ireland's IT sector, the courses provided by these colleges were increasingly tailored to fit the needs of the IT industry (Kraemer & Dedrick, 1998). These sub-degree programmes were of shorter duration than standard university courses and were practically orientated. Ireland's educational throughput grew and went from having a tiny third-level educational sector up to 1970 to having the second highest proportion of third-level students taking sub-degree courses by 1981 (behind the Netherlands) (Barry F. , Foreign Direct Investment and Institutional Co-, 2008). Pressure from the IDA encouraged mainstream universities to facilitate more the development of students to meet the manpower requirements of Ireland's burgeoning electronics and engineering sectors. Another crucial aspect of Ireland's development of human capital was the instigation of the Manpower Consultative Committee. The Manpower Consultative Committee was established in 1978 to instigate dialogue between the IDA and Ireland's educational institutions. Up to this point the IDA had been concerned that there was a growing disparity between the electronics graduate outflows and its projections for the future demands of the sector. The IDA facilitated a massive expansion in educational capacity. O' Riain explains that the Irish educational system is somewhat peculiar in that it offers a finite number of places in most third-level courses, these numbers are predominantly decided from within the universities but are somewhat government influenced. This means that the state is given the capacity to mould the labour market for specific sectors of the economy (O'Riain, The Politics of High-Tech Growth: Developmental Network States in the Global Economy, 2004). The result from this approach change was an increase in engineering graduates of 40 percent between 1978 and 1983, while computer science output multiplied by 10 over the same period of time. The IDA was able to use these increases in educational throughput as a further selling point to potential foreign investors. Ireland's strategy and the effect of this on education has produced one the highest proportions of young people with science and engineering qualifications in the world (European Union Community Research, 2003).

In 1996, the Government would go on and remove fees for undergraduate courses at third level education. This was followed by a sound expansion of participation in education, firstly expressed as an increased level at second level, and later followed by an increase in third level education

(Bergin & Kearney, 2007). As showed in the graph, over the course of the past 25 years, the trend is a larger share of the Irish people have attained a third level education and a decrease of people having no formal education.

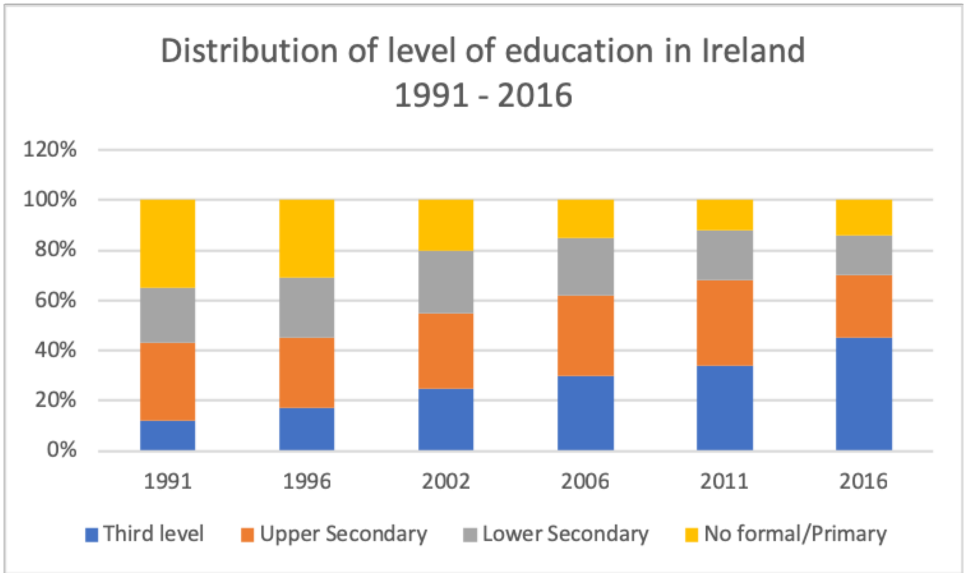

Figure 8: *Distribution of level of education in Ireland 1991–2016. Adapted from "Educational Attainment Thematic Report 2017", Central Statistics Office 2018.*

As to whether an well-educated workforce actually attract foreign attention, Gunnigle and McGuire (2001) found in a survey of executives of 10 major US MNCs that education and skills rank second in importance to the corporate tax regime in drawing these firms to Ireland. Similarly, Ferreira & Vanhoudt (2004) posited that it was higher education, especially the vocational/technical slant of educational provision, and the sectoral composition of FDI in favour of high-tech industries were self-reinforcing factors in causing the Irish boom in the 1990s. Evidence to support the success of Ireland's educational reform at this time is the increasingly high-tech nature of employment. The figure below shows that employment in the 'high tech' sector increased over time and Barry (Barry F. , Foreign Direct Investment and Institutional Co-, 2008) put this down the educational advances that took place in the 1960s and 1980s.

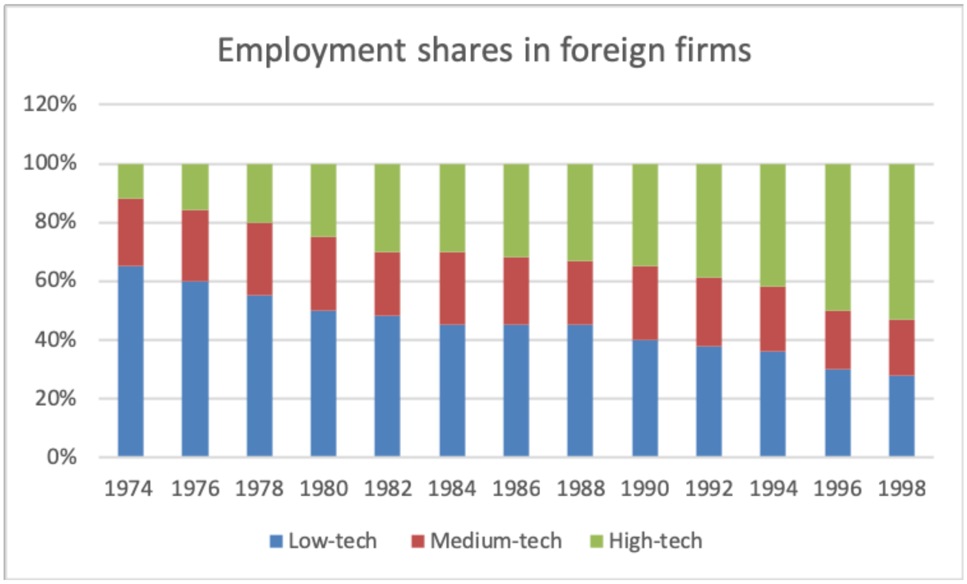

Figure 9: *Employment shares in foreign firms technology mix. Adapted from "FDI and Irish Economic Development over Four Stages of European Integration", University of Dublin, 2006.*

According to a report by IBM Institute for Business Value, it was stated that Ireland's most important competitive advantages are their access to the EU market, a competitive corporate tax infrastructure, a uniquely talented workforce, and a stable regulatory framework that supports business. Evidence suggests, that for foreign companies, while not being firstly prioritized, the human capital of Ireland does play a role in attracting foreign companies (Economist Intelligence Unit, 2012). Paul Duffy, vice president with Pfizer has stated: ”The reason that Pfizer has expanded so extensively is the country's proven ability – from as early as the late 1960s – to deliver. The people are reliable and can handle complexity" (Economist Intelligence Unit , 2012 , p. 12). This statement reflect another side of the Irish workingforce – their innate abilities, which are thus more difficult to measure. And while innate capabilities are not included in the human capital theory, it's importance is being repeated by John Herlihy, vice president at Google:

”There is a degree of flexibility, both innate and regulatory, about Ireland's workforce that is unique in Europe. Perhaps because of Ireland's history, the spirits is to resolve differences when they are found, and then move on, resolve and move on." (Economist Intelligence Unit , 2012 , s. 13)

Access to skills, both those that are homegrown and those available due to the internal market of EU, is according to a survey answered by 315 global corporate actors with activities within Ireland (Economist Intelligence Unit , 2012) of increasing importance when it comes to Ireland's FDI proposition. 28 percent of the respondents mentioned educated and skilled workforce as Ireland's key competitive advantage and with a further 23 percent mentioning the access to European work base as a key competitive edge. Furthermore, when respondents were asked to list the disadvantages of Ireland, the option that frequentied the least (6 percent) was: a lack of skilled labour.

So what is the current state of Irish human capital? In an article by Adele Bergin and Ide Kearney (2007) it is stated that the demand for labour is strongly leaning towards employment of high-skilled labour, and because Ireland is a small open economy it is sensitive towards international competition. The Bergin and Kearney's work furthermore suggests that the rising level of education increased the supply of high-skilled labour, which together with immigration flows of high skilled workers made it possible to meet the strong demand for high-skilled labour in Ireland. Unlike most OECD countries, Ireland's growth has been due to increases in both productivity and increased employment (Kavanagh & Doyle, 2006). Over the period of 1976 – 2000 productivity grew on average 3.3. percent annually – in this period only Korea among the OECD countries has experienced faster growth than Ireland. Since 2000 the productivity in Ireland has not only converged with other OECD countries, it has surpassed them as stated in the graph below. Hence, sustained productivity has been an innate feature of the Irish development since the 1970s.

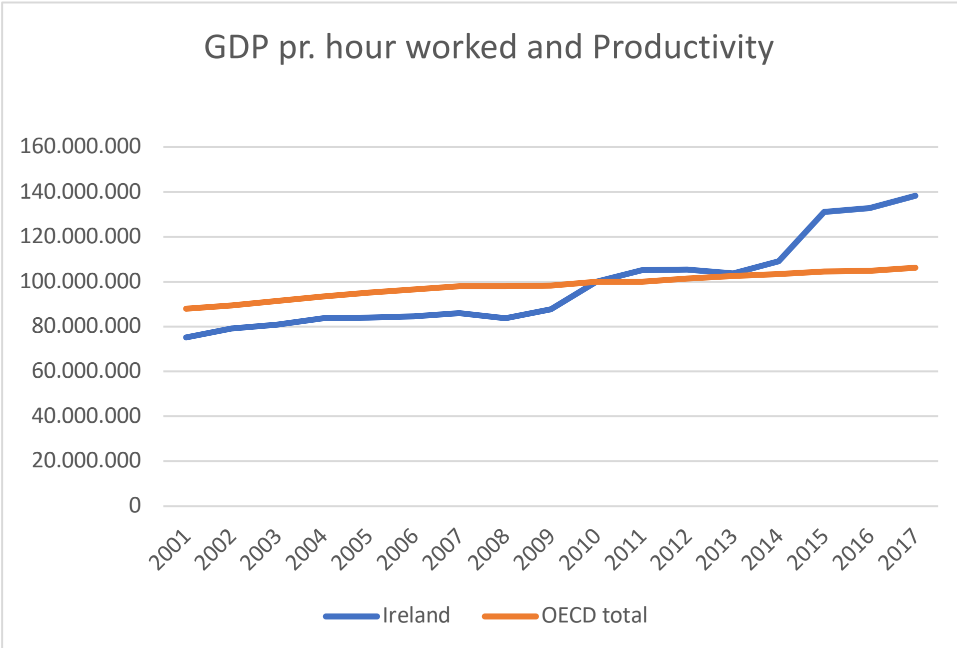

Figure 10: *GDP pr. hour worked and productivity 2001-2018. Adapted from "OECD Productivity Statistics: GDP per capita and productivity growth" 2019.*

That Irish development has been driven by the expansion of employment is supported by Eleanor Doyle and Catherine Kavanagh, in an article exploring the future skills needed to continuously drive Irish human capital forward (Kavanagh & Doyle, 2006). The ultimate cause of the employment turn-around is difficult to pinpoint, however, evidence suggests, that a strong Irish human capital has enabled Ireland to both attract foreign resources and to increase productivity that has subsequently led to a successful Irish development. It can be summarized, that Ireland has made impressive gains in labour productivity, which suggest to have boosted the economic growth and development. A key challenge for Ireland is to maintain the high growth rates of productivity, to be able to continuously attract MNCs with human capital.

As stated, to increase GDP pr. Capita productivity must be increased or the workforce expanded. In the decade of 1990 employment experienced at negative growth rate at 0.2 percent per annum (Kavanagh & Doyle, 2006). Since 1990, the average growth in employment has been positive, being 2.0 percent per annum to 1995 – and then 4.2 percent until 2002. However, at present day the employment rate is below EU28 average, particular for women as shown in the graph below.

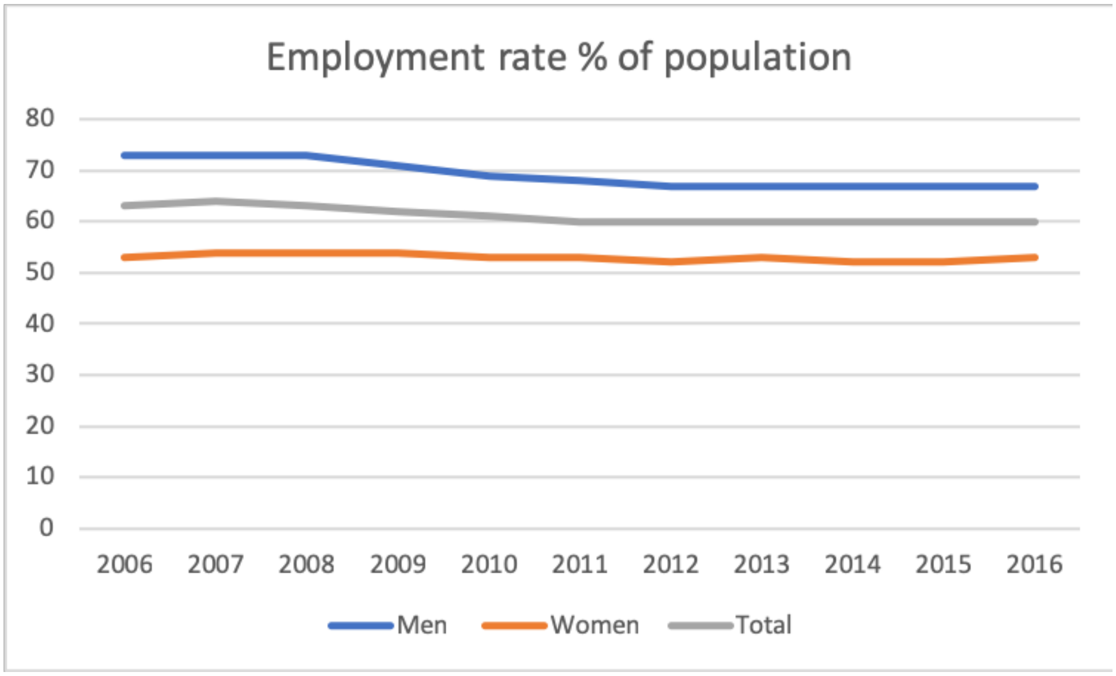

Figure 11: *Employment rate of Irish population 2006 – 2016. Adapted from "OECD Labour market statistics, employment rate (Indicator)" 2019.*

This graph is somewhat contradictory, to what is stated by Kavanagh and Doyle (2006) as they argue, that labour productivity growth will be a key determinant in the future economic development of Ireland, as the employment expansions has been exhausted and future requirements must be met by immigration. As the graph displays, there is still unlocked potential in terms of expanding the workforce, and thereby increase the GDP pr. Capita. Ireland's national skills strategy also addresses the need for continuously having a fit for purpose workforce and initiatives like the Regional Skills Fora is an example of striving for this. The fora will enable the employers to have their say in what skills are required, in order for the Irish government to address emerging gaps in skills (Department of Education and Skills, 2016).

It can be concluded that the human capital of Ireland has been improved on factors such as productivity, increase in years of education and, the literature suggests, that the Irish human capital was a variable in attracting foreign direct investment and foreign companies. The Irish government has invested in education in order to enhance the human capital in alignment to the positive correlation between higher level of education with an increased productivity on both an individual level and a societal level. It can furthermore be concluded, that companies have ranked skills and education second in reason to be drawn to Ireland. There is an overwhelming consensus between actors (government, institutions and companies) that the Irish human capital has contributed to Irish development and to the attraction of foreign direct investment, however the data which makes clear the connection to support this is somewhat faulty as variables of the human capital are rooted in difficult to measure variables as mentioned in the theory section.

Therefore, the hypothesis can partially be confirmed. Evidence suggest that Irish human capital has been an pulling factor for foreign companies. However, whether an increased investment in human capital enabled Irelands development, can only be partially confirmed as no evidence supports a full correlation of the two.

CONCLUSION

This paper sought to explore why Ireland experienced successful economic development. Ireland's strategy for economic development has its roots in the 1950s. Consolidated and consistent dedication to trade openness has made Ireland one of the most economically open and FDI-receptive countries in the World. Ireland's strategy over the last seventy years has possibly provided a model for economic development for small, but technologically prepared countries through international integration and inward investment. And while Ireland's unique attributes led to its successful development, it's possible that it could be successfully replicated in other countries, especially small economies in the European Union.

This paper tracked Irish economic development over four periods of time to explain the factors behind its successful development. In doing so, two hypotheses were offered

.

1. **Increased Irish openness towards trade through trade liberalization triggered economic development by attracting substantial inflows of foreign direct investment.**
2. **Irish human capital played a significant role in attracting Foreign Direct Investment, and thus played a significant role in Ireland's successful economic development**

This paper found that Irish openness to trade increased drastically in the 1950s and 1960s with various policy and institutional revolutions. Of note, the Whitaker report (1958) stressed the importance of openness and was a hugely important turning point in Irish economic policy. Similarly, the Lemass government of this time contributed to the increased openness to trade. The abolishment of the Control of Manufacturers Acts and the establishment of Export Sales Relief 0 percent tax on manufactured exports were important in both contributing to Ireland's trade openness and attracting foreign direct investment. Ireland would accede to the European Union in 1973 and would enjoy the increased open trading platform. EU membership (and Eurozone) would give Ireland the gift of credibility to foreign investors shown by the increase in manufacturing employment between 1973 and 1980. Ireland's participation in the Single European Market and Monetary Union was a sign to MNCs that Ireland was a committed European Country. This stood in stark contrast to the lukewarm European integration approach of the United Kingdom. Ireland is a case in point of the nuanced relationship between domestic and international factors. The overarching transformation is the transition from a long period of time where externalities were constraining, to a new situation where Ireland's externalities provide valuable inputs.

There can be little doubt that Ireland did embark on a journey of trade openness. Ireland's road to development has been based substantially on attracting foreign investment and Ireland's success in attracting FDI can be put down to a number of factors: (i) EU membership, macroeconomic stability, An English-speaking environment, (ii) a low corporation tax rate, (iii) the effectiveness of the Industrial Development Agency (iii) and (iv) an educational system integrated to the needs of the FDI-led development system.

This FDI-led approach did bring economic development. By the year 2000, Ireland was experiencing high growth, low unemployment, a budgetary surplus and a low debt to GDP ratio. Ireland's industrial policy saw it offer advantageous tax incentives to foreign firms in particular sectors, which is undoubtedly a criticism of Irish economic development by neglecting indigenous industry, the agglomeration effect caused a build-up of investment in key sectors. The presence of a very active labour market with people possessing technology skills attracts more investment in this area. By focusing on sectors on the rise, Ireland didn't waste any time on declining sectors.

The second hypothesis, relating to Ireland's human capital demonstrated that MNCs do view Ireland's improved human capital as an incentive to locate there. Most prominent are the reforms to third level education institutions to provide more effective input for MNCs. To this end, the IDA did play an important role in facilitating the changes and this is further testament to the work of the organization. The difficulties in measuring the real-life effects of Ireland's improved human capital made it difficult to conclude one way or the other on this hypothesis.

This paper has endeavoured to show the complexity of Ireland's journey to economic development and there are some factors that led to Ireland's economic development that are not covered by the hypotheses offered by this paper.

Firstly, Classic economic scholars praise the magic of the market in re-orientating development. Ireland benefitted from the de-regulation of several of its industries including the telecommunication network and various transport networks. Opening these industries to outside competition did bring positive effects. The improvements made to the telecommunications network, in particular, would go on to prove vital in attracting FDI. There is room for greater deregulation within Ireland's economy. Secondly, this paper is of the belief that Ireland's social partnership approach established in 1987 contributed significantly to Irish economic development. It contributed vastly to Ireland's cost competitiveness by keeping wages down and facilitated adherence to the narrow band of the Exchange Rate Mechanism. Social partnership has transformed Ireland's ability to mediate various internal interests. Another important point in Irish economic development not explained by the hypotheses is the important role of the EU's Structural and Cohesion funds.

The approach of this paper, to tackle the question of Ireland's economic development using two hypotheses has proven to be a valid approach. The reason for studying trade openness and foreign direct investment together stems from the strength of the connection between the two principles in Irish economic development. The bulk of the research found chose to look at these two concepts together and the authors of this paper felt it more natural to follow this pattern. Alternatively, analysing the effect of trade openness and foreign direct investment on Ireland's economic development could have been done with two separate hypotheses. This approach would have ultimately made the effects of the two concepts on Irish economic development clearer.

A question not addressed in this paper is: how sustainable is the economic development of Ireland? As presented above, the low tax rates have undoubtedly attracted large sums of FDI, but are under criticism from more than one side. If one argues that the low-tax rate is a foundation for Irish economic development - what will then happen if the EU approves a tax harmonizing system? This could be an area for future study. Similarly, the paper has presented viewpoints that show that the indigenous sectors of Ireland have suffered through the massive presence of MNCs. For future studies it might be valuable to explore the developments of the Irish indigenous sector.

CONCLUDING REMARKS

Ireland experienced successful economic development for a number of reasons.

Put simply these have been:

- An open, free trade economy competitive in a global economy
- Commitment to the European Union
- An attractive tax policy to foreign multinationals' investments
- Modernized infrastructure and increased competition through deregulation
- Investment in Human Capital
- The work of the IDA in both attracting foreign investment and then facilitating improvements to both infrastructure and education

That is not to say that Ireland has not experienced bumps on the road along the way. Economic cycles are a fact of life and this paper has shown that the approach that Ireland has taken to economic development is one other nations are beginning to follow. Increased competition for FDI in Europe means that it is unlikely that Ireland can continue to attract the lions share in the next decade.

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