



# Policy Brief

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## HOW WELL IS IRELAND PREPARED TO COPE WITH THE NEW GLOBALISATION CHALLENGES?

by **Dr Iulia Siedschlag**

*Head of the Centre for International  
Economics and Competitiveness  
Economic and Social Research  
Institute,  
Dublin  
Iulia.Siedschlag@esri.ie*

**SUMMARY** Ireland is facing both challenges and opportunities in a world driven by rapid technological change and globalisation. Further economic growth and welfare will depend on Ireland's flexibility to facilitate structural change and ability to generate and diffuse knowledge and new technologies, which can translate into the production of new goods and services, as well as new production processes and organisation methods.

**POLICY CHALLENGES** Globalisation, broadly defined as an increased integration of product, capital and labour markets has been on the rise since the middle of the 19<sup>th</sup> century driven mainly by technological change and policy initiatives. The new phase of globalisation experienced since the 1990s is distinct from the previous phases by its size and speed.

In particular, the falling transportation and communication costs and the integration in the world economy of new players such as China, India, Central and Eastern Europe and former USSR countries have led to a significant acceleration of international integration of product, capital and labour markets along the following dimensions: (i) increased internationalisation of production due to increased tradability of tasks and the creation of global supply chains; (ii) increased ICT-enabled trade of services; (iii) globalisation of financial markets; (iv) increased migration flows including migration of highly skilled workers.

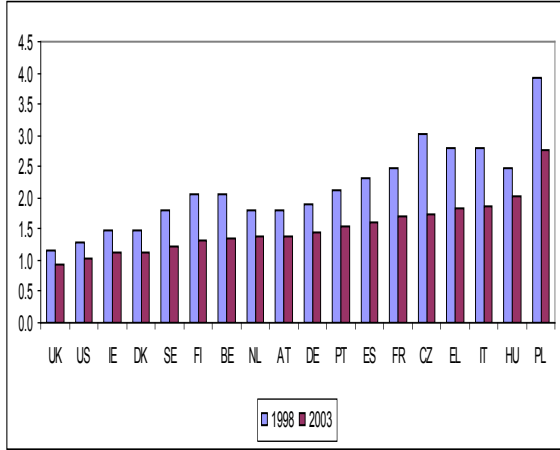
The new challenges from the intensification of globalisation include: (i) the intensification of competition from low-wage countries, between workers performing similar tasks; (ii) cost-induced ICT-enabled acceleration of relocation of production driven by multinational enterprises; (iii) the new competitors have comparative advantages in a wide number of industries (China) and in high value added services (India).

Coping with globalisation is essentially coping with rapid change. This implies the need for flexibility to facilitate structural change and minimise adjustment costs. To this effect, a regulatory environment conducive of competition and flexible labour markets to facilitate labour mobility are key. Given increased competition from low wage countries, the focus in Ireland needs to be on creating and diffusing knowledge and innovation to shift comparative advantage towards the innovation-intensive end of the production chain.

## REGULATORY FRAMEWORK

With respect to product and labour market flexibility Ireland compares favourably with other EU and OECD countries.

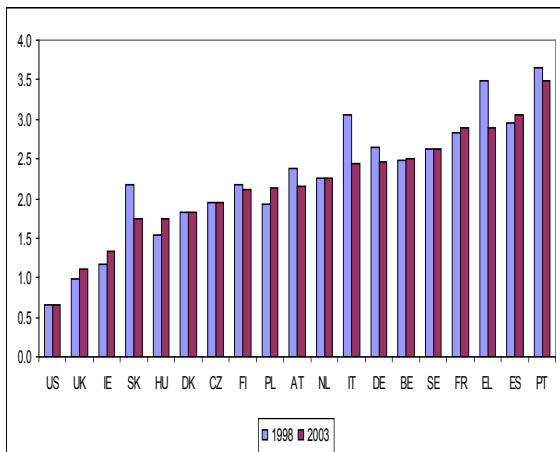
Figure 1: Product market regulation



Source: Own elaboration based on the OECD, Product Market Regulation database

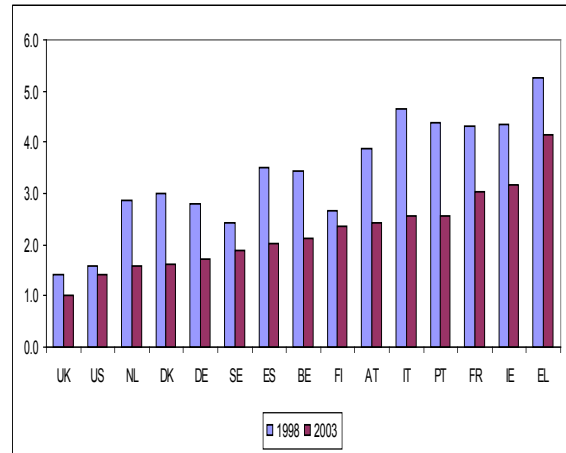
A potential source of innovation and productivity growth is deregulation in services and network industries where the record of Ireland with respect to anti-competition barriers is better only in comparison to Greece among OECD countries.

Figure 2: Employment protection strictness



Source: Own elaboration based on OECD Employment Outlook, Paris: OECD, 2004

Figure 3: Product market regulation in network industries

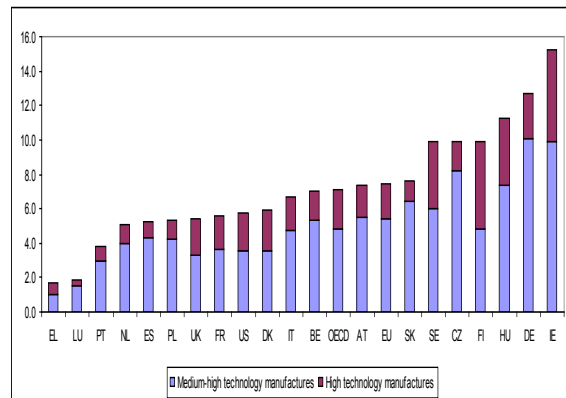


Source: Own elaboration based on Conway, P. and G. Nicoletti (2006), "Product market regulation in non-manufacturing sectors in OECD countries: measurement and highlights", *OECD Economics Department Working Paper*, No. 530

## TECHNOLOGICAL DEVELOPMENT AND INNOVATION PERFORMANCE

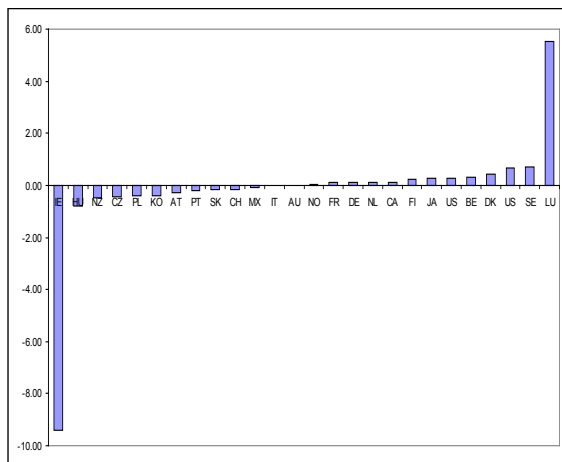
Ireland has successfully achieved technological development through the acquisition of foreign technology and foreign direct investment. According to the latest internationally comparable data on science, technology, and industry performance, the share of high-tech industries in Irish manufacturing and exports is the highest among OECD countries. This outstanding performance is linked to the high share of foreign affiliates in manufacturing, including industrial R&D activity.

Figure 4: Leading producers of high-technology goods



Source: Own elaboration based on OECD Science, Technology, and Industry Scoreboard 2007

Figure 5: Technology balance of payments (% of GDP)



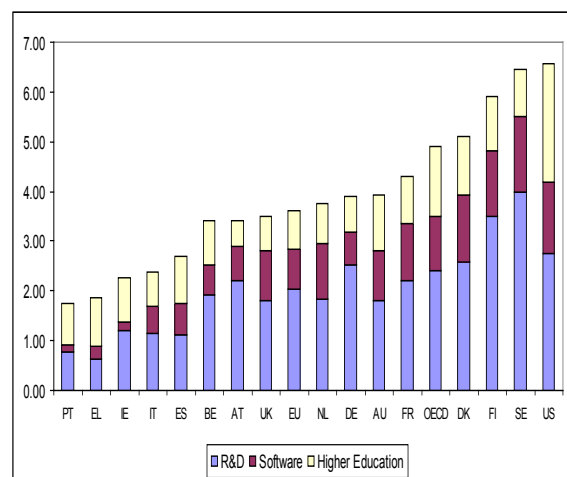
Source: Own elaborations based on OECD Science, Technology, and Industry Scoreboard 2007

**The internationalisation of R&D activities** is also reflected in the fact that a large share of patents invented in Ireland are owned by foreign residents. At the same time, Ireland stands out for its share of patents owned by universities which is higher than in any other OECD country.

**Ireland compares less favourable with EU and OECD countries in certain areas which are essential for a modern knowledge-based economy** and benefiting from globalisation such as investment in knowledge (the combined expenditure on R&D, software, higher education), research personnel, patent intensity.

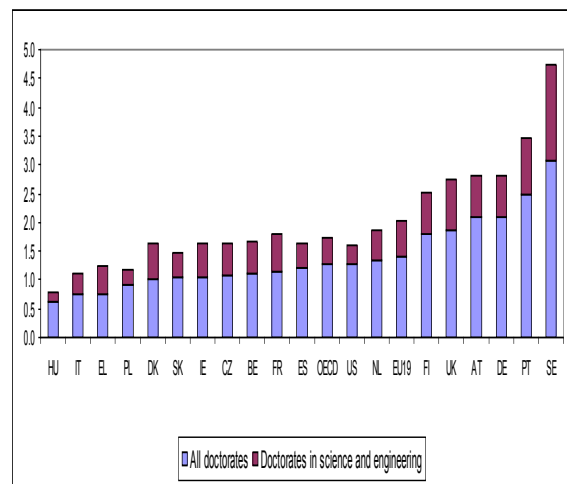
For example, the relevant shares of doctoral degree holders in the population at the typical age of graduation, and of researchers in total employment are below the OECD average. The share of science and technology occupations in total employment, 20 percent, is among the lowest among OECD countries. This compares unfavourably with the 35 percent in the Nordic countries. The share in GDP of investment in knowledge (R&D expenditure, expenditure on higher education, and investment in software) in Ireland is lower than in most advanced economies.

Figure 6: Investment in knowledge (% of GDP)



Source: Own elaborations based on OECD Science, Technology, and Industry Scoreboard 2007

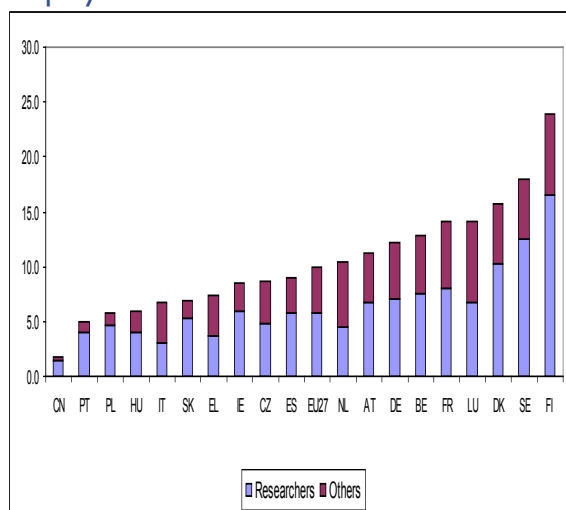
Figure 7: Graduation rates at doctoral level (percentage of the relevant age cohort)



Source: Own elaboration based on OECD Science, Technology, and Industry Scoreboard 2007

Clearly one of the biggest challenges facing Ireland is to upgrade its human capital in research and development in both the industry and university sectors.

Figure 8: R&D personnel per thousand employed



Source: Own elaboration based on OECD Science, Technology, and Industry Scoreboard 2007

**A strong science and technology base, including R&D human capital, is a major factor for the location choice of R&D intensive multinationals in advanced economies.** Enabling public policies such as direct support to private R&D projects (in particular high risk projects), investment in skills, regulation of intellectual property, and a favourable tax treatment are also important.

**Improving research commercialisation could result in more knowledge spillovers and innovation.** International experience and a good number of empirical studies suggest that university-industry research collaboration is an important source of knowledge transfer and that it fosters innovation. In comparison to the Nordic countries, where over 50 percent of all firms collaborate in innovation activities with universities, in Ireland the corresponding share is only 20 percent. To the extent that government intervention can foster additional university-industry research collaborations that are successful, it can be justified. This is most likely to happen where the lack of collaboration is due to market failures, such as firms being discouraged from engaging in collaborations because of uncertainty about R&D investment returns, or because firms are unaware of the potential to be gained from technology transfer. However, the policy must be carefully designed to ensure that the intervention complements the market mechanisms rather than attempting to replace

or duplicate them. Furthermore, increased R&D expenditure does not lead automatically to a higher innovation intensity. To be successful an innovation policy needs to address specific and clearly formulated objectives and the added value should be measurable.

If properly designed, university-industry collaborations can deliver benefits that exceed the combined contributions of each party with respect to the extension of knowledge, economic growth and improved living standards.

**First, public support should be based on a realistic understanding of the differences in missions, goals and constraints faced by universities and by industry.** The core mission of universities is to educate students and to generate and diffuse knowledge— if they do not achieve this mission they cease to be universities. By contrast, the core mission of firms is to provide useful goods and services and create value for shareholders. While universities must perform research for the public good, research investment in industry must generate returns to investors within a short time period.

**Second, public investment should focus on long-term university-industry partnerships, and not on short-term, once-off interactions.**

**Third, to achieve a successful university–industry collaboration, there should be clear measures for the value that it creates** (for example, number of patents, number of commercialised projects, etc.).

**Further, it is advisable to be realistic about the potential for the commercialisation of university R&D in the short term.** Achieving such commercialisation is difficult for several reasons: i) it involves a high risk for both university and industry; ii) it requires the development of an entrepreneurial culture among students and university staff; iii) it needs to generate appropriate incentives for university researchers to conduct collaborative research with industry; iv) researchers may find application of R&D results very time-consuming, given other commitments.

To speed up the commercialisation of R&D, universities need to make their R&D more

visible to the private sector and develop user-friendly Intellectual Property guidelines. The government needs to ensure a regulatory framework which is predictable in the long-term as a basis for investment decisions. Fiscal incentives to investors, entrepreneurs and employees, incubators, technology parks and public venture capital organisations may be also important.

## FURTHER READING

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# DYNREG



CITIZENS AND GOVERNANCE IN A  
KNOWLEDGE-BASED SOCIETY

## *Dynamic Regions in a Knowledge-Driven Global Economy: Lessons and Implications for the European Union-DYNREG*

The overall scientific objective of this research project was to identify the factors underlying the growth performance of emerging dynamic regions and the role of these regions in a knowledge-driven world economy with the aim to draw lessons and policy implications for the European Union. In particular, this project provides: i) a comprehensive theoretical and methodological research framework on the role of knowledge and innovation in fostering growth, competitive advantages and competitiveness and the role of public policy in fostering innovation and growth; ii) a comparative analysis of the factors underlying the growth performance of dynamic regions with a special attention to the role of knowledge and innovation in fostering growth at firm, industry, region and country levels; iii) an assessment of the role of shifting comparative advantages in the new growth regions and the impact of current trends in dynamic regions on patterns of world growth and development, competitiveness, inequalities and convergence; iv) an analysis of public policies in shaping the dynamic economic performance of firms, industries, regions and countries with the aim to draw lessons and policy implications for the EU.

**PROJECT CO-ORDINATOR:** Dr Iulia Siedschlag,  
Economic and Social Research Institute, Dublin, Ireland

### **RESEARCH CONSORTIUM**

Economic and Social Research Institute, Dublin, Ireland, co-ordinator  
University of Bonn, Center for European Integration Studies, Germany  
University of Thessaly, Volos, Greece  
University "Luigi Bocconi", Milan, Italy  
Center for International Business and Management, University of Cambridge, United Kingdom  
Free University Amsterdam, The Netherlands  
University of Economics and Business Administration Vienna, Austria  
Free University Brussels, Belgium  
London School of Economics, United Kingdom  
Institute for Economic Research, Slovenia

**PROJECT WEB SITE:** [www.esri.ie/dynreg](http://www.esri.ie/dynreg)

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