

# **The Inconvenient Truth**

**About the global contest for smart people, smart ideas and  
smart jobs**



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## **About the global contest for smart people, smart ideas and smart jobs**

In 2006, former US Vice-President Al Gore made a film entitled 'An Inconvenient Truth'. The eponymous truth to which he wanted to draw our attention was that it is entirely possible to be bang in the middle of a crisis – in the case of his movie, an environmental one – and yet be totally unaware of it. When it comes to the environment, Gore argued, we are all lotus-eaters; happy to continue our self-induced narcosis, blissfully unaware of the current crisis and impending doomsday and, tellingly, almost impossible to motivate for transformative action.

Well, happy as I am to be back in the county of my ancestors - my grandmother was a Sheridan from Killybegs – and where I had several wonderful years in Moville National School, the truth I come to share today is an inconvenient one, in the Gore sense: when it comes to higher education in Ireland, we are all lotus eaters. We have been blind for far too long blind to the progressive erosion of the funding base and autonomy of our higher education institutions that is now threatening to undo the impressive achievements of the past decade. I want to further suggest, inconveniently, that to continue to ignore the crisis, to keep eating the lotus, will have dire consequences for Ireland's economy, polity and society.

Another indisputable truth is that developed countries are today competing as never before to create, attract and retain high value jobs that for the most part are knowledge- and/or technology-intensive. The knowledge economy and knowledge society are not aspirational. They already exist and are represented on a daily basis by your mobile phone, iPod and iPad, sensor-laden hybrid car, newly installed solar panels, new biologic arthritis medication and the changing shape of foreign direct investment (FDI) – 50% of which was R&D-based last year.

To take just one example in this sequence: I resigned as Professor of Medicine at UCD and the Mater Hospital about 7 years ago. Today a colleague and friend is receiving a form of cancer treatment that was virtually unheard of at that time. I have other colleagues who are developing new diagnostics for the same and related diseases and designing state-of-the-art clinical trials to test new drug combinations in Irish patients. None of this would have been possible if Irish biomedical science, clinical research and clinical practice had not been sufficiently advanced to be able to integrate and build on fundamental discoveries in cancer biology made elsewhere. It is not possible to integrate knowledge like this if you are not playing the same game as those who made the discovery. This is another inconvenient truth for our standing army of Procrustean economists who would glibly declare that if there's not a straight line between investment in research and a product, we shouldn't make the investment.

Ireland's future economic success will depend on its ability to develop the talent to compete in a fast moving global game. The strength of our higher education system (or perhaps more accurately our 'higher education, research and innovation' system) will be critical to this effort. Our universities, in particular, must serve as:

- Agenda-shaping and agenda-shaking institutions - society's guarantors that short-term considerations are never allowed to dominate the public discourse;
- The educators of the entrepreneurs, the managers and employees who will build and populate new companies and services, particularly knowledge-intensive ones;
- Important sources of new knowledge, inventions and technologies that will fuel these enterprises;

- A key determinant of Ireland's ability to absorb new knowledge and technologies from elsewhere;
- Strategic partners for knowledge-intensive organisations whether they be businesses, NGOs or government departments;
- Major direct contributors to the economy through recruitment of fee-paying international students;
- Significant contributors to wider cultural, innovation and policy ecosystem and to the values and assumptions that permeate it.

Our universities must be empowered to realise their full potential in each of these domains if Ireland is to compete successfully. If you doubt the validity of this statement, and there are some who still do, please consider the intensity of the competition. To do this one should not merely consider the well-established US or European universities but visit the new kids on the block in Shanghai, Singapore, Shenzhen or Bangalore and one will quickly understand both the threat and opportunity for a small open economy such as Ireland.

My purpose today, however, is not to be a scaremonger or purveyor of doom but rather to be an upbeat realist! Over the next 20 minutes or so I will summarise:

- The evidence that the Irish universities are at the vanguard internationally in terms of both reform and performance. Indeed, in the context of the theme of this Summer School, I will point to the Irish university system as a model for reform of publicly-funded institutions;
- The major challenges that must be addressed if this hard-won success is not to be washed away in the metaphorical 'blink of an eye'. In this regard, the forthcoming report of the Higher Education Strategy Group has the potential to either empower our universities in their quest for sustained international competitiveness or shackle them with an under-resourced central command-and-control model that will condemn them to mediocrity.

I will base my case wherever possible on internationally benchmarked evidence. Indeed, I put it to you that too much of the debate in the popular press, policy community and indeed academia has been driven by anecdote, bias and memories (often fading) of student experiences in decades past rather than by hard facts, detailed knowledge of the international competition and a vision for Ireland's future. This situation does Ireland a great disservice, endangers the future of our children and must change. It is time to put away the lotus.

### **We have a success story – let's tell it!**

Many of the opening sessions of this Summer School focused on policy and regulatory failures related to our financial and regulatory institutions that have damaged our national finances and international reputation. Let's not tar the entire nation with the same brush. Ireland has many contemporary success stories and higher education is one of them! Over the past decade or so Ireland has launched a series of policy initiatives and investments in higher education that have been transformative and contributed to the success and resilience of major areas of our economy. Examples include:

- The Technology Foresight Exercise which re-imagined Ireland's economic future in the late 1990s;
- The partnership between the Government and Atlantic Philanthropies that resulted in the launch of the Programme for Research in Third Level Institutions (PRTLTI);
- The establishment of Science Foundation Ireland, the humanities and science research councils, and research capacity in agrifood, energy and health;
- The launch of the 4<sup>th</sup> Level Ireland initiative to position Ireland at the forefront of masters and PhD training;

- The Enterprise Strategy Group Report and Smart Economy Framework – each of which catalysed a new set of conversations that kept Irish higher education at the cutting edge of change.

What is the objective evidence that these initiatives have paid off?

Let's first consider some of Ireland's achievements in the area of teaching and learning. Despite enjoying less funding per student, fewer academic staff per student and fewer support staff per academic than relevant UK comparators, the Irish university system should be proud of the following:

- 2<sup>nd</sup> highest participation rate in third level education in the OECD;
- A major increase in 4<sup>th</sup> level enrolment;
- Rapid response to skills needs in the health professions, ICT and other areas;
- Significant system-wide curriculum reform and pedagogical innovation;
- A quality assurance system that is lauded as a model system in Europe;
- Graduates that have been ranked as amongst the most employable in the EU;
- A system that was ranked second in the EU for efficiency and value for money in the 2010 EcoFin Study.

In the fields of research and innovation, achievements over the past decade include:

- A transformation in research infrastructure across full range of disciplines - humanities and the sciences;
- The establishment of internationally competitive research programmes in such areas as ICT, biotechnology, food science and digital humanities, as well as outstanding achievement in the cultural sphere by university-based artists such as Donegal man Frank McGuinness;
- A more than doubling of 4<sup>th</sup> level masters and PhD graduates;
- The recruitment of a new cadre of world-class early career researchers and senior professors;
- A major step-up in the number, quality and impact of research publications and, more recently, a jump in the number of licenses, patents and campus companies;
- A surge in substantive university-industry partnerships;
- A striking improvement in the ranking of our universities, the majority of which are in the top 10% in the world (remember the Times Higher Rankings ranks only the top 2000 of over 5000 universities worldwide);

Even during one of the most tumultuous periods in the history of the State, noteworthy initiatives have been taken to build on this success, including:

- A variety of ambitious alliances, such as the TCD/UCD Innovation Alliance;
- Cycle 5 of the PRTL with its particular focus on creativity and innovation;
- The report of National Innovation Taskforce which included important policy recommendations for higher education;
- The recent launch of Innovation Fund - Ireland which should provide a valuable source of venture capital for Irish entrepreneurs.

All of these developments are crucial to our future. The productive sector, and in particular, technology-led firms are spearheading our return to export-led GDP growth and have been resilient during the downturn. Their health and the health of our higher education and research system are intimately linked.

### **There are nettles to be grasped**

There are nevertheless very significant challenges that must be addressed as a matter of urgency. Prior to Ireland's economic meltdown the Irish universities were managing to enrol

increasing numbers of students despite shrinking exchequer funding per student. However, even then, quality was starting to suffer. The core problem is the State's funding model. Rather than paying the universities a fixed sum per student, the State adopts a 'dilutional' approach. Simply put, if the higher education sector were to double its student numbers next year, its funding allocation per student would be halved.

Over the past two-three years this funding situation has deteriorated at an alarming rate. The higher education sector has enrolled thousands more students while absorbing a huge cut in exchequer funding – in UCD's case almost €2000 per student – and all in the context of a significantly lower funding base than relevant UK comparators.

This situation is not sustainable. One really would want to be doped to think otherwise. Across the sector important academic posts remain vacant, support staff numbers have been cut, library opening hours have been shortened, key teaching and research equipment is not being replaced, and IT upgrades and refurbishment projects are being deferred. There is general consensus that quality is now being eroded and the rankings of the Irish universities will fall, possibly precipitously, with consequent further damage to Ireland's international reputation. A dispassionate observer could reasonably argue that it would be irresponsible for the Irish universities to further expand student numbers until the funding model is changed because to do so would be to further erode the resource and quality available to our existing students. Yet we hear bold statements that we're heading for 75% participation.

How can the funding situation be remedied? The answer, of course, must be through a combination of efficiency measures and revenue generation. On the efficiency side, the Irish universities up until this year managed to increase student numbers and maintain quality for the most part by stripping out costs. In UCD's case, for example, we have reduced our total staff head count by almost 8% and in 2009/10 alone removed c€27m from our cost base in addition to State-imposed salary cuts. Further cuts of this scale are simply not possible without seriously eroding the quality of our education programmes, reducing our attractiveness to fee-paying international students and diminishing research productivity and innovation. In short, if we cut more, we will add higher education to banking and fiscal rectitude as an area where our international reputation will be diminished.

On the revenue generation side of the equation, the universities are prohibited from charging Irish students who can well afford to pay. As an example, I am a father of three teenagers for whom I can afford to pay €6,000 each to a private secondary school. When they enter UCD (or another Irish university) in 4 years time they will have to pay a modest student services charge and will probably petition me to buy a car with the balance! Meanwhile the tax paid by less well off parents will continue to subsidise university education for the better off, including my children.

Universities generate significant fee income from postgraduate and international students. However, State imposed restrictions on staff recruitment and remuneration limit our ability to expand this activity. UCD, for example, currently generates c€80m in non-exchequer fee income. The wider Irish economy benefits by a similar amount from rent income and other day-to-day spending. To grow this activity we need to be able to employ more academic and support staff and to incentivise staff to take on leadership roles. We are currently constrained significantly by the State from doing both. This is completely counterproductive.

### **The Higher Education Strategy Group Report – An opportunity to fix or fudge!**

The imminent report of the Higher Education Strategy Group has the opportunity to empower the Irish universities to play their full part in Ireland's recovery. It is an opportunity to celebrate Ireland's success, set out a vision for the future and address the key issues that I have just outlined.

I hope that the report makes the following ten recommendations – not all of which relate to funding:

- First, the overall quality and performance of the higher education system is best served by a diversity of institutions enabled by institutional autonomy and operating within an environment characterised by a healthy balance of competition and collaboration. The international evidence points overwhelmingly to the link between institutional autonomy and both institutional and system-wide performance. There is little, if any, evidence to support system-wide command and control by the State. The State, of course, is entitled to negotiate a robust accountability framework and set of outcomes for its investment; however, management and implementation, all the available evidence suggests, is best left to the universities;
- Second, the humanities, sciences and professional disciplines have each valuable and distinctive roles to play in the development of our students, economy and society; however, it is at the convergence of disciplines that so much groundbreaking work is taking place in both teaching and research. With this in mind, disciplinary diversity should be recognised as a strength and interdisciplinary scholarship encouraged, particularly in larger research-intensive universities;
- Third, our universities have a key role to play in priming Ireland for success in an increasingly globalised and interconnected world. The graduates of the future will routinely live and work across borders and cultures, whether physically or virtually. Research, in the public and private sector, is already very often spread across collaborative international networks. The success of Ireland's indigenous companies will increasingly depend on their ability to trade and operate globally from an Irish base. Finally, it is likely that an increasing proportion of FDI will be made up of Asian firms seeking a European base. Our higher education institutions should be encouraged and empowered to further develop strong international collaborative links that include student mobility opportunities for Irish students, joint degrees with international partners, research collaboration and researcher mobility, and the development of overseas campuses. Given the increasing importance of China on the global stage, courses in Chinese language and culture should be made available to as wide a spectrum of our population as possible;
- Fourth, in the same way that free second level education in the 1960s and increased participation in 3<sup>rd</sup> level in the 1990s/2000s accounted for a step-up in the nation's competitiveness, the development of top quality 4<sup>th</sup> level masters and PhD training, across the full range of disciplines, will sustain the competitiveness of our workforce into the future. Further development of Ireland's 4<sup>th</sup> level programmes and 4<sup>th</sup> level brand should be prioritised as should the development of an extensive portfolio of cutting edge up-skilling and continuing professional development opportunities covering all major sectors of the economy;
- Fifth, the imperative that Ireland increases its investment in R&D to 3% of GDP should be re-affirmed, consistent with the EU's innovation strategy. The importance of a strong foundation of discovery research in both the technology disciplines and the humanities should be stressed as being of value in its own right and key to the future-proofing of a successful applied research sector. Research laboratories are not just a source of new knowledge, inventions and technologies. They are the classrooms for 4<sup>th</sup> level training programmes which will produce the next generation of creative, knowledgeable and technologically literate graduates. Furthermore, the strength of a nation's indigenous R&D system is a major determinant of its capacity to absorb new knowledge and technologies from elsewhere – a point that seems to have been missed by many economic commentators. R&D is not cheap but few, if any, other investments have been shown to yield higher returns on a consistent basis and across diverse sectors of the economy. Surely it is time for the naysayers to present compelling evidence as to why Ireland is or should be different or to present

an alternative strategy for economic growth – and by this I do not mean, emphatically, a fundamentalism of cost-reduction;

- Sixth, institutional and sectoral frameworks should be developed to mainstream innovation as the third pillar of university activity alongside teaching and research, to strengthen the links between these three domains, and to maximise the translation of research outputs into new products, services and jobs. This framework should include *inter alia* undergraduate curriculum reform, the mainstreaming of innovation, design thinking and entrepreneurship into PhD training, the development of greater critical mass and concentration of talent, technologies and resources in science and engineering through institutional alliances, and the consideration of new strategies to accelerate technology transfer and the development of partnerships with industry and other knowledge-intensive organisations. This is precisely what TCD and UCD are doing through their Innovation Alliance;
- Seventh, our higher education institutions can play an increasingly valuable role in assisting the formulation of evidence-based policy and in challenging the assumptions upon which public and political policy is built. Implicit within this recommendation should be the acknowledgement of the valuable role for universities as source of the contrarian view – no matter how uncomfortable and challenging that view may be to government, the chattering and indeed university presidents;
- Eighth, the Strategy will not have credibility unless a funding model is proposed which:
  - Is transparent in terms of the State's investment per student;
  - Includes a financial contribution from the individual beneficiaries either during their time at university or later when they attain a certain income;
  - Recognises that the cost of running an internationally recognised research-intensive university is greater than that associated with predominantly teaching institutions;
  - Is benchmarked against relevant international comparators.

In this context a word of caution on increasing participation targets is warranted. If participation rates are increased without addressing the funding model the quality of our system will be eroded further. Ireland's brightest and best will begin to ask the question 'access to what' and if the answer is 'a second rate system' they will leave for greener pastures and in many cases not return. Furthermore, our attractiveness to talented international students will be diminished.

- Ninth, universities must have the operational autonomy to recruit and manage the performance of their staff and to incentivise staff to take-on leadership roles. Too much of the discussion in this area has focused on the management of underperforming staff. It goes without saying that this is an issue, albeit greatly exaggerated, which must be tackled. A far more challenging issue for me and my fellow presidents is the management of excellence: the incentivising, reward and retention of our top performers – a highly mobile group of academic leaders, entrepreneurs and innovators that will be central to Ireland's success;
- Finally, the issue of future infrastructure development must be tackled – both building and IT infrastructure. One only has to travel to the UK or US or indeed to emerging powerhouse universities in China to appreciate the quality of infrastructure available elsewhere and the standard expected by international students considering Ireland as a destination. The State cannot, of course, be expected to cover the entire cost in the current climate but it can assist by clarifying how much it will invest and incentivising higher education institutions to generate non-exchequer capital funding from philanthropic and other sources – for example through matching fund schemes.

In the field of higher education and research, Ireland has a great story to tell. It is a story of reform, transformation and innovation that has attracted worldwide attention. The report of the Innovation Taskforce sends a strong message that our future will depend on our flexibility, agility and willingness to constantly seek out and meet new challenges and, at appropriate

times, to be willing to take risks. I hope I have shown you today that the universities have a track record of achievement and the hunger to do more. For sure, there are challenges that have to be met – difficult but solvable. It is imperative now that we tackle these issues head-on as a matter of urgency and in so doing secure Ireland's future. However inconvenient, to keep eating the lotus is not an option.