Industrial Policy in a Small Open Economy: The Case of Ireland

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1 Introduction

The Irish economy is an interesting case study in the context of the challenges to policymakers given the globalization of the world economy. The country has shown both the potential successes and failures for national strategic planning and highlights the potential role of industrial policy.

To understand the achievements and failures of policies in the Irish economy it is necessary to examine different periods in recent economic history. A useful categorisation is to consider policies prior to 1958, developments up to the late 1990s, the crisis in 2008 and the current position.

2 Failure of Irish Industrial Policy in Period to 1958

In the three decades up to 1958, Ireland had attempted to isolate itself from the globalisation of the international economy and the period was characterised by an inward-looking protectionism, which attempted to support inefficient indigenous industry to focus on import substitution. The result, which could have been predicted by any economist who understood international trade, was one of abject failure. Ireland's economic performance lagged significantly behind other European countries; and rising unemployment, emigration and falling living standards over the period were associated with Ireland becoming the most highly protected economy in Europe.

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3 Success of Industrial Policy Up to the Late 1990s

1958 saw a radical change in Irish economic and industrial policies and the government published a seminal policy paper entitled *Economic Development,* which was spearheaded by a pioneering civil servant called T. K. Whitaker. This changed Irish industrial policy towards an export-oriented economy, which welcomed foreign investment and which provided the foundation for a consistent policy which has remained to this day.

This started with a legislative change in 1958 which permitted foreign investment and in the late 1960s a separate agency called the Industrial Development Authority (IDA) was established to attract external investment.

The change in policy resulted in an export-led strategy based on the attraction of foreign-owned firms and on the development of existing industry and the establishment of industry linkages. The building of backward and forward linkages has meant that while foreign-owned firms were in many cases the driver of industrial policy they also provided a foundation for the development of indigenous industry supplying intermediate goods and services. Interestingly from an academic point of view, it has been suggested by Walsh and Whelan[1] that this new industrial policy was strongly influenced by the economic theories of Hirschman (1958).

In many ways, the success of industrial policy in Ireland is due to the enthusiasm of Ireland's embrace of globalisation. In the early years of the new policy, the adjustment costs were high and many of the traditional industry sectors collapsed. These costs were more than compensated by the benefits of a strategy based on developing modern industries and becoming an export base for companies selling internationally. The positive cumulative impacts of this strategy accelerated significantly in the 1990s, and as a result the Irish economy was seen as a remarkable success.

The new policy was reinforced by a young educated population, Ireland's membership of the European Union (EU), and a growth in world trade. (The growth of an educated workforce was encouraged as early as 1967 when free secondary education was introduced in Ireland and Ireland joined the European Community in 1973.) It was, however, not a period of consistent success and inappropriate fiscal and macro-economic policies in the late 1970s resulted in a crisis in the public finances in the early 1980s. However, even during that period industrial policy was deemed a success and by the late 1990s, Ireland was seen as a poster boy for its economic achievements. Professor Jeffrey Sachs from the Harvard Institute for International Development summed this up well when he noted that:

> During the 1990s, Ireland has been the most successful economy of the European Union, and indeed the fastest growing country among the members of the Organisation for Economic Cooperation and Development (OECD), the association of advanced economies. During 1991–96, Ireland achieved average annual growth in per capital GDP (adjusted for purchasing power parity) of 5.5 %, well above the average per capita growth of the other 14 countries of the European Union, 1.7 % per year. In 1996, Ireland was one of the fast-

[1] See Walsh and Whelan 2010, pp. 283–299. (Walsh and Whelan also refer to the role played by Professor Louden Ryan of Trinity College, University of Dublin in the adoption of these views).

> est growing economies in the world, with a per capita growth rate of 6.6%. The ratio of employment to the total labour force (sometimes termed the employment rate) also rose, signifying the strong increase in job growth during the same years. The employment rate rose by 2.2 percentage points between 1991 and 1996, compared with an average *fall* in employment rate of 0.7 percentage points in the other 14 European Union economies[2]

The merits of Ireland following an export-focused strategy were fairly obvious given the small scale of the population with fewer than 4 million people and so attempting to build an industrial base on such a small market was never going to enable the level of differentiation and economies of scale required in a globalised world economy. Given that Ireland had a very limited indigenous industrial base, the focus on the need to attract foreign investment was also clear. For more developed countries, which had long histories of industrialisation such as Germany, the UK and the USA, the position was different. In the period up to the late 1990s, the Irish economy expanded rapidly based significantly on the fruits of the industrial policy established four decades earlier.

There have also been various attempts at wider national economic planning. In 1983, a short-lived National Planning Board was established and it published Proposals for Plan in 1984 covering policies for output and employment growth, social policies and institutional changes. However, while various governments have also published national plans, in all of these a core element included a focus on industrial policies as well as taxation and public expenditure.

4 Reasons for Success of Irish Industrial Policy

Any objective assessment of Irish industrial policy over the period post 1958 suggests that it has been very successful and this success has continued through the period of the more recent crisis in the Irish fiscal and banking sectors.

The success of the overall Irish economy in the period to the late 1990s was not solely due to the achievements of Irish industrial policy. The growth in world trade and the fact that convergence is a feature of many economies in the post-war period whereby lower income economies often grow faster than more developed economies also played their part.

The success of the Irish economy up to the 1990s was, however, influenced by the fact that Ireland attracted a high level of inward investment per capita in manufacturing especially from the USA and recorded a rapid growth in investment in internationally traded services. Ireland has managed to secure multiples of the levels of foreign investment of some other EU countries. For example, the stock of US investment in Ireland is many times the level in Greece or Scotland or in countries as diverse as India or the Czech Republic. However, other larger countries both within and outside of the EU have much greater levels of US investment, such as the UK, Switzerland, France and Germany.

[2] Sachs 1997.

In considering what lessons, if any, Irish industrial policy has for other countries, it is necessary to answer the question, raised by Paul Krugman "…why Ireland has been so successful in attracting that foreign investment. What is it about Ireland that has made it so desirable a place for foreign firms to locate?"[3]

The performance of Ireland in attracting foreign direct investment (FDI) is in part simply due to the expansion of US overseas investment in Europe but this does not explain why Ireland has increased its share of this investment so significantly. For example, as Haughton (2008) has indicated "…we still need to ask why US investors steered so much of their investment to Ireland".[4]

The evidence suggests that Ireland has comparative advantages for certain types of FDI, particularly for mobile investment in high-tech manufacturing and in internationally traded services and that a consistent strategy has been implemented. This has been possible due to Ireland's access to European markets, the country's education and skills, an attractive corporate taxation position and the ease of doing business. The demonstration effects of being an early mover are also a factor which should not be underestimated. It is useful to consider the evidence on each of these factors.[5]

5 Ireland's Access to European Markets

Market access is often the first decision made by many multinationals in deciding where to invest. For example, US firms selling into Europe may choose to locate affiliates in a European market instead of attempting to directly export from non-EU markets. This has clear advantages in overcoming tariff barriers and in improving market knowledge and being close to customers. It can reduce journey times and transport costs, although the latter factor is of declining importance.

Because of Ireland's membership of the EU, Ireland scores well on its position of access to European markets. Ireland has a long membership of the EU, which guarantees access to goods and services within the EU and also crucially free mobility of labour. This latter factor is important in ensuring firms can attract the skills they require.

The views of multinationals based in Ireland show that the majority of firms rate Ireland as having strengths or significant strengths on access to European markets. Without such market access an export-oriented industrial strategy could not succeed (Table 1).

The proximity of Ireland to the main markets within the EU has been significant and for some industries servicing markets from very long distances is simply not feasible. This point was made by Paul Krugman where he noted that:

> ….for many industries really long-range, intercontinental trade is still not an option: they still have strong incentives to serve European markets from a European location. So Ireland is not in competition with Asia or Mexico for these industries.[6]

[3] Krugman 1997, p. 43.

[4] Haughton 2008, p. 169.

[5] This analysis is based on a separate study by Gray et al. 2009.

[6] Krugman 1997, p. 47.

Table 1 Foreign firms rating of Ireland on access to markets. (Source: Indecon Survey of Foreign-Owned Companies in Ireland, Quoted in Gray et al. 2009)

	Significant strength	Strength	Neither strength nor weakness	Weakness	Significant weakness
Access to European markets	39.8	42.6	17.6	0.0	0.0

Ireland's industrial policy has in recent years also attracted inward investment in internationally traded services. These services are less dependent on transport costs or size of domestic markets. The education of the Irish labour force and Ireland's time zones, as well as the availability of professional services and English language employees has underpinned this strategy.

6 Investment in a Skilled Labour Force

A feature of Irish economic policy has been the investment made in education. The basis for the success of any country fundamentally relates to the core resources of people and labour force skills. The quality of the labour force requires what is called "absorptive capacity" and the ability to produce a wide range of products and services.

The skills of the labour force and the quality of research and development (R&D) are also components on a high-tech industrial policy. While the interaction between knowledge which is embodied in the R&D infrastructure of any country and foreign investment is indirect, it is nonetheless important. Appropriate graduate education has a special role in the comparative advantage for certain industry sectors. The ability of overseas investors to attract inward skills from other regions or counties is also important and may have been a critical factor in the success of Irish industrial policy. While countries might wish to restrict immigration in order to attempt to keep a higher percentage of jobs for the existing population, this can be counterproductive. In this context, it will be interesting to see what impact the recent restrictions on immigration have on investment in Singapore. In Ireland's case, the free mobility of labour within the European Community has meant a readily available access to a wider labour force pool. Access to an integrated European labour market of the 27 member states with a population of over 500 million and the fact that many potential employees see Ireland as an attractive place to live, mean that skill needs can be met.

Given the levels of education and access to a young and flexible labour force, it is not surprising that a majority of multinationals rate these factors as strengths of location in Ireland. The majority of multinational firms in Ireland rated labour force skills and education as strengths of location in Ireland, however ongoing reforms are needed (Table 2).

The lessons for other countries in considering pursuing a similar industrial policy are to ensure that the demographics and skills of the available labour force are sufficient to provide a basis for the type of sectors which are being targeted.

Table 2 Foreign firms rating on education, labour force skills and research and development. (Source: Indecon Survey of Foreign-Owned Companies in Ireland, Quoted in Gray et al. 2009)

	Significant strength	Strength	Neither strength nor weakness	Weakness	Significant weakness
Skilled employees	34.3	55.6	10.2	0.0	0.0
Flexible labour Force	32.4	50.0	10.2	7.4	0.0
Creativity and imagination of Irish people	13.8	59.6	24.8	1.8	0.0
Quality of universities	17.6	49.1	28.7	4.6	0.0
Quality of research and development	5.6	43.9	30.8	17.8	1.9

7 Comparative Costs

Regardless of other advantages, productivity and cost competitiveness are a core part of the evaluation of a country's comparative advantage; and in considering the role of industrial policy or national strategic planning, the issue of how to maintain cost competitiveness should be considered. This is reinforced by a review of the Irish experience.

Increases in relative costs can reduce the attractiveness of a location for foreign investment and indeed rapid cost increases are not sustainable if a country or region wishes to maintain its economic performance. This was highlighted by McAleese (2008) when in discussing the Irish economy he warned that:

> An adverse movement in a region's cost competitiveness cannot be indefinitely sustained. As regional prices increase, the region's cost structure will become more and more out of line with its competitors. It will begin to lose export markets and will become less attractive as a location for investment. Eventually growth will slow, labour demand will decline and pay pressures will ease.[7]

With the very rapid economic growth in Ireland and with inappropriate macro-economic policies in the period 2000–2008, costs escalated in Ireland and the success of fast growth undermined the sustainability of the strategy. Since then significant positive adjustments have been made but this highlights the need to ensure that industrial policy is not considered in isolation from other policy developments. The evidence indicates that reflecting the exceptionally rapid growth in the Irish economy in recent years, Ireland's unit labour costs had until recently accelerated much faster than average for the EU. This represented a deterioration in one important area of Ireland's comparative position for inward foreign investment and could have undermined the industrial strategy. However, recently this position has been reversed and Ireland has recorded significant gains in competitiveness. In Ireland, a speculative housing bubble also damaged the industrial policy objectives but with the inevitable crash in the housing sector, property prices are now low compared to many European countries.

[7] McAleese 2008, p. 52.

8 Taxation

The taxation treatment of foreign investment is an area which is currently generating major international debate and is of importance in influencing posttax financial returns. Taxation and industrial policy are of course fundamentally interlinked. Ireland has a long history of offering an attractive level of corporate tax to inward investors and currently has a low level of corporate taxation at 12.5 %. Without other advantages this would not be sufficient to attract most investment projects but it would be naive to assume that a country can attract investment unless it offers competitive fiscal terms.

The corporate tax on foreign investment is a complex factor as different rates may apply to trading and non-trading income. Also relevant is the treatment of trading losses in any accounting period. The details of this can be important and include issues such as the extent to which any trading losses not used against trading income can be converted or not into credits which may be used to reduce tax on positive income and chargeable gains.

The nature and existence of any double taxation treaties impact on the after tax cost of capital. Foreign investors are not interested in reducing corporate tax in one location simply to be exposed to tax liabilities in another. The choice of location for mobile foreign investment is therefore frequently limited to tax treaty partner countries and of importance is how foreign tax credit pooling rules change any offsets against corporation tax. Ireland has comprehensive double tax agreements which are ratified with 48 countries.

Ireland is not seen by the OECD or by partner countries as a tax haven and has a corporate tax system that is transparent. Ireland also has a willingness to exchange information with tax administrations of OECD member countries. Despite this, an issue arises of whether Ireland is a tax haven.

A recent research paper[8] concluded that:

> Ireland does not meet any of the OECD criteria for being a tax haven. But because of its 12.5 per cent corporation tax rate, and strong flows of FDI, Ireland has on a few occasions been incorrectly labelled as having characteristics similar to a tax haven.

It also pointed out that:

> Ireland is on the OECD/G-20 white list of countries published in April 2009 and has since been subject to peer-review under the *Global Forum on Transparency and Exchange of Information for Tax Purposes* process to implement robust standards on exchange of information.

There have, however, been debates both internationally and in Ireland about the fairness of corporate taxes in Ireland and in other countries. In the recent 2013 Budget, the Minister for Finance indicated that the developments of global responses to corporate taxation through the OECD Base Erosion and Profit Shifting project is one in which Ireland is playing an active part. The Minister also published a new international tax strategy statement that sets out Ireland's objectives and commitments

[8] Tobin and Walsh 2013, pp. 401–424.

Table 3 Foreign firms rating of Ireland on taxation. (Source: Indecon Survey of Foreign-Owned Companies in Ireland, Quoted in Gray et al. 2009)

	Significant strength	Strength	Neither strength nor weakness	Weakness	Significant weakness
Comparative corporate tax rate	62.4	33.9	2.8	0.9	0.0
Fact that Ireland is not a tax haven	15.7	50.9	30.6	2.8	0.0

and indicated a change in the Finance Bill to ensure that Irish registered companies cannot be "stateless" in terms of their place of tax residency.

The evidence on Ireland's comparative strength in taxation is reflected in the views of foreign-owned firms where the corporate tax rate and the fact that Ireland is not a tax haven are seen as significant strengths (Table 3).

9 Ease of Doing Business

As noted earlier in this chapter, Ireland has followed an industrial policy strategy which is fundamentally based on providing a platform to export to other countries. Clearly such a strategy would fail if it was difficult to do business in the country or if it was easier to base operations in other countries.

For firms located in Europe there are three components of ease of doing business which merits particular attention, namely, the existence of an English speaking population, the availability of professional support services and the administrative ease of doing business.

The major source of direct foreign investment to Ireland is from the USA or from other English-speaking countries. This provides a frequently underestimated source of comparative advantage. An attempt to measure the significance of a common language was made in a paper by Anderson and Van Wincoop (2004) on Trade Costs. They refer to estimates from Eaton and Kortum (2002) and Hummels et al. (2001) involving language-related barriers. Both of these authors use a quantified approach to test the significance if two countries have a common language. Anderson and Van Wincoop indicate that results from both papers imply a tax equivalent cost associated with speaking different languages of about 7 %. For other countries considering pursuing an industrial strategy with a dependence on foreign investment the issue of how to compete with the advantage of an English language location may be an issue. For non-English-speaking countries it is sometimes difficult to compensate for this, however, this may depend on the targeted source markets for investment and the export markets involved.

The impact of an English speaking population as an advantage for FDI is even more significant than the direct cost benefits. For example, it has been pointed out that:

> Ireland is the only country in the European Union apart from Britain which is English speaking. Given the importance of US foreign investment and the question mark which hung over the commitment of the UK to aspects of European integration, this has placed

> Ireland in a unique position….This advantage has long been appreciated by business but may not have been given sufficient weight in economic analysis.[9]

Ireland also has a shared culture with the USA which facilitates investment to Ireland. The cultural similarities and contacts open doors to decision makers in multinationals; and from an investor's point of view, the cultural familiarity reduces risks and misunderstanding, and in general makes life easier. It also facilitates the attraction of skilled employees from other countries.

The availability of quality professional support services including accounting, taxation, legal and IT supports influence the experience of doing business in different locations. For some projects the availability of high-quality services can be a major issue and sufficient clusters of support services can be a source of comparative advantage. The availability of high-quality legal, accounting and professional support services is a strength in Ireland, although ensuring that they are cost competitive remains an issue.

The administrative ease of doing business is, in part, an issue of culture but is also determined by the levels of business freedoms, the equality of treatment of indigenous and foreign investment and the administrative ease in starting a business in the country. World Bank estimates suggest that of the 183 countries reviewed, Ireland is the seventh best country in the world in terms of ease of doing business. Within the 27 countries of EU, Ireland is rated as one of the top three countries on rankings of ease of doing business. In terms of the welcome and equality of treatment of foreign investment and indigenous investment, independent rankings rate Ireland as by far the best country within the EU27. Ireland is rated as the best EU country in terms of ease of starting a business. Ireland has the highest independent rating in Europe on the welcome given to foreign-owned investments and this is dramatically higher than in some competitor countries. On the key issue of the openness of business legislation impacting on foreign investors, independent estimates gives Ireland the best ranking of any of the 58 countries examined.

10 Early Mover Advantage

One of the factors which is sometimes underestimated in developing new industrial strategies is how long it takes to build a market position and the inherent benefits of early mover advantages. The positive effects from a track record of successfully attracting FDI represent a reputational advantage for any host country. As noted earlier, Ireland has a consistent approach to attracting foreign investment for over 50 years. To paraphrase the words of Dermot McAleese, Ireland's approach to foreign investment involved an early embracing of a policy of welcoming rather than restricting overseas investment. For example, McAleese indicated that:

> The Irish government was an early convert to the free trade and foreign investment component of the new consensus. The IDA was rolling out the red carpet to foreign investors in

[9] Gray 1997a, p. xx.

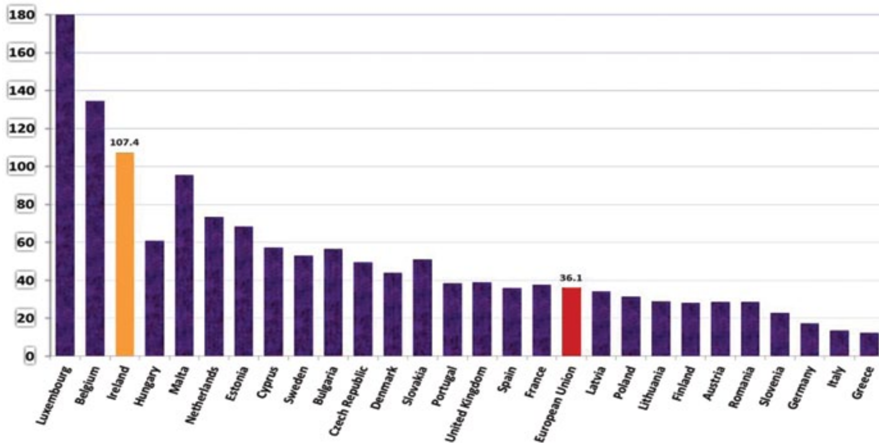

Fig. 1 Comparative role of FDI across EU economies—Inward FDI stock as % of GDP—Annual Average—1998–2012. (Source: UNCTAD, FDI statistics ©)

> the 1950s at a time when most other countries were rolling out the red tape, we have been enjoying 'first mover' advantages ever since.[10]

Ireland's positive demonstration effect may have resulted in a self-reinforcing process of building on early successes. This is consistent with work undertaken by Krugman on spatial models of economic geography. Krugman (1992) presented a model which considers multiple agglomerations and their spatial relationships. This suggests that starting with a given allocation of manufacturing workers in different locations there is what Krugman refers to as "a process of reinforcement of initial advantage".[11] This may suggest that a country such as Ireland which starts with a large share of multinational investment projects is able to attract still more projects.

Figure 1 provides evidence of the comparative importance of FDI to the Irish economy within the context of the EU. Measured over the period 1998–2012, Ireland has ranked in third position within the EU in terms of the scale of the inward FDI stock relative to gross domestic product (GDP), or in second place if one excludes Luxembourg from the comparison. In particular, Ireland's FDI stock was equivalent to 107.4 % of GDP on average compared with an average among EU Member States of 36.1 % over this period, highlighting the relative importance of FDI to the Irish economy. However, this refers to the levels accumulated over many years.

A more balanced view might be seen from looking at annual data. The data on job creation by FDI into Europe for this more focused group of mobile investment projects are presented in the Table 4. This suggests that Ireland secured 5.2 % of the flows of new investment in 2012. Ireland's share of the high-tech sectors may be even higher. For example, some of the important sectors for FDI into Europe

[10] McAleese 1997, p. 14.

[11] Krugman 1992, p. 35.

Table 4 Job creation by FDI into Europe. (Source: Ernst & Young European Investment Monitor 2013 ©)

Rank 2012	Country	Jobs created in 2012	Market share 2012 (%)
1	United Kingdom	30,311	17.8
2	Russia	13,298	7.8
3	Poland	13,111	7.7
4	Germany	12,508	7.3
5	France	10,542	6.2
6	Serbia	10,302	6.0
7	Turkey	10,146	6.0
8	Spain	10,114	5.9
9	Ireland	8,898	5.2
10	Romania	7,114	4.2
11	Slovakia	6,299	3.7
12	Czech Republic	5,508	3.2
13	Macedonia	4,670	2.7
14	Bulgaria	4,379	2.6
15	Hungary	3,941	2.3
	Others	19,235	11.3

such as automotive, categories of machinery and equipment, agriculture, etc., may require location in countries with larger domestic markets and so may not be a relevant target markets for FDI to Ireland.

11 Crisis in Irish Economy Post 2008

The international financial crisis, which commenced in 2007 and became a fully fledged economic and financial collapse by autumn 2008, had a particularly severe impact on the small Irish economy. This exposed problems which had been building up in the previous 8–10 years. This resulted in a crisis in the public finances and a major collapse in the property market and in the banking sector. These were all interlinked as taxation in Ireland had become very dependent on revenues raised from stamp duty and value-added tax (VAT) on new house building and on property sales. When an over-inflated property market collapsed, the impact on Ireland's public finances was immediate. The Irish banking sector had also become heavily dependent on international credit markets who lent to Irish financial institutions at very low rates. When the international financial market crisis occurred this resulted in what was initially seen as a liquidity crisis for the Irish banks. However, much more damaging was that due to its dependence on the property sector, it became clear that the Irish banking sector had in fact experienced a solvency crisis which resulted ultimately in very heavy exposures for the Irish Exchequer and led to Ireland needing a bailout from the International Monetary Fund (IMF)/EU.

At its core, this crisis was due to a gross underestimation of risk by bankers, regulators and policymakers and even by many economists including the author.

The extent to which the property market was overpriced and too large for the Irish economy was not fully understood. The problems were accentuated by inappropriately based tax incentives, a rapid growth in public expenditure and a loss in the cost competitiveness of the Irish economy. Writing now at mid 2014 much progress has been made in responding to this crisis and Ireland has now exited the IMF/EU bail out at the end of this year. Cost competitiveness has been significantly improved, the budget deficit reduced, the banking sector recapitalised and structural changes made to the economy. This has, however, come at great cost and pain to the Irish people and unemployment remains at very high levels although unemployment is now starting to fall. Government and personal debt remain at unsustainable levels and there is significant validity in the view that Ireland has paid too high a price for the structural faults in the design of the Euro and in supporting the stability of the European financial sector.

However, despite the various crises which the Irish economy has experienced, industrial policy has been consistent over a very long period and this has brought with it many successes. It is therefore useful to look at current industrial strategy in more detail.

12 Current Irish Industrial Strategy

Current Irish industrial policy involves a number of new innovations and changes in sectoral priorities but remains largely the same as has been consistently pursued over five decades. Indeed, this consistency is one of the advantages of Irish policy which has resulted in exceptional success. At its core it has involved the incentivisation of export-oriented multinational companies and the development of indigenous exporting firms.

The most recent policy statement relating to the foreign-owned sector for IDA Ireland was set out in March 2010 and was referred to as Horizon 2020. The Plan set specific targets for foreign investment aspects of industrial policy over the period 2010–2014 as follows:

- 105,000 new jobs
- 640 investments
- 20 % of greenfield investments originating from energy markets by 2014
- Annual spend by overseas firms of € 1.7 billion in research and innovation by 2014.

The sectors which are the focus for current industrial policy in Ireland for overseas investment are outlined in the Table 5.

In previous periods the sectoral strategy focused on different industries. This is not surprising as many of the current leading high-tech companies in areas such as information and communications technology did not exist 30 years ago. Sectors such as financial services were also not a focus of industrial strategy until the 1980s. In the early years of Irish industrial development, the sectoral priorities included

Table 5 Sectoral focus for inward investment to Ireland. (Source: Horizon 2020 IDA Ireland Strategy)

Sector
Life sciences
Pharma and biopharma
Medical devices
Information and communications technology
Financial services
Content industry, consumer and business services
Diversified industries and engineering
Clean technologies

sectors such as textiles and clothing, which now do not figure in the sectoral priorities. In general, however, Ireland has not pursued differential incentive schemes on a sectoral basis and all international traded sectors are eligible for similar incentives.

As noted earlier, Irish industrial policy has also involved a focus on developing Irish-owned indigenous businesses. The specific policies aimed at assisting indigenous firms have included supporting via advice and financial incentives companies to internationalise and develop export markets. In recent years, there has been an emphasis on building R&D and innovation capabilities in firms by developing technology centres and providing in-company R&D supports including tax credits for R&D. Policy has also assisted start-up companies and scaling companies to achieve their potential.

The assistance to companies has involved providing equity support. This has included investing in a series of Angle, Seed and Venture Funds including Development Capital Funds which underpin the availability of private equity.

The strategy set out by the government agency Enterprise Ireland over the period 2011–2013 set specific targets as outlined in Table 6 below.

13 Conclusions and Lessons for Other Countries

Irish industry policy changed radically at the end of the 1950s and since that time the core elements of policy have been consistently applied. This has involved a combination of attracting foreign-owned exporting firms to locate in Ireland while also developing indigenous businesses focused on international markets. The policy has shown impressive results and highlights the merits of the implementation of a national strategic plan based on embracing the globalisation of the world economy and building on comparative advantages. Challenges, however, remain including how to strengthen linkages between indigenous and foreign firms and how to retain Ireland's comparative advantages.

The evidence from Ireland also demonstrates that industrial policy does not operate in a vacuum; and inappropriate macro-economic, financial or banking policies can undermine the success of an effective industrial strategy, and turn a success story into an abject failure.

It is also clear that a highly skilled labour force supported by investment in education and by an integrated large labour market is an essential building block to a successful industrial policy.

Table 6 For Irish-owned firms 2011–2013. (Source: Enterprise Ireland Strategy 2011–2013)

Key targets	By 2013
Total export sales	€ 15.5 billion
New jobs	36,000
Innovation targets	
Clients engaged in meaningful R&D (€ 100,000 spend per annum)	800
Clients engaged in significant R&D (€ 2 million spend per annum)	60
New HPSUs and scaling targets	
Innovative HPSUs	285
Clients achieving annual global sales of € 20 million	225
Competitiveness target	
Value-added per employee	+20%

HPSUs high-potential start ups

The levels of competitiveness and the openness of an economy to the international markets are also key conditions for a successful strategy. Ireland has in certain periods not paid enough attention to competitiveness although in the past number of years noteworthy gains in competitiveness have been made.

Economies and national strategy do not operate in isolation from other aspects of society and this must not be forgotten in judging whether policies will be successful or not. As Kenneth Arrow noted:

> Comparisons of nations with very different rates of economic growth have made clear the great importance of the workings of political and economic institutions. Differences in the extent to which property rights are respected, the rule of law (permitting predictability in returns), and freedom from corruption, lead to large differences in growth rates.[12]

Does this mean that other countries if they have a sound macro-economic and fiscal policies and a large highly skilled labour force can replicate the success of Irish industrial policy? The answer is maybe, but a number of other preconditions are required. These as noted above include a competitive cost base, an openness to the world economy and the institutional preconditions for growth. Even then success is not guaranteed as appropriate incentives are required and fundamentally easy access to key markets is needed. It must also be simple to do business in the host country and Ireland's English language context is a contributor to this. Finally, "overnight success" only can be achieved after many years of consistent policy and it has taken Ireland over five decades to build its industrial base.

Recent data[13] for 2012 report that Ireland's enterprise development agencies cumulatively created nearly 9,000 net jobs in 2012. Total permanent full-time employment in agency-assisted companies operating in all sectors amounted to 294,785 in 2012, a net increase of 8,975 jobs on employment levels in 2011, and continues the trend of positive growth in employment.

Total full-time employment among Irish-owned companies amounted to 144,964 in 2012, an increase of 3,228 jobs on the previous year. Among foreign-owned

[12] Arrow 1997, p. 7.

[13] Forfás Annual Employment Survey 2012.

companies, total full-time employment amounted to 149,821 in 2012, an increase of 5,747 on the previous year. Foreign-owned part-time employment also increased, by almost 600 jobs in 2012, whilst Irish-owned part-time employment levels increased marginally.

However, despite the successes of Irish industrial policy there are vulnerabilities for Ireland and the sectoral and market focus are continually changing. Competition for foreign investment remains intense and the large developed countries retain an advantage due to market access. Ireland also faces challenges from many locations both inside and outside the EU including from countries as diverse as Israel and Switzerland.

This article, however, suggests that a consistent and well designed industrial policy can be of key importance to economic success but that countries need to continually adapt. Even the best national industrial strategies can be undermined by inappropriate macro-economic policies.

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