A mapping of entrepreneurship and innovation policy in Ireland.

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Entrepreneurship and Innovation Policy in European Countries

Europe faces a major economic challenge, outlined in the Lisbon strategy. In many areas Europe has global excellence; in several industries, in advanced research and in regions with a unique European entrepreneurial tradition. Still, those European assets are not fully utilised and new policy initiative must be launched to materialise the assets into competitiveness and growth.

In 2005 the Swedish Foundation for Small Business Research (FSF) launched Innovative Policy Research for Entrepreneurship and Growth (IPREG) in Europe. The vision for IPREG is to facilitate the formation of an efficient entrepreneurship and innovation policy as a basis for economic growth.

IPREG also rests on the assumption of the importance of understanding and appreciating the cultural differences between countries and regions in order to develop efficient and tailor made policies, drawing on knowledge from different European contexts, and information on good practice on a global level.

In this first IPREG research project, a common study on Entrepreneurship and Innovation Policy in twelve countries has been undertaken and this report documents the findings from the mapping of measures in Ireland.

For more information see www.ipreg.org.

a mapping of measures in Ireland

Thomas M. Cooney & Elain Kidney
A Mapping of
Entrepreneurship and Innovation Policy in Ireland

By

Thomas M. Cooney and Etain Kidney

August 2008
Executive Summary

1. Introduction

The objective at the centre of the IPREG\(^1\) (Innovative Policy Research for Economic Growth) project is the facilitation of a ‘network of networks’ needed to address one of Europe’s most critical issues – empirically relevant research on growth policy. IPREG is an established ‘network of networks’ encompassing researchers, policy-makers, and business people in twelve countries: Belgium, Czech Republic, Denmark, Finland, Greece, Hungary, Ireland, Norway, Poland, Spain, Sweden and UK.

The initial stage of the project was to map out the current policies and actors in each country and to develop a comprehensiveness index based upon interviews and survey feedback. This work would then facilitate the diverse debates that occur regarding the production and evaluation of research on policy and policy making in different contexts within Europe. It was envisaged that the scientific impact of the project actions would be the construction of a tangible knowledge base on the size, function, and efficiency of the European ‘support industry’, and the development of a structure for further research on the evaluation and implementation of growth policies.

The purpose of this report is to describe current entrepreneurship and innovation policy in Ireland, giving a general picture of the policy measures currently employed. Detailed within the report is the structure of policy, its development and implementation, as well as the identification of the relevant stakeholders in each policy area. Also discussed in the report is the range of policy, the level of integration, and possible overlaps in strategic measures. These details, combined with the use of a comprehensiveness index, provide a clear picture of the current state of entrepreneurship and innovation policy in Ireland.

The collection of data has involved a detailed investigation of the literature and reports available on entrepreneurship and innovation policy in Ireland. In-depth interviews were held with key stakeholders in the systems of entrepreneurship and innovation, and included policy researchers, academics, government officials, and members of the business community. Additionally, surveys adapted from the IPREG comprehensiveness index were received from fourteen key individuals in order to gain an additional perspective. However, a notable limitation to this research is the small number of respondents used and the consequential impact of personal opinion on the survey results, resulting in the somewhat anecdotal nature of the outcome of the comprehensiveness index.

The IPREG research project is focused on the development of start-up and early-stage growth of entrepreneurial firms and entrepreneurial firms engaging in innovation. Accordingly the work holds significant implications for stakeholders in the IPREG triangle\(^2\). Ultimately, through the information generated by this project, policy makers will have the opportunity to gain insight into the limitations faced by entrepreneurs within the context of the countries involved. The research generated by the

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\(^1\) [www.ipreg.org](http://www.ipreg.org)

\(^2\) The IPREG triangle consists of academics, policy makers and entrepreneurs.
international network will allow policy makers to observe best practices in other countries and can inspire new initiatives to remedy problems uncovered within individual countries. Furthermore, the development of a structure for further research on the evaluation and implementation of entrepreneurship and innovation initiatives by academics involved in the project will enable the construction of a tangible knowledge base which will detail the comprehensiveness of growth policy in Europe. As a result of this work, the national approach to growth initiatives may be significantly improved, and entrepreneurship and innovation activities will have the opportunity to reach their full potential in terms of effectiveness and efficiency.

The scope of this work stretches across entrepreneurship, innovation and SME policy, as illustrated in Figure 1 below. According to Lundstrom and Stevenson\(^3\), entrepreneurship policy is the base of SME policy and is needed to stimulate entrepreneurial activity and to create the conditions for a high level of renewal. Without these efforts to foster the development of positive attitudes, motivated individuals, nascent entrepreneurs, start-ups, and young emerging firms, the foundation for an efficient SME policy will be limited.

**Figure 1 - The Scope of Entrepreneurship, Innovation and SME Policy in This Report**

![Diagram of entrepreneurship, innovation, and SME policy](image)

Source: Lundstrom, Almerud and Stevenson, 2008\(^4\).

The frameworks and tools used for this project have been adapted from the work of Lundström and Stevenson mentioned above. These tools include the policy mapping and policy measure categorization approaches EPC and IPC instruments, and the context description model (which includes measurable indicators for Economic Outcomes, Structure, and Vitality). In accordance with this methodology, the

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following definition of entrepreneurship policy has been employed throughout the report:

*Entrepreneurship policy is primarily concerned with creating an environment and support system that will foster the emergence of new entrepreneurs and the start-up and early-stage growth of new firms*.  

Similarly, the following definition has been assigned to innovation policy which is used for its understanding throughout the report:

*Innovation Policy is primarily concerned with ensuring the generation of new knowledge and making government investment in innovation more effective, improving the interaction between the main actors in the innovation system (e.g. universities, research, and firms) to enhance knowledge and technology diffusion, and establishing the right incentives for private sector innovation to transform knowledge into economic values and commercial success*.  

Given that there is no formal government entrepreneurship policy in Ireland, relevant initiatives become difficult to trace as the areas are embedded in other frameworks and could be regarded as being sub-policy. As an example, calculating the budget or evaluating the use of resources within entrepreneurship and innovation policy implementation is complex and incomprehensive. The focused nature of entrepreneurship or start-up related policy is significantly different to that of a very broad based government approach to innovation (e.g. at all stages of business). For this reason innovation may have been portrayed by the comprehensiveness index as weaker than it is in reality. Other similar situations also arise at various points in the report.

2. National Context

An overview of the performance of economic indicators, processes, and performances was surveyed in the report. This perspective was employed in an attempt to expose whether policy influences the context of a country or if a country’s context was dependent upon influential policy measures. The national context provides valuable direction as to which areas need to be addressed by growth policy to advance the development of entrepreneurship and innovation.

While Ireland enjoyed one of the highest growth rates in the EU over the past decade, its economic output was strongly influenced and arguably remains over reliant upon the presence of a large foreign-owned industry sector. The key export driver has been foreign owned manufacturing, an estimated 95% of whose output is exported (with Intel, Dell, and Microsoft together accounting for approximately 20% of Irish exports). In large part because of the role of MNCs, the share of high-technology products in Ireland’s exports, at 41%, is the highest in Europe. The export propensity of Irish owned manufacturers is lower, at an estimated 36% of output, indicating a much greater reliance on the domestic market. However, recent reviews and evaluations of Irish Industrial Policy (e.g. Enterprise Strategy Group Report) have highlighted weaknesses in the promotion of indigenous enterprise and in the supply of adequate support for initiatives involved in its growth, although the 2007 Irish Global

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Entrepreneurship Monitor (GEM) report\(^9\) stated that 8.2% of the adult population were actively planning or recently had established a new business venture (one of the highest rates found amongst the 23 countries examined). According to the GEM 2007 Report, entrepreneurs are predominantly Irish males which indicated that insufficient policy measures are in place to widen the scope of diversity based initiatives for further advancing the entrepreneurial culture. Indeed, a recent Forfas\(^10\) report highlighted the need to encourage greater entrepreneurial activity amongst under-represented groups in Ireland.

This report highlights that the structure of the Irish national context implies that the implementation of new technologies and innovation processes will be smoothed through a highly skilled workforce at all stages of its development. However, Ireland’s recent performance in terms of R&D suggests that although innovation is facilitated, it is not cultivated adequately by current Government measures. By enabling policy makers to identify the kind of entrepreneurs which generate growth and development, this contextual vantage point can facilitate the emergence of a comprehensive policy capable of sustaining enterprise.

### 3. General Comprehensiveness

In order to evaluate the comprehensiveness within each policy area, an extensive list of questions was constructed based on previous research conducted by Lundström and Stevenson\(^11\). The comprehensiveness index was comprised of a list of questions on the policy areas in entrepreneurship and innovation policy. The questions included in the comprehensiveness indices were divided into three general areas: general policy approach, policy structure, and performance tracking. Both the entrepreneurship policy comprehensiveness (EPC) and innovation policy comprehensiveness (IPC) indices consisted of a large number of items. They provided an opportunity to assess the scope of policies geared towards achieving outcomes on each of the areas of the entrepreneurship and innovation policy framework and thereby help identify gaps in policy and program actions. Policy was deemed ‘comprehensive’ if it covered all of the items on the index. It should be noted however that it was difficult to map out a reliable picture of the resources invested in different areas due mainly to a lack of unified definitions used in the policy areas.

The general policy was counted as comprehensive if there was a specific budget for the areas and if there were plans, guidelines, and policy statements in place. The policy structure indicated to what extent there are responsible stakeholders and developed delivery systems. Performance tracking was reviewed on the basis of the existing resources devoted to the area. In the report the information gathered on both policy areas are compared based on the answers given using the comprehensiveness index. To facilitate this evaluation the data has been illustrated in Figure 2. The figure shows little difference between the two general policy areas although entrepreneurship is notably stronger under policy structure. The policy structure for the National System of Innovation is focused on all aspects of economic advancement.

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\(^10\) Forfas (2007), 'Towards Developing an Entrepreneurship Policy for Ireland', Forfas, Dublin

and although entrepreneurship is a part of this, it helps to explain why the structure for innovative entrepreneurship is weaker than its entrepreneurship counterpart.

**Figure 2 - Comparison Between the General Comprehensiveness of Both Policy Areas**

The following are some of the key findings from this area of the report:

(1) **There is currently no comprehensive policy for entrepreneurship.** Following recommendations in the Report of the Small Business Forum (2006) an entrepreneurship policy is currently being developed and is imminent according to the Department of Enterprise Trade and Employment. A preliminary document ‘Towards Developing an Entrepreneurship Policy for Ireland’ was published in September 2007. According to this document, the policy will aim to deliver an Ireland that is characterised by a strong entrepreneurial culture, recognised for the innovative quality of its entrepreneurs, and acknowledged by entrepreneurs as a world-class environment in which to start and grow a business.

(2) **There is a low uptake of R&D and innovation activities in SMEs.** New initiatives have been launched to encourage micro and SME firms to innovate. Innovation Vouchers and Knowledge Acquisition Grants are intended to enable companies to develop new services and products, to adopt new business models, cut costs and exploit new technologies. These supports have been designed to encourage innovation and the awareness of its benefits throughout enterprise whilst increasing the levels of R&D active companies in Ireland.

(3) **Ireland is in transition to becoming a knowledge-based economy.** While low value-added activities continue to migrate to lower economies with lower costs, the economy has become increasingly knowledge-based. Recent evaluations of this situation have concluded that a greater proportion of the country’s wealth will need to be generated from indigenous enterprise.

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12 Small Business Forum (2006), *Small Business is Big Business*, Forfas, Dublin
13 Small Business Forum (2006), *Small Business is Big Business*, Forfas, Dublin
(4) The links between innovation and entrepreneurship are often implied but rarely formally defined. Current policy shows little sign of consolidating the areas into a more comprehensive growth policy despite the identification of the link in entrepreneurship documents. A more cohesive approach to entrepreneurship and innovation policy is needed to optimise the return on investment in both areas as well as sustaining growth in the economy.

(5) There is a lack of monitoring of policy. Entrepreneurship policy has reached a turning point and is currently under development, yet the promotion and encouragement of an innovative culture amongst entrepreneurs is in need of evaluation. The lack of systematic and frequent monitoring of policy measures for innovation and entrepreneurship hinders the development of indigenous enterprise, and given the advantageous context of the economy, the level of growth activity is not realising its full potential.

4. Sub-Sector Comprehensiveness

The seven sub-policy areas and their rating in the comprehensiveness index are shown below in Figure 3 (100% equals totally comprehensive). The low rating of target groups in the index suggests a lack of encouragement to all potential entrepreneurs and was even more identifiable in the evaluation of specific promotional initiatives. In recent years, steps have been taken to include females in strategy objectives, yet other minorities have not yet been recognized by policy measures. Meanwhile, easing entry to early-stage survival and growth scored highly in the comprehensiveness index. This was due in part to a network of support at national, regional, and local levels provided by government agencies and bodies.

*Figure 3 - Comparison Between Both Sub-Policy Areas Comprehensiveness*

Access to start-up, seed and early-stage financing received a high rating from the index. This area is particularly important for generating interest in entrepreneurship and government’s commitment to encouraging start-ups, although perceived in a positive light, is not fully comprehensive. Figure 3 illustrates that the most comprehensive sub-policy areas are business support and research, which is a positive

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14 e.g. Small Business Forum identified entrepreneurial growth as an important issue and set out to focus ‘on optimising the number of start-up businesses, and in particular on maximising the number of start-ups aspiring to and achieving high growth’.
indication as these areas are central to maintaining, updating, and growing an innovative business. Promotion, education, and target groups have all received a low rating. There is a suggestion in the findings that the three are linked as improvements in the promotion of innovation would have a direct effect on raising awareness amongst people in the education system and minority groups. The access to start-up, seed and early-stage financing in the National System of Innovation is rated quite low by the index. This issue is currently being addressed by initiatives recently adopted by Enterprise Ireland. These programmes are still in an early stage of development and therefore it is difficult to evaluate their impact at this time.

The influence of policy measures in the education system for entrepreneurship and innovation are ill-defined as some skills which promote or enhance enterprising, creative cultures cannot be fully measured by the comprehensiveness index. Meanwhile, the recent Report of the Small Business Regulation Forum (2007) highlighted all of the issues attributed to the regulative burden on SMEs and has helped to significantly reduce barriers to start-up, seed and early-stage financing for entrepreneurs and new or young enterprises wishing to engage in innovative activity.

The following are some of the key findings from this area of the report:

(1) **Initiatives by government bodies and agencies involving policy are often duplicitous.** This overlap in the main activities for policy and sub-policy areas reduces the effective management of resources and does not facilitate a balanced approach to regional development. Local agencies duplicate the grant aid services offered at regional and national levels, and localised soft supports would be more successful for sustaining high levels of innovative entrepreneurship. It must be highlighted that some of the duplicitous measures mentioned by respondents were perceived rather than real but such perceptions held by expert individuals should be of concern to government agencies.

(2) **Business policy holds an inadequate number of targeted initiatives for underrepresented groups.** Diversity in entrepreneurship and innovative entrepreneurship is essential for uncovering dormant activity. The rate of entrepreneurship could be greatly influenced by an expansion of policy measures to facilitate the underrepresented groups.

5. **Integration between Policy Areas**

The links between entrepreneurship and innovation are often implied in Government Strategy Statements but never formally defined, with current government strategy showing no sign of consolidating these areas into a more comprehensive growth policy. A more cohesive approach to entrepreneurship and innovation policy is needed to optimise the return on investment in both areas, as well as sustaining growth in the economy. Policy documents overlap in both areas without the strategic co-ordination necessary for a comprehensive approach to growth policy. Innovation and enterprise policy documents maintain an over-emphasis on foreign direct investment (FDI) and require a new strategy to further develop an innovative entrepreneurial culture and climate.
As mentioned earlier, initiatives by government bodies and agencies involving growth policy are often duplicitous. This overlap in the main activities for policy and sub-policy areas reduces the effective management of resources and does not facilitate a balanced approach to regional development. Local agencies occasionally duplicate the grant aid services offered at regional and national levels, while localised soft supports would be more successful for sustaining high levels of innovative entrepreneurship.

6. Context & Policy

Entrepreneurship policy has reached a turning point and is currently under development, yet the promotion and encouragement of an innovative culture amongst entrepreneurs is in need of renewed evaluation. The lack of systematic and frequent monitoring of policy measures for entrepreneurship and innovation hinders the development of indigenous enterprise, and given the advantageous context, the level of growth activity is not realising its full potential. As the size and diversity of the European Union increases, Ireland’s use of international best practice will inevitably broaden. This has been seen with many government reports which have profiled the success of different international initiatives in an effort to enhance the entrepreneurial climate.

Ireland’s economic growth has flourished in the past decade, but entrepreneurship and innovation policies now face a number of significant challenges in the new climate of low economic growth. Globalisation and internationalisation have intensified competition as companies from low-cost base environments threaten manufacturing sectors, a rise in business costs has arisen from an increase in inflation, and many businesses now have difficulty finding and maintaining appropriately skilled, affordable employees. \(^{15}\) It was also clear from the demand perspective discussed in the Report of the Small Business Forum that a comprehensive growth policy is needed to foster a more creative enterprise culture, and that in order to secure growth patterns and sustain a favourable economy, an emphasis must remain on encouraging indigenous business. A national growth policy would underpin the promotion and support of innovative entrepreneurs and enable Ireland to move to the next stage of economic development.

\(^{15}\) Small Business Forum (2006), *Small Business is Big Business*, Forfas, Dublin
IPREG (Innovative Policy Research for Economic Growth) is an established ‘network of networks’ encompassing researchers, policy-makers, and business people in twelve countries: Belgium, Czech Republic, Denmark, Finland, Greece, Hungary, Ireland, Norway, Poland, Spain, Sweden and UK. The IPREG project was established by the Swedish Foundation for Small Business Research in 2006. The first research programme of IPREG set out to gain a comprehensive description of the entrepreneurship and innovation policy situation in each of the participating countries. It was envisaged that the research undertaken in each country would then form a platform for further cooperation and collaboration between the partners in IPREG.

The primary objective at the centre of the IPREG project is the desire to address one of Europe’s most crucial issues – empirically relevant research on growth policy. This work is necessary to facilitate debate regarding the production and evaluation of research on policy and policy making in different contexts within Europe. The scientific impact of these actions will be the construction of a tangible knowledge base on the size, function, and efficiency of the European ‘support industry’, and the development of a structure for further research on the evaluation and implementation of growth policies, eventually within the EU Framework Programme.

The IPREG cross-country study builds on research carried out by Lundström and Stevenson17 and its purpose is to determine the comprehensiveness of policy measures at national and regional levels in each country. The strength of each country’s policy is expected to fluctuate depending on variables such as the structure for policy development and implementation, how long policy has been in place, and to what extent policy measures reach all stakeholders in economic growth. The project considers policy areas focused on the development of start-up and early-stage growth of entrepreneurial firms and entrepreneurial firms engaging in innovation.

Following a comprehensive description of the main government bodies charged with the policy areas, a detailed analysis of the innovation and entrepreneurship policy itself was undertaken. The objective of this analysis was to establish the extent of integration between the two policy areas, to identify the relevant stakeholders in national systems of innovation and entrepreneurship, to map the organisational structures for policy development and implementation, to ascertain the range and scope of policy measures, to highlight duplicitous actions being taken and profile countries with high levels of integration in policy, and to examine the relationship between diverse approaches to innovation and entrepreneurship policy. What follows is a comprehensive report on the current situation in Ireland.

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16 The information provided on this page is based on a general press release about the IPREG project.
1. Introduction to Irish Economic Policy Development

It is generally recognised that Ireland’s economic growth in recent years has been very impressive. Indeed, the growth rate in the second half of the 1990’s was four times that of the EU average.\(^{18}\) As global trade expanded at an unprecedented rate, consistent policies by successive Irish governments delivered a favourable corporate tax, fiscal, and wage setting system. As a result, through the mid and late 1990’s the Irish economy experienced significant economic growth. This expansion was facilitated by a well-educated workforce, a suitable demographic profile, and advancements in sectors such as ICT and life sciences.

The Ireland of today is very different to the economic fortunes it endured during the 20th century. Until 1922 much of Ireland’s produce was exported to England to help support the English economy. Consequently, there was a lack of substantial independent commerce and the economy was heavily reliant on England as its largest trading partner. This was addressed somewhat after the founding of the new state in 1922. In 1949 the Industrial Development Authority (IDA) was established with responsibility for attracting foreign investment. This began the transition from a rural to an industrial based economy and set in motion an economy which, towards the end of the century, would move heavily into the tertiary sector.

In 1952 a new government industry board was established to assess projects and make decisions on enterprise development grants. Enterprise policy at this time focused on the regional development of the least populated, poorest, and under-developed areas. In 1968 the Buchanan Report\(^ {19}\) recommended that the Government target specific regional centres as hubs for the development of enterprise at regional level. The IDA’s policy and strategy measures in the 1970’s\(^ {20}\) remained strongly focused on growth in towns in the peripheral areas of Ireland. Although regionalism was still expressed in enterprise policy, the greater emphasis moved to attracting foreign multi-national companies (MNC’s). This was a successful policy which brought many highly regarded companies to Ireland but led to regional enterprise not realising its full potential as the recommendations of the Buchanan Report were not implemented by the Government of the time.

The Telesis Report\(^ {21}\) (published in 1982) heavily criticised the economy’s reliance on foreign industry and highlighted the need for a greater emphasis on attracting strategic industries into the state and a greater concentration on the importance of strong indigenous industry. The Industrial Development Act of 1986 delivered a more advanced framework for enterprise support leading to the Financial Services Act in 1987 which established the International Financial Services Centre (IFSC) within which a 10% tax rate was used as an incentive for eligible activities until 2005.\(^ {22}\) This

\(^{19}\) Buchanan and Partners, (1968), *Regional Studies in Ireland*, An Foras Forbartha, Dublin
\(^{22}\) Department of Enterprise Trade and Employment (2003), *A Review of Industrial Policy and Performance*, Stationery Office, Dublin
attractive fiscal regime supported an influx of strategic MNCs into the economy and successfully increased the strength of indigenous enterprise.

The Industrial Development Act of 1993 began the shift in policy towards indigenous enterprise\(^{23}\) and gained focus through the development of three industry support agencies to reform and to reduce the reliance on foreign direct investment (FDI):

- Forfas were formed as the overall state body for governance of enterprise policy and development in Ireland,
- Enterprise Ireland (EI) became the implementer of policy for indigenous industry,
- The IDA was to remain responsible for attracting foreign investment in the Irish economy.

Irish economic policy in the 1990s began to support the incubation of the micro enterprise sector which until then had been excluded from policy. Simultaneously more importance was being placed on the role of the small to medium sized enterprises (SME) for economic prosperity. In 1993 a system of localised enterprise agencies were established to support the cultivation of indigenous SMEs with City and County Enterprise Boards (CEBs) founded in every county and large city in Ireland. These CEBs strengthened the entrepreneurial and innovation systems in light of local business interests, political standpoints, local representatives, and social partnerships.

At present the Department of Enterprise, Trade and Employment (DETE) is committed to working for the Irish Government and people in order to grow quality employment and enhance national competitiveness\(^{24}\). Other Government Departments whose activities hold implications for growth policy include: the Department of Education and Science, the Department of Rural and Gaeltacht Affairs, the Department of Art, Sports, and Tourism, the Department of Justice, Equality and Law Reform, and the Department of Finance. The DETE strategy supports entrepreneurs and innovative companies most extensively through:

- Enterprise Ireland which supports high growth potential start-up enterprises;
- City and County Enterprise Boards which support start-ups and enterprises with fewer than ten employees, and is responsible for the promotion of entrepreneurship at a local level;
- The Community Enterprise Centres (CECs) and Business Innovation Centres (BICs) which provide practical support and assistance to entrepreneurs at local level;
- FAS which provides training to nascent and actual entrepreneurs;
- BASIS which provides online information on State supports\(^{25}\);
- An interdepartmental committee facilitates a unified approach by different Government agencies and bodies to the implementation of strategy;
- The Office of Science, Technology and Innovation (OSTI) is responsible for the development, promotion and co-ordination of Ireland’s Science, Technology and Innovation (STI) policy

OSTI is also charged with the management of Ireland’s STI policy within European Union (EU) frameworks and the administration of international research activities.

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\(^{25}\) Small Business Forum (2006), *Small Business is Big Business*, Forfas, Dublin
OSTI researches trends, and monitors hard and soft indicators of developments in science, technology and innovation in order to advise the Minister for Enterprise, Trade and Employment on strategy involving programmes for innovation.

The 20th Century in Ireland was highly transitional from an underdeveloped economy to a growth economy. An over-reliance during the last decades of the century on foreign direct investment created a need for government to implement policy measures to increase levels of indigenous enterprise. But to engender a growth economy in the current climate, entrepreneurship and innovation policies must be further developed and latent potential opportunities must be realised. In the meantime, government departments, agencies and bodies are currently developing measures to enhance and support the performance of enterprise and the progression of policies to continue delivering favourable corporate tax, fiscal, and wage setting system, as well as maintaining an educated workforce to support the youthful demographic.
2. Methodology for IPREG Project

The initial stage of the IPREG Project was to map out the current policies and actors in each of the twelve participant countries and thereafter to develop a comprehensiveness index based upon interviews and survey feedback. The next stage of the project was to undertake a cross-country comparative analysis which would enable each country to identify the strengths and weaknesses of its current policies. It was the ambition of the project team that the scientific impact of the project actions would be the construction of a tangible knowledge base on the size, function, and efficiency of the European ‘support industry’, and the development of a structure for further research on the evaluation and implementation of growth policies.

The overall work of the IPREG project is based upon the belief that a successful growth policy rests on: (1) a relevant analysis of the situation, (2) a solid evaluation, and (3) the successful application / implementation of policy. The IPREG research programme was built around research on these three research areas:

1. Describing and analysing the situation
The core objective within the research programme was to identify a new and innovative way of analysing and mapping the current situation in member countries. How are entrepreneurship policies related to innovation policies, and how are innovation system approaches adopted in each country (and in the EU as whole)? Is it possible to design a comprehensive integrated E&I Policy that would be more effective than the present more scattered policies? What, if any, rationale or programme theory is guiding the policies? The focus of the research therefore was on the policy system, not on single aspects of policy, in other words on the E&I Policy system as a whole, or the possible lack of such comprehensiveness.

2. Realistic evaluation
The first mapping phase was intended to produce a basis for new ways of evaluating the present activities and policies. The second phase of the research programme – the Realistic Evaluation part – began with a desk research review of the large number of existing evaluations under various programmes and initiatives, and followed with a joint effort within the IPREG triangle to develop new operational knowledge. In principle, the evaluation strand of IPREG can be characterised as a meta-undertaking with the purpose to evaluate a ‘system of systems’. An important task within this process was to identify synergies or clashes between different parts of the policy spectrum. In this work, the interaction between those affected by the policy and those ‘researching’ policy and making policy was at the forefront of methodological considerations.

3. Implementing new policy
Thirdly, the mapping and evaluation work needed to be made in parallel with research on policy application or implementation. How is policy implemented throughout member countries? Is there a tendency for failure or late uptake of policy? Where are the obstacles and where can one find a favourable context for implementing policies? This part of the interactive research programme focused on the role of policy-makers, politicians and business representatives in implementing a better policy, and thereafter addressing the challenge of ‘bringing knowledge into life’ on a national and European scale. The focus is not on politicians as party members but on the general processes facilitating needed changes. This interaction is considered one of the most important vehicles for facilitating change.
As part of the above process of realistic evaluation, several methodological steps were designed in order to map and assess the scope and comprehensiveness of entrepreneurship and innovation policy in each country of the IPREG project. The following sections detail the work that was undertaken in Ireland and the process through which it was achieved.

**Step One**

A substantial part of the research was to gather information on the two policy areas – entrepreneurship and innovation. The information was taken from a wide variety of sources ranging from official strategic documents, information booklets, research reports, journal articles and web pages. Interviews were additionally undertaken with representatives from policymaking, service providers, and business organisations. Government agencies and bodies with responsibility for or impact upon policy areas were also engaged in the mapping of relevant initiatives. Together all of these sources of information fed into the amalgamation of this report.

**Step Two**

Integral to the framework of the report was the context description model, which was developed in research studies conducted Lundström and Stevenson. The context variables in the model covered the relevant dimensions of the economic environment in each country. Three sets of interrelated variables were collected: the economic outcome, structure, and economic vitality in the economy (see Appendix 1). These variables were chosen according to their relevance when describing the entrepreneurial and innovative activity within a country. The selection of variables was limited by access to data that could be used when comparing the countries at a later stage in the project. Data sources used included Eurostat, GEM, EIS, the World Bank, and national statistical data sources such as the Irish Central Statistics Office (CSO). The context variables for entrepreneurship were adapted to reflect dimensions of the economy that have the potential to impact on both higher and lower levels of entrepreneurial activity, and either higher or lower levels of innovative activity. The list of relevant context variables for innovation was compiled from the existing literature on indicators of innovation performance.

**Step Three**

The comprehensiveness index was comprised of a list of questions on the policy and sub-policy areas in entrepreneurship and innovation policy also based on the work of Lunstrom and Stevenson (see Appendix 2). The questions included in the comprehensiveness indices were divided into three general areas and seven sub-policy measures. The general areas were: general policy approach, policy structure, and performance tracking. Thereafter questions regarding the different policy actions undertaken within each policy area were divided into the following seven sub-policy areas: promotion, education, administrative burdens, financing, counselling, target group measures, and research. The questions in the comprehensiveness index were a

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combination of ‘yes/no questions’ and ‘ranking (1-5) questions’. In order to illustrate the results from the comprehensiveness indices in figures, the ‘ranking questions’ were translated into ‘yes/no questions’ (e.g. a ranking of 4 or 5 counted equally as a yes). Thereafter the numbers of positive answers were summarized and divided by the total number of questions within each sub-area. This index revealed the ‘internal’ comprehensiveness within each policy area and examined the level of integration between the two.

**Step Four**

In this section both the comprehensiveness index and the questions were employed to examine the extent of integration between policy areas, and to assess to what extent the policies related to the context of the country. The data collection involved a survey of government policymakers and officials, researchers, and personnel from business associations and service providers, with fourteen valid responses being used in total in Ireland. Each person selected for the survey was deemed to have an expertise in policy issues due to their position or activities. It was additionally determined that it would be appropriate for this study to target a small group of highly expert people rather than a large group of generalists, as this element of the project was to ascertain the current factual state of entrepreneurship and innovation policy in Ireland, not to gather people’s general impression of the effectiveness of existing policies. The answers for each question were then added together, thereby generating a total % score for each question. The total score for each question was then combined within each sub-section to deliver an overall sub-section % score. A review and content analysis of relevant research and policy reports was also conducted to complete the study and to ensure that no errors were outstanding.

The entrepreneurship policy comprehensiveness (EPC) and innovation policy comprehensiveness (IPC) indices provided an opportunity to assess the scope of policies geared towards achieving outcomes on each of the areas of the entrepreneurship and innovation policy framework, thereby identifying gaps in policy and programme actions. These indices also allowed countries to be compared on both EPC and IPC indices. Within the current set of results, policy is deemed ‘comprehensive’ if it covered all of the items on the list. However, it was not possible to get a good picture of the resources invested in the different areas, primarily due to the lack of unified definitions.

As can be seen from the research methodology detailed above, significant consideration and debate occurred before arriving at a methodology that was deemed to be the most effective and accurate method of collecting the data. However, it is acknowledged that a number of limitations exist to the methodology employed, primary of which is the subjective nature of the responses offered by respondents and also the small number of valid responses received. Therefore, the results highlighted in the report should be viewed with the caveat that the work is not a fully exhaustive exploration of current entrepreneurship and innovation policies in Ireland, although it is accurate as a broad mapping tool.
3. Context Description

It is arguable that a country’s processes and performances are intrinsically correlated, as one economic variable has an impact on another. For example, strong levels of entrepreneurship and innovation can have a positive relationship with economic strength. The method for evaluating this relationship (as shown in Table 1) is derived from the context description model developed by Lundström and Stevenson. The interrelation of the outcome, structural, and vitality variables to Ireland’s entrepreneurship and innovation policy will be further discussed throughout the report.

<table>
<thead>
<tr>
<th>Variables</th>
<th>EP</th>
<th>IP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome</strong></td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>GDP/Capita</td>
<td>139</td>
<td>+</td>
</tr>
<tr>
<td>Real GDP Growth rate (%)</td>
<td>5.5</td>
<td>+</td>
</tr>
<tr>
<td>Total Labour Force Participation (%)</td>
<td>67.6</td>
<td>+</td>
</tr>
<tr>
<td>Female labour force participation (%)</td>
<td>58.3</td>
<td>+</td>
</tr>
<tr>
<td>Immigrant labour force participation rate (%)</td>
<td>4.97</td>
<td>+</td>
</tr>
<tr>
<td>Unemployment rate (%)</td>
<td>4.4</td>
<td>-</td>
</tr>
<tr>
<td>Export/Import balance</td>
<td>29.9</td>
<td>+</td>
</tr>
<tr>
<td>Industrial productivity rate (Index)</td>
<td>35.1</td>
<td>+</td>
</tr>
<tr>
<td>Export of High tech products as share of total export</td>
<td>29.9</td>
<td>+</td>
</tr>
<tr>
<td><strong>Structural</strong></td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Total population in millions</td>
<td>4.02</td>
<td>+</td>
</tr>
<tr>
<td>Population change in 1000</td>
<td>99</td>
<td>+</td>
</tr>
<tr>
<td>Net Immigration rate (per 1000 population)</td>
<td>4.87</td>
<td>+</td>
</tr>
<tr>
<td>Population age distribution (0-15 years/ 64+)</td>
<td>0.14</td>
<td>+</td>
</tr>
<tr>
<td>Population with tertiary education (%)</td>
<td>27.8</td>
<td>+</td>
</tr>
<tr>
<td>Income dispersion (Income quintile share ratio)</td>
<td>5</td>
<td>+</td>
</tr>
<tr>
<td>Government taxation (% GDP)</td>
<td>12.3</td>
<td>-</td>
</tr>
<tr>
<td>Public sector employment share (% of total employment)</td>
<td>17.1</td>
<td>-</td>
</tr>
<tr>
<td>Public R&amp;D expenditures (% GDP)</td>
<td>6.3</td>
<td>+</td>
</tr>
<tr>
<td>New S&amp;E graduates (per 1000 population 20-29)</td>
<td>24.2</td>
<td>+</td>
</tr>
<tr>
<td>Rate of participants in life long learning (per 100 population aged 25-64)</td>
<td>7.2</td>
<td>+</td>
</tr>
<tr>
<td>Employment in S&amp;T (%)</td>
<td>43.3</td>
<td>+</td>
</tr>
<tr>
<td>EPO patents (per million population)</td>
<td>89.9</td>
<td>+</td>
</tr>
<tr>
<td>New community trademarks (per million population)</td>
<td>134.9</td>
<td>+</td>
</tr>
<tr>
<td>Technology transfer between university and firms (%)</td>
<td>5.54</td>
<td>+</td>
</tr>
<tr>
<td>Share of enterprise receiving public funding for innovation</td>
<td>5.5</td>
<td>+</td>
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<tr>
<td>Business R&amp;D expenditures (% GDP)</td>
<td>0.77</td>
<td>+</td>
</tr>
<tr>
<td>Early stage venture capital (% GDP)</td>
<td>0.023</td>
<td>+</td>
</tr>
<tr>
<td>ICT expenditures (% GDP)</td>
<td>5.4</td>
<td>+</td>
</tr>
<tr>
<td>Broadband penetration rate nr of connections (per 100 pop )</td>
<td>1.7</td>
<td>+</td>
</tr>
<tr>
<td><strong>Vitality</strong></td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Business ownership rate (%)</td>
<td>6.9</td>
<td>+</td>
</tr>
<tr>
<td>Start-up rate (% of enterprises)</td>
<td>5.57</td>
<td>+</td>
</tr>
<tr>
<td>Failure rate (% of enterprises)</td>
<td>34</td>
<td>-</td>
</tr>
<tr>
<td>TEA index</td>
<td>7.4</td>
<td>+</td>
</tr>
<tr>
<td>Nascent entrepreneurs rate (%)</td>
<td>4.5</td>
<td>+</td>
</tr>
<tr>
<td>Female self employment rate (%)</td>
<td>1.9</td>
<td>+</td>
</tr>
<tr>
<td>SMEs per 1000 inhabitants</td>
<td>24.6</td>
<td>+</td>
</tr>
<tr>
<td>SMEs share of total employment (%)</td>
<td>72.1</td>
<td>+</td>
</tr>
<tr>
<td>Micro firms (% of all firms)</td>
<td>85.6</td>
<td>+</td>
</tr>
<tr>
<td>SMEs co-operating with others to innovate (% of SMEs)</td>
<td>32</td>
<td>+</td>
</tr>
<tr>
<td>SMEs innovating in house (% of SMEs)</td>
<td>24</td>
<td>+</td>
</tr>
<tr>
<td>Sale of new to market products (% of turnover)</td>
<td>8.4</td>
<td>+</td>
</tr>
<tr>
<td>Sale of new to firm products (% of turnover)</td>
<td>4.6</td>
<td>+</td>
</tr>
<tr>
<td>Broadband use among SMEs (%)</td>
<td>43</td>
<td>+</td>
</tr>
</tbody>
</table>

Source – Lundström et al, 2008

Note: + indicates a positive influence, - indicates a negative influence

28 Details of the sources of these figures are given in Appendix 1.
29 Estimation based in anecdotal evidence.
Many of the influences listed in the table of variables have a positive affect on levels of entrepreneurship and innovation within an Irish context. The variables with a negative impact are generally self-explanatory - a high rate of failure has been proven by the OECD to negatively impact upon levels of economic growth, high tax rates reduce the rate of return on entrepreneurship and R&D activities thereby impeding the start-up of new firms and investment in innovation, and the higher the amount of employment in the public sector the lower it will be in the private sector. The rate of unemployment in a country commonly denotes a drop in the rate of innovating and entrepreneurship, although the Irish Government does provide a Seed Capital Fund scheme to persons who are unemployed. Therefore a rise in unemployment may lead to opportunities being perceived differently and hence can increase entrepreneurial activity (this is discussed in more detail later in the report).

There is only one variable which denotes both a negative and a positive effect on entrepreneurship and innovation respectively. The number of Science and Technology (S&T) graduates in the population between 20 and 29 years of age will reflect an influx of innovative and knowledge rich graduates into the workforce. It can be assumed that while there is much attractive employment available to S&T graduates in Ireland, not many graduates will wish to start a business. As a result of this the level of innovation will rise while pushing the level of entrepreneurship in the opposite direction.

**Outcomes**

As can be seen from Table 1 above, in 2006, Ireland’s rate of purchasing power per capita was almost 40% higher than the European Union (EU) average. The economic growth rate was also impressive at 5.3% for the period 2001-2005, while the OECD average was 2.1% and the euro zone average was 1.4%. However, Ireland’s economic output has been strongly influenced by the presence of a large foreign-owned industry sector. An attractive fiscal regime, complimented by impressive rates of growth, facilitated the entrance of large MNCs into Ireland, with the fiscal policies being perceived by such firms as providing positive rewards for enterprise growth. Disappointingly, it should be noted that the rate of growth in the Irish economy has decreased significantly during the first half of 2008 and so the economic successes of previous years are unlikely to continue in the short-term.

The table also highlights that the overall labour force participation rates in Ireland increased from 60% in 1990 to 68.6% in 2004. The female labour force participation rose 15% in those 14 years, although the rate still remains nearly 25% lower than the top ranking country in the OECD. Participation among women between 25 and 34 is almost 80%, but for those over 55 the contribution to the workforce remains in the region of 40%. Additionally, the structural demographic supports an entrepreneurial culture with high levels of inward migration, an increase in the population as a whole, and a particularly youthful profile.

Ireland’s export/import balance is higher than most other EU countries as the economy is heavily dependant upon exports to support strong growth rates due to it

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33 The source for these figures can be found in Appendix 2
being a small island nation. Additionally, Ireland is also more dependent than most other EU countries on trade with non-EU economies. In recent times, the role of MNCs in the economy has driven exports to the highest rate in the EU. These companies are attracted by the advantageous environment for exporting and provide linkages through which indigenous enterprise can access foreign markets. However, according to the Enterprise Strategy Group Report (2004), only 11% of exports from Ireland in 2002 came from indigenous companies. A number of previous reviews and evaluations of Industrial Policy have highlighted weaknesses in the promotion of indigenous enterprise in Ireland and in the supply of adequate support for initiatives involved in its growth. As government strategies evolve, an emphasis is now being placed on the start-up of Irish-owned and based firms to increase industrial productivity so as to avoid the risk of over-reliance on MNCs.

**Structure**

Ireland’s current population of over 4 million is at its highest level in 130 years. The population profile is noticeably young with more than 40% under the age of 25. This is economically advantageous for Ireland’s future labour supply as by 2010 32.8% will be under 25, which compares positively with the forecasted EU average of 26.3%. Both natural growth and the growth of Ireland’s net migration have caused acceleration in the population with the population growth in Ireland since 1990 being faster than EU averages. According to Census 2006, figures show that the rate of growth is now almost twice as fast as any other OECD country, and this rapid population change has been an essential platform in sustaining economic growth.

The number of students in third-level education has increased by 80% in the last ten years. Ireland was one of the first EU countries to grasp the importance of education, with the education of the workforce now accounting for almost 1% of additional national output since 1996. An analysis of Ireland’s innovation structure shows that the number of science graduates in the workforce and the share of manufacturing that is designated high-tech are the highest in the EU. The proportion of the population between 25 and 34 with third-level education stands at 37%, compared to the EU average of 27% and the US average of 40%. These demographic conditions are favourable for the future of the economy as the youthful composition and knowledge based economy should continue to attract MNCs vital to sustaining growth.

In a survey conducted for the Small Business Forum, small business managers identified accessing adequate financing as the most significant barrier to growth. The SME Finance and Equity Survey 2005 indicated that 35% of small businesses were unable to satisfy financial needs for growth between 2002 and 2005. The CSO report on Small Business 2007 also illustrated that in 2004 a lack of funds was cited as the greatest barrier to firms engaging in innovation. The report also argued that the administrative and financial challenges to small business and business growth must be reduced in order to further foster an innovation culture and support a knowledge based economy.

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34 Enterprise Ireland (2006), *Economic Profile, 2006*, Enterprise Ireland, Dublin
37 Forfas (2005), *The 2005 SME Finance & Equity Survey*, Forfas, Dublin
The rate of engagement in lifelong learning in Ireland is also relatively high compared to that of European counterparts; in 2003 42% of EU residents aged between 25 and 64 participated in learning while in Ireland the figure was 49%. This implies that the implementation of new technologies and innovation processes would be smoothed through a highly skilled workforce at all stages of its development. The transformation to a knowledge economy requires that lifelong learning is a fundamental part of employment and is essential to lifelong innovating.

But the weaker points of Ireland’s performance include: the amount of patents per million ranks 11th in the EU, research and development (R&D) expenditure is at 10th place in the EU, and Government funded R&D as a percentage of the Gross Domestic Profit (GDP) ranks last in the EU. This suggests that although innovation is facilitated, it is not cultivated adequately by government measures. The Strategy for Science, Technology and Innovation set out to remedy these imbalances with €3.8 billion being invested between 2006 and 2013.

**Vitality**

The 2007 Irish Global Entrepreneurship Monitor (GEM) report showed that 8.2% of the adult population, or close to one in ten adults, were actively planning or recently had established a new business venture. The report found that entrepreneurs are predominantly male, and that this can be found in both early stage self-employment and is even more present in longer established business. While the involvement of females has increased significantly and consistently in recent years, sufficient policy measures are not yet in place to widen the scope of gender based initiatives for further advancing diversity within the enterprise culture (this is discussed in detail further on in the report).

The analysis of the Irish context in this chapter of the report has highlighted an economy that is very conducive to entrepreneurial activity since it possesses a strong economy, a dynamic population, and a well-educated workforce. The areas of greatest concern within this positive landscape are the disappointing performance of Ireland’s innovation activity across a broad range of measures and the recent downturn in the economy. To utilise a slogan from an Irish political party – ‘much done, much more to do’.

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4. Irish Entrepreneurship Policy at National Level

According to Lundström and Stevenson (2001), entrepreneurship policy is primarily concerned with creating an environment and support system that will foster the emergence of new entrepreneurs and the start-up and early-stage growth of new firms. This chapter examines in detail current entrepreneurship policies in Ireland that have been garnered through a detailed search of existing reports and relevant literature, and supported by the survey and expert interviews. It additionally includes charts and figures depicting the results of the research into the questions posed in the comprehensiveness index provided by IPREG and these results are compared across all twelve countries participating in the project.

As can be seen in Figure 4 below, the high rates in the entrepreneurship columns depict the ‘comprehensiveness’ of the areas that they represent. However, it should be noted that a high policy comprehensiveness index does not necessarily depict the reality of the situation as other complications may hinder the relevant activity. Taking a General Policy overview initially, the first finding shows that in Ireland there is currently no existing overarching government entrepreneurship policy designed with the intent of engendering entrepreneurship. Policy Structure scored highly in the comprehensiveness index, with central government departments identified as being responsible for the implementation of enterprise policy. The weakness in the structure was perceived to be regional level support for nascent entrepreneurs that are poorly defined in strategy statements. It was noted that regionally based initiatives are expressed in enterprise efforts mainly due to allocations made for the designation of EU structural funds.

Figure 4 - Comprehensiveness of General Entrepreneurship Policy Areas

Performance Tracking in the entrepreneurship system is described in a positive yet not fully comprehensive light by the index. A fundamental flaw in performance tracking measures is that self-employment, unemployment, ownership, and dynamic business data is not disaggregated by gender, age, ethnicity, and region. Although government departments have consistently supported research and published information on and

42 The table shows the percentage of questions in the comprehensiveness index within the key groups that could be answered with a yes, 4-5 counted equally as a yes.
about entrepreneurship, because no specific policy exists its effect cannot be monitored or evaluated.

**General Policy**

When analysing general policy on entrepreneurship in Ireland, it is noteworthy that there has not been an explicit national policy on entrepreneurship to focus the efforts of the various actors in the public sector and to ensure coherence in their implementation, although the Department of Enterprise Trade and Employment (DETE) is responsible for the coordination and creation of a comprehensive National Entrepreneurship Policy. The adoption of such a policy is currently under consideration and is to be built upon three specifications: to stimulate latent entrepreneurial potential, to reinforce entrepreneurship in the education system, and to enhance Ireland’s culture for entrepreneurship. The government agencies and bodies work together in order to execute policy measures highlighted in Strategy Statements. The DETE strategy is not exclusively based around enterprise but it does provide objectives and guidelines for Enterprise Ireland, whose goals are focused on the development of Irish businesses into successful international operations.

**Policy Structure**

The Department of Enterprise Trade and Employment (DETE) is accountable for reviewing and updating Industrial Policy (which can be interpreted as enterprise policy) for the growth of the competitive environment and the development of the Irish economy. This policy is designed to enhance the enterprise environment, leading to the start up and growth of competitive firms, continued Foreign Direct Investment (FDI) and sustainable development. The Department is advised by state or semi-state agencies at national, regional, and local levels whose publications and reviews are submitted and evaluated for the formation of enterprise relevant policies. A Strategy Statement is then issued by the DETE in which they combine commitment to the implementation of the recommendations with proposed actions for the enhancement of the entrepreneurial culture and climate.

Enterprise Ireland (EI) is regarded as a national base for all other government entrepreneurship initiatives and it works closely with Forfas to implement policy measures. The main objective of the EI strategy is to accelerate the development of world-class Irish companies to achieve strong positions in global markets resulting in increased national and regional prosperity. Forfás focuses on public policy areas with the greatest impact on enterprise in Ireland. Forfas’ strategy compliments EI’s contribution to entrepreneurship through capturing the economic benefits of public investment in research; harnessing human capital development to support an innovation driven economy; improving framework conditions for innovation and

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43 Overall state body for governance of enterprise policy and development in Ireland
44 Small Business Forum (2006), Small Business is Big Business, Forfas, Dublin
46 Enterprise Ireland, www.enterprise-ireland.com

The influence of entrepreneurship policy on focused measures, such as school programmes and female entrepreneurship schemes, is reflected through target initiatives run by the City / County Enterprise Boards (CEBs). The role of CEBs allows policy to emerge at both local and national level, and delivers a more tailored approach to the promotion and fostering of entrepreneurship in Ireland. The CEBs are considered to have contributed greatly to the development of pre-high potential start-up companies which later expand into the EI portfolio. These actions are achieved through the provision of local flexibility and responsiveness whose work has extended into all parts of the country, in particular into areas where FDI has not been of benefit.

**Performance Tracking**

The Report of the Small Business Forum in 2006 identified a shortage of comprehensive measures and data for policy-making. The Report recommended that the Central Statistics Office (CSO) should publish an annual Small Business Release that presents \textit{'up to date, robust data on a range of indicators relevant to the small business sector'}\footnote{Small Business Forum (2006), \textit{Small Business is Big Business}, Forfas, Dublin}. The lack of consistent sources of data creates a barrier to the development of focused policies. The CSO published the Small Business Release in May 2007 with the main objective of highlighting the core business issues to be addressed by policy and the monitoring of emergent trends. More recently, the Forfas report ‘Towards Developing an Entrepreneurship Policy in Ireland’ highlighted the need for an ‘Annual Entrepreneurship Review’.

In conjunction with their end of year report in 2006, Forfas published their first enterprise performance evaluation, combining data from a variety of sources such as Forfás and the CSO. The summary of statistics relevant to the performance of enterprise included Irish employment and output, international trade in goods and services, inward and outward FDI flows, and some measures relating to innovation and R&D. From this evaluation Forfas identified the following key policy issues:

- A continued focus on the internationalisation of Irish service companies,
- The development of a positive competition and investment policy,
- Concentration on investment in the economic infrastructure to promote balanced regional growth,
- Measures to assist implementation of the NDP to ensure enterprise needs are met,
- Full implementation of the Strategy for STI to develop research infrastructure, enterprise-education collaboration and the commercialisation of research,
- Policy to promote management development initiatives, improve BESs and encourage up-take of ICTs.

Forfas at the request of DETE, investigates and tracks the performance of development agency programmes run by EI and the CEBs, in order to ensure the maximised use of resources and to help shape future policy developments.
Government agencies are an essential element in the formation of a suitable policy central to sustained competitiveness and the promotion of an entrepreneurial culture. Increased measures now need to be taken to advance tracking measures to ensure a more comprehensive and centrally operated delivery structure for the implementation of any entrepreneurship policy.

**Enterprise Ireland (EI) - The Main Actor for Entrepreneurship at National Level**

Enterprise Ireland (EI) is the main actor in Ireland for encouraging and supporting new high potential start-up businesses (HPSUs). EI provides advice and support to businesses at the pre-incorporation, pre-commercialisation phase by incubating project ideas and highlighting available resources. Newly established businesses can also benefit from co-ordination assistance, seminars, workshops, and strategic direction. For businesses in the investment phase, there is access to legal assistance, commercial evaluations, investment proposal assistance, and they can be assigned legal, equity, and commercial teams. Table 3 describes the main objectives, activities, budget, and source of funding for Enterprise Ireland.

**Table 2 - Enterprise Ireland – A Main Actor for Irish Entrepreneurship**

<table>
<thead>
<tr>
<th>Mission Statement</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise Ireland’s main objective is to accelerate the development of world-class Irish companies to achieve strong positions in global markets resulting in increased national and regional prosperity.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Main Activities:**

**To Focus on Irish Companies**

Five main areas of activity: achieving export sales; investing in research and innovation; competing through productivity; starting up and scaling up; and driving regional enterprise.

**To Foster a Culture of Entrepreneurship**

Enterprise Ireland supports a range of initiatives targeted at developing a culture of enterprise, including an annual Student Enterprise Awards competition.

**To Offer an Extensive Enterprise Network**

An extensive network of 13 Irish offices supplemented by 33 international offices; working with entrepreneurs enabling them to compete to grow.

**To Provide Assistance for International Companies**

Enterprise Ireland provides assistance for international companies who are searching for world-class Irish suppliers and support international companies who want to set up food and drink manufacturing operations in Ireland.

**Annual Budget (2006):**

€277 million

**Main Financer:**

The Irish Government

The following criteria are necessary for a business idea to benefit from EI’s services:

- Entrepreneur must plan to operate in either the manufacturing sector or in an internationally traded service sector in an export led environment;
- Proposed product or service should be technologically advanced;
- Business must have high potential - likely to achieve significant growth within three years;
- Projected sales must incorporate a heavy export element;

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50 Enterprise Ireland describes significant growth of start-up enterprises as sales of €1.0m and employment of 10 or more.
• Business must be Irish owned and be located in Ireland
With regards to financial support, EI can provide funding towards establishing, growing, and expanding an enterprise. Funding is typically made up of grants and equity specifically intended to meet expenses in the areas of research and design, training, job creation, and acquisition of capital assets. Through EI two specific categories exist for financial support: High Potential Start-Ups (HPSUs) and funding for exploring new opportunities. Added to this funding, EI offers supplementary financial services and advice to HPSUs including: assistance in finding non-executive or nominee directors, and seminars for improving investment profiles and business plan building.

**National Development Plan**

The foundations for the national system of entrepreneurship is based upon the National Development Plan (NDP) 2007-2013 which builds on the significant social and economic achievements of the NDP 2000-2006. Launched in January 2007 and entitled ‘Transforming Ireland - A Better Quality of Life for All’, the NDP allocates substantial investment in economic infrastructure, enterprise, science and innovation, thus enhancing the framework for entrepreneurial activity. Through investment in these key areas and the allocation of funds to strategic locations, the NDP encourages economic growth and aids the transition to a knowledge ready nation in anticipation of future needs and FDI trends.

**Entrepreneurship Sub-Policy**

This section provides a more detailed evaluation of growth policy which highlights the areas in which measures are sufficient and identifies which areas are under-developed. The sub-policy fields in the comprehensiveness index are categorised according to previous research conducted by Lundström and Stevenson. Policy is considered ‘comprehensive’ if it covers all of the items on the list (see Appendix 3). Table 3 identifies the important agencies and bodies within the realm of entrepreneurship policy. The table also highlights each actor’s main responsibilities and activities within the sub-policy areas. Strong areas on this table are the level of support and financing available to entrepreneurs at national, regional, and local levels. Entrepreneurship in the education system, enterprise research, and attention given to underrepresented groups in policy measures are exceptionally weak and these are discussed in more detail in the following section.

The seven sub-policy areas and their rating in the comprehensiveness index are shown below in Figure 5. As in the previous section, a high column represents a high score but does not essentially mirror the actual state of sub-policy areas as strategy tends to concentrate on areas where resources are most highly invested. Accordingly the chart below operates best in identifying the strengths and weaknesses according to the comprehensiveness index. The low rating of target groups in the index suggests a lack of encouragement to all potential entrepreneurs and is identifiable in the evaluation of promotion initiatives.

51 Enterprise Ireland (2007), *Financial Services*, Enterprise Ireland, Dublin
### Table 3 - Important Actors Within Entrepreneurship Policy and Their Main Activities

<table>
<thead>
<tr>
<th>Promotion</th>
<th>Education</th>
<th>Barriers</th>
<th>Financing</th>
<th>Business Support</th>
<th>Target-Groups</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forfas</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Enterprise Ireland</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Fas</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Udaras NaGaeltachta</td>
<td>X</td>
<td></td>
<td>X</td>
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<td>X</td>
</tr>
<tr>
<td>BMW Assembly</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Shannon Development</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>City/County Enterprise Boards</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>LEADER Programme</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Higher Education Authority</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

In recent years steps have been taken to include females in strategy objectives, yet other minorities have not yet been recognized by policy measures. The weakness of promotion can be seen again in the low value for education as entrepreneurship activities are not comprehensively integrated into all levels of education. Easing entry to early-stage survival and growth scored highly in comprehensiveness. This is due in part to a network of support at national, regional, and local level provided by government agencies and bodies. The administrative burden experienced by new enterprises is addressed in the Report of the Business Regulation Forum (2007) and actions are now being taken to reduce these barriers.

### Figure 5 - Comprehensiveness of Sub-Policy Measure for Entrepreneurship

Access to start-up, seed and early-stage financing received a high rating from the index. This area is particularly important for generating interest in entrepreneurship and the Government’s commitment to encouraging start-ups, although perceived in a positive light, is not fully comprehensive. Entrepreneurship research methods and measures have been augmented by the government in recent years with the establishment of the Small Business Forum and such expert groups as the Enterprise

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54 IPREG work manual index identification of actors and activities.
Strategy Group (ESG). This policy orientated research has resulted in the development of specific entrepreneurship policy which is discussed in several sections throughout this report.\(^{55}\)

1. Promotion

According to the research undertaken for this report, the promotion of entrepreneurial activity is underdeveloped in comparison to other entrepreneurship strategy areas and ranks the lowest in the comprehensiveness index. EI and Forfas co-ordinate their entrepreneurship reviews and recommendations to the DETE whose responsibility it is to incorporate promotion policies into strategy statements. The CEBs are accountable for the co-ordination and execution of promotion efforts at a local level. In 2005 the Enterprise Strategy Group report recommended to the DETE that a re-engineering of the promotion of entrepreneurial activity be made so as to establish a clear focus based on clients’ needs linked to a performance driven mission.\(^{56}\)

At national level, promotion policies target both indigenous and foreign businesses; strategies are designed with the objective to improve support the development agencies in the delivery of programmes to assist the enterprise sector to grow and develop through actions to promote entrepreneurship and an enterprise culture throughout the economy.\(^{57}\) The intent of promotion strategy at local level is to encourage and support entrepreneurs and businesses along all stages of the business development process.\(^{58}\)

There are many awards initiatives set up to promote and encourage entrepreneurship at all levels. Annual Student Enterprise Awards operate at all levels of education and offer students the opportunity to actualise business ideas from conception to commercialisation. There is also an annual County Enterprise Board Entrepreneur of the Year Award and the Dublin-based CEBs run a female specific Entrepreneurship Award and more recently there is an Ethnic Entrepreneur of the Year award. The CEB awards facilitate local promotion for the start-up of new business and generate support for local champions. These awards are vital for the promotion of entrepreneurial activity and profiling of successful entrepreneurs as well as being crucial for fostering of diversity.

The GEM Irish Report (2005) criticised the promotion of entrepreneurial activity in Ireland and recommended that new measures be taken to raise the awareness of entrepreneurship in Ireland. The report highlighted the need for a national campaign to promote entrepreneurial activity at all societal levels in order to widen the scope of awareness. The report suggested that a major advertising campaign be undertaken with a focus on young people and women. High profiling of a few successful business people and an increased presence in the media were outlined as being inadequate in attempts to illustrate the benefits of entrepreneurship.

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55 The table shows the percentage of questions in the comprehensiveness index within the key groups that could be answered with a yes, 4-5 counted equally as a yes.
According to the comprehensiveness index, the promotion of entrepreneurship is a seriously underdeveloped aspect of sub-policy. Criticism on this area often cites target and minority groups. This indicates a particular weakness in the sub-policy system and reinforces the need for an explicit entrepreneurship policy.

2. Education

Enterprise Ireland has an alliance with the Department of Education and Science and the Science Foundation of Ireland (SFI) to increase the effectiveness of Enterprise Ireland’s strategies and to meet the needs of industry and market demands through the best practices in education institutions. Indeed, the EI Strategy Statement incorporates measures for enhancing entrepreneurial activity through institutes for higher education. Although there is no systematic programme of entrepreneurship education offered at primary, secondary, and third-levels, the DETE received a recommendation from the Enterprise Strategy Group report (2004) to implement entrepreneurial multi-skilling at primary and secondary school levels. These guidelines and actions are designed to facilitate the creation of an appropriately skilled and knowledge-based workforce to support entrepreneurial activity.

The initiatives considered to educate students suitably for entrepreneurship at primary and junior levels included extending higher order thinking abilities, developing problem solving skills, and building competencies in a second language. Enhancing entrepreneurial culture and abilities are promoted through the transition year\(^{59}\) option in secondary schools, through the Leaving Certificate vocational programme, and through Leaving Certificate applied programmes\(^{60}\). Although Government policy on entrepreneurship prioritises funding allocated to research in third-level education, the National Council for Curriculum and Assessment are taking measures to develop a sample course in enterprise for secondary level education\(^{61}\). These actions illustrate a shift in education paradigms to provide more entrepreneurship elements within education institutions. However, there is currently no plan to design a comprehensive and highly-integrated entrepreneurship education policy that would be applicable across all levels of education in Ireland.

3. Barriers

No specific policy measures exist for reducing or eliminating obstacles for start-ups or for growth. Barriers to entry, early stage growth and survival are addressed primarily by financing, training, education, and other support services funded by the DETE and delivered by its agencies and bodies. The Report of the Small Business Forum\(^{62}\) made several recommendations to the DETE for the evaluation of its strategic approach to removing barriers to entrepreneurship, all of which are to be addressed by a National Entrepreneurship Policy which is currently under consideration.

The Report of the Business Regulation Forum\(^{63}\) highlighted the significance of the regulatory burden on SMEs and micro enterprises. The report found that business

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59 Transition year is the equivalent of the 4th year of secondary school and is an optional year.
62 Small Business Forum (2006), *Small Business is Big Business*, Forfas, Dublin
63 Small Business Forum (2006), *Small Business is Big Business*, Forfas, Dublin
regulation in the areas of employment and company law, health and safety, environment, availability of information, and tax are problematic for SMEs. The Report recommended a programme for reducing the administrative barriers based on their findings. The relevant Government Departments and agencies were assigned personnel to carry out the recommendations of the report while a central co-ordinating unit manages, supports, and tracks the performance of the project.

In order to reduce the barriers to finance for entrepreneurs, EI has an internationalisation strategy which targets global corporations as investors and partners for Irish firms. The main role of this strategy is to seek out sales opportunities, strategic alliances, and venture capital for Irish entrepreneurs. In developing the growth of companies, HPSUs qualify for investment under this scheme when they meet EI’s criteria of having achieved €5 million in export sales, having greater than 50 employees, have 5 years experience as commercially trading entities, have a structured management team that is committed to growing significantly internationally, and have an ambition to at least double in size over the next five years. It is envisaged that by removing the barriers for HPSUs, EI can promote a positive perception of entrepreneurship and reduce the fear of failure amongst more latent areas of potential.

4. Financing

The financial supports available to an entrepreneur were examined in 2006 by the Small Business Forum. Highlighted in the report was the need to further develop the existing Business Expansion Scheme (BES) and the Seed Capital Relief Scheme (SCS). The BES was introduced in 1984 as an income tax based incentive for private, long-term investment in companies in defined sectors of the economy with an emphasis on firms that might otherwise find it difficult to raise equity. The SCS was established in addition to the BES and its objective was to provide employees, the unemployed, and persons made redundant with seed capital to start their own business, although the SCS is restricted to specific industry sectors. EI’s financial strategy encompasses financial supports through BES and SCS certification, grant aid, direct equity investment, financial planning advice, access to the business angel network, and investor ready programmes it designed with the intention to improve access to start-up, seed and early stage capital.

5. Business Support

DETE supports entrepreneurial activity through the industrial development agencies in the delivery of programmes to assist the enterprise sector to grow and develop through financial supports, managerial capability building programmes, and actions to promote entrepreneurship and an enterprise culture throughout the economy. The provision of high-specification regionally distributed industrial sites by IDA Ireland

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64 Enterprise Ireland (2007), Transforming Irish Industry: Enterprise Ireland Strategy 2005-2007, Enterprise Ireland, Dublin
65 Report of the Small Business Forum (2006), Small Business is Big Business, Forfas, Dublin
66 The Department of Finance is responsible for the overseeing of fiscal incentives for enterprise establishment and equity investment such as the Business Expansion Scheme and the Seed Capital Schemes.
67 The Dublin Innovation Centre currently operates the HALO Business-Angel Partnership supported by InterTradeIreland and Enterprise Ireland.
enable entrepreneurial activity to compete for high value projects in both the Biopharm and in the information and communication (ICT) sectors.68

EI’s strategy incorporates a target based approach to implementing policy; by the end of 2007 EI aimed to support the creation of 210 new HPSU companies nationwide.69 EI also makes provisions in its policy for their Regions and Entrepreneurship Division, through which they support the development of all regions and implement strategy in partnership with local agencies in order to maximise growth of entrepreneurial activity. A HPSU division provides support to entrepreneurs from initial activity to growth through supplying the resources to work with them on training, funding and advice. EI works closely with third-level education institutes to help strengthen their ability to support entrepreneurship. An SME scaling division in EI has recently been put into place to help accelerate the growth of Irish SMEs internationally.

6. Target Groups

The Gender Equality Unit based in the Department of Justice, Equality and Law Reform provides support and an advisory service for mainstreaming gender equality in Ireland. The role of this department with regard to entrepreneurship policy is to make recommendations as to how the government can incorporate gender equality perspective70 into policies as they are developed, implemented and reviewed. Female specific initiatives advised by the Gender Equality Unit and run by the CEBs include: the Women Entering Business Training Programme, Dublin City Enterprise Network for Women, Dublin City Enterprising Woman of the Year Award, and the Women in Business CEB Website. The Dublin Institute for Technology (DIT) established the Institute for Minority Entrepreneurship (IME) in 2006. The Institute regards the following groups as being ‘minority’: ethnic, grey, disabled, travellers, gay, Irish speaking, prisoners, and the socio-economically disadvantaged. Through its programmes, the IME aims to offer all of the people of minority groups in Ireland equal opportunity to maximise their economic and social potential through entrepreneurship research, education, training, and mentoring.71 The Equal Emerge training programmes are a development partnership funded in part by the DETE and the European Social Fund. The target participants for this training are ethnic minority entrepreneurs. The programmes offered encompass pre-enterprise and start-up training.

7. Research

Research relevant to entrepreneurship policy has most recently been carried out by the Small Business Forum (2006). The Report compiled by the Forum recommended that the Government take steps to ‘inspire entrepreneurship’ and identified the benefits and key drivers of entrepreneurship as well as evaluating the existing support available. Guidelines specified in the report are the basis for the emergence of the

68 Department of Enterprise Trade and Employment (2005), Statement of Strategy 2005-2007, Department of Enterprise Trade and Employment, Dublin
70 Forfas (2007), Mapping of Initiatives to Support Entrepreneurship in Ireland, Forfas, Dublin
previously mentioned entrepreneurship policy. Other expert groups\(^{72}\) and private research\(^ {73}\) have both been employed by the government to establish empirically relevant evaluations for the benefit of strategic and structural actions. As discussed earlier in the performance tracking section of this chapter, the government has recently been taking increased measures to research performance and trends within the scope of entrepreneurship. A fully developed system containing a range of business information on all sectors of the economy will be essential to the undertaking of quality research on entrepreneurship. This information is crucial to research which the government can use to understand the role of entrepreneurship in sustaining growth and promoting the knowledge economy, thereby better equipping policymakers to adopt a comprehensive growth strategy.

**Regional Policy**

The DETE’s strategic objective for the regional development of entrepreneurship is designed to **ensure that the enterprise development agencies’ strategies are making a clear and verifiable contribution towards balanced regional development**\(^ {74}\). The dominant agency responsible for the co-ordination of regional entrepreneurship initiatives is Enterprise Ireland which is the centre of an established regional network, supported through partnerships with key government bodies and agencies. This regional network is the outlet for the implementation of strategy and includes third-level institutions, local authorities, County and City Enterprise Boards, Business Innovation Centres, Community Enterprise Centres, County Development Boards and FÁS.

EI’s Regional Development strategy for 2005-2007 sets out the following objectives:

- *To support systematically the development of entrepreneurship in the regions through assistance to and collaboration with local authorities, third-level institutions and the regional development structures and bodies;*

- *Enterprise Ireland will work with the Department of Enterprise, Trade and Employment to set up a CEB co-ordination unit to bring better cohesion to the strategic and operational activities of both agencies;*

- *To introduce new support initiative for prospective entrepreneurs (e.g. Enterprise Start) to augment available regional support;*

- *To work with the Universities and Institutes of Technology to maximise collaboration between academia and industry to develop clusters of high-tech companies in regions;*

- *To encourage Irish expatriates and managers of Irish multi-national companies in Ireland and overseas to support the generation of spin-offs and start-ups;*

- *To deliver first-time exporter workshops followed by market visits for all prospective new exporters throughout the regions;*

- *To further develop Venture and Seed Capital Funds to augment the resources available to regionally based clients.*\(^ {75}\)

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\(^{72}\) e.g. Enterprise Strategy Group, Small Business Forum

\(^{73}\) e.g. Culliton Report, Telesis Report, Buchanan Report


Table 4 identifies the agencies and bodies engaging in the regional development of entrepreneurship and describes their main activities within the scope of the comprehensiveness index sub-policy areas.

### Table 4 - Important Actors in Regional Entrepreneurship Policy and Their Main Functions

<table>
<thead>
<tr>
<th>Promotion</th>
<th>Education</th>
<th>Barriers</th>
<th>Financing</th>
<th>Support</th>
<th>Target-groups</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise Ireland</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>CEBs</td>
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<tr>
<td>Shannon Development</td>
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<td>X</td>
<td></td>
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<td></td>
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<tr>
<td>BMW assembly</td>
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<td>S&amp;E assembly</td>
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<tr>
<td>Udarás na Gaeltachta</td>
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<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
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<tr>
<td>Community Enterprise Centres</td>
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<tr>
<td>LEADER</td>
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</tbody>
</table>

While much support and financing is available to reduce the barriers to start-ups at this level, the expert interviews indicated that none of the actors are engaged in meaningful research into regional entrepreneurship. This could be related to the lack of education and awareness as to the benefits of entrepreneurial activity. Minority groups are increasingly present in decentralised areas of Ireland and are overlooked by many of the important actors which ignore these potential groups, and this too can be linked to weak research into regional activity.

### 1. S&E and BMW Assembly

Regionalisation arrangements negotiated by the Irish authorities in the context of the Agenda 2000 agreement resulted in the designation of the country into two regions for the allocation of EU structural funds. The principal functions of these assemblies are:

- To promote the co-ordination of public services in the Southern & Eastern Region (S&E), and in the Border, Midland and Western Regional Assembly (BMW).
- To manage the Regional Operational Programme under the National Development Plan (2007-2013).
- To monitor and make proposals in relation to the general impact in their regions of all E.U. programmes of assistance under the Community Support Framework.
- To make public bodies aware of the regional implications of their policies, plans and activities.

The Border, Midland and Western Regional Assembly (BMW) is comprised of 29 representatives from local authorities within the region. The S&E consists of 41 representatives from local authorities within the region.

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76 The Border, Midland and Western Region includes 13 counties; Cavan, Donegal, Galway, Laois, Leitrim, Longford, Louth, Mayo, Monaghan, Offaly, Roscommon, Sligo and Westmeath.
elected members from the constituent local authorities, within the Southern & Eastern Region.\textsuperscript{77}

2. Údarás na Gaeltachta

Údarás na Gaeltachta is charged with the creation of sustainable jobs and attracting investment into the Gaeltacht (Irish-speaking) regions with community, cultural and language-development activities, working in partnership with local communities and organizations.\textsuperscript{78} The services, supports, incentives and grant schemes offered by Údarás na Gaeltachta parallel those offered by Enterprise Ireland at a national-level. Priority targets for assistance include internationally traded services, manufacturing and natural resource based ventures. Údarás na Gaeltachta develops government policies in order to ensure the maintenance of the Gaeltacht community in areas where the Irish language is established at the core of entrepreneurial activity.

3. Shannon Development

The Shannon Development is the Government’s regional development company for the Shannon region\textsuperscript{79} and offers support to entrepreneurs through funding, programmes, supports, and facilities such as accommodation and office space to entrepreneurs. The target group for this development is those wishing to establish high potential growth knowledge-intensive business. A comprehensive information and referral web site is made available to start-ups and SMEs. Programmes run by Shannon Development include:

- Venture-Start
- Excellerator Programme
- Internationalisation Programme
- Campus Industry Programme
- Alumni-Start Programme

Another element of the Shannon Development Knowledge Network is Innovation Works. These are state of the art business incubation facilities \textit{designed to support new, high-potential businesses through the start-up phase and during the first 3 years of operation}\textsuperscript{80}.

Local Support

1. City and County Enterprise Boards (CEBs)\textsuperscript{81}

After Enterprise Ireland, it is arguable that the next most visible supporter of entrepreneurship activity in Ireland is the network of 35 City and County Enterprise Boards (CEBs). The CEBs are responsible for cultivating a spirit of entrepreneurship through promotion at a local level. CEBs are designed to support existing and potential entrepreneurs to grow their business by providing appropriate assistance at

\textsuperscript{77} The S&E region is comprised of; Dublin City, Dun Laoghaire/Rathdown, Fingal, South Dublin (Dublin Region); Carlow, Tipperary S.R., Waterford City and County, Wexford, Kilkenny; Cork City and County, Kerry; Clare, Limerick City and County, Tipperary N.R. Kildare, Meath, Wicklow.

\textsuperscript{78} Údarás na Gaeltachta, www.udaras.ie/

\textsuperscript{79} Counties Clare, Limerick, North Tipperary, South Offaly and North Kerry.

\textsuperscript{80} www.shannon-dev.ie/regionaldevelopment/

\textsuperscript{81} www.entemp.ie/enterprise/local/cebinfo.htm
each stage of their development. CEBs offer a ‘first stop shop’ where the entrepreneur can receive advice, information, grants for feasibility studies, financial support for new enterprise or business expansion and soft supports such as mentoring, training facilities and management development services.

The CEBs support the development of micro-enterprises at a local level. The CEBs can support individuals, firms and community groups provided that the proposed projects have the capacity to achieve commercial viability. The CEBs can provide both financial and non-financial assistance to a project promoter. The forms of financial assistance which are available, subject to certain restrictions, include Capital Grants, Employment Grants and Feasibility Study Grants. The provision of non-financial assistance can take the form of a wide range of business advice and information services, management capability training and development programmes, e-Commerce training initiatives etc. The basic criteria under which financial assistance is available from the CEBs is based primarily on factors such as the sector of the economy in which an enterprise is operating or intends to operate and the size, or proposed size, of the enterprise. The enterprise must be in the commercial sphere, must demonstrate a market for the proposed product/service, must have a capacity for growth and new job creation, and must not employ more than 10 people. The CEBs give priority to enterprises in the manufacturing or internationally traded services sector and the CEBs must always give consideration to any potential displacement arising from a proposed enterprise.

Feasibility grants of up to €7,500 are available for new business idea evaluations. Capital grants are available for up to €75,000 for machinery purchases premises purchasing or enhancement. Redeemable Preference Share Schemes are available for limited companies. Employment grants of up to €7,500 per employee can also be used by entrepreneurs to cover labour costs for up to ten employees. CEBs also provide a range of soft supports to entrepreneurs including sector specific training programmes, work-shops, seminars and mentoring services. CEBs additionally facilitate initiatives and networks for women with a view to encouraging higher female participation in entrepreneurial activity.

2. LEADER

LEADER is an EU Community Initiative for Rural Development. LEADER provides local action groups with funding to implement business plans for the development of local areas. LEADER currently has two programmes: LEADER+ which aims to encourage the emergence of new approaches to sustaining rural communities, and the LEADER National Rural Development Programme which forms a part of the Regional Operational Programmes under the NDP. Aid under LEADER programmes is allocated for the following:

- Training
- Analysis and Development
- Innovative rural enterprises, craft enterprises and local services/facilities
- Exploitation of agriculture, forestry and fisheries products
- Enhancement of natural/built/social/cultural environment
- Environmentally friendly initiatives

Adapted from the Department of Community, Rural and Gaeltacht Affairs website (www.pobail.ie)
• Animation and capacity building
The LEADER programmes facilitate the development of otherwise underdeveloped rural areas and the promotion of enterprise throughout Ireland.

3. Area Partnerships

Area Partnerships are supported under the Local Development Social Inclusion Programme in achieving local development through the promotion of sustainable enterprise. Each Partnership develops an Area Action Plan geared to the needs of its area. Support is given for the setting up of businesses and is aimed particularly at the long-term unemployed, excluded and marginalised persons. Although Partnerships vary, among the supports that Partnerships provide are:
* Business, financial and legal advice
* Bookkeeping and financial training
* Mentoring and enterprise networks
* Pre-enterprise training and training in sales and marketing
* Secretarial support services
* Start-up finance, through grants or revolving loans
* Incubation units for start-up businesses.

The activities of the Area Partnerships are promoted through 38 Area Partnership Companies in the most disadvantaged areas of Ireland and a further 35 Community Groups in non-disadvantaged areas. They are delivered on behalf of the Department of Community, Rural & Gaeltacht Affairs.

4. Community Enterprise Centres

Community Enterprise Centres (CECs) are a government initiative which provide a supportive environment for entrepreneurs and encourage the development of entrepreneurship in urban and rural areas. These community driven initiatives are based on a partnership between the local communities and the State whereby the local community provide business space in a centre and Enterprise Ireland fund up to 50% of the costs of the centre. The remainder of the funding is actively raised by the community itself from local sources. Since the scheme was first established in 1989 four further government schemes have been implemented. Currently over 150 CEC projects have been set up throughout the country facilitating new business centres and expansions at a regional level. The most recent CEC scheme provides for both capital infrastructure and management support.

Conclusion

Before offering the primary conclusions to be drawn from the research undertaken on entrepreneurship policy and implementation in Ireland, it is first worth exploring how Ireland compares in terms of the comprehensiveness index against the other participating countries in the IPREG project. Overall, Ireland is placed 7th of the 12 countries for the level of comprehensiveness in general entrepreneurship areas with the leading country being Denmark followed closely by Finland, while the former

83 www.startingabusinessinireland.com/dirapc.htm
communist bloc countries of Hungary and the Czech Republic have the lowest levels of comprehensiveness.

Figure 6 – International Comparison of Comprehensiveness of General Entrepreneurship Policy Areas

Source – Lundstrom et al, 2008

The ranking of Denmark as the leading country is not surprising since the Danish Government set up a Globalisation Council in April 2005 (comprising of representatives from all sections of society) with the task of advising the Government on a strategy for Denmark in the global economy. On the Council, the Government sat together with important groups in society across traditional divides: employers together with trade unions, and representatives of the major educational and research areas and companies alongside each other. Based on these discussions, in April 2006 the Danish Government launched an ambitious and pro-active strategy to gear Denmark for the future. The strategy contains 350 specific initiatives, which together entail extensive reforms of education and training programmes as well as research and entrepreneurship, and also substantial improvements in the framework conditions for growth and innovation in all areas of society. The publication, “Progress, Innovation and Cohesion Strategy for Denmark in the Global Economy - Summary”, is a translation of the summary of the strategy.

The level of comprehensiveness regarding sub-policy measures in entrepreneurship show Ireland in the middle of the rankings in 6th position. Interestingly, on this occasion Denmark and Finland lose their top positions to Belgium (Flanders region), while Hungary and the Czech Republic remain in the last two positions. It should be noted that many of the countries are very closely positioned around the 400% mark on the table (100% comprehensiveness was multiplied by each of the seven sub-policy areas and the total aggregate score was then accorded to each country). A more detailed analysis of Figures 6 and 7 can be found in the publication Entrepreneurship

85 The table shows the percentage of questions in the comprehensiveness index within the key groups that could be answered with a yes, 4-5 counted equally as a yes. See Figure 2 for Irish data only.
87 www.globalisation.dk/page dsp area=52
The following are some of the key findings from this area of the report:

(1) **There is currently no comprehensive policy for entrepreneurship.** Following recommendations in the Report of the Small Business Forum (2006) an entrepreneurship policy is currently being developed and is imminent according to the Department of Enterprise Trade and Employment. A preliminary document ‘Towards Developing an Entrepreneurship Policy for Ireland’ was published in September 2007. According to this document, the policy will aim to deliver an Ireland that is characterised by a strong entrepreneurial culture, recognised for the innovative quality of its entrepreneurs, and acknowledged by entrepreneurs as a world-class environment in which to start and grow a business.

(2) **There is a lack of monitoring of policy.** Entrepreneurship policy has reached a turning point and is currently under development, yet the promotion and encouragement of an innovative culture amongst entrepreneurs is in need of evaluation. The lack of systematic and frequent monitoring of policy measures for entrepreneurship hinders the development of indigenous enterprise, and given the advantageous context of the economy, the level of growth activity is not realising its full potential.

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89 The Small Business Forum was set up by the Minister for Enterprise, Trade and Employment to consider the environment for conducting small business in Ireland and to advise on the adequacy and appropriateness of public policy responses.
(3) Initiatives by government bodies and agencies involving growth policy are often duplicitous. This overlap in the main activities for policy and sub-policy areas reduces the effective management of resources and does not facilitate a balanced approach to regional development. Local agencies occasionally duplicate the grant aid services offered at regional and national levels, and localised soft supports would be more successful for sustaining high levels of innovative entrepreneurship. It must be highlighted that some of the duplicitous measures mentioned by respondents were perceived rather than real but such perceptions held by expert individuals should still be of concern to government agencies.

(4) Enterprise policy holds an inadequate number of targeted initiatives for underrepresented groups. Diversity in entrepreneurship and innovative entrepreneurship is essential for uncovering dormant activity. The rate of entrepreneurship could be greatly influenced by an expansion of policy measures to facilitate the underrepresented groups.

According to Parker (2002), there are two types of approaches (competitive or coordinated) in which entrepreneurship policy seeks to influence the business system within which SMEs and entrepreneurs are embedded. In the competitive approach, there is a focus on market relations by using market incentives to motivate actors in entrepreneurial activities, such as increasing opportunities for higher profits and earnings. This also involves general de-regulative measures. The competitive approach is also oriented toward individual entrepreneurs. In short: “Greater market flexibility achieved through reduced government regulation, combined with enhanced market incentives for entrepreneurial activity, is regarded as central to the achievement of small firm competitiveness” (Parker, 2002). This approach to entrepreneurship policy relies on the values of a competitive business system. On the other hand, the coordinated approach emphasizes the state as an institution of economic governance and is concerned with the relationships companies have with one another, or with other firms or institutions (such as research institutions and training organizations). Entrepreneurs and SMEs are, thus, influenced by the social context within which they are embedded.

Ireland has generally taken a competitive approach (with a hint of the coordinated approach). The Government has striven to create an economy that allows market forces to determine the winners and losers, that rewards people for taking risk by reducing corporation and personal income tax rates, by establishing groups such as the Small Business Forum to identify how administrative burdens can be reduced, barriers to entry and growth removed, and management skills updated to cope with the changing needs of a increasingly global economy. However, the Government has also sought to develop the social embeddedness to its approach by encouraging linkages between indigenous SMEs and multinational companies based in Ireland. It has additionally attempted to bring researchers and business interests closer together in an attempt to stimulate R&D activity in Ireland. The coordinated approach has been utilised primarily where there is a need to stimulate activity but the competitive approach has been employed where strong activity already exists. Given the strength of the Irish economy over the past decade, the need for a competitive approach has generally been far greater than for a coordinated approach.

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5. An Introduction to Irish Innovation Policy at National Level

Innovation Policy is primarily concerned with ensuring the generation of new knowledge, products and services. It should additionally be concerned with making government investment in innovation more effective, whilst also improving the interaction between the main actors in the innovation system (e.g. universities, research, and firms), and establishing the right incentives for private sector innovation to transform knowledge into economic values and commercial success\(^{91}\). The relevance and scope of innovation policy begins with the pre-start-up enterprise and the nascent entrepreneur, facilitating the transition from being a new start-up to becoming a young SME. As with entrepreneurship policy, the innovation policy appropriate to this report is that which holds implications for growth in new firms or existing SMEs. The range of innovation policy, as adapted from Lundström and Stevenson\(^{92}\), is illustrated in Figure 8.

![Figure 8 – Scope of Innovation Policy](image)

Source: Lundstrom, Almerud and Stevenson, 2008\(^{93}\).

This chapter examines Innovation Policy in Ireland and compares it to what is happening in the other countries of the IPREG study. As a starting point to this analysis, Figure 9 depicts the result of the research into the questions in the innovation comprehensiveness index (see Appendix 3). In Ireland, general policy was the highest ranked area as specific strategic goals and measures are already in place to identify and remove obstacles for new and early-stage innovation. While the Government is engaged with some innovation performance tracking, measures for disaggregating collected data are not divided by gender, age, ethnicity, or region. A recent report by

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Forfas\textsuperscript{94} reviewed the current activities regarding innovation in Ireland under a wide range of headings and expressed the belief that significant progress had been made in this area in recent years.

\begin{center}
\textbf{Figure 9 - Comprehensiveness of General Innovation Policy Measures}
\end{center}

The weakest innovation field is policy structure, although it should be noted that this does not necessarily depict an accurate picture of the reality of innovation policy structure in Ireland. Although there is no agency or senior minister with primary responsibility for the area, the different bodies involved in the System of Innovation are held together by a centrally managed committee which is further elaborated on below\textsuperscript{95}. The Department of Enterprise Trade and Employment (DETE) stipulates in its strategic goals that increased stimulation of innovation is a necessary component of Ireland’s enterprise policies. DETE Strategy states that the government will work with the relevant stakeholders to ensure that Ireland becomes internationally renowned for the excellence of our research and will be to the forefront of generating and using new knowledge for economic and social progress, within an innovation culture\textsuperscript{96}. This commitment to further advance the national system of innovation comes as Ireland continues transitioning to a knowledge-based economy. Although the structure of innovation policy is significantly weaker than other general measures, the comprehensiveness index highlights many other inadequacies also.

\textbf{General Policy}

The DETE Strategy for Science, Technology and Innovation\textsuperscript{97} is a well structured combination of policy and action objectives for achieving the innovation driven culture that Ireland needs for economic and social progress. This strategy is designed to fully accomplish the goals established in The National Research and Development

\textsuperscript{94} Forfas (2008), \textit{Innovation in Ireland}, Forfas, Dublin
\textsuperscript{95} The table shows the percentage of questions in the comprehensiveness index within the key groups that could be answered with a yes, 4-5 counted equally as a yes.
action plan, with the emphasis on building Ireland’s National System of Innovation. The intent of this strategy is to deliver world class people and enterprises with the drive to succeed and the resources to do so. The targets for this policy area are the agencies and offices through which strategy is implemented and stakeholders are reached. This includes the Cabinet Sub-Committee for the Strategy for Science, Technology and Innovation (SSTI), the Inter-Departmental Committee, Higher Education Group, Technology Ireland, the Chief Scientific Advisor, Advisory Science Council, and the Enterprise Feedback Group.

**Policy Structure**

The Office of Science Technology and Innovation (OSTI) is responsible for the development, promotion, and co-ordination of Ireland’s Science, Technology and Innovation policy, and Ireland’s policy in EU and international research activities. The organisational structure for policy development and implementation is co-ordinated with relevant offices and agencies associated with the DETE. Recommendations are made by Labour, Enterprise, Company and Consumer areas to the DETE with whom the responsibility for policy development and advancement rests. In 2004 an Interdepartmental Committee (IDC) was established to represent all of the governmental departments with a role in science and technology matters. This committee acts as a forum where crosscutting issues are presented and discussed with a view to enhancing cohesion and synergy across the National System of Innovation. The IDC reports to the government on a regular basis and makes recommendations on the implementation of the Research and Development National Action Plan. The overall responsibility for driving the implementation of innovation strategy is the Government Cabinet Sub-Committee. To assist them in their task, two groups were set up: The Higher Education Research Group (HERG) and Technology Ireland (TI). These groups comprise of representatives of key departments, agencies, and bodies and have the responsibility of ensuring a coherent approach to funding, investments, and effective linkage of sector based and enterprise research. The Irish Action Plan for Increasing Investment in R&D is based around six points of action: raising awareness and increasing the number of companies carrying out R&D, improving soft support systems to secure the development of appropriate technology strategies by companies, achieving step change increases in quality and quantity of R&D activity in existing R&D performers, building in-company and industry to Higher Education Institution collaboration, simplifying the administrative and operational procedures of R&D programmes, and investing in inter-company and industry collaborations.

**Performance Tracking**

The Irish Action Plan for Promoting Investment in R&D to the year 2010 was published by the IDC in 2004. This plan marked the beginning of a structured approach to systematically improving the National System of Innovation in Ireland. The action plan is comprised of the following targets: expenditure on R&D should reach 2.5% of GNP by 2010, increase business R&D performance, increase higher education and public sector R&D, and increase the number of researchers in

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99 Department of Enterprise, Trade and Employment, Departmental Website [www.entemp.ie/scienceandtechnology/](http://www.entemp.ie/scienceandtechnology/)
employment by 2010\textsuperscript{100}. These targets dictate the overarching goals for the major stakeholders in Ireland’s National System of Innovation. The Strategy for Science, Technology and Innovation (2006-2013) set five main targets to be achieved by the end of its seven year plan:

- To increase business investment in R&D to €2.5 billion (€1.076 billion, 2003),
- To advance the number of indigenous companies performing meaningful R&D to 1050 (463 in 2003)\textsuperscript{101},
- To increase the number of indigenous firms performing significant R&D to 100 (21 in 2003)\textsuperscript{102},
- To enhance the number of foreign affiliate companies with minimum scale efforts in R&D to 520 (213 in 2003),
- To raise the number of foreign affiliate firms performing significant R&D to 150 (60 in 2003).

Forfás sources data on innovation performance from the EU Community Innovation Survey (CIS). The CIS survey is the most comprehensive measure for tracking the performance of innovation activities in Ireland. An additional benefit derived from the CIS is that it facilitates international benchmarking of performance. Although measures are being used to track the performance of innovation, Ireland remains over-dependent on outsourced information.

**IDA – Supporting a Knowledge-Based Economy**

The Industrial Development Authority (IDA) has a significant role to play in supporting a knowledge-based economy (Table 5 describes the objectives, activities, budget and financing). The IDA is an important player in both the National System of Entrepreneurship and Innovation as it is responsible for marketing Ireland as a ‘knowledge based economy’ in order to attract Foreign Direct Investment (FDI).

<table>
<thead>
<tr>
<th>Objective</th>
<th>IDA Ireland is responsible for securing new foreign investment in the manufacturing and internationally traded services sectors through the promotion of knowledge and innovation.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main Activities</strong></td>
<td></td>
</tr>
<tr>
<td><strong>To develop Ireland as a Knowledge Economy</strong></td>
<td>IDA places an emphasis on IT and Bio-pharmaceutical sectors.</td>
</tr>
<tr>
<td><strong>To Attract Potential Investors</strong></td>
<td>IDA Ireland is charged with introducing potential investors to local enterprise, service providers and research institutions.</td>
</tr>
<tr>
<td><strong>To Provide Innovation Support Systems</strong></td>
<td>IDA provides research and capability grants, supports the innovation partnership initiative and the RTI initiative. IDA also works with niche companies and Innovators with a unique product or service offering.</td>
</tr>
</tbody>
</table>

| Annual Budget 2006 | €217,386,000 |
| Main Financer          | Irish Government |

\textsuperscript{100} Report to the Interdepartmental Committee for Science, Innovation and Technology (2004), *Building Ireland’s Knowledge Economy: The Irish Action Plan for Promoting Investment in R&D to 2010*, Forfás, Dublin

\textsuperscript{101} Meaningful R&D activity is defined as being investment greater than €100,000.

\textsuperscript{102} Significant R&D activity refers to investment greater than €2 million.
As mentioned earlier, Ireland is an island and cannot compete with foreign low-cost economies, so a focus on skill and the advancement of knowledge assets is essential to sustained growth. FDI brings with it significant potential for innovation and new business generation – making the IDA highly engaged in growth policy. The IDA also works with existing foreign subsidiaries in Ireland to encourage them to expand and strengthen their Irish operations, especially adding high-value business activities such as R&D. The IDA also has a number of programmes for helping to fund industry R&D.

**Innovation Sub-Policy**

This section provides a more detailed description of the sub-policy areas. As in the entrepreneurship sub-policy measure in Chapter 4, the fields in the comprehensiveness index are described according to research conducted by Lundström and Stevenson\(^{103}\) (see Appendix 3). A sub-policy is considered to be ‘comprehensive’ if it can answer yes to all questions although it should be noted that having totally comprehensive set of policies is not necessarily the optimum solution to the local situation. Table 6 identifies the main actors and their activities and responsibilities within the system of innovation in Ireland.

**Table 6 – Important Actors and Their Activities Within the System for Innovation**

<table>
<thead>
<tr>
<th>Promotion</th>
<th>Education</th>
<th>Barriers</th>
<th>Financing</th>
<th>Business Support</th>
<th>Target Groups</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise Ireland</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IDA</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forfas</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City &amp; County Enterprise Boards</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>ICSTI</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>BASIS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>FAS</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Figure 8 below illustrates that the most comprehensive sub-policy areas in Ireland are business support and research which is a positive indication as these areas are central to maintaining, updating, and growing an innovative business. Meanwhile promotion, education, and target groups have all received a low rating which suggests that the three are linked as improvements in the promotion of innovation would have a direct effect on raising awareness amongst people in the education system and minority groups. The access to start-up, seed and early-stage financing in the National System of Innovation is rated quite low by the index. This issue is currently being addressed by initiatives recently adopted by Enterprise Ireland which are discussed further on in this section. These programmes are still at an early stage of development and therefore it is difficult to evaluate their impact thusfar.

1. Promotion

The DETE promotion of R&D for enterprise, innovation and growth utilises the marketing slogan “Knowledge Is In Our Nature” in order to attract foreign direct investments. This involves the transformation of knowledge into viable products and services to promote an innovation driven competitive advantage across all sectors of the economy. The strategy for the implementation of this scheme is stated in the Irish Action Plan for Promoting Investment in R&D as developing intellectual property management and commercialisation expertise and resources necessary to ensure effective and rapid exploitation of research generated in higher education and public research sectors. In their strategy for transforming industry, Enterprise Ireland commits to the development of the Innovation Partnership Initiative which is designed to encourage and promote collaboration between enterprise and the research community. The CEB Student Enterprise Awards promote innovation through an award at senior, intermediate and junior secondary school levels. The CEBs also operate the Entrepreneur of the Year award which incorporates a female specific category with the intent of promoting female interest in innovative enterprise. The Department of Education, in partnership with private companies, run an annual Young Scientist of the Year Award. This is organised to encourage students to take science and technology subjects in second and third-level education and to nurture the development of the knowledge economy.

The table shows the percentage of questions in the comprehensiveness index within the key groups that could be answered with a yes, 4-5 counted equally as a yes.

Report to the Interdepartmental Committee for Science, Innovation and Technology (2004), Building Ireland’s Knowledge Economy: The Irish Action Plan for Promoting Investment in R&D to 2010, Forfas, Dublin
2. Education

The DETE strategy encompasses a goal for the promotion of linkages between academia and enterprise. A recent review of the primary level curriculum has seen the introduction of new teaching methodologies designed to stimulate an interest in and awareness of science at a very young age. At transition year level scientific and technological innovation is encouraged in the education system through information brochures on science, guidance materials and awareness initiatives. Institutes of Technology (IoTs) are addressed in the DETE strategy through the identification of the need to concentrate emphasis on the importance of teaching methodologies and awareness of scientific issues.

3. Barriers

Removing barriers to the mobility and flow of knowledge between academic institutions and businesses is a priority in Ireland’s Innovation Strategy, while efforts to reduce the barriers created by the low mobility of researchers have been helped by the establishment of the European Network of Mobility Centres. This improved network of international researchers is essential for domestic knowledge, growth and diversity. Mobility Centres also allow Irish researchers to gain access to state of the art international facilities whilst reducing the risk of duplicated research efforts. The Irish Universities Association operates Ireland’s national mobility centre and acts as a portal for international centres. The mobility centre provides assistance to researchers seeking employment in academia and industry. The Action Plan for Innovation in Ireland aims to increase the incentives for viable careers in research, thereby increasing the level and quality of domestic Research and Development.

4. Financing

The government is currently developing actions based on two recommendations made by the Report of the Small Business Forum to reduce barriers to innovation. Innovation Vouchers have been put in place to promote innovation across all sectors. These vouchers can be exchanged for expert advice and information from accredited knowledge providers. Knowledge Acquisition Grants are also being developed to enable small businesses in manufacturing and internationally traded service sectors to gain access to research-based knowledge, expertise and facilities in higher education institutes, research bodies and large privately enterprises, on a co-funded basis. It is hoped that these initiatives will encourage the uptake of firms in meaningful innovation, research and development.

EI's funding program for the Commercialisation of Research and Development (CORD) grant is designed to assess and enhance commercial viability of new innovative technologies from third-level educational institutions. CORD grants

107 Report to the Interdepartmental Committee for Science, Innovation and Technology (2004), Building Ireland’s Knowledge Economy: The Irish Action Plan for Promoting Investment in R&D to 2010, Forfas, Dublin
108 Report to the Interdepartmental Committee for Science, Innovation and Technology (2004), Building Ireland’s Knowledge Economy: The Irish Action Plan for Promoting Investment in R&D to 2010, Forfas, Dublin
facilitate the swift transfer of innovation between business and academic institutions. CORD funding is available for market research, product trials and market assessment, establishing links with potential joint venture partners, cost analysis, and for financial projections\textsuperscript{110}. These hard financial supports enable firms to evaluate and access information on innovative new products, services and business models.

5. Business Support

EI provides support for overcoming barriers to innovation for businesses. This involves the facilitation of a flow of new ideas, technology and skills from research bodies to start-ups and established businesses. On campus specialists in Institutes of Technology (IoTs) are available to firms wishing to increase their innovation, with technology specialists and financial advisors guiding firms towards a more innovative culture. An Innovation Management programme is also in place to help companies grow their R&D management skills and maximise the commercial effectiveness of their innovation activities. This programme is available to companies in the manufacturing and internationally traded service sectors. EI is also responsible for administrating the RTI Initiative which is designed to help businesses meet challenges by stimulating R&D performance. It supports commercially focused, industry led projects in product and process development.

6. Target Groups

Youth interest and participation in science is targeted by the innovation strategy, as is the gender balance regarding the uptake of secondary-level science subjects. Strategic actions have been identified to encourage female participation in engineering and to increase the representation of women in research careers in industry and academia, particularly through senior positions\textsuperscript{111}. The role of the Gender Equality Unit (Department of Justice) with regard to innovation policy is to make recommendations as to how the government can incorporate gender equality perspective\textsuperscript{112} into policies as they are developed, implemented and reviewed.

7. Research

The Report of the Small Business Forum (2006) recommended that the Government take steps to ‘stimulate innovation’ based on their research which identified that relatively few small businesses in Ireland exploit new technologies or engage in R&D activity. It was found that the lack of innovating was due to deficient financing and technical expertise. These issues are addressed in the targets set by innovation strategy for the year 2013 as discussed in the performance tracking section of this chapter.

As previously mentioned, Forfas is the government agency charged with policy-orientated research for areas akin to the National System of Innovation. Forfás collects a range of indicators including measures such as the contribution of and

\textsuperscript{110} Enterprise Ireland (2005), \textit{Transforming Ireland’s Industry Strategy 2005-2007}, Enterprise Ireland, Dublin

\textsuperscript{111} Report to the Interdepartmental Committee for Science, Innovation and Technology (2004), \textit{Building Ireland’s Knowledge Economy: The Irish Action Plan for Promoting Investment in R&D to 2010}, Forfas, Dublin

\textsuperscript{112} Forfas (2007), \textit{Mapping of Initiatives to Support Entrepreneurship in Ireland}, Forfas, Dublin
employment levels in agency supported firms, and reviews analyses of innovation indicators collected from the CIS in order to support policy-makers. Through the provision of empirically pertinent research, Forfás conducts ongoing evaluations of development agency programmes, and provides the DETE and other stakeholders with analysis, advice and support on issues related to enterprise, trade, science, technology and innovation. Forfas’ policy research priorities are based on areas that are believed to have the greatest implications for growth in Ireland. In terms of innovation research, this involves the development of knowledge assets and human capital to support an innovation driven economy and a commitment to improving framework conditions for entrepreneurship and innovation initiative development. Forfas produces advisory reports which are regularly submitted to and taken into consideration by government.

**Regional Policy**

The have been renewed efforts by recent governments to encourage the development of regional economic growth through initiatives such as the development of regional gateways and hubs, plus the desire to decentralise much of central government. Support for innovation at regional level has been part of these efforts and the actors listed in Table 10 have primary responsibility for this area of activity.

**Table 10 - Important Actors in Regional Innovation Policy and Main Functions**

<table>
<thead>
<tr>
<th></th>
<th>Promotion</th>
<th>Education</th>
<th>Barriers</th>
<th>Financing</th>
<th>Support</th>
<th>Target Groups</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>STI Foundation</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Enterprise Ireland</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIC’s</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Shannon Development</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMW Assembly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>S&amp;E Assembly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Údarás na Gaeltachta</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

The National Development Plan\(^{113}\) regards innovation as one of the principal pillars of its overall objectives. The Gateways Innovation Fund will receive initial funding of €300 million for a pilot scheme between 2008 and 2010. This fund is being put in place to promote co-funded competitive bids from regions for funding local economic infrastructure developments not already part of the mainstream plan or localised capital programs. Enterprise Ireland states clearly in their strategy\(^{114}\) that maximising the utilisation and return from these investments is essential to driving regional growth for innovation and enterprise. The National Development Plan\(^{115}\) also provides for a Gateway Innovation Fund with the aim of this fund being to enhance

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\(^{113}\) Ireland’s National Development Plan (2007), Transforming Ireland - A Better Quality of Life for All, 2007-2013, Stationery Office, Dublin

\(^{114}\) Enterprise Ireland (2005), Transforming Ireland’s Industry Strategy 2005-2007, Enterprise Ireland, Dublin

\(^{115}\) Ireland’s National Development Plan (2007), Transforming Ireland - A Better Quality of Life for All, 2007-2013, Stationery Office, Dublin
the growth of nine key cities and towns highlighted in the National Spatial Strategy\textsuperscript{116}. Initially €300 million is being invested in a pilot scheme from 2008 to 2010. The scheme will be managed by the Department of Environment, Heritage and Local Government. At regional level, national development priorities and local planning are governed by the nine Innovation Gateways that focus on regional development and encourage growth in under-utilised areas of the country.

1. Enterprise Ireland & Regional Innovation

As highlighted above, regional economic development is a key aspect of government policy. The IoTs are a platform focused on by Irish policy for implementing innovation policy based on their \textit{multi-regional locations and openness to working with industry}.\textsuperscript{117} Enterprise Ireland (EI) is committed to fostering an innovation culture and works in conjunction with the Higher Education Authority (HEA) to implement innovation strategy. EI have an explicit Regional Innovation strategy\textsuperscript{118} which works with Institutes of Technology (IoTs) at regional level. Through investment in research initiatives working to regionally relevant industry agendas, EI supports the development of close collaboration and interaction between IoTs and industry. EI aims to expand the development of high-tech clusters to cultivate innovation in represented regions. In addition actions are underway to further increase the regional focus of Seed and Venture Capital Funds.

<table>
<thead>
<tr>
<th>Regional Policy Documents</th>
<th>Target Group</th>
<th>Financing</th>
</tr>
</thead>
<tbody>
<tr>
<td>DETE National Strategy for Science, Technology and Innovation 2006-2013</td>
<td>Research and educational institutions, regional agencies and bodies in collaboration with trade, and other stakeholders in the innovation system.</td>
<td>Irish Government.</td>
</tr>
</tbody>
</table>

No strategy with the primary responsibility for regional development of innovation exists. As discussed earlier, it is often difficult to associate one government body with innovation; accordingly regional innovation is discussed in and a part of many different policy areas, especially those with implications for entrepreneurship and growth, as well as the DETE National Strategy for Science, Technology and Innovation.

2. STI Foundation & Regional Innovation

The Science Technology and Innovation (STI) Council of Ireland aims to advance regional levels of innovation through the strengthening of strategy measures to further communication and collaboration between business and higher education institutions.


\textsuperscript{118} Enterprise Ireland (2005), \textit{Transforming Ireland’s Industry Strategy 2005-2007}, Enterprise Ireland
The STI Council’s action plan for achieving increased levels of innovation will be based on the development of *research strength in IoTs of high quality and of relevance in a regional context*. Regional innovation is to be enhanced through a network, TechNet, which is used for cross-college collaboration. The STI Foundation strategy sets out objectives to generate more flexible paths between experts and local industry which is concerned mainly with addressing technological challenges and maximising the employment of knowledge. The STI strategy also notes the importance of appropriate infrastructure for encouraging an innovative culture. Through the delivery of suitable physical infrastructure, policy support can build on the significant investment to date in incubator facilities at regional locations.

### 3. Business Innovation Centres

There are five BICs in Ireland which are a part of the European Business Network. These centres for innovation target not only entrepreneurs in the traditional sense but also enterprise and project based innovation. Their objective is to support entrepreneurs and start-ups by providing a range of support services including:

- Space in regionally based incubation centres,
- Project evaluation,
- Feasibility study assistance,
- Business plan guidance,
- Business plan preparation,
- Advice on making effective applications for finance.

The Dublin BIC provides additional access to:

- Dublin Seed Capital Fund,
- Irish BICs Seed Capital Fund,
- Dublin Investor Register Service.

By delivering a diverse and comprehensive range of supports to the micro enterprise sector such as business information, referral networks, mentoring and counselling, the BICs contribute significantly to regional economic development. The BICs are also involved *in the development and management of enterprise space and the promotion of an enterprise culture*.

### Conclusion

This chapter has focused on Innovation Policy in Ireland and has highlighted the many initiatives that are currently taking place to enhance activity in this area. The existence of the Strategy for Science, Technology and Innovation (2006-2013) demonstrates the recognition by the Irish government of the need to position Ireland as a knowledge economy since competing in the area of manufacturing has become increasingly more difficult due to high input costs in Ireland. While, there has been significant efforts made regarding innovation policy, an examination of Figure 11 detailing the Comprehensiveness Index for the countries involved in the IPREG study clearly demonstrate that Ireland still has some distance to travel since it lies in a lowly 8th position (from 12 countries), with only the Czech Republic, Hungary and Norway below it. Meanwhile, Finland is shown to have the highest level of

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120 Enterprise Ireland; [www.enterprise-ireland.com/startbusiness/business+innovation+centres.htm](http://www.enterprise-ireland.com/startbusiness/business+innovation+centres.htm)
comprehensiveness, followed closely by Denmark. The low result is primarily caused by the perception that Ireland does not perform well in terms of policy structure. However, it is arguable that this would not be a fair reflection of the situation given that there is an Office of Science Technology and Innovation (OSTI), plus an Interdepartmental Committee, and groups such as the Higher Education Research Group (HERG) and Technology Ireland (TI). Indeed, a review of the recent report ‘Innovation in Ireland’\footnote{Forfas (2008), \textit{Innovation in Ireland}, Forfas, Dublin} clearly demonstrates the significant number of initiatives and personnel committed to delivering an Ireland that is at the forefront of innovation on a global basis.

**Figure 11 – Comprehensiveness of General Innovation Policy Measures**

![Figure 11](image)

Source: Lundstrom et al, 2008

It is interesting to note that in terms of Comprehensiveness of Sub-Policy Measures for Innovation (see Figure 12), Ireland performs significantly better in this analysis given its position in 4\textsuperscript{th} place on the table. This may be a truer reflection of the existing situation since it recognises the many schemes that are currently underway to promote innovation in Ireland. These schemes include support for knowledge creation, knowledge transfer, skills development, public procurement, networks and clusters, intellectual property management, workplace innovation, and regulation. As stated by the Department of Enterprise Trade and Employment, ‘our ambition is to put innovation at the core of our policies and strategies for the future, so that Ireland becomes a leader in innovation’\footnote{Forfas (2008), \textit{Innovation in Ireland}, Forfas, Dublin}. To support its efforts in this area, in May 2008 the Government appointed a (Junior) Minister for Science, Technology and Innovation who will be based in the Department of Enterprise Trade and Employment, emphasising the Government’s commitment to this area of economic activity.
While much of the analysis surrounding Innovation Policy in Ireland was positive, three issues of concern were identified in the research. These were:

(1) **There is a low uptake of R&D and innovation activities in SMEs.** New initiatives have been launched to encourage micro and SME firms to innovate. Innovation Vouchers and Knowledge Acquisition Grants are intended to enable companies to develop new services and products, adopt new business models, cut costs and exploit new technologies. These supports have been designed to encourage innovation and the awareness of its benefits throughout enterprise whilst increasing the levels of R&D active companies in Ireland. However, the uptake on these schemes remains disappointingly low.

(2) **Ireland is still in transition to becoming a knowledge-based economy.** While low value-added activities continue to migrate to lower economies with lower costs, the economy has become increasingly knowledge-based. Recent evaluations of this situation have concluded that a greater proportion of the country’s wealth will need to be generated from indigenous enterprise.

(3) **The links between innovation and entrepreneurship are often implied but rarely formally defined.** Current policy shows little sign of consolidating the areas of entrepreneurship and innovation into a more comprehensive policy despite the identification of the link in many documents. A more cohesive approach to entrepreneurship and innovation policy is needed to optimise the return on investment in both areas as well as sustaining growth in the economy.

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123 The table shows the percentage of questions in the comprehensiveness index within the key groups that could be answered with a yes, 4-5 counted equally as a yes.

124 Small Business Forum (2006), *Small Business is Big Business*, Forfas, Dublin

125 e.g. Small Business Forum identifies entrepreneurial growth and set out to focus ‘on optimising the number of start-up businesses, and in particular on maximising the number of start-ups aspiring to and achieving high growth’.
The importance of innovation to the growth of a national economy has gained increasing recognition over the past decade. In a global business environment that is continually changing, it has become ever more significant that companies must constantly adapt to the shifting conditions if they are to achieve sustainable growth. While the mantra of ‘innovate or die’ may overstate the importance of innovation to this ambition, it does offer an indication as to the consequence of not being active in terms of innovation. However, such innovative activity does not occur in a vacuum but instead is influenced by the innovation policies of national governments who are seeking to expand economic development through entrepreneurship and innovation.

The exercise in mapping the ‘comprehensiveness’ of innovation policy activities may be misleading as it may suggest that more comprehensive is always better than less comprehensive. However, that is not necessarily true, but the ‘comprehensiveness’ should be understood within the framework of a national context and especially of outputs achieved. Indeed, in the case of Ireland, the need and goal to be comprehensive in general is strongly questioned and a preference is presented to encourage more attempts to focus on the most necessary measures with a high rate of return and to relate investment in specific policy measures with respective outcomes. Based on the available evaluations of Ireland, the instruments and measures as such seem to be of good quality and target the appropriate needs. However, these instruments do not seem to be enough to generate successful export growth business – on the contrary, the export performance of indigenous firms is quite poor. There is a strong belief that the government needs to intervene and therefore new public instruments (programmes, organisations) are continuously developed in order to improve the performance. This may help those (potential) entrepreneurs and innovators who have already entered the system and are ready to be supported. However, the major problem is that the flow towards the system and services are much too small – there are not enough potential and high quality innovators and entrepreneurs to be served. In addition, particularly problematic is that the old structures and programmes are rarely demolished but have the tendency of becoming permanent structures even if they are officially framed as fixed term programmes. As a result, the role of public sector in promoting innovation is quite large, although the innovative performance does not seem to stem from the systems. Too few persons, particularly with a university degree, are motivated enough by entrepreneurship as a personal career option. Similarly, too few researchers, research institutes and university departments are motivated in creating new innovations but are more focused towards academic outputs and careers. Also, innovations and inventions keep getting buried within existing businesses unless they fit the strategy of the firm itself.

There is a need to critically analyse the current support systems and structures in each country and to make the necessary reallocations, even if it means changing some existing structures. Also, there is a need to ask if the public services are always needed or even capable of serving the potential entrepreneurs or innovators, or if the needs are best served by encouraging the markets to function well. Streamlining the existing versatile and multi-level system would not only be more cost effective but also more customer friendly in terms of understanding the system. Sometimes it seems that less is more! There is a need to continue and increase long-term and patient activities, such as enterprise education and innovation incentives for the

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126 Enterprise Strategy Group (2004), Ahead of the Curve: Ireland’s Place in the Global Economy, Forfas, Dublin
universities and businesses that will in the long term be the only way to increase inputs in the system. Finally, the challenges of introducing appropriate innovation policies are connected to the population. Hence, targeting the existing population and new generations is not enough but there is a need to increase the dynamics and diversity of the population by fostering work-based immigration which will hopefully assist in fostering the cultural change towards an entrepreneurial and innovative society!
6. Policy Integration

The main actors in Ireland for innovation and entrepreneurship policy generally play some role in each others activities. While normally the actors will focus on one area or the other, they are still likely to maintain strong links between each other since both entrepreneurship and innovation are symptoms of strong economic growth and international success. In the Department of Enterprise Trade and Employment’s National Strategy for 2005 – 2007\textsuperscript{127}, although there is no explicit integrated entrepreneurship and innovation policy, enterprise, innovation and growth are recognised by policy makers as being intrinsically linked. Enterprise Ireland is highly involved with innovation matters although its charge is to focus on enterprise. Therefore it is difficult to confine the responsibility for entrepreneurship or innovation policy to a single actor and it is considered too complicated to amalgamate the policy areas. However, the Interdepartmental Committee was established to bridge the gap between innovation, technology, science, enterprise and other factors that contribute to policy that could be considered to govern economic growth.

![Figure 13 – Integration Between EP and IP Actors](image)

Figure 13 illustrates the agencies and bodies responsible for activities concerning both entrepreneurship and innovation, with the centre of the diagram highlighting the

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actors who are or have been involved in both policy areas. Some of the actors are charged with responsibility in both areas, although integration between actors can also arise when primarily focused agencies work together on a programme or project integrating their resources and skills.

The Government has recognised the centrality of research and development to enterprise in recent years by establishing the Science Foundation and by increasing investment in innovation through the National Development Plan\textsuperscript{128}. The Enterprise Strategy Group\textsuperscript{129} highlighted the need for Ireland to make the transition toward a knowledge-driven economy. This recommendation was welcomed and is now integrated into government strategy; \textit{R&D strategies and supports form a fundamental pillar of modern enterprise policy}\textsuperscript{130}.

Table 12 highlights the important actors within both the entrepreneurship and innovation systems that are engaged in the same activities. Entrepreneurship and innovation activities in the area of business support are offered by Enterprise Ireland and the City/County Enterprise Boards. Similarly, financing is also available from three sources: Enterprise Ireland, FAS and the City/County Enterprise Boards. It was argued by some research interviewees that such integration does not have a positive affect as this approach is not focused, nor is it co-ordinated for either the innovator or the entrepreneur. In some cases the same entrepreneurship and innovation activities are occasionally offered unnecessarily by different agencies and bodies. This issue is addressed further on in this report.

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<th>Table 12 – Important Actors for Entrepreneurship &amp; Innovation and their Activities</th>
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<td>Promotion</td>
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The relationship between entrepreneurship and innovation is based on a common objective and shared values which frequently create integration between important agencies and government bodies. Both policy areas are developed, evaluated and adapted in order to sustain economic growth nationally, regionally and locally, as well as maintaining competitive advantage in the global economy.

\textsuperscript{128} Small Business Forum (2006), \textit{Small Business is Big Business}, Forfas, Dublin
\textsuperscript{129} Enterprise Strategy Group (2004), \textit{Ahead of the Curve: Ireland’s Place in the Global Economy}, Forfas, Dublin
\textsuperscript{130} Small Business Forum (2006), \textit{Small Business is Big Business}, Forfas, Dublin
Figure 14 shows little difference between the two general policy areas in terms of comprehensiveness, although entrepreneurship is notably the stronger area according to the index. This could be explained by the questions involved which focused on innovative entrepreneurship and not on the entire field of innovation. With this in mind it is not difficult to understand why performance tracking in new and early-stage business is showing as under-developed. The policy structure for the National System of Innovation is focused on all aspects of economic advancement and although entrepreneurship is a part of this, it does help to explain why the structure for innovation is weaker than its entrepreneurship counterpart.

**Figure 14 - Comparison Between the General Comprehensiveness of Both Policy Areas**

![Graph showing comparison between general policy areas](image)

**Source:** IPREG: Comprehensiveness Index, 2007

Figure 15 portrays the comparison between the sub-policy areas ratings with the comprehensiveness index. The low promotion column for both policy areas provide a prominent indication as to why these policy areas do not score highly in the target groups area of the comprehensiveness index. Another policy area with an influence on another is that of research, with the level of innovation research policy possibly explaining why the support column in the same field scores higher than entrepreneurship. The more comprehensive that research in a particular field is judged, the more likely it is that the policy area will be developed.

The influence of policy measures in the education system for innovation and entrepreneurship are ill-defined as some skills which promote or enhance enterprising, creative cultures cannot be fully measured by the comprehensiveness index. The recent Report of the Small Business Regulation Forum (2007) highlighted all of the issues attributed to the regulative burden on SMEs and has significantly reduced barriers to start-up, seed and early-stage financing for entrepreneurs, and for new or

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young enterprises wishing to engage in innovative activity, and exploit new technologies and practices.

**Figure 15 - Comparison Between Both Sub-Policy Areas Comprehensiveness**

![Bar Chart - Comparison Between Both Sub-Policy Areas Comprehensiveness](image)

Source: IPREG: Comprehensiveness Index, 2007

A considerable proportion of the agencies and bodies involved in entrepreneurship and innovation areas are integrated deeply as the different actors co-operate and work together on many projects and programmes. As Forfas is the government body for advising enterprise and innovation policy areas, methodologies and measures for evaluation are similar and lead to high levels of integration in strategies for the sustained growth of the economy.

At regional level the actors involved in both the development and implementation of entrepreneurship and innovation policy remain interconnected, yet they are not cohesive in their strategic planning. As with national level integration, key strategies, objectives and goals correlate innovation with entrepreneurship which indicates an awareness of the potential behind the possible integration of the policy areas. Innovation also has a greater presence in Institutes of Technology, a key regional resource still underutilised for entrepreneurship purposes. Indeed, documents concerned with policy for both areas show consistent acknowledgment to the other but do so without deep analysis and often without definition.

At this level, integration between strategic actors in entrepreneurship and innovation policy is essential for balanced regional development. Figure 16 illustrates the agencies and bodies responsible for regional activities. In the centre of the diagram are the departments, agencies and bodies who are responsible for or have had involvement in both policy areas. As discussed with regards to the integration of national policy, some actors are charged with responsibility in both policy areas.
though integration between actors can arise from collaboration on programmes or projects.

**Figure 14 – Integration Between Regional EP and IP Actors.**

![Diagram showing integration between regional entrepreneurship and innovation policies]

The Report of the Small Business Forum\textsuperscript{132} found that at regional level many entrepreneurship and innovation agencies were duplicating services and identified an overlap in eligibility for hard supports from Government bodies and agencies. The evaluation made clear that a considerable review of co-ordination between bodies was necessary. CEBs were advised by the Forum to renew their focus on enterprise and entrepreneurship and to concentrate on the supply of repayable finance and soft supports to cultivate start-ups. It was clear from a demand perspective that a integrated policy was needed to cultivate a more creative enterprise culture. In order to secure growth patterns and sustain a favourable economy, an emphasis must remain on encouraging indigenous business.

Table 13 highlights the important actors within both the regional entrepreneurship and regional innovation systems which are engaged in these activities. Regional entrepreneurship and innovation activities in the areas of financing and business support show significant levels of integration. EI, the S&E and BMW assemblies, and Údarás na Gaeltachta all offer both innovators and entrepreneurs financial and support activities. As previously mentioned some level of duplicity suggests that the most important actors and services are not being guided by central government policy.

\textsuperscript{132} Small Business Forum (2006), *Small Business is Big Business*, Forfas, Dublin
Table 13 – Important Actors for Regional Entrepreneurship & Innovation and their Activities

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<thead>
<tr>
<th>Enterprise Ireland</th>
<th>Promotion</th>
<th>Education</th>
<th>Barriers</th>
<th>Financing</th>
<th>Business Support</th>
<th>Target Groups</th>
<th>Research</th>
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<td>Entrepreneurship Activity</td>
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As mentioned earlier in this report, the Small Business Forum explicitly recommended a formal adoption of a National Entrepreneurship Policy. The report claimed that a rise in entrepreneurial activity in recent years has been driven by the perception of opportunity and suggested that measures needed to be taken to ensure sustained levels of participation. The report summarised the current state of the entrepreneurship climate as follows: the State operates and supports many initiatives aimed at inspiring entrepreneurship and supporting start-ups, these supports and initiatives are generally uncoordinated and do not amount to coherent policy. The report stated that proposed policy should build upon three particular tiers: stimulating latent potential entrepreneurs with a focus on underrepresented groups (e.g. women and immigrants), to reinforce entrepreneurship into the education system, and to breed a culture for entrepreneurship. An emphasis was placed in the recommendations that departments, bodies and agencies involved in the entrepreneurial arena be included in stated policy to ensure cohesion amongst actors for enterprise. The intent of this policy is to ensure the quality and quantity of start-up enterprise continuing to support the country’s economic needs.

The report also showed that very few companies have the resources or skill to engage in meaningful research and development. The promotion of an innovation culture is required to encourage businesses less likely to become innovation performers (i.e. service sector innovation) to avail of expertise which could ensure growth and sustainability. Recommendations were made based on the Forum’s findings to enable the development of new service offerings, business models, improving customer

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133 Irish adults perceiving opportunities increased to 52% in 2005. Of the EU and other OECD countries only Denmark (66%) and New Zealand (57%) have more optimism regarding opportunities for entrepreneurship - Global Entrepreneurship Monitor (2006)
134 Small Business Forum (2006), Small Business is Big Business, Forfas, Dublin
interfaces, to help cut costs, and elevate the adoption of new technology. A number of companies were identified in the report as being involved in some R&D activity, yet they did not have the capacity to advance their performance. The report emphasised the need to foster productive relationships between IoTs and other third level institutions in order for these firms to enhance their capacity for innovation and develop new products, process and designs. As previously noted, the Forum’s recommendations for the implementation of the Innovation Vouchers scheme and the provision of Knowledge Acquisition Grants have both been developed.

The Forum’s research showed that a low uptake of ICT was related to a lack of awareness about the benefits of the technology. Driving the awareness and understanding of ICT is vital to the growth of the knowledge economy and an ICT audit scheme has been developed to promote the role of technology in growth and towards improving productivity. The ICT audits are designed to allow small businesses access to independent professional advice and information on how to exploit ICT strategically and effectively. The objective of the scheme is to illustrate how successful use of ICT can drive productivity in the small business sector and promote innovation within enterprise which may not have had the capacity to do so.

It is arguable that a country’s processes and performances are intrinsically correlated as one economic variable has an impact on another, with strong levels of entrepreneurship and innovation having a positive relationship with economic strength. A high share of public activities, which are reflected in the taxation and public sector employment rates, are usually linked to a centrally managed economy with lower levels of individual innovative capacity. Furthermore, a large public sector may also inhibit the private sector from developing and thus reduce the rate of return on innovation and R&D activities, as well as impeding the start-up of new firms and investment in innovation. Within the context of this comparative analysis, it has been demonstrated that there is a significant requirement for an integrated policy between entrepreneurship and innovation in Ireland. The research has again highlighted the need for a co-ordinated approach between all of the agencies across national and regional levels so that unnecessary duplication can be eliminated. Clearly defined goals for the new global economy, supported by well-defined policies, are what this country needs in these new and challenging economic times.

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135 Small Business Forum (2006), *Small Business is Big Business*, Forfas, Dublin
7. Lessons Learned From European Study

The following are the principal lessons that have been learned from the overall European study. This chapter is an edited version of Chapter 6 in the report by Lundström, A.; Almerud, M. and Stevenson, L. (2008), entitled Entrepreneurship and Innovation Policies: Analysing Measures in European Countries, which was published by the Swedish Foundation for Small Business Research in Stockholm.

1. In general, there is no simple correlation between Vitality indicators and economic Outcomes

There are no simple correlations when comparing indicators describing Vitality in an economy with the economy’s Outcome indicators. This is consistent in line with earlier results from Lundström and Stevenson\(^\text{136}\), although there have been many discussions concerning such a relation. In the Global Entrepreneurship Monitor (GEM) studies, correlations have been tested between the rate of number of nascent entrepreneurship in a country and the size of GDP per capita. Even when nascent entrepreneurs were divided into subsets of opportunity-based entrepreneurs and necessity-based entrepreneurs, such a relationship was only weakly correlated. This is not very surprising since one cannot expect that one or two single indicators could be the determinant or simply reflect the size of GDP or growth in GDP. The Context model used in the IPREG study, although complex, provides a more realistic description of important indicators. By using several indicators for each subset and a ranking procedure for country comparisons, one can generate a more valid relationship between different types of indicators.

So if there is no simple correlation what can be learned by using this Context model approach? First, it is an alternative to benchmarking across against a number of countries. Each country can see by the ranking procedure for which indicators the country has a high, average or low ranking value relative to other countries. From the 48 Context indicators, a country is able to identify, for example, its behaviour in Vitality indicators and further analyse which of these indicators it would be important to improve the ranking value for in the future. Secondly, a country could see how it ranks for each subset of the model. It is noticeable from the research that countries with high values for the rate of entrepreneurs and business owners do not seem to have positive Outcomes in terms of GDP per capita or levels of unemployment.

2. There seems to be a positive relationship between indicators for Outcomes and innovative entrepreneurship

Vitality indicators are divided into two subsets, one subset of indicators for influencing general entrepreneurship and one subset of indicators for mainly influencing innovative entrepreneurship. The purpose of doing this is to explore the importance of so-called innovative entrepreneurship. In comparing countries and their rankings using high, average or low, or average or average ranking values for the two subsets of Vitality and relating them to the Outcomes ranking values, the following results are observed:

• Countries with high rankings for Innovative entrepreneurship also rank high for Outcomes and countries with low ranking values for Innovative entrepreneurship rank low for Outcomes. The opposite is true for general entrepreneurship. Countries with high ranking values for general entrepreneurship tend to have low ranking values for Outcomes and countries with low ranking values for general entrepreneurship have high ranking values for Outcomes.

• The number of observations is of course limited but, if this is true, there are at least three possible explanations. Firstly, the countries could be in different development phases and therefore will have different types of new and SME firms. This explanation could be in line with the so-called U-curve results. The second possible explanation is more radical. A country should be aware of the types of start-up and SME it is supporting. Creating a culture for general entrepreneurship could, in this perspective, create negative effects on Outcome indicators; resources should be used instead to stimulate innovative entrepreneurship. As far as can be seen, Denmark is the only country that really has tried to create such a policy approach despite almost every country in the report having a huge interest in supporting innovative entrepreneurship to create long-term oriented growth. The third possible explanation concerns the indicators chosen. One could discuss whether other indicators representing the three subsets would generate other types of relationship.

If one believes that innovative entrepreneurship is of vital importance, the issue is then whether one can select these types of company from the supply of start-ups and SMEs. According to Lundström and Stevenson\textsuperscript{137} the answer is probably ‘No’, while Storey\textsuperscript{138} would state that, at least for SMEs, this is possible. The results of the Context model indicate that it is not obvious that more start-ups and SMEs in itself will generate more innovative entrepreneurship.

3. Innovation Policy is less comprehensive than Entrepreneurship Policy

According to the results from the Comprehensiveness index approach, Entrepreneurship Policy is more comprehensive than Innovation Policy for most of the governments in the study. The greatest differences can be seen for the sub-areas of Performance Tracking, Promotion, Education, Administrative Burden and Target Groups. Entrepreneurship Policy is more extensive in all sub-areas than Innovation Policy in most countries. However, it is not obvious that more comprehensiveness should be regarded as ‘better’ than less comprehensiveness. A number of other factors and influences may be at play; for example, the existing base of policy, how long the government has been implementing policy in the area, the nature of specific market failures to be addressed at the country level, the prevailing culture towards entrepreneurship and innovation, the level of entrepreneurial activity and SME density, the level of economic development, etc could influence activity. One reason for the differences in policy comprehensiveness for Entrepreneurship and Innovation Policies could be that Innovation Policy has been more closely connected to Science and Technology policy and less connected to the area of SMEs and entrepreneurship. However, one can see that both policy areas are rather similar in comprehensiveness for the sub-areas of Financing, Counselling and Information. For Innovation Policy

\textsuperscript{138} Storey DJ (1994), \textit{Understanding the Small Business Sector}, Routledge, London
the sub-area of Financing is, to a great extent, about financing spin-offs from universities or innovation systems and seed capital for very early phases of innovation development, as well as venture capital. In some cases, one can also see the use of tax credits to encourage innovations in SMEs. Otherwise, most countries claim that they have problems with technology transfer. Comparing the funding focus and instruments between Entrepreneurship and Innovation Policies, it is apparent that Innovation Policy financing measures are much more in the form of seed capital and early stage investments, often long before a product is introduced to the market (R&D stage financing). In this sense, measures for Innovation Policy are more long-term oriented. If this is the case, it is also rather logical that not many measures for Innovation Policy are about reducing Administrative Burden (except for simplification of patent systems, for example) and Target Groups (except that university researchers are targeted for spin-off activity). One can expect that Innovation Policy in the future will be more oriented towards innovative entrepreneurship and therefore moving towards the area of Entrepreneurship Policy. It should also be noted that not very much is being done so far in the area of tracking performance of Innovation Policies and measures, even though it is not easy to track performance for long-term oriented measures. If the main interest is spin-offs from universities and the connection to S&T policy, less interest will be seen in tracking the innovation development of existing SMEs, which has been one of the main interests of this study.

One assumption could be, as stated above, that Innovation Policy during the coming years will become less dependent on S&T and move more towards becoming an independent policy area. Some countries have already moved in this direction (e.g. Denmark). Norway could probably be seen as another example. In Norway’s strategy document, entrepreneurship is regarded as part of a future-oriented Innovation Policy. Attempts at integration can also be seen in Finland and in Sweden, where the central agency recently presented a strategy document for a future policy towards innovative SMEs.

4. Entrepreneurship Policy is closely connected to SME policy

Resources in the area of Entrepreneurship Policy are mainly invested in traditional SME policy sub-areas such as Financing, Counselling and Information. Entrepreneurship Policy is more comprehensive than Innovation Policy, but at the same time this policy area is dominated by similar measures to that of the SME policy area – albeit the targets and emphasis of policy measures are different. For example, in Entrepreneurship Policy, the orientation towards individuals versus firms, the emphasis on supporting nascent and very early stage entrepreneurial activity, and the focus on market failures for high risk start-ups, are all examples of distinctions from traditional SME policy. However, even if a number of measures are taken in sub-areas such as Administrative Burden (e.g. reducing start-up obstacles), Target Groups and Education, the invested resources in these sub-areas remain relatively small. It is not clear that the earlier observation made by Lundström and Stevenson\(^\text{139}\) for the 14 countries they studied over a period of years, that more countries were developing Entrepreneurship Policy remains the case for European countries. Finland is one example of this. Entrepreneurship is still an important issue for the Finnish

government but more in connection to SME development. In several European countries one can see an increasing interest in renewing SME policy to include both entrepreneurship and innovation. There are a number of reasons for this development:

- Financing measures targeted at the early phases of enterprise development are connected with high losses, coupled with the problem of uncertainty about long-term development prospects. Governments may decide it is more effective to support renewal in existing SMEs, since these firms have proved that they can compete in the market.

- In the sub-area of Administrative Burden, which is of an increasing interest for different countries, the problem is seen as one largely affecting existing SMEs, and of less relevance for start-ups and young firms. It is not obvious that the time it takes to start and register a firm has significant importance in the decision of an entrepreneur to start a company, or that tax issues will significantly affect the number of new entrepreneurs. It seems more reasonable that tax issues and rules simplification will have a greater impact on existing SMEs.

- Some dimensions of Entrepreneurship Policy measures are, just as Innovation Policy measures, long-term oriented. Measures concerning Education or Promotion may not be expected to reap rewards for several years, especially if culture change is one of the objectives. The same might be expected to apply for measures within the sub-area of Target Groups. If a government aims to redistribute business ownership rates more evenly across population groups, this can likely only be achieved over the longer term.

These arguments are not to say that the importance of Entrepreneurship Policy will diminish, but that a renewal of SME Policy measures might be expected: SME Policy as a more short-term oriented policy area will be combined with longer-term oriented measures in the Entrepreneurship and Innovation Policy areas. The policy perspective would then be that each policy area is an area of its own, but with a more clarified role for each one in the future. One might therefore expect that different countries in the future will invest most resources in what is seen as the SME policy area.

5. Entrepreneurship and Innovation Policies are partly integrated

One assumption at the beginning of this research study was that Entrepreneurship and Innovation Policies were not well integrated. This is not wholly true. The two policy areas are integrated in the sense that central agencies working mainly in one area are often involved in the other policy area. This is a common situation in more or less all of the participating countries in this study. However, each central organisation has its main responsibility in one of the two policy areas and will only do marginal activities in the other policy area. So if the organisations within the area of Entrepreneurship Policy are also working in the Innovation Policy area, it normally would mean that the latter activities will not have any great impact for the Innovation Policy area, and vice versa. So even if this type of integration of activities is notable, one can state that the two areas are only partly integrated. Furthermore, in most cases central agencies are not doing joint projects or programs. Therefore, one cannot expect that there is a competence exchange between organisations in the different policy areas, nor a great deal of experience exchange.
6. Entrepreneurship and Innovation Policies are going to be internationalised

There will be an increasing international market for projects and programs in the two policy areas. One can already observe that a number of programs such as Young Enterprise, Venture Cup, tax credits for R&D investments, incubator strategies, micro loans, and promotion activities have transferred from one country to another. A lot of similar projects and programs also exist in other sub-policy areas. Furthermore, the policy structures and performance tracking approaches look rather similar, an example being how to measure costs for the sub-area Administrative Burden. This is probably only the beginning of a trend which will increase in the future. Policy-makers will not only learn from each other at the EU level but also from other countries such as the US, China and India. Furthermore, representatives from central agencies and business organisations will continue to ‘pick up’ new ideas, as will internationally-oriented policy researchers. Benchmarking and best practice are also examples of this trend. In the different countries investigated for this study, many examples of international influence were observed, especially in the Innovation policy area. In the future, one can expect service providers to be more internationally-oriented in their different activities. This is something for which central agencies and policy-makers should have a strategy.

7. Entrepreneurship and Innovation Policies are not properly defined

None of the countries studied for this research had a distinct definition of the two policy areas. In fact, different policy-makers have different views of how these policy areas should be defined. The definitions used in this report share both broad and narrow perspectives: broad in the sense that entrepreneurship and innovation could take place in any type of organisations or by any individual or group of individuals, and narrow in the sense that the main interest is in the number of start-ups and young firms (entrepreneurship policy) and how many innovations will take place in start-ups, young firms and SMEs (innovation policy). These definitions suggest that Innovation Policy covers a broader perspective than Entrepreneurship Policy. These perspectives could not always be seen in what is counted as ‘elements’ in the two policy areas in different economies. Since there is no consensus about definitions of the policy areas, there is neither any consensus on what type of measures should be included among their measures. If different economies in the future are to work with these policy areas as partly independent areas, as well as with SME policy and S&T policy areas, then it will be important to come up with distinct definitions. This is also of importance to being able to measure the amount of resources invested in each of these areas and to evaluate the effects of invested resources.

8. It is not possible to calculate resources invested in Entrepreneurship Policy and Innovation Policy

In the study, attempts were made to calculate the level of invested resources in each policy area as well as for different sub-policy areas at the country level. It turned out that this was impossible to do. One reason of course was the lack of formal definitions. Furthermore, since some policy sub-areas influence several policy areas, accurate allocations to the different policy areas could not be calculated. In fact, it was not even possible to estimate the total investment for different sub-policy areas, since several Ministries are involved and many organisations on both regional and local
levels are initiating projects with governmental or EU funding. The next step was therefore to try to estimate the intensity of different items in the Comprehensiveness index to see to what extent investments were done in certain areas by using an ordinal scale procedure. This was also not possible to carry out in practice. So the problem of calculating investments made or resources spent in Entrepreneurship and Innovation Policy areas is not solved. It is an important task for the governments to present such expenditure figures annually. Otherwise there will be great difficulties for these governments to judge if the recent allocation of resources in the policy areas are optimal or could be improved.

9. It is not possible to properly evaluate the effects of investments in different sub-areas

Performance tracking is more common in the Entrepreneurship Policy area than in the Innovation Policy area. This does not mean that these performance measurements and evaluations are done properly from a research point of view. The whole area of evaluation needs to be based more on research expertise. The problem of evaluating single projects and programs in policy areas has been well described by Storey140. However, the problem of how to allocate resources between different sub-areas has not yet been solved. One suggestion is to use so-called ‘allocation indicators’ to judge the size of resources needed in different sub-areas. There are of course special method problems that must be solved. However, without good methods, policymakers will not be able to continually improve their policy effectiveness. Taking into consideration a certain level of expenditure for a policy area, it should be of great interest to know the effects and impacts of the various measures undertaken.

10. The EU will become a more active partner for policy development

One can observe a change in the role for the EU in the area of Entrepreneurship and Innovation policies. Earlier EU Policy for SMEs and Entrepreneurship was regarded as a complement to what member States were already doing in these Policy areas. Therefore, the EU programs, at least for SME Policy, were marginal. After the Lisbon strategy, this situation has in recent years, apparently changed. After the agreement to make the EU the best market in the world for starting and running a business, different activities have gradually taken place (e.g. the adoption of common objectives and targets for reduction of the costs of administrative burden, joint interest in entrepreneurship education, promotion activities from the EU, and new financial sources for SMEs). Member States have also accepted common targets for R&D investments and are working on ideas of how to create a joint patent program on the EU level. There have also been a lot of projects related to benchmarking and best practice initiatives.

However, the most significant impact could probably be seen in the regional programs through the structural funds. Many investment opportunities have been created by different regional programs partly financed by the EU and partly by individual governments. These investments have created a substantial number of projects and programs at a regional level. Furthermore, the new programs, the 7th Framework

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Programme, the Competitiveness and Innovation Programme (CIP) and Structural Funds Programmes all give high priority to investments in entrepreneurship and innovation projects and programs as well as to sustainability aspects. One can therefore expect that influence from the EU in the policy areas will increase during the present program period.

11. Business is local and global - policymaking will become more decentralised

A trend towards more international projects and programs will be combined with a trend of decentralisation of the policy areas to the regional level. Such a two-fold perspective has been seen, during a number of years, as one effect of the resources invested through Structural Funds. Therefore, the competence on regional level has increased in recent years. Many regions have offices in Brussels and abroad and actively develop international networks and contacts. At the same time, they are working relatively closely with business organisations and service providers in the country. One would therefore expect that central agencies in the future must be more oriented both towards the regional level and the international level. This tendency can be observed in most of the IPREG participating countries, where Finland, Denmark, UK and Belgium (Flanders) are only some examples. This development must be taken into account when governments are thinking of how to build policy structures for the future.

12. Weak bridges between policy relevant research and responsible politicians

The IPREG network wishes to build networks to exchange knowledge and experiences between policy-makers, business organisations and researchers in each country (see [www.ipreg.org](http://www.ipreg.org)). One conclusion is that there are relatively weak links between policy-relevant researchers / research and both policymakers and business organisations. This does not mean that there is no support from policymakers to the research society. In several countries, Centres of Excellence have been created and governments provide financial support for research programs. However, the links between responsible politicians and researchers are very weak, with few formal meetings or venues where they can come together to discuss policy-research issues. This suggests that, independent of the support activities from governments, the results of the research are not used to any great extent in policymaking processes.

One can also see that in some sub-areas of policy, such as Administrative Burden, there has so far been very little research undertaken. On the other hand, there are issues of interest to researchers but of less interest to policy-makers, one example being the issue of entrepreneurial failures. An interesting research project would be to see to what extent policymaking is influenced by the knowledge from policy-relevant research and to what extent high priority policy sub-areas create new research projects.

13. More or less of policy measures could be better – the issue of policy gaps

From the results of the Comprehensiveness index one could formally define a number of policy gaps (i.e. measures in different sub-areas not so far adopted in certain economies). However, this issue of ‘policy gaps’ must be carefully considered. Earlier in this report it has been emphasized that more policy Comprehensiveness was not
obviously better than less, depending on the circumstances. This is apparently valid as long as there is a lack of definition, a lack of knowledge of invested resources in Entrepreneurship and Innovation Policy areas, and a lack of knowledge from properly conducted evaluations. Furthermore, one cannot see any significant correlation between the Context description in an individual economy and the policy measures taken. Therefore a final word could be to ‘think outside the box’ in creating future policy measures for Entrepreneurship Policy and Innovation Policy.
8. Future Challenges

This report has been designed to map the current situation with respect to the government’s approach to entrepreneurship, innovation policy and sub-policy areas within the embedded framework and context of Ireland. The intent of this study has been to identify objectives, targets and measures within the government’s understanding of innovation and entrepreneurship policy. The next stage of this project will use the conclusions of this report to further illustrate overlying policy and gaps in growth policies. Meanwhile, following extensive research into current Irish policy measures for entrepreneurship and innovation activity, the conclusions below have been drawn.

Ireland is in transition to becoming a knowledge-based economy. While low value-added activities continue to migrate to lower economies with lower costs, the economy has become increasingly knowledge-based. Recent evaluations of this situation have concluded that a greater proportion of the country’s wealth will need to be generated from indigenous enterprise. In order to grow the economy in this way policy measures in the fields of innovation and entrepreneurship must be developed and further defined in order to progress towards adopting a comprehensive growth policy.

There is currently no comprehensive policy for entrepreneurship. Following recommendations by the Report of the Small Business Forum, an entrepreneurship policy is currently being considered. The policy will aim to deliver an Ireland that ‘is characterised by a strong entrepreneurial culture, recognised for the innovative quality of its entrepreneurs, and acknowledged by entrepreneurs as a world-class environment in which to start and grow a business’.

There is a very low uptake of R&D and innovation activities. New initiatives have been launched to encourage micro and SME innovating. Innovation Vouchers and Knowledge Acquisition Grants are intended to enable companies to develop new services and products, to adopt new business models, cut costs and exploit new-technologies. These supports have been designed to encourage innovation and the awareness of its benefits throughout enterprise whilst increasing the levels of R&D active companies in Ireland.

The links between innovation and entrepreneurship are often implied in Government Strategy Statements but never formally defined. Current strategy shows no sign of consolidating the areas into a more comprehensive policy. A more cohesive approach to entrepreneurship and innovation policy is needed to optimise the return on investment in both areas, as well as sustaining growth in the economy. Policy documents overlap in both areas without the strategic co-ordination necessary for a comprehensive approach to growth policy. Innovation and enterprise policy documents maintain an over-emphasis on FDI and require a new strategy to further develop an innovative entrepreneurial culture and climate.

141 Small Business Forum (2006), Small Business is Big Business, Forfas, Dublin
142 Forfas (2007), Towards Developing an Entrepreneurship Policy for Ireland, Forfas, Dublin
Government bodies and agencies’ initiatives involving policy are often duplicitous yet still leave gaps in the national systems of innovation and entrepreneurship efforts. The overlap in the main activities for policy and sub-policy areas reduces the effective management of resources and does not facilitate a balanced approach to regional development. Local agencies duplicate the grant aid services offered at regional and national levels, while localised soft supports would be more successful for sustaining high levels of innovative entrepreneurship. This unbalanced approach to schemes implies unnecessary under-representation in other important areas of the innovation and entrepreneurship systems.

The current policy with implications for the fields of entrepreneurship and innovation fails to provide an adequate number of targeted initiatives for underrepresented groups. Increasing resources invested in the promotion and research of both innovation and entrepreneurship could positively influence the comprehensiveness of government initiatives for target groups such as youths, women, disabled persons and ethnic minorities. Diversity in entrepreneurship and innovative entrepreneurship is essential for uncovering dormant activity. The rate of entrepreneurship could be greatly influenced by an expansion of policy measures to facilitate underrepresented groups.

It is difficult to identify weaknesses in particular policy areas. Given that there is no formal entrepreneurship or innovation policies, the areas are embedded in other frameworks and could be regarded as being sub-policy and therefore become difficult to trace. For that reason calculating the budget or evaluating the use of resources within innovation and entrepreneurship policy implementation is complex and incomprehensive. The focused nature of entrepreneurship or start-up related policy is significantly different to that of a very broad based government approach to innovation (e.g. at all stages of business). For this reason innovation may have been portrayed by the comprehensiveness index as weaker than it is in reality.

The conclusions of this report and the results of the comprehensiveness index highlight the need for a more focused approach to entrepreneurship and innovation policy. Entrepreneurship policy has reached a turning point and is currently under development, yet the promotion and encouragement of an innovative culture amongst entrepreneurs is in need of evaluation. The lack of systematic and frequent monitoring of policy measures for innovation and entrepreneurship hinders the development of indigenous enterprise, and given the advantageous economic context, the level of growth activity is not realising its full potential.
### Appendix 1 – Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BASIS</td>
<td>Business Access to State Information &amp; Services</td>
</tr>
<tr>
<td>BES</td>
<td>Business Expansion Scheme</td>
</tr>
<tr>
<td>BIC</td>
<td>Business Innovation Centre</td>
</tr>
<tr>
<td>BMW</td>
<td>Border, Midlands &amp; Western</td>
</tr>
<tr>
<td>CEB</td>
<td>City &amp; County Enterprise Boards</td>
</tr>
<tr>
<td>CEC</td>
<td>Community Enterprise Centre</td>
</tr>
<tr>
<td>CIS</td>
<td>Community Innovation Survey</td>
</tr>
<tr>
<td>CSO</td>
<td>Central Statistics Office</td>
</tr>
<tr>
<td>DETE</td>
<td>Department of Enterprise, Trade &amp; Employment</td>
</tr>
<tr>
<td>EI</td>
<td>Enterprise Ireland</td>
</tr>
<tr>
<td>EPC</td>
<td>Entrepreneurship Policy Comprehensiveness</td>
</tr>
<tr>
<td>ESG</td>
<td>Enterprise Strategy Group</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>FDI</td>
<td>Foreign Direct Investment</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Profit</td>
</tr>
<tr>
<td>GEM</td>
<td>Global Entrepreneurship Monitor</td>
</tr>
<tr>
<td>HERG</td>
<td>Higher Education Research Group</td>
</tr>
<tr>
<td>HPSU</td>
<td>High Potential Start-Up</td>
</tr>
<tr>
<td>ICSTI</td>
<td>Irish Committee for Science, Technology &amp; Information</td>
</tr>
<tr>
<td>ICT</td>
<td>Information &amp; Communication Technology</td>
</tr>
<tr>
<td>IDA</td>
<td>Industrial Development Agency</td>
</tr>
<tr>
<td>IDC</td>
<td>Inter-Departmental Committee</td>
</tr>
<tr>
<td>IME</td>
<td>Institute for Minority Entrepreneurship</td>
</tr>
<tr>
<td>IoTs</td>
<td>Institutes of Technology</td>
</tr>
<tr>
<td>IPC</td>
<td>Innovation Policy Comprehensiveness</td>
</tr>
<tr>
<td>IPREG</td>
<td>Innovative Policy Research for Economic Growth</td>
</tr>
<tr>
<td>MNC</td>
<td>Multi-National Company</td>
</tr>
<tr>
<td>NDP</td>
<td>National Development Plan</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Co-Operation and Development</td>
</tr>
<tr>
<td>OSTI</td>
<td>Office of Science, Technology and Information</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research &amp; Development</td>
</tr>
<tr>
<td>RTI</td>
<td>Research, Technology &amp; Innovation</td>
</tr>
<tr>
<td>SCS</td>
<td>Seed Capital Scheme</td>
</tr>
<tr>
<td>S&amp;E</td>
<td>Southern &amp; Eastern</td>
</tr>
<tr>
<td>SME</td>
<td>Small to Medium Enterprise</td>
</tr>
<tr>
<td>TI</td>
<td>Technology Ireland</td>
</tr>
</tbody>
</table>
## Appendix 2: Comprehensiveness Index method

### Entrepreneurship Policy Framework Actions

<table>
<thead>
<tr>
<th>1. General policy (6 items)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what extent are there policy statements regarding the importance of entrepreneurship to the economy in the central government’s national development plan?</td>
<td></td>
</tr>
<tr>
<td>To what extent is there a clear set of specific policies and plans developed to identify and remove obstacles to entrepreneurial activity?</td>
<td></td>
</tr>
<tr>
<td>To what extent are policy objectives for entrepreneurship embedded as a line of action in another policy framework?</td>
<td></td>
</tr>
</tbody>
</table>
In SME policy?  
In Innovation Policy?  |
| Have specific targets been set for increasing the start-up rate, the level of entrepreneurial activity, or the number of new entrepreneurs/new businesses? |  |
| Is there a central government budget allocation for entrepreneurship policy measures? |  |

<table>
<thead>
<tr>
<th>2. Policy structure for entrepreneurship (4 items)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there an agency or administrative unit within central government with primary responsibility for SMEs/entrepreneurship?</td>
<td></td>
</tr>
<tr>
<td>Is there an official politician responsible for entrepreneurship or enterprise development in the national/central government?</td>
<td></td>
</tr>
<tr>
<td>Do these responsibilities exist in the same ministry or is it the responsibility of the same person?</td>
<td></td>
</tr>
<tr>
<td>Is there a centrally managed delivery structure for rendering support to nascent and new entrepreneurs at regional level?</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Performance tracking (5 items)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the government have mechanisms to assess and track measures of ‘entrepreneurial climate’ and ‘entrepreneurial culture’?</td>
<td></td>
</tr>
<tr>
<td>Does the government evaluate and monitor the impact of entrepreneurship policy measures?</td>
<td></td>
</tr>
<tr>
<td>Does the government track and report on business dynamics (i.e., the entry, exit, survival and growth rates of enterprises)?</td>
<td></td>
</tr>
<tr>
<td>Are self-employment, business ownership and business dynamic data disaggregated by gender, age, ethnic origin and region?</td>
<td></td>
</tr>
<tr>
<td>Does the government support and/or publish research on and about its entrepreneurs?</td>
<td></td>
</tr>
</tbody>
</table>
### Entrepreneurship Sub-Policy Framework Actions

#### 1. Promotion of entrepreneurship (7 items) %

- To what extent is there a stated policy objective to increase broad-based awareness of entrepreneurship and to promote an entrepreneurial culture?
- To what extent does the government sponsor events that profile entrepreneurship and provide start-up information?
- Does the government alone, or in partnership with private sector organisations, recognise entrepreneurs through national, high-profile award programmes?
- Do awards recognise diversity in entrepreneurship (e.g. women, ethnic minorities, youth, etc.) and success at different stages of business development, including start-ups, young and growing firms?
- To what extent does the government engage with the mass media in the promotion of entrepreneurship?
- Is a portion of central government’s budget allocated for entrepreneurship promotion activities?
- Are efforts in place to track attitudes of the population towards entrepreneurship-awareness levels and levels of intent to start a business?

#### 2. Entrepreneurship in the education system (16 items) %

- Is there a policy objective to integrate entrepreneurship into all levels of the education system?
- Has there been a study (stocktaking) of the extent to which entrepreneurship is included in education at school level?
- Is entrepreneurship included as an element/outcome in National Education Curriculum Guidelines?
- Is there a plan/strategy to integrate elements of entrepreneurship into all levels of the educational system in a cross-disciplinary fashion?
  - **Elementary level?**
  - **Secondary level?**
  - **Vocational/technical level?**
- Is there a plan to promote the teaching of entrepreneurship in the elementary, secondary and vocational/technical education system?
- Are training programmes being delivered regionally to introduce educators to the strategies of teaching courses/modules on entrepreneurship?
- Have curriculum and teaching materials being developed for each level of the education system?
- Do mechanisms exist for the national sharing of information and experience (e.g., educators’ conferences, seminars, databases of resource materials)?
- Is there public funding support for extra-curricular entrepreneurial activities (e.g., JA, Young Enterprise) to support student ventures?
- Are entrepreneurship courses widely offered to college and university students?
- To engineering, science and other students?
- To what extent is the government involved in entrepreneurship activities in the school system?
- To what extent are private actors involved in entrepreneurship activities in the school system?
- Is there a national budget allocation for development and implementation of entrepreneurship/enterprise education initiatives and programmes?
### 3. Easing entry, early-stage survival/growth and exit (removing barriers) - (22 items) %

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a stated policy objective to ease the process of starting a business?</td>
</tr>
<tr>
<td>Has the government reviewed the time and cost of starting a new business?</td>
</tr>
<tr>
<td>Do efforts exist to examine barriers to entry and exit?</td>
</tr>
<tr>
<td>Have business registration procedures been streamlined for new firms?</td>
</tr>
<tr>
<td>Does the government use a Single Business Number for new company registrations and ongoing dealings with government departments/agencies?</td>
</tr>
<tr>
<td>Is there a single point of entry where new entrepreneurs can access information about government regulations and obtain advice?</td>
</tr>
<tr>
<td>Does the government have initiatives to reduce/relax the administrative burden for newly-started enterprises?</td>
</tr>
<tr>
<td>Has the government reviewed its Competition Policy to ensure open competition for the entry of new firms in all sectors?</td>
</tr>
<tr>
<td>To protect small firms from unfair competition vis-à-vis large firms?</td>
</tr>
<tr>
<td>To protect private firms vis-à-vis public sector enterprises?</td>
</tr>
<tr>
<td>Have bankruptcy laws been adjusted to reduce the penalties of ‘failure’ and to increase an entrepreneur’s opportunity to restart?</td>
</tr>
<tr>
<td>Has the government reviewed barriers to the transfer of businesses?</td>
</tr>
<tr>
<td>To what extent has the government undertaken actions to simplify patent processes and to strengthen intellectual property and protection policies?</td>
</tr>
<tr>
<td>Has there been a review of non-wage costs and administrative burdens that prevent new firms from hiring their first employee?</td>
</tr>
<tr>
<td>Does the central government offer concessionary or favourable tax rates to newly started firms (e.g., VAT exemptions; income tax rebates; reduced corporate tax; accelerated capital cost allowances)?</td>
</tr>
<tr>
<td>Do special tax credits exist to encourage R&amp;D activity by new/small firms?</td>
</tr>
<tr>
<td>Are tax incentives used to encourage informal investment in new and growth-oriented firms?</td>
</tr>
<tr>
<td>Are tax incentives used to encourage venture capital investments in early-stage ventures (e.g., tax concessions; pooled capital funds)?</td>
</tr>
<tr>
<td>Has the government lowered its Capital Gains Tax to encourage private investment?</td>
</tr>
<tr>
<td>Has the government acted to reduce SME administrative burden?</td>
</tr>
<tr>
<td>Has the government set up a ‘better regulation unit’ to monitor the impact of all new legislation and regulations on new and small firms?</td>
</tr>
<tr>
<td>Are business impact assessment tests used to measure the cost of proposed new legislation/regulations and the effects on barriers to entry and growth?</td>
</tr>
</tbody>
</table>

### 4. Access to start-up, seed, and early-stage financing (11 items) %

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a concrete policy objective to increase the amount of financing available to new and early-stage companies?</td>
</tr>
<tr>
<td>Has the government undertaken a review of financing gaps for new entrepreneurs?</td>
</tr>
<tr>
<td>To what extent have efforts been made to redirect more of the available supply of capital to new firms?</td>
</tr>
<tr>
<td>Is there a government-supported micro-financing programme to enable more people to start new businesses?</td>
</tr>
</tbody>
</table>
Do micro-loan programmes exist for under-represented groups who may have more difficulty accessing conventional financing (e.g., women; ethnic minorities; young people)?

Is there a government-backed credit-guarantee scheme to reduce the lending risk of new, small, and early-stage enterprises?

To what extent does the government deliver its own loan or equity programmes for new and early stage enterprises?

To what extent has the government implemented initiatives to bridge information gaps between private investors and early-stage entrepreneurs?

Does the government support the development of angel networks or databases to bridge gaps between entrepreneurs and informal investors?

Does the government stimulate the availability of venture capital funds for early-stage firms?

Has the government relaxed regulations for 2nd-tier stock markets?

5. Start-up and early-stage growth - business support (13 items)

Is there a stated policy objective to increase the level of support for nascent, new and early-stage entrepreneurs?

Does the government make provision to ensure that the needs of nascent and early stage entrepreneurs are met through existing SME service-delivery networks?

Are there ‘first’ or ‘one-stop-shops’ in place to provide new entrepreneurs with business start-up information, assistance and advice?

Is there a government-sponsored web portal that provides start-up and other information to nascent and new entrepreneurs?

Is there a network of business enterprise centres in all regions of the country with the mandate to assist new entrepreneurs?

Does the government facilitate the development of mentor programmes for new entrepreneurs and growth firms?

Are subsidies available to support the training of new entrepreneurs?

Is there a national incubator strategy with government funding to subsidise the initial funding of incubators in key regions?

Does the government support the professional development of business advisers and economic development agents?

Are performance standards in place for service providers?

Does the government convene forums for the exchange of best practices among service delivery agents?

Does the government support the development of entrepreneur associations for peer mentoring and self-help?

To what extent are there forums and horizontal networks for all actors (e.g., educators, regulators, advisers, policy makers, researchers and entrepreneurs)?

6. Target group policies (9 items)

Is there a stated policy objective to increase entrepreneurial activity levels of certain segments of the population?

To what extent does the government conduct research on the entrepreneurial activity rates of demographic groups within the population and track the start-up, survival and growth rates for each demographic group of entrepreneurs?

Has the government examined the specific barriers and challenges faced by different demographic groups, including their take-up rate of existing business
support services and programmes?

Does the government target initiatives for:  
- Women
- Young people
- Ethnic minorities/aboriginal groups
- The unemployed
- Veterans, senior citizens, people with disabilities
- Immigrants/expatriates

<table>
<thead>
<tr>
<th>7. Research policies (8 items)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the government have special support for policy-oriented research?</td>
<td></td>
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<tr>
<td>Does the government have special programmes for research in entrepreneurship?</td>
<td></td>
</tr>
<tr>
<td>Does the government support research for evaluation of entrepreneurship policy?</td>
<td></td>
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<tr>
<td>Has the government an advisory group of researchers to discuss development of measures in entrepreneurship policy?</td>
<td></td>
</tr>
<tr>
<td>Does the government often refer to research results in documents concerning entrepreneurship policy?</td>
<td></td>
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<tr>
<td>Are there regular meetings between researchers and the government to discuss and present recent research knowledge in the area of entrepreneurship?</td>
<td></td>
</tr>
<tr>
<td>Is there a specific budget item for research programmes in entrepreneurship policy?</td>
<td></td>
</tr>
<tr>
<td>Has the government created a number of centres of excellence in the area of entrepreneurship research?</td>
<td></td>
</tr>
</tbody>
</table>
## Innovation Comprehensiveness Index

### Innovation Policy Framework Actions

<table>
<thead>
<tr>
<th>1. General policy approach/commitment (6 items)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what extent are there policy statements regarding the importance of innovation to the economy in the central government’s national development plan?</td>
<td></td>
</tr>
<tr>
<td>To what extent is there a clear set of specific policies and plans developed to identify and remove obstacles to innovation activity?</td>
<td></td>
</tr>
<tr>
<td>To what extent are policy objectives for innovation embedded as a line of action in another policy framework?</td>
<td></td>
</tr>
<tr>
<td>In Research Policy?</td>
<td></td>
</tr>
<tr>
<td>In Entrepreneurship Policy?</td>
<td></td>
</tr>
<tr>
<td>Have specific targets been set for increasing spin-offs, the level of innovative SMEs or numbers of new innovative firms?</td>
<td></td>
</tr>
<tr>
<td>Is there a central government budget allocation for Innovation Policy?</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>2. Policy structure for innovation (4 items)</th>
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<tbody>
<tr>
<td>Is there an agency or administrative unit within central government with primary responsibility for innovation?</td>
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<tr>
<td>Is there an official politician responsible for innovation development in the national government?</td>
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<td>Do these responsibilities exist in the same ministry or is it the responsibility of the same person?</td>
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<td>Is there a centrally managed delivery structure for rendering support to innovations at regional level?</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Performance tracking (6 items)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Does the government have mechanisms to assess and track measures of ‘innovative climate’ and ‘innovative culture’?</td>
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</tr>
<tr>
<td>Does the government evaluate and monitor the impact of Innovative Policy measures?</td>
<td></td>
</tr>
<tr>
<td>Does the government track and report on business dynamics (i.e., the entry, exit, survival and growth rates of innovative enterprises)?</td>
<td></td>
</tr>
<tr>
<td>Are self-employment, business ownership and business dynamic data disaggregated by gender, age, ethnic origin and region?</td>
<td></td>
</tr>
<tr>
<td>Does the government support and/or publish research on and about its innovative entrepreneurs?</td>
<td></td>
</tr>
<tr>
<td>Does the government produce an annual report on the state of innovative small business and entrepreneurship in the country?</td>
<td></td>
</tr>
</tbody>
</table>
**Innovation Sub-Policy Framework Actions**

### 1. Promotion of innovation (8 items) %

To what extent is there a stated policy objective to increase broad-based awareness of innovation and innovation systems?

To what extent does the government sponsor events that profile innovative start-ups?

To what extent does the government sponsor events that profile innovation systems?

Does the government alone, or in partnership with private sector organisations, recognise innovators through national, high profile award programmes?

Do awards recognise diversity in innovations (e.g. women, ethnic minorities, youth, etc.) and success at different stages of business development, including start-ups, young and growing firms?

To what extent does the government engage with the mass media in the promotion of innovation?

Is a portion of the central government budget allocated for innovation promotion activities?

Are efforts in place to track attitudes of the population towards innovation awareness?

### 2. Innovation in the education system (16 items) %

Is there a policy objective to integrate innovation activities into all levels of the education system?

Has there been a study (stocktaking) of the extent to which innovation is included in education at the school level?

Is innovation included as an element/outcome in National Education Curriculum Guidelines?

Is there a plan/strategy to integrate elements of innovation into all levels of the educational system in a cross-disciplinary fashion?

- **Elementary level?**
- **Secondary level?**
- **Vocational/technical level?**

Is there a plan to promote the teaching of innovation in the elementary, secondary and vocational/technical education system?

Are training programmes being delivered regionally to introduce educators to the strategies of teaching courses/modules on innovation?

Have curriculum and teaching materials been developed for each level of the education system?

Do mechanisms exist for the national sharing of information and experience (e.g., educators’ conferences, seminars, databases of resource materials)?

Is there public funding support to support student innovative ventures?

Are innovation-oriented courses widely offered to college and university students?

To engineering, science and other students?

To what extent is the government involved in innovation activities in the school system?

To what extent are private actors involved in innovation activities in the school system?
Is there a national budget allocation for development and implementation of innovation education initiatives and programmes?

3. Easing entry, early-stage survival/growth, and exit (removing barriers) - (21 items)

<table>
<thead>
<tr>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Is there a stated policy objective to ease the process of starting an innovative business?</td>
</tr>
<tr>
<td>Has the government reviewed the time and cost of starting a new innovative business?</td>
</tr>
<tr>
<td>Do efforts exist to examine barriers to entry and exit in innovation-oriented sectors?</td>
</tr>
<tr>
<td>Have business registration procedures been streamlined for new innovative firms?</td>
</tr>
<tr>
<td>Is there a single point of entry where new innovator can access information about government regulations and obtain advice?</td>
</tr>
<tr>
<td>Does the government have initiatives to reduce/relax the administrative burden for newly started innovative enterprises?</td>
</tr>
<tr>
<td>Has the government reviewed its Competition Policy to ensure open competition for the entry of new firms in all sectors?</td>
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<tr>
<td>To protect innovative small firms from unfair competition vis-à-vis large firms?</td>
</tr>
<tr>
<td>To protect innovative private firms vis-à-vis public sector enterprises?</td>
</tr>
<tr>
<td>Have bankruptcy laws been adjusted to reduce the penalties of ‘failure’ and to increase an innovator’s opportunity to restart?</td>
</tr>
<tr>
<td>Has the government reviewed barriers to the transfer of innovative businesses?</td>
</tr>
<tr>
<td>To what extent has the government undertaken actions to simplify patent processes and to strengthen intellectual property and protection policies?</td>
</tr>
<tr>
<td>Has there been a review of non-wage costs and administrative burdens that prevent new firms from hiring their first employee?</td>
</tr>
<tr>
<td>Does the central government offer concessionary or favourable tax rates to newly started innovative firms (e.g., VAT exemptions; income tax rebates; reduced corporate tax; accelerated capital cost allowances)?</td>
</tr>
<tr>
<td>Do special tax credits exist to encourage R&amp;D activity by new/small firms?</td>
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<td>Are tax incentives used to encourage informal investment in new and growth-oriented firms?</td>
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<td>Are tax incentives used to encourage venture capital investments in early-stage ventures (e.g., tax concessions; pooled capital funds)?</td>
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<td>Has the government lowered its Capital Gains Tax to encourage private investment?</td>
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<td>Has the government acted to reduce SME administrative burden?</td>
</tr>
<tr>
<td>Has the government set up a ‘better regulation unit’ to monitor the impact of all new legislation and regulations on new and small innovative firms?</td>
</tr>
<tr>
<td>Are business impact assessment tests used to measure the cost of proposed new legislation/regulations and the effects on barriers to entry and growth?</td>
</tr>
</tbody>
</table>

4. Access to start-up, seed, and early-stage financing (13 items) 

<table>
<thead>
<tr>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a concrete policy objective to increase the amount of financing available to new and early-stage innovative companies?</td>
</tr>
<tr>
<td>Has the government undertaken a review of financing gaps for new innovative firms?</td>
</tr>
</tbody>
</table>
To what extent have efforts been made to redirect more of the available supply of capital to new innovative firms?

Is there a government-supported micro-financing programme to enable more people to start new innovative businesses?

Do micro-loan programmes exist for under-represented groups who may have more difficulty accessing conventional financing for innovations (e.g., women; ethnic minorities; young people)?

To what extent does the government fund special seed programmes to support the start-up and early-stage development of innovative, techno-starts?

Is there a government-backed credit-guarantee scheme to reduce the lending risk of new, small, and early-stage innovative enterprises?

To what extent are pre-commercialisation funds made available to promising new technology firms (for prototype development, etc.)?

To what extent does the government deliver its own loan or equity programmes for new and early-stage enterprises?

To what extent has the government implemented initiatives to bridge information gaps between private investors and early-stage entrepreneurs?

Does the government support the development of angel networks or databases to bridge gaps between entrepreneurs and informal investors?

Does government stimulate the availability of venture capital funds for early-stage, high-tech and regional firms?

Has the government relaxed regulations for 2nd-tier stock markets?

---

5. Start-up and early-stage growth - business support (14 items)

Is there a stated policy objective to increase the level of support for nascent, new and early-stage innovative entrepreneurs?

Does the government make provision to ensure that the needs of nascent and early-stage innovative entrepreneurs are met through existing SME service-delivery networks?

Are there ‘first’ or ‘one-stop-shops’ in place to provide new innovative entrepreneurs with business start-up information, assistance and advice?

Is there a government-sponsored web portal that provides start-up and other information to nascent and new innovative entrepreneurs?

Is there a network of business enterprise centres in all regions of the country with the mandate to assist new innovative entrepreneurs?

Does the government facilitate the development of mentor programmes for new innovative entrepreneurs and growth firms?

Are subsidies available to support the training of new innovative entrepreneurs?

Is there a national incubator strategy with government funding to subsidise the initial funding of incubators in key regions?

To what extent does the government provide support to encourage spin-off companies from university and publicly funded R&D?

Does the government support the professional development of business advisers and economic development agents?

Are performance standards in place for service providers for innovations?

Does the government convene forums for the exchange of best practices among service-delivery agents?

Does the government support the development of innovative entrepreneur associations for peer mentoring and self-help?

To what extent are there forums and horizontal networks for all actors (e.g.,
6. Target group policies (10 items) %

Is there a stated policy objective to increase innovative activity levels of certain segments of the population?

To what extent does the government conduct research on innovative activity rates of demographic groups within the population and track the start-up, survival and growth rates for each demographic group of entrepreneurs?

Has the government examined the specific barriers and challenges faced by different demographic groups, including their take-up rate of existing business-support services and programmes?

Does the government target initiatives for:

- Female innovative entrepreneurs
- Young people with innovative ideas
- Ethnic minorities/aboriginal groups with innovative ideas
- The unemployed with innovative ideas
- Veterans, senior citizens, people with disabilities with innovative ideas
- Immigrants/expatriates with innovative ideas

To what extent are there policy initiatives in favour of innovative entrepreneurs and spin-offs from government-funded and university R&D?

7. Research policies (9 items) %

Does the government have special support for policy-oriented research?

Does the government have special programmes for research in innovation?

Does the government support research for evaluation of Innovation Policy?

Has the government an advisory group of researchers to discuss development of measures in Innovation Policy?

Does the government often refer to research results in documents concerning Innovation Policy?

Are there regular meetings between researchers and the government to discuss and present recent research knowledge in the area of innovation?

Is there a specific budget item for research programmes in Innovation Policy?

Has the government created a number of centres of excellence in the area of innovation research?

Does the government support the development of research activities to increase the number of innovations?

NOTE

## Appendix 3: The Context Variables

*(Economic Outcomes, Structure and Entrepreneurial / Innovation Vitality)*

<table>
<thead>
<tr>
<th>Variables for entrepreneurship context</th>
<th>Variables for innovation context</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A: Economic Outcomes variables</strong></td>
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</tr>
<tr>
<td>*GDP/capita</td>
<td>*GDP/capita</td>
</tr>
<tr>
<td>*Growth in real GDP</td>
<td>*Growth in real GDP</td>
</tr>
<tr>
<td><strong>Unemployment rate</strong></td>
<td><strong>Unemployment rate</strong></td>
</tr>
<tr>
<td>*Total labour force participation rate</td>
<td>*Total labour force participation rate</td>
</tr>
<tr>
<td>*Female labour force participation rate</td>
<td>*Female labour force participation rate</td>
</tr>
<tr>
<td>*Exports (f.o.b.)/GDP</td>
<td>*Exports of high-tech products/GDP</td>
</tr>
<tr>
<td>*Industrial production rate</td>
<td>*Industrial production rate</td>
</tr>
<tr>
<td><strong>Average-ranking score for Group A variables</strong></td>
<td><strong>Average-ranking score for Group A variables</strong></td>
</tr>
<tr>
<td><strong>B: Structure variables</strong></td>
<td><strong>B: Structure variables</strong></td>
</tr>
<tr>
<td>*Total population</td>
<td>*Total population</td>
</tr>
<tr>
<td>*Population growth</td>
<td>*Population growth</td>
</tr>
<tr>
<td>*Net immigration rate</td>
<td>*Net immigration rate</td>
</tr>
<tr>
<td>*Population age distribution (index)</td>
<td>*Population age distribution (index)</td>
</tr>
<tr>
<td>*Education level</td>
<td>*S&amp;T graduates among the population</td>
</tr>
<tr>
<td>*Income dispersion index</td>
<td>*Share of knowledge-skill workers</td>
</tr>
<tr>
<td>**Government taxation/GDP</td>
<td>*Employment in innovation sectors</td>
</tr>
<tr>
<td>**Public sector employment share</td>
<td>*Number of patents</td>
</tr>
<tr>
<td>*Service sector output to GDP</td>
<td></td>
</tr>
<tr>
<td><strong>Average-ranking score for Group B variables</strong></td>
<td><strong>Average-ranking score for Group B variables</strong></td>
</tr>
<tr>
<td><strong>C: SME &amp; Entrepreneurial Vitality variables</strong></td>
<td><strong>C: Innovation Vitality variables</strong></td>
</tr>
<tr>
<td>*Business ownership rate (% of business owners in the labour force)</td>
<td>*Business ownership rates in innovative sectors</td>
</tr>
<tr>
<td>*TEA Index (latest GEM data)</td>
<td>*TEA index in innovative sectors</td>
</tr>
<tr>
<td>*Nascent entrepreneur rate (GEM data)</td>
<td>*Nascent entrepreneurs in innovative sectors</td>
</tr>
<tr>
<td>*Self-employment rate (% of total employment)</td>
<td>*Self-employment in innovative sectors</td>
</tr>
<tr>
<td>*Female self-employment rate</td>
<td>*Female self-employment rate in innovative sectors</td>
</tr>
<tr>
<td>*SMEs per 1,000 inhabitants</td>
<td>*Innovative SMEs as a percentage</td>
</tr>
<tr>
<td>*SME share of total employment</td>
<td>*Employment in innovative SMEs</td>
</tr>
<tr>
<td>*Solo firms (% of all firms)</td>
<td>*Solo innovative firms</td>
</tr>
<tr>
<td>*Micro-firms &lt;10 employees (% of all firms)</td>
<td>*Micro innovative firms</td>
</tr>
<tr>
<td>*Micro-firm share of employment</td>
<td>*Micro innovative employment</td>
</tr>
<tr>
<td><strong>Average ranking for density variables</strong></td>
<td><strong>Average ranking for density variables</strong></td>
</tr>
<tr>
<td>*Spin-offs from technical universities</td>
<td>*Proportion of skilled workers among SMEs</td>
</tr>
<tr>
<td>*Broadband use among SMEs</td>
<td></td>
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<tr>
<td>*Degree of knowledge spillover</td>
<td></td>
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<tr>
<td><strong>Average-ranking score for Group C variables</strong></td>
<td><strong>Average-ranking score for Group C variables</strong></td>
</tr>
<tr>
<td><strong>Dynamic Measures</strong></td>
<td><strong>Dynamic Measures</strong></td>
</tr>
<tr>
<td>*Annual growth in number of SMEs</td>
<td>*Annual growth in number of innovative SMEs</td>
</tr>
<tr>
<td>*Annual growth in SME employment</td>
<td>*Annual growth in innovative SME employment</td>
</tr>
<tr>
<td>*Annual entry rate (new firms to total firms)</td>
<td>*Annual entry rates in innovative sectors</td>
</tr>
<tr>
<td>*Start-up rate minus exit rate (net growth in firms)</td>
<td>*Start up rates minus exit rates in innovative sectors</td>
</tr>
<tr>
<td>*Start-up rate plus exit rate (turbulence)</td>
<td>*Start-up rates plus exit rates in innovative sectors</td>
</tr>
<tr>
<td>*Value-added growth among SMEs</td>
<td>*Value-added growth among innovative SMEs</td>
</tr>
<tr>
<td><strong>Average ranking for dynamic variables</strong></td>
<td><strong>Average ranking for dynamic variables</strong></td>
</tr>
<tr>
<td>*Annual growth of skilled workers in SMEs</td>
<td>*Degree of knowledge spillover</td>
</tr>
</tbody>
</table>
Note: One star (*) means that a high level of the variable is considered positive for entrepreneurial activity.
Two stars (**) means that a high level of the variable is inversely related to entrepreneurial activity.
Source: Lundström and Stevenson, 2005
These context variables will be discussed at the first international seminar in Brussels in early February 2007.

Sources for the context variables

If no other years are mentioned, the data are for the year 2005

**GDP per capita in PPS (index EU-25=100)**

Gross domestic product (GDP) is a measure for economic activity. It is defined as the value of all goods and services produced less the value of any goods or services used in their creation. The volume index of GDP per capita in Purchasing Power Standards (PPS) is expressed in relation to the European Union (EU-25) average set to equal 100. If the country is higher than 100, this country’s level of GDP per head is higher than the EU average and vice versa. Basic figures are expressed in PPS, namely, a common currency that eliminates the differences in price levels between countries so allowing meaningful volume comparisons of GDP between countries. Please note that the index, calculated from PPS figures and expressed with respect to EU25=100, is intended for inter-country comparisons rather than for temporal comparisons. Please be aware that this indicator has been rescaled: data are expressed in relation to EU-25=100. Thus, they are not comparable with previous releases based on EU-15.

Source: Eurostat

**Employment rate - Total (%)**

The employment rate is calculated by dividing the number of persons aged 15-64 in employment by the total population of the same age group. The indicator is based on the EU Labour Force Survey. The survey covers the entire population living in private households and excludes those living in collective households such as boarding houses, halls of residence and hospitals. The employed population consists of those persons who, during the reference week, did any work for pay or profit for at least one hour or who were not working but had jobs from which they were temporarily absent.

Source: Eurostat

**Employment rate - females (%)**

The female employment rate is calculated by dividing the number of women aged 15 to 64 in employment by the total female population of the same age group. The indicator is based on the EU Labour Force Survey.

Source: Eurostat
**Unemployment rate - Total %**
Unemployment rates represent unemployed persons as a percentage of the labour force. The labour force is the total number of people employed and unemployed. Unemployed persons comprise persons aged 15 to 74 who were: a. without work during the reference week; b. currently available for work, that is, were available for paid employment or self-employment before the end of the two weeks following the reference week; c. actively seeking work, namely, had taken specific steps in the four-week period ending with the reference week to seek paid employment or self-employment or had found a job to start later, that is, within a period of, at most, three months.

Source: Eurostat

**Export Import Balance**
Total exports divided by total imports

Source: Eurostat

**Exports of high-technology products as a share of total exports**
Value of high-tech exports, in national currency and current prices. High-tech exports include exports of the following products: aerospace, computers and office machinery, electronics, telecommunications, pharmaceuticals, chemistry, non-electrical machinery and armaments.

Denominator: Value of total exports, in national currency and current prices.

Source: EIS 2006

**Real GDP growth rate (%)**
The calculation of the annual growth rate of GDP at constant prices is intended to allow comparisons of the dynamics of economic development, both over time and between economies of different sizes. The growth is calculated from figures at constant prices since these give volume movements only, i.e., price movements will not inflate growth rate.

Source: Eurostat

Labour productivity per hour worked-GDP in purchasing power standards per hour worked relative to EU-15 (EU-15=100). GDP per hour worked is intended to give a picture of the productivity of national economies expressed in relation to the EU (EU-15) average. If the index in a country is higher than 100, this country level of GDP per hour worked is higher than the EU average and vice versa.

Source: Eurostat
**Total population in millions**

Source: Eurostat, 2006

**Participation in life-long learning per 100 population aged 25-64**

Number of persons involved in life-long learning. Life-long learning is defined as participation in any type of education or training course prior to the survey (EIS). Education includes courses of relevance to the respondent’s employment and general interest courses such as languages or arts. It includes initial education, further education, continuing or further training, training within the company, apprenticeship, on-the job-training, seminars, distance-learning and evening classes.

The reference population is all age classes between 25 and 64 years.

Source: EIS 2006

**New S&E graduates per 1000 population aged 20-29**

Number of science and engineering graduates. S&E graduates are defined as post-secondary education graduates in life sciences, physical sciences, mathematics and statistics, computing, engineering, engineering trades, manufacturing and processing and architecture and building.

The reference population is between 20-29 years inclusive.

Source: EIS 2006, Finland 2003

**Population with tertiary education per 100 population aged 25-64**

Number of persons in age class with some form of post-secondary education.

The reference population is any age classes between 25-64 inclusive.

Source: EIS 2006

**Broadband penetration rate (Number of broadband lines per 100 population)**

Number of broadband lines. Broadband lines are defined as those with a capacity equal to or higher than 144 Kbit/s.

The denominator is total population defined in the European system of accounts.

Source: EIS 2006

**Public R&D expenditure (% of GDP)**

Difference between GERD (Gross domestic expenditure on R&D) and BERD (Business enterprise expenditure on R&D). Both GERD and BERD are according to the Frascati Manual definitions in national currency and current prices.
The denominator is GDP as defined in the European System of Accounts, in national currency and prices.

Source: EIS 2006, UK 2004

**Business R&D expenditure (% of GDP)**

All R&D expenditure in the business sectors (BERD), according to the Frascati Manual definitions, in national currency and current prices.

Denominator is GDP as defined in ESA, in national currency and current prices.

Source: EIS 2006, UK 2004

**Share of enterprises receiving public funding for innovation**

Number of innovative enterprises that have received funding. Public funding includes financial support in terms of grants and loans, including a subsidy element, and loan guarantees. Ordinary payments for orders from public customers are not included.

Denominator is total number of enterprises, thus both innovating and non-innovating enterprises (*Community Innovation Survey*)

Source: EIS 2006, Community Innovation Survey 4

**Early-stage venture capital (% of GDP)**

Venture capital investment is defined as private equity raised for investment in companies. Management buyout, management by-ins and venture purchase of quoted shares are excluded. Early-stage capital includes seed and start-up capital. ‘Seed’ is defined as financing provided to research, assess and develop an initial concept before business has reached the start-up phase.

‘Start-up’ is defined as financing provided for product development and initial marketing, manufacturing and sales. Companies may be in the process of being set up or may have been in business for a short time, but have not yet sold their product commercially.

Denominator: DDP as defined in ESA

Source: EIS 2006

**ICT expenditure (% of GDP)**

Total expenditure on information and communication technology, in national currency and current prices. ICT includes office machines, data processing equipment, data communication equipment and telecommunications equipment, plus related software and telecom services. Denominator is GDP as defined in ESA.

Source: EIS 2006
Current taxes on income, wealth, etc. (% GDP)

Current taxes on income, wealth etc. cover all compulsory, unrequited payments, in cash or in kind, levied periodically by general government and by the rest of the world by on the income and wealth of institutional units, and some periodic taxes which are assessed neither on income nor wealth. Denominator: is GDP as defined in ESA

Source: Eurostat

**Population change in 1000**

The difference between the size of the population at the end and the beginning of a period. It is equal to the algebraic sum of natural increase and net migration (including corrections). There is a negative change when both of these components are negative or when one is negative and has a higher absolute value than the other.

Source: Eurostat

**Inequality of income distribution-Income quintile share ratio**

The ratio of the total income received by the 20% of the population with the highest income to that received by the 20% of the population with the lowest income.

Source: Eurostat

**Net Immigration rate per 1000 population**

The difference between immigration into and emigration from the area during the year (net migration is therefore negative when the number of emigrants exceeds the number of immigrants); since most countries either do not have accurate figures on immigration and emigration or have no figures at all, net migration is estimated on the basis of the difference between population change and natural increase between two dates; the statistics on net migration are therefore affected by all the statistical inaccuracies in the two components of this equation, especially population change.

Source: Eurostat, 2006

**Share of SMEs having broadband connection**

Percentage of Enterprises.

Source: Eurostat

**TEA Index 2006-Early-stage entrepreneurial activity**

Percentage of adult population 18-64 years involved in TEA.

Source: GEM 2006

**Human resources in science and technology as a share of labour force-Total %**

Human resources in science and technology as a share of the economically active population in the age group 25-64. The indicator gives the percentage of the total
labour force in the same age group who have successfully completed education at tertiary level in an S&T field of study or are employed in an occupation where such an education is normally required.

Source: Eurostat

**EPO patents per million population**
Number of patents applied for at the European Patent Office (EPO), by year of filing. The national distribution of the patents applications is assigned according to the address of the inventor.

Denominator: Total population as defined in the ESA

Source: EIS 2006

**Number of new community trademarks per million population**
Number of new community trademarks. A trademark is a distinctive sign, which identifies certain goods or services as those produced or provided by a specific person or enterprise. The Community trademark offers the advantage of uniform protection in all countries of the European Union on the strength of a single registration procedure with the Office for Harmonisation.

Denominator: Total population as defined in ESA

Source: EIS 2006

**SMEs innovating in house (% of SMEs)**
Sum of SMEs with in-house innovation activities. Innovative firms are defined as those who introduced new products or processes either 1) in-house or 2) in combination with other firms. This indicator does not include new products or processes developed by other firms. *(Community Innovation Survey)*

Denominator is the Total number of SMEs *(Community Innovation Survey)*

Source: EIS 2006, Community Innovation Survey 3

**Innovative SMEs cooperating with others (% of SMEs)**
Sum of SMEs with innovation cooperation activities. Firms with cooperation activities are those that had any cooperation agreements on innovation activities with other enterprises or institutions in the three years of the Survey period *(Community Innovation Survey)*. Denominator: Total number of SME’s *(Community Innovation Survey)*

Source: EIS 2006

**Sales of new to market products (% of turnover)**
Sum of total turnover of new or significantly improved products for all enterprises. *(Community Innovation Survey)*
Denominator: Total turnover for all enterprises, in national currency and current prices (Community Innovation Survey)

Source: EIS 2006, Community Innovation Survey 4

**Sales of new to firm products (% of turnover)**

Sum of total turnover of new and significantly improved products to the firm but not to the market for all enterprises (Community Innovation Survey)

Denominator: Total turnover for all enterprises, in national currency and in current prices (Community Innovation Survey)

Source: EIS 2006, Community Innovation Survey 4

**SME share of total employment %**

<table>
<thead>
<tr>
<th>Source: World Bank-Micro, Small, and Medium Enterprises: A Collection of Published Data</th>
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<tbody>
<tr>
<td>Greece 2003</td>
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<tr>
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<tr>
<td>Germany 2005</td>
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<tr>
<td>Denmark 2004</td>
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</tbody>
</table>

**SMEs per 1000 people**

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**Micro firms-Percentage of all firms**

Source: The Observatory of European SMEs 2003

**SME share of total Employment %**

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NOTE

About the Authors

Dr Thomas M. Cooney

Tom is Director of the Institute for Minority Entrepreneurship (DIT), Research Fellow at the Dublin Institute of Technology, President-Elect of the European Council for Small Business, Adjunct Professor at the Turku School of Economics (Finland), founding Chairman and current Board Member of INTRE (Ireland's Network of Teachers and Researchers in Entrepreneurship), Member of the European Commission Expert Group on Entrepreneurship Education, Member of the European Foundation for Management Development (EFMD) Entrepreneurship Network Steering Committee, and a Council Member of IRCSET (Irish Research Council for Science, Engineering and Technology). He has researched, published, and presented widely on the themes of entrepreneurship and innovation. Further details of his career can be found at www.thomascooney.com and he can be contacted at thomas.cooney@dit.ie.

Etain Kidney

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