Higher Education Management and Policy
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The impacts of reforms on research and innovation in France: direction, planning and co-ordination

by

Blandine Laperche and Dimitri Uzunidis
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The various reforms introduced in France since the end of the 1990s are transforming the field of institutional research, which has historically been hierarchical and centralised, by giving more leeway to the different levels of territorial administration. In this new context, who is involved in orienting and planning research? The wide diversity of actors is problematic: the current evident lack of co-ordination between institutions and levels of territorial administration is blurring the direction and planning of research. Moreover, the role of territorial communities in defining policies relating to innovation and competition is continuing to grow. The impact of the recent reforms is analysed specifically in terms of the direction, planning and co-ordination of research.
Les impacts des réformes sur la recherche et l’innovation en France :
orientation, programmation et coordination

par
Blandine Laperche et Dimitri Uzunidis
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Les différentes réformes mises en œuvre depuis la fin des années 90 en France transforment le paysage institutionnel de la recherche, historiquement hiérarchisée et centralisée en donnant plus de marge de manœuvre aux différents échelons territoriaux. Dans ce nouveau paysage, quels sont les acteurs de l’orientation et de la programmation de la recherche ? Leur grande diversité pose problème ; le manque de coordination entre institutions et échelons territoriaux obscurcit les orientations et la programmation de la recherche. De plus, le rôle des collectivités territoriales dans la définition des politiques d’innovation et de compétitivité ne cesse d’accroître. L’impact des réformes est analysé en particulier à travers la perspective de l’orientation, de la programmation et de la coordination de la recherche.
Introduction

The term “knowledge economy”, which entails using knowledge and innovation to drive economic growth, became widely known since the Lisbon Summit of March 2000, when the European Community announced its objective to become the strongest knowledge economy in the world by 2010. This unachieved objective was reiterated in the Europe 2020 strategy (European Commission, 2010). Universities and research centres have an important role to play in this process, since they provide the raw material: knowledge. But in order to do so, European universities must be autonomous and thus able to implement their own development, recruitment and financing strategies (Aghion et al., 2007).

In France, universities and public research institutions have been in the hands of the state ever since their foundation. The state determined their financing and human resources recruitment strategies. The conditions, specialities and number of people employed by universities and public research institutes were laid down by the Ministry of National Education in accordance with centralised planning principles. This is not the case in other European countries, and especially in Anglo-Saxon countries, where universities and research institutions enjoy a certain level of autonomy to implement their scientific, budgetary and employment policies. Consequently, they are able to build up specific scientific and technological advantages, to develop contracting policies with the business sector and obtain substantial financing.

The reforms implemented in France since the late 1990s include the 1999 Research and Innovation Act, the 2006 Research Programme Act and the 2007 University Freedom and Responsibility Act. They are transforming the field of institutional research, which has historically been centralised and hierarchical, by giving more leeway to the different levels of territorial administration and new institutions emerging from the restructuring underway (pôles universitaires [university clusters], alliances and institutes, etc.). The reforms aim to reconcile two objectives. The first is to strengthen research performance in France (in 2010, the Shanghai top 500 ranking was essentially dominated by American universities; France came 6th with 23 ranked universities). The second objective is to implement necessary public spending cuts.

These reforms are designed to improve organisation and facilitate networking among research and innovation actors; indeed, these days networking is considered to be a motor for scientific and technological
performance. A typical example is Silicon Valley which, since the 1970s, has been a showcase for American scientific and technological success. Consequently, collaborative strategies contribute to putting forward the role of the territoire or region. The necessary proximity of the actors involved (whether physical, cognitive or organisational) therefore justifies looking closely at the territoire when defining research orientations and planning in France. Defining orientations involves establishing long-term objectives for national research and innovation policies and defining the budgets required to achieve these objectives. Planning consists of translating these broad objectives into research programmes and allocating resources to research teams. Agencies responsible for financing and resources oversee this task (Ailleret, 2010). These reforms therefore contribute to decentralising decisions relating to orientation and planning.

In this new landscape, who is involved in orienting and planning research? This article highlights the diversity of these actors and discusses the necessary co-ordination between institutions and levels of territorial administration. The lack of co-ordination has recently become palpable and creates confusion in relation to research direction and planning. This can be detrimental to scientific excellence and competitiveness and therefore to the objectives targeted through the reforms.

The article goes on to discuss the growing international importance of territorial collectivités (communities) in defining innovation and competitiveness policies. It then addresses the changes engendered by the recent reforms in France, specifically focusing on research direction, planning and co-ordination. Finally, it shows how co-ordination between the new actors in the research and innovation system is insufficient and it draws the consequences of this state of affairs.

**Territoire as an innovative environment in the knowledge economy**

**Co-operation at the heart of industrial and innovation policies**

The role of the state in French industrial policy has evolved since World War II. At first, the “entrepreneurial” state outlined major projects for services and infrastructure in the nuclear, aeronautical, railway and other sectors. As many companies were public, the state supported businesses through government aid and by placing orders. Later, the “facilitator” state became responsible for setting up a regulatory framework to promote and facilitate company activities, using finance as a means to support its action. Currently, the preferred means of action is via co-operation between actors.

A new industrial policy was developed during the 1990s and at the beginning of this century (Beffa, 2005; Gaffard, 2003). Based on large-scale national and sectorial programmes such as “the machine tool plan” and the
“IT plan”, it privileged a small number of large companies by creating national champions. Likewise, development policies for a territoire were based on a concentration of resources within a given field and a precise geographical area. This did not always produce the expected knock-on effects. The state’s role was first and foremost to define a regulatory framework favourable to company activities through economic policies (especially taxes) and structural policies (industrial ownership, infrastructures, research and development [R&D], etc.). These can be termed “policies of attractiveness”. Subsequently, the state intervened by organising activities between institutions, as exemplified by “pôles de compétitivité” (competitiveness clusters). These were established in 2005 and based on the cluster model first developed in the United States and which later became worldwide. The official definition is as follows: “A pôle de compétitivité in a given territoire is an association of companies, research centres and training organisations engaged in a partnership (common development strategy) intended to create synergies around innovative, joint projects performed in a given market or markets.”

In the field of research and innovation, the emphasis is placed on increasing relationships between actors in innovation (companies, universities, research centres) to create an efficient national innovation system (Freeman, 1987; Lundvall, 1992; Edquist, 1997). Thus, the role of the state is no longer limited to providing upstream support (direct financial support) and downstream support (intellectual property rights) to innovation processes. This was the case in the linear model used from the post-war period up to the 1980s, when process phases shifted from basic research, to applied research, to technological development, to production and finally commercialisation.

The current, interactive model takes the market into consideration at an earlier phase (Kline and Rosenberg, 1986). Innovation policy is essentially focused on the problem of managing and promoting the dissemination, or the externalities, of knowledge. State intervention is targeted towards the dissemination and transfer of knowledge, while also allowing knowledge to be privately owned. Upstream, the state intervenes by providing financial support, but also endeavours to stimulate the dynamics of collective interaction. Innovation policy must lead to the creation of an environment favourable to partnerships and technology networks between the public and private sectors and within each sector. Policy should also provide an incentive for firms to undertake activities which they would not normally be interested in developing (e.g. basic research) in the name of knowledge dissemination, although this does reduce the potential profit from investment in a given domain. Downstream, the state should promote the effective distribution of public knowledge to private firms and laboratories, facilitate the transformation of knowledge into new goods and services and support the dissemination of knowledge derived from inventions which are protected by private enterprises.
Co-operation is thus the keyword in innovation policy (Laperche et al., 2008). Reflections on how to promote it have highlighted the role of geographical proximity and therefore increased interest in the territoires.

**Territoire as an innovative environment**

Traditional technology policy is based on financing and accomplishing major R&D programmes in the public sector. This traditional approach has been partially replaced by research and innovation policy focused on managing the territorial patchwork that makes up the national innovation system. Territoire is thus considered an “innovative environment” (Aydalot, 1986). The innovative environment usually refers to the capacity of a local economy to promote innovation through the emergence of new companies and the relocation of older companies within its geographical area.

In the context of an innovative environment, a territoire may then be defined as a specific geographical area with strong relationships which form links between companies, as well as between companies, the state and collectivités. A territoire acquires the characteristics of an innovative environment by encouraging local relationships between economic agents. The proximity may be geographic (or spatial-temporal) as well as organisational (e.g. within a firm or between firms) and cognitive, through the exchange of knowledge and expertise (Rallet and Torre, 2005; Uzunidis, 2008, 2010; Zimmerman, 2008).

In an innovative environment, the economy of a territoire supports innovation by providing companies with the resources they need. The territoire needs to become a reservoir of constantly available resources such as financing and skills (Branscomb and Keller, 1998). Companies can also market their products locally; this applies to both large and small companies starting up a new activity. The fact that these resources are available reduces the risks related to innovative activity.

While the industrial programmes of the 1960s and 1970s were essentially national and sectorial, recent developments in industrial policy have taken on a territorial dimension (Laperche et al., 2010). Therefore, the competitiveness of an innovative environment contributes to increasing that of companies. Conversely, a company’s ability to innovate enriches the competitive potential of a territoire. Furthermore, public innovation policy should focus on supporting companies engaged in at least partially complementary activities, first on a territorial level and then nationally. Policy should encourage the local production base to take part in new opportunities, to adapt to changes in the environment and to undertake any restructuring necessary. In order to stabilise companies’ choice of a given location, along with the jobs they generate, specific advantages should be introduced and externalities (i.e. the dissemination of knowledge) should be generated inter-regionally and locally. These are the characteristics of the territorial innovation systems that need to be built (Figure 1).
The territorial innovation system defines the main actors who are instrumental in developing and disseminating innovation within a given field and within a territoire (whether it be a region, department, metropolis or labour pool). This includes actors in the field of scientific and technical training, finance, R&D and production. The system creates a network of relationships between these bodies; these consist of information and financial exchanges as well as partnerships developed under a common strategy. Companies and other actors in the system benefit from the effects of agglomeration (i.e. the location of actors in the same area). Consequently, some costs are reduced by sharing resources and achieving external economies (for example, companies benefit from investments made by other actors). This process is exemplified by the dissemination of knowledge produced from investments in R&D.

The territorial innovation system is characterised by openness, which ensures its international visibility. The system is also fed by flows of information and finance from other territoires and from the area’s own social and economic fabric. A set of rules governs the system and guarantees proper organisation, coherence, functioning and evolution. These rules create the
“territorial accumulation framework” with industrial, research, innovation and territorial development policies, all shaped by the economic history of the territoire in question.

Research direction and planning at the territorial level

A brief history of the organisation (direction and planning) of research in France

During the 19th century, universities did not pursue research activities. However, this changed after World War I. In light of its lack of innovation, as compared to Germany, in 1939 France created the Centre national de la recherche scientifique (CNRS, National Centre for Scientific Research) and the position of under-secretary for scientific research. The period immediately after World War II was marked by the creation of institutions tasked to co-ordinate and streamline research efforts. In the 1960s new research bodies appeared, such as the Centre national d’études spatiales (CNES, National Centre for Space Studies) and the Institut national pour la recherche médicale (INSERM, National Institute for Medical Research). The Agence nationale pour la valorisation de la recherche (ANVAR, National Agency for the Commercialisation of Research) was also created and, with it, a centralised organisation came into being. Decisions related to orientation and planning were made by ministries in Paris, and universities and public research centres were responsible for their implementation.

The Research Direction and Planning Acts of 15 July 1982 and 23 December 1985 played a key role in organising research (Théry, 2005). The 1982 Act was passed in order to design a new central organisation for research which would also address the question of regional co-ordination. The decentralisation acts were also passed at this time, giving more policy-making power to the regions, departments and districts. The regions went on to acquire more research capacity through the definition of regional pôles technologiques (technological clusters) and multi-year regional programmes that led the state to sign an agreement with the regions. Each region was also required to form a regional consultative committee on research and technological development (CCRDT). The CCRDT makes recommendations regarding multi-year regional programmes and the distribution of public credits for research within the region.

The 1985 Act supplemented the 1982 Act, again emphasising the role of the regions in creating and assessing research policies. Although the regions gradually became more involved in the direction and planning of research, actors involved in research (i.e. universities and research centres) were less involved and often seen as pursuing their activities in an “ivory tower”, cut off from economic concerns or any assessment of their performance and social utility.
At the same time, as innovation became more fundamental to international competition, the role of universities and research centres grew in other countries such as the United States. There, universities and research centres provide the raw material for innovation and their relationship with the business sector is facilitated by the fact that US universities are more decentralised and autonomous than is the case in European countries. The US case has served as an example for many of them.

In addition, the management of research has undergone major changes in France since the late 1990s. The Research and Innovation Act of 12 July 1999 opened up new prospects to universities and public research centres. The promotion of research, which may be defined as the process of transforming fundamental knowledge into new marketable products, became an activity in its own right for universities and public research centres, in addition to traditional research and teaching activities. The universities and public research centres already ensured the production, transmission and renewal of scientific knowledge. Now they were to become places where new innovative projects, such as companies or technical inventions, would be created and developed for the market (Laperche, 2002).

The Planning Act of 18 July 2006 has two objectives: first, to organise the management and reorganise the assessment of French research; second, to strengthen co-operation between actors engaged in research and between these actors and the economic world. The first objective led to the creation of the Haut conseil de la science et de la technologie (HCST, High Council on Science and Technology), which aims to “ensure the coherence of national research policy and contribute to the reform of the French research system.”3 The Agence Nationale de la Recherche (National Agency for Research – ANR) is a financing agency for research projects and is becoming a very important actor in research planning. Research assessment is now carried out by the Agence d’évaluation de la recherche et de l’enseignement supérieur (AERES, Research and Higher Education Assessment Agency) which was developed “to evaluate higher education and research institutions, research bodies, research units, education and teaching qualifications in higher education and also to approve personnel evaluation procedures.”4 Co-operation between actors in research is encouraged by the way the ANR allocates research financing. This favours interaction between public and private laboratories and creates a number of tools for co-operation such as the pôles de recherche et d’enseignement supérieur (PRES, research and higher education clusters), réseaux thématiques de recherche avancée (RTRA, thematic network for advanced research) and centres thématiques de recherche et de soins (CTRS, thematic centres for research and health care). These bodies are based on two new forms of scientific support: fondations de coopérations scientifiques (FCS, foundations for scientific co-operation) and the établissements publics de coopération scientifique (EPCS, public institutes for scientific co-operation).
The loi relative aux libertés et responsabilités des universités (known as the LRU – University Freedom and Responsibility Act) of 10 July 2007 has three aims. The first is to make universities more “attractive” in response to student failure and the difficulty students have in finding employment. The second is to “emerge from the current government’s paralysis” caused by a lack of leadership, transparency and openness to external influences. Finally, it aims to “make university research visible internationally.”\(^5\) It gives greater autonomy to universities by allowing them to define their own strategies and manage their budgets and recruiting process. It strengthens the power of governing boards and the dean.

Other initiatives have recently been introduced such as the “campus operation”\(^6\) – launched in February 2007 – which aims to renew university furnishings on a limited number of sites (ten were initially planned). This operation has become a powerful tool to promote intra-university alliances. The provisions of the grand emprunt national (state loan) launched in 2010 build upon the measures already undertaken by the government. This state loan finances public investment in cost-effective projects, such as initiatives and laboratories of excellence. These various schemes were introduced in addition to the pôles de compétitivité (competitiveness clusters) created in 2005, as part of the new French industrial policy (see the preceding section “Territoire as an innovative environment”).

**Who orients and plans research?**

These reforms are transforming the French research system, which is traditionally hierarchical and centralised, resulting in:

- **Marketisation.** This entails the introduction of operational rules (in relation to performance and returns on investment in particular) from the private sector to the public sector – and in this case the public research system (Uzunidis, 2003; Laperche, 2003). The loi organique\(^7\) – which applied to the finance acts of 2001 and then spread progressively to include the entire administration in 2006 – illustrates and provides a framework for this change by placing “performance” at the heart of budget management.

- The increased importance of contractual relations, such as the financing of project research or contrats de plan État-Région (contracts between the state and a region). In this context, FutuRIS\(^8\) estimates that between 1997 and 2007, public project research went up from 11.3% to 16.5% of government administrations’ internal expenditure on research and development. This increase arose from the growth in public financing and not private financing, where there was a decrease in the amount of contracts (Kergueris and Saunier, 2008, p. 85).
Concentration and collaboration between actors in public research, and between these actors and the world of research with a view to enhance competitiveness.

The growing responsibility of territorial administrations in relation to direction and planning.

As these changes are ongoing, it is difficult to predict how the new research system will definitively turn out. The FutuRIS report (Ailleret, 2010) provides several possible scenarios. The first scenario, “New equilibriums and the university’s nodal role”, relies on a strong orientation of research at the national level, and clear planning developed by the ANR alliances. The universities are restructured into a dozen main university clusters that become the major actors in research and teaching, especially at the graduate and post-graduate levels. Fifty or so less prestigious universities, which nevertheless offer post-graduate degrees in specialised fields, orbit around these clusters. The institutions are reconfigured and their role within the system is reduced.

The second scenario is called “Major actors take charge of reform”. Public research organisms supervise research direction, planning and performance. The ANR’s role is reduced to managing programmes blancs. The transformation of universities is slow and differentiated. Support is provided to clusters with a high international profile, and local institutions and organisations form closer ties and play a bigger role in financing universities that serve diverse populations.

The third scenario, “Competition and fragmentation”, is based on a weak organisation of orientation and planning activities. There are many stakeholders and a lack of co-ordination. The competition between actors, based on performance and efficiency, is generalised: the strongest are organised into visible high-performance sub-sets while the weakest enter a “downward spiral”. No actor dominates the system in research direction, planning or performance. University autonomy is constrained by financial difficulties.

Of these three scenarios, the first would require a wide-reaching transformation of the current system. Its implementation would require all actors to adhere to a system primarily based on individual excellence and greater labour market flexibility. The second scenario would retain the organisational features of the research system, but would reorganise actors in favour of public research bodies. The third scenario represents a continuation of the transition period initiated by the legal changes and would be detrimental to the French system of research and innovation.

Currently, there is considerable vagueness in relation to direction and planning due to the multiplicity of actors involved following the institutional changes in the 2000s (Lesourne and Randet, 2008). Kergueris and Saunier point
to the “disincarnate” nature of research policy, exemplified by the confusion over which body should guide major national research orientations:

Should it be the Haut Conseil de la science et de la technologie (HCST) created ad hoc by the Act of April 2006, the CIRST (Conseil interministériel de la recherche scientifique et technologique, Inter-ministry council for scientific and technical research), or the DGRI (Direction générale de la recherche et de l’innovation, the Directorate general of research and innovation, hosted by the Ministry of Research) which was created in 2006 and within which there is a “strategy” department which “designs and runs the national research and innovation strategy”? (Kergueris and Saunier, 2008, p. 76).

There are also many actors involved in planning. The ANR sets scientific and technical priorities to match the general directions and allocation of resources to actors in research. The research bodies (CNRS, INSERM, CEA), organised into institutes and alliances, also contribute to planning within their disciplinary fields. Four-year contracts, rendered obligatory for all public research institutions by the Act of 2006, are an instrument for ensuring coherence between an organisation’s policies and national policies as defined by the supervising ministries. Agencies or institutes such as the Agence de l’environnement et de la maîtrise de l’énergie (ADEME, Environment and Energy Management Agency) or the Institut national contre le cancer (National Cancer Institute) allocate resources to specific themes. But other actors are also involved, both in defining priorities and in allocating resources, such as the ministère de l’Industrie (Ministry for Industry, responsible for the definition of key technologies) and the Fonds unique interministériel (FUI, a government scheme to aid applied research). It is possible that two other levels of territorial administration will play an increasing role in planning activities: Europe and the regions. The latest incarnation of a European research area encourages collaborative research on priority themes and offers increased amounts of financing through the research and development framework programmes (PCRD). This stimulates reflection on how the French and European programmes fit together, even though the PCRD programmes do not yet have a significant impact on French research activities.10

Regional administrations are also increasingly active when it comes to organising scientific activities. This trend is supported by the European Community, which is putting the spotlight on regions: in view of creating a European research area, they are being asked to define a regional innovation strategy (SRI). The research and higher education clusters (PRES), competitiveness clusters and campuses illustrate the growing role of territories when it comes to planning and defining objectives for research. But a public research and innovation policy is not simple to develop. Bridges need to be built beforehand between scientific institutions, public authorities and the economic environments; together they need to devise a common plan.
The key question and the challenges inherent to co-ordinating levels of territorial administration

**Co-ordination: approaches and challenges**

Co-ordination means organising the parts of a whole into a logical pattern and under a defined objective, or “managing dependencies between activities” (Malone and Crowston, 1994). A well co-ordinated research and innovation system also arises from a specific division of tasks and the allocation of resources according to clearly defined orientations.

A lack of co-ordination in orientation and resource allocation can cause redundancies and waste resources when, for example, similar research is carried out in different places. Resources available to researchers are fragmented and spread out among different research bodies, ANR contracts, specialised finance agencies, framework programmes for R&D, contracts with industry, foundations and competitiveness clusters. This fragmentation contributes to increase their administrative and management burden, which can negatively affect scientific productivity. It can also lead to an increase in opportunististic behaviour. For example, some research teams are located near the decision-making centres where resource allocation is determined. The objective of scientific excellence would thus be challenged by the “new management of research”, where expertise tends to have the upper hand over autonomous science (Karpic, 1972; Vikas, 2009). In a context where competition and co-operation co-exist, conflicts between – and even within – teams can be exacerbated by attempts to procure resources, whether human or financial.

**Examples of problems in co-ordination**

The absence of any clear co-ordination in the direction of research ultimately results in a lack of resolve, or in choosing routes explored by other countries without considering the specific characteristics of the national socio-economic fabric. This is the case in France, according to Kergueris and Saunier (2008): by trying to cover all scientific fields, research policy creates a “dilemma between catching up and specialisation” (p. 72 et seq.) Given the growth the United States experienced in the 1990s, since then scientific activity has naturally been oriented towards fields such as life sciences, information and communication, science and technology, which could potentially make up for lost time in booming sectors such as biotechnology and information science. But according to the authors, it would be better if France focused on sectors in which it benefits from a competitive advantage: chemistry, industrial processes, pharmacy, etc. The scientific choices made are not necessarily in line with France’s industrial fabric. The marked absence of national operators in certain sectors (i.e. biotech [with the exception of pharmacy] and software) hinders the ability to promote research. “In sum, the
promotion of research is subject to ‘physical limits’ that stem from the pre-existing industrial fabric’s absorption capacity, and this cannot be ignored during planning” (Kergueris, Saunier, 2008, p. 74).

The growing roles of territoires in research direction and planning worsen the problems of co-ordination that may already exist at the national level. Thus, the development of territorial research policies contributes to reinforcing disparities between regions. For example, the Ile-de-France region represents 40% of national research activity whereas the Nord/Pas-de-Calais region only represents 1.5%. The disparity can be explained by demography, geography and social differences. Regional policies rely upon the regional economic situation: some will focus on applied research and the development of links with the industrial world in order to pocket results quickly, while others will bank on long-term research to strengthen their attractiveness. When territorial collectivités support research, they want to evaluate and gather outcomes as quickly as possible. This can lead to a preference for applied research, which in some cases may penalise research institutions and deepen inequalities between territoires.

Questions pertaining to the commercialisation of research clearly illustrate this phenomenon: it has become a key criterion in the direction and planning of research, yet cannot be mandated and does not always yield the anticipated results. Apart from the implementation of supple regulations and incentives, and making researchers aware of the importance of commercialisation, economic circles should seek technology transfers from public research institutions. While a virtuous circle may well emerge in regions rich in scientific resources, centres for economic decisions and private research laboratories, the effects can be largely negative in industrial regions or those which are less attractive overall for high added value activities. A study carried out by the University of Littoral, located in an industrial region in crisis, showed the limitations of commercialising research when the economic environment is not able to absorb the products of research. Key elements of an “organic framework for the commercialisation of research” include public policy, awareness on behalf of researchers, a flexible university structure and demand from the economic environment. When not all of these are present, the result is impoverished promotion. In the case of the region which was studied, the economic environment demands highly applied research, which does not favour scientific excellence or the construction of an innovative environment (Laperche, 2002).

Within this context of strong competition, universities also have to define their own strategies for the medium term, i.e. beyond their four-year contracts. In the same territoire (i.e. within the same region), these individual strategies are created in a context of co-operation but also competition between entities. These seek to distinguish themselves from one another but, at the same time,
are also encouraged to group together within the framework of co-operative structures and even, in some cases, to amalgamate. Moreover, in a context of autonomy, local authorities act as indispensible sources of finance and thus influence the strategies defined by the universities. But are the needs expressed by the collectivités compatible with the strengths and available means of universities, the research and innovation strategy of the regions, the directions of the PRES (pôles de recherche et d’enseignement supérieur, higher education and research clusters) or the evaluation criteria for scientific research? Nothing is less certain, and smaller universities risk being torn between the differentiated logic of actors in the changing system of research and innovation.

Conclusion

The fact that many poorly co-ordinated institutions are involved in research orientation and planning results in a patchwork of initiatives that obscure the national research strategy and detract from its very objectives, which are scientific excellence and enhanced competitiveness. Among the three scenarios put forth in the FutuRIS report the third one, “fragmentation and competition”, best represents the transition phase in which France currently finds itself. The current European and world economic crisis may lead to a prolongation of this transition period by reducing the financing available to universities and public research centres on all territorial levels.

In a period of economic crisis, territoires with the most resources can strengthen and consolidate their advantage by creating relevant and attractive research and education clusters. In this context, a multi-tiered university research and education system would eventually arise. There are few possible solutions to this dilemma. A return to scientific voluntarism, considering the specific features of each territoire and establishing working links between new institutions, would perhaps enable the definition of a more coherent research programme and help ensure better resource allocation. Furthermore, the construction of a real European research area, associated with the development of structural policies (and not just determined by the economic situation) would also define France’s place in Europe and worldwide as a function of its scientific and technological specialities. Co-ordination through horizontal relations between public and private institutions has proven to be discriminatory. Disparities between institutions and territoires could be reduced by coupling co-ordination with the promotion of a process that encourages continual enrichment of scientific knowledge. Our research will continue to explore these possibilities.
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Notes

2. Knowledge externalities signify the dissemination of knowledge in the environment of the company, by formal and informal mechanisms: teaching, technology watch, imitation, professional relations. Other companies benefit from it without having to bear the cost of all or part of the initial investment.


4. See www.aeres-evaluation.fr/Agence/Presentation/Profil-de-l-agence.

5. See www.nouvelleuniversite.gouv.fr/-pourquoi-la-reforme-de-l-universite-.html#outil_sommaire_0.


7. A “loi organique” establishes the procedures for the organisation of public bodies – hierarchically, the law lies between the constitution and an ordinary law.

8. FutuRIS is a platform for strategic prospectives run by the Association nationale de recherche technologique. FutuRIS monitors the French research and innovation system in its international environment, and investigates its evolution. See www.anrt.asso.fr.
9. An unclassified ANR programme whose only criterion is excellence, designed to provide back-up to fundamental research.

10. During the 6th PCRD (Programme-Cadre de Recherche et de Développement, Framework Programme for Research and Development), France received EUR 500 million annually, i.e. 1.4% of its interior R&D expenditure (quoted by Kergueris and Saunier, 2008, p. 94).

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The impact of economic crises on American universities: lessons from the past

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Universities around the world have been affected by the recent global economic crisis. Many are challenged by reduced resources, yet they also face greater demands to help spur recovery in their respective countries. This paper explores how colleges and universities in the United States were affected by, and subsequently responded to, several 20th century periods of economic and social turmoil. These included the Great Depression of the 1930s, World Wars I and II and economic dislocation in the early 1980s. For some of them, the ability to adapt to sudden constraints and new opportunities led to unprecedented strengths. The effects of longer-term trends also played a critical role. This paper offers some lessons from these earlier periods that may have relevance today.
Impact de la crise économique sur les universités américaines : les leçons de l’expérience

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La récente crise économique internationale a touché les universités du monde entier. Nombre d’entre elles doivent relever des défis suite aux réductions budgétaires mais également répondre aux demandes croissantes exigées par le soutien de la reprise économique de leur pays. Cet article examine les conséquences de différentes périodes d’instabilité économique et sociale du XXe siècle sur les établissements d’enseignement supérieur aux États-Unis ainsi que les réactions des établissements à des évènements tels que la Grande Dépression des années 30, les Première et Seconde Guerres mondiales, et les bouleversements économiques du début des années 80. Pour certains, la capacité d’adaptation à des contraintes inattendues et à de nouvelles opportunités leur a permis de développer des forces sans précédent. Les effets des tendances à long terme ont également joué un rôle essentiel. Cet article présente quelques leçons tirées de ces périodes antérieures et qui seraient toujours pertinentes aujourd’hui.
Introduction

The 2007 global economic crisis has had harrowing repercussions on universities around the world. In the United States, the near collapse of financial markets had widespread effects, causing dislocation and losses for families, businesses and states alike. Unemployment rose on average to almost 10% and half of the states saw their revenues drop in the recession’s first year, only partially offset by federal stimulus funds distributed to the states. Over the following two years almost all states faced deep shortfalls, being forced to cut their budgets by 10% or more (Blumenstyk, 2009; Finney, 2010). Some experts say that the full effects of the recession, one of the biggest downturns in American history, have not yet been felt. They predict a slow and uncertain recovery.

Because public colleges and universities in the United States rely heavily on funding from state-level legislative appropriations, public-sector universities have faced severe financial cutbacks, sometimes amounting to one-quarter of core funding. For private institutions, which represent about 20% of US colleges and universities, the recession has introduced new financial pressures due to losses from endowment earnings, increased financial need among students and decreased availability of loans. Institutional responses have varied, but as yet have been largely incremental. Some universities have put off construction projects, reduced maintenance spending and introduced energy-saving measures, while others have trimmed costs through restrictions or freezes on hiring, salaries or travel (Finney, 2010).

Along with reduced resources, many colleges and universities face greater demands than before the crisis. Government officials have called on universities to contribute to social and economic projects that might spur recovery in their state or surrounding community. Both federal and state initiatives expect universities to expand opportunities for workforce development, including programmes to retrain workers for different jobs. Officials have pressed for the expansion of research and development (R&D) projects that might open employment opportunities in emerging fields such as biotechnology or “green” building and construction. At the same time, enrolment demand has increased, as more young people seek practical, job-specific skills or decide to gain another credential while waiting out the recession.
Leaders in government and higher education have had to consider a number of questions about this recession’s likely effects: how deeply will colleges and universities be affected by it? Will it affect their long-standing objectives and plans? What steps can be taken to alleviate the potential damage? This paper offers perspectives on these questions by assessing how colleges and universities in the United States responded to past economic crises. It begins with a review of how colleges and universities were affected by the Great Depression of the 1930s. It goes on to analyse how they fared in the face of the economic repercussions of World Wars I and II, as well as during the slump of the 1980s. The paper concludes by summarising the consequences of such external events on colleges and universities and points to some lessons that may be relevant today.

The Great Depression

In the United States, the collapse of the stock market in 1929 and the following decade of deep economic turmoil caused significant hardship and dislocation for most colleges and universities. Both enrolment and university finances were affected, and many universities experienced the 1930s as a test of survival, although ultimately only a limited number of institutions were forced to close (Rudolph, 1962; Levine, 1986).

For most colleges and universities, favourable earlier circumstances helped to cushion how they were affected by the depression. The 1920s was a boom period and the country's mood was buoyant following the end of World War I; it also had a more appreciative regard for higher education. There was rising prosperity in the country as a whole, good support by state legislatures for public colleges and universities, and a rising level of donations to private colleges by wealthy families at a time when the United States did not have an income tax (Cohen, 1998). Since 1900, both enrolment figures and the size of the higher education sector had grown. The number of colleges and universities rose from 977 institutions in 1900 to 1,409 in 1930. Enrolment grew from about 237,000 in 1900 to about 1.1 million in 1930 (Snyder, 1993).

Between 1900 and 1930, higher education not only grew but also became diversified. As the country evolved from an agricultural to an industrial economy the number of colleges and universities increased, with notable gains in the types of institution that offered practical career preparation to meet the needs of industry and a growing population (Levine, 1986). Teacher training colleges expanded and gradually became multi-purpose state colleges that offered accounting, nursing and other study fields (DeVane, 1965). Urban “street car” colleges expanded by offering vocationally-oriented programmes and part-time study options. Many junior colleges were established in the 1920s, especially in the growing states of the Midwest and the West.
Universities also gradually gained strength during these early decades. Public state universities, helped by regular legislative appropriations, established branch campuses, constructed new buildings and offered “extension” or outreach services to the state’s citizens. Many grew to true university status by launching ambitious plans to hire academic staff and encouraging departments to conduct serious academic research (Rudolph, 1962; Geiger, 1986). One indicator of this change is found in graduate enrolments: in 1900, only 5,668 US students were enrolled for graduate study but this number increased to 47,225 by 1930. Even so, in 1930, only a total of 2,024 PhDs were awarded (DeVane, 1965).

Another significant factor at that time was the varying pattern of economic conditions. The 1930s experienced a shifting economic response, rather than a single, straight line of either decline or recovery. The stock market crash of 1929 damaged the economy badly, but the following year its effects were only partially felt. The lowest point, the period of greatest economic peril, occurred in 1931-32. A related point is that, in the early 1930s, it was widely believed that an economic rebound would occur quite soon. As it happens the recovery was anything but quick, but this belief affected the decisions of many businesses, universities and state governments (Levine, 1986).

After the initial expectation that problems would be short-term, the country’s mood turned negative: hope turned to despair, and officials in public and private organisations encountered cynicism and harsh criticism (Levine, 1986). From 1931 onward, financial distress and anxiety shook the confidence of most of the country’s colleges and universities, even though the number of actual closings was small. Only 31 institutions closed between 1934 and 1936, for example, while a further 22 merged with other institutions. Although most of those that closed were private institutions and many of them had fewer than 150 students (Levine, 1986; Cohen, 1998), almost all colleges and universities faced constant worry as they tried to stay open and retain what was left of their staff. Budget deficits mounted, promissory notes or in-kind offers (e.g. coal, farm produce) were accepted from students’ families and faculty salaries were reduced, usually by 10% to 20%, as institutions improvised. Some developed business enterprises that, while small, offered a new source of much-needed funds (DeVane, 1965; Levine, 1986).

Some private four-year colleges, already weak, faced “grave peril” (DeVane, 1965) stemming from a sharp decline in donations and enrolment as young people shifted to lower-cost study fields or to junior colleges or commuter colleges located in areas of population growth (Cohen, 1998). Public institutions saw funding drop as the states shifted resources to employment and relief programmes (Levine, 1986). As economic conditions worsened in the mid-1930s, attrition rates rose dramatically, despite increased scholarship aid. New York University, a private university in an urban setting with many low-cost public institutions, weathered a sharp enrolment decrease in its
engineering, commerce and teaching programmes, losing 10 000 of its 13 000 students in these fields (Levine, 1986). Admissions standards, which had risen in the 1920s, inevitably slipped for public and private institutions alike (DeVane, 1965).

Starting in about 1934, with President Roosevelt’s New Deal strategies unfolding, a gradual economic recovery began (Geiger, 1986). This mid-decade convalescence allowed many colleges and universities to avoid considerable damage. A significant boost was also offered by unprecedented federal assistance. The government established a work-study programme that, while offering modest funds, allowed thousands of students to be enrolled. Another New Deal programme gave more than USD 70 million in loans between 1933 and 1936 for construction projects at public institutions (Rabridge and Rosenzweig, 1962; Levine, 1986). By 1936, federal support provided 8.8% of higher education funding, about twice the level of a decade earlier (Levine, 1986).

The year-to-year pattern of enrolment was uneven. Initially enrolment slowed down and then actually declined in 1933, the worst year of the Depression (Levine, 1986). In the last half of the decade, the American economy and business conditions improved enough to spur enrolment. By 1940, total enrolment reached 1.5 million students, a 36% increase compared to 1930 (Rudolph, 1962; Snyder, 1993). These gains, while they were welcome and helped to avoid deeper problems, posed new challenges as institutions tried to respond to increased demand with diminished resources (Levine, 1986).

Different types of institution faced varying circumstances during these years, often dramatically so. The public sector as a whole grew at a faster rate than the private sector, in part because it introduced a great number of practical study fields during these years. By 1940, four-year enrolment was, for the first time, almost evenly divided between the two sectors (Dunham, 1969).

Another distinctive feature of this period was the rapid expansion of public junior colleges. Between 1920 and 1930 their number soared from 52 to 277 (Cohen, 1998). This is because many states funded them as a way to manage growing demand: initially, they were designed to allow young people to complete the first two years of college study before moving on to a state university (DeVane, 1965). In all, the number of these colleges increased overall by 76% over the decade.

Even during the early 1930s, junior college enrolment also increased. In 1930, two-year colleges enrolled about 56 000 students; by 1934, their enrolment rose to 79 000. By 1940, the end of the decade, enrolment at two-year colleges had soared to 150 000 (Snyder, 1993). As Levine (1986) notes, “… by 1940, one of every ten college students in the nation was enrolled in a junior college, a type of educational institution barely a generation old”. This unusual surge
reflected the appeal of the junior college’s lower cost and close proximity, but also reflected a long-term response by mid-western and western states to growing populations and changing employer needs (Levine, 1986).

Many of the smaller public universities – including technical and agricultural institutes, teacher training colleges and regional universities – were not significantly affected by the Depression because they had very small enrolments and career-oriented study fields that continued to serve local needs (Dunham, 1969; Cohen, 1998). Some large state universities had adequate state funding for a few years due to earlier legislative appropriations. Later in the decade, they had recourse to a variety of strategies: these included raising tuition, seeking donations from alumni, making use of federal unemployment relief funds that supported student work and using federal construction funds available to public universities (Rudolph, 1962; Geiger, 1986). Most universities responded to rising enrolment in the late 1930s by increasing the size of classes and having teaching assistants handle an increasing share of undergraduate teaching (DeVane, 1965).

The University of Michigan, located in a state with a deeply distressed automobile industry, was among the universities that were severely affected by the Depression. As state funding for the university’s operating expenses and research plummeted, the university eliminated some faculty and many staff positions; those who remained on the payroll took a 10% cut in salary. To reduce administrative expenses, it devolved significant authority to deans and departments. It created a sabbatical leave policy, thus supporting academic values while reducing costs, and engaged a large number of teaching assistants and post-doctoral fellows. By the late 1930s, the rising enrolments that concerned most of the higher education sector gave the university greater stability, but it continued to function with a smaller academic staff than it had in 1930 (Geiger, 1986).

In brief, the effects of the Depression on higher education resulted in several broad patterns:

- considerable uncertainty and numerous internal adjustments for most institutions;
- enrolment decline in the first half of the decade, but increases in the last half;
- slowly improving economic conditions in the last half of the decade; and
- the growth of new types of institutions, amidst shifting enrolment patterns.

While the Great Depression was among the most shattering experiences for the United States (Rudolph, 1962), its overall impact on higher education was not as dire as might have been expected. Most colleges and universities found ways to cope and restrict spending. There was a mix, perhaps, of good decisions and happenstance, coupled with cohorts of graduate students who
needed financial support and increasing undergraduate enrolment later in the decade, which meant there was continuing tuition revenue and public good will. Access to higher education had increased, despite the difficulties of the Depression for both colleges and families. By 1940, 16% of 18-year-olds in the United States were entering college, compared to only 8% in 1920 (Cohen, 1998). It is true, too, that higher education benefited during this troubled decade from longer-term trends. Prominent among these trends was a continuing increase in the number of high school graduates and the steady movement of colleges and universities toward practical, job-relevant study fields (Levine, 1986).

The 1980s slump

After an extended period of rapid economic growth in the 1950s and 1960s, early signs of a slowdown were seen in the 1970s; these were to deepen by the early 1980s (Cohen, 1998). As early as 1980, various indicators pointed to a slowing economy and a levelling off in the nation’s investment in R&D. Within a few years, universities were once again caught up in yet another national economic downturn, but this slump had a different character and set of consequences. It was a period of double-digit inflation, economic turmoil and industry cutbacks. There was a stock market dive in 1987 and general financial austerity, with growing concern over increased international competition. Under Ronald Reagan’s presidency federal spending decreased, and there were significant cuts in funding for university research (Phillips and Shen, 1982).

The economic climate of the 1980s resulted in an increasingly gloomy national mood and an uncertain outlook for colleges and universities. The post-war boom – from the late 1940s onward – had produced three decades of economic growth that seemed to be sputtering out. The baby boom which followed World War II had added to enrolment growth, but its effects were now diminishing. In 1975-76, total enrolment declined for the first time in decades, followed by a similar decline in 1984 (Snyder, 1993). By the late 1970s, the enrolment outlook had become murky. A sizeable demographic decline (almost 20%) in potential candidates for college was predicted. Forecasts indicated that colleges and universities would experience a “new depression” marked by limited financial support from the states, increased energy costs, decreases in research funding, further enrolment declines and, consequently, reduced tuition revenue (Phillips and Shen, 1982).

In the face of these pressures, higher education retrenched in many areas. Expenses were cut, the growth of new programmes was limited and universities pulled back on what had been a rapid pace of academic hiring. Some states cut costs by offering early-retirement incentives for academic staff (Cohen, 1998). Class sizes rose, especially at community colleges and
state universities. Waiting lists emerged for enrolment in popular fields of study (Phillips and Shen, 1982). Another result was a steady increase in the number of recent PhD recipients taking one- or two-year postdoctoral fellowships. In many colleges and universities, PhD recipients were hired for temporary instructional positions to teach large undergraduate classes that took them away from research (Thelin, 2004).

In general, colleges and universities attempted to maintain their current strengths, but also adopted more stringent approaches to strategic planning. Brown University, for example, adjusted its spending policies while acknowledging that its resources had been stretched too thin (Thelin, 2004). Some universities fared differently. For example, the Rochester Polytechnic Institute, located in New York, prospered during the 1980s largely because it had developed interdisciplinary research centres and a technology park based on close collaboration with industries in its region (Geiger and Sa, 2002).

World Wars I and II

In addition to these periods of economic distress, the twentieth century also posed challenges for higher education during two war-time periods. Both World War I and World War II had significant and diverse effects that shaped how colleges and universities developed during these years.

World War I was a short war in military terms for the United States, officially lasting 19 months. However, it had deep consequences for colleges and universities. Enrolments dropped dramatically, as college-age men quickly joined the armed forces. Many universities reported 30% to 40% decreases in enrolment. Revenues, in turn, took a steep dive. High levels of inflation, due mainly to wartime military spending, added to financial woes. In response to their internal plight and in order to contribute to the war effort, some universities received government funds to engage in research on explosives and industrial processes (Cohen, 1998). More than 500 universities or colleges agreed to participate in the government's Student Army Training Corps and thus to become training grounds for active duty soldiers (Levine, 1986). Academic staff were asked to adjust their teaching to provide the non-military part of the training. The programme lasted only a few months, as the war ended shortly after it was put in place (DeVane, 1965; Geiger, 1986). Interestingly, it had mixed results. On the one hand it helped avoid bankruptcy for many colleges and universities and allowed them to maintain some of their academic staff, but it also stirred controversy over whether this arrangement intruded too much on regular instruction.

After the war ended, universities still faced formidable financial pressures. There were enrolment surges as young men resumed their studies and demand for college places rose. Class sizes increased dramatically while
the universities worked to accommodate the students, stabilise their finances and rebuild their academic staff (Levine, 1986).

The short-lived war also had unexpected long-term consequences. Many private colleges and universities had turned to alumni or members of their local communities for donations during the war years and this source of assistance became more significant over the following decades, reflected in systematic fundraising campaigns and appeals to wealthy alumni (Geiger, 1986; Thelin, 2004). Similarly, during the war years a number of universities relied on assistance from the Carnegie and Rockefeller Foundations, for example, and this reliance on foundation support continued (DeVane, 1965). The war also impacted on the curriculum. Columbia College (later, Columbia University) developed a course on “war issues” that emphasised Western intellectual traditions. It proved successful and was expanded into a broad interdisciplinary programme called Western Civilization that was widely adopted by colleges and universities around the country (DeVane, 1965; Cohen, 1998).

The co-operation between universities and government also had long-term consequences. Some universities had developed joint war-related projects with their counterparts in industry and continued these links after the war ended. This was possible, in part, because of the growth of science positions in academe, especially in physical science and specialised scientific disciplines. The next years also saw a dramatic rise in demand for engineering studies, followed by a rise in business studies, reflecting the broader economic and industrial growth of the 1920s (Geiger, 1986). As Thelin (2004) notes, positive experiences like these set a precedent for further co-operation and also created greater public awareness of the potential benefits of university contributions.

The impact of World War II on the higher education sector had some parallels with the earlier war period. Enrolment dropped abruptly, initially causing significant financial distress. But once again, new funds emerged from higher education’s ability to contribute to the war effort. Military training camps sprung up at most colleges and universities. Government funding for these camps helped many institutions to stay afloat at a time when most able-bodied young men had been called to military service. Many universities redirected their research facilities and technical personnel to military objectives (DeVane, 1965). Academic scientists drawn from several universities participated in the development of advanced weapons and other support for the war effort (Babbidge and Rosenzweig, 1962). Academic staff with expertise in foreign languages, history, geography and a range of social sciences were also called upon to put their defence-relevant expertise to the service of the government (Cohen, 1998). Co-operation with industry continued, helping to meet urgent military needs in weapons research, the development of
synthetic rubber, the use of radar and military strategy. By 1943-44, federal contracts awarded to universities were triple their pre-war level and continued to grow throughout the war and into the post-war period (Geiger, 1986). By 1953, the federal government accounted for over half of all university R&D spending, a strong contrast with the pre-war period when universities had little federal funding and largely supported research activity on their own (Phillips and Shen, 1982).

Successful wartime co-operation in the 1940s between universities, industry and the federal government changed the image of universities and provided a cogent rationale over the following decades for a broader role for universities in the nation’s scientific and industrial development. Large-scale research facilities emerged during this post-war period to support specialised governmental needs in areas such as defence, space, agriculture and water resources (Babbidge and Rosenzweig, 1962). The National Science Foundation was established in 1950 (DeVane, 1965).

The GI Bill, which provided funding for further study to those leaving military service between the 1950s and the 1970s, was also a significant boon to college and university enrolments. It paid for college study for thousands who otherwise would not have entered higher education (Thelin, 2004) and for many years it provided most of the financial support for graduate students (Phillips and Shen, 1982; Geiger, 1986). For most universities, revenues from the GI Bill and federal research meant that they could manage their overall finances on the basis of multiple sources of funds (Cohen, 1998).

**Discussion and conclusion**

This review offers several perspectives on the current difficulties faced by higher education. An initial point is that, examined in this broad sweep of time, it is clear that US colleges and universities have survived several periods of widespread uncertainty. Nevertheless, external events posed significant challenges and often led to far-reaching and sometimes controversial adjustments.

This review also reminds us that economic cycles take on different characteristics and the actual pattern of effects varies from one period to another. The current recovery is predicted to be gradual, possibly forming a stop-and-go pattern in which gains are followed by disappointments. However, it seems that government officials and economic analysts have limited ability to predict either the depth of an economic dislocation, or the exact pattern or timing of any hoped-for recovery. In the early years of the 1930s depression, US analysts forecast a quick recovery, but they were wrong. It was the advent of World War II that finally lifted the economy which, otherwise, might have continued its slow march to recovery. The economic
doldrums of the late 1970s and the 1980s could have been predicted as they followed a long expansionary period, but their length and depth were affected by political currents as much as by economic realities. Similarly, the current economic recession has led to low levels of inflation and very low interest rates, whereas prior economic downturns engendered quite different consequences.

This review suggests that colleges and universities rarely encounter steady, stable conditions. As in other historical periods, the 20th century witnessed significant periods of dislocation and economic turbulence, but it also included some highly favourable boom years during periods of national prosperity. Changing economic cycles often call for colleges and universities to adjust their budgets and long-term planning. But other dislocations also occur, and local calamities can include hurricanes, flooding and earthquakes. Other challenges can arise from social turbulence, expressed in widespread public protests, extremist groups, or disturbed individuals. More benign, but still destabilising, are technological changes or shifting political moods.

Earlier periods also point to patterns of college and university response that have relevance to today’s economic uncertainties. One implication is that the impact of external events may not be uniform across institutions or even within institutions. Much depends on whether and how a college or university’s current strategies offer a way forward. A number of general observations seem warranted, offering possible lessons for today’s colleges and universities.

**There is inherent flexibility in the multiple services that most colleges and universities offer.** The provision of good teaching, cutting-edge research and a variety of services to an institution’s surrounding community can be a source of tension. Questions can be raised about whether today’s colleges and universities are too large, or too fragmented by a proliferation of specialty areas. However, multiple activities and roles give flexibility. In the periods of economic turmoil reviewed here, different components of university activity have offered various potential responses to an array of external circumstances.

During the 1930s, this flexibility helped make the situation manageable for many institutions. For public universities, graduate students and recent doctoral recipients became willing workers at the university, able to assist with undergraduate instruction at a time when they had limited employment prospects elsewhere (Geiger, 1986). Similarly, teacher training colleges that evolved into four-year public colleges were successful in part because they introduced other career-relevant study fields.

**Even in challenging economic conditions, there are ways to move forward.** Previous investments may offer a basis for progress when external events threaten long-term plans. Despite severe belt-tightening in the
Depression years, the momentum that had been created in the 1920s carried many colleges and universities forward and allowed continued progress, even if at a slower pace. Many states established public junior colleges in the 1920s and, in altered financial conditions, met rising enrolment needs by directing students to these colleges (Cohen, 1998). Other colleges and universities were in a strong position in the early 1930s because, earlier, they had invested in new buildings, hired promising new faculty and received major donations from individuals and foundations (Rudolph, 1962).

Unexpected shifts in the external environment may create opportunities. World War I helped spur interest in engineering studies, as well as greater investment in engineering research. Similarly, World War II called for greater co-ordination of research among universities, industry and government; these patterns of co-operation paved the way for continuing partnerships in applied research between universities and industry. These partnerships, in turn, led to significant progress in R&D in the post-war period.

Another shift took place in relation to public attitudes toward higher education. Before World War I, when a relatively limited proportion of the population had college experience, higher education was seen as elitist and narrow by much of the American public. Because of the way that colleges and universities offered a much-needed contribution to the war effort, attitudes improved noticeably. A similar pattern of wartime effort enhanced public support for colleges and universities during and after World War II.

Today’s recession has caused dislocation and unwelcome adjustments for US colleges and universities, but nothing potentially catastrophic. Nevertheless, it creates a new test for making wise decisions and determining how to move forward. Every college and university has a range of resources and options and can consider how its long-term development and circumstances can allow it to overcome today’s temporary dislocations.

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Alternatives to industrial work placement at Dublin Institute of Technology

by

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In the current economic crisis, higher education graduates need transferable professional skills more than ever. They need resourcefulness, an ability to work reflectively, a sense of civic awareness and an impressive curriculum vitae. This case study analyses how Dublin Institute of Technology’s Programme for Students Learning With Communities provides cost-effective, sustainable solutions to these needs, offering an alternative to industrial work placement. Community-based learning and research involve collaboration between staff and/or students and community partners to design real-life, course-based projects which meet the learning needs of the students and those of the community. The programme not only enriches the curriculum; it also builds links with communities and brings additional resources to the educational institution, while allowing the institution to fulfil its three main roles of teaching, research and outreach, simultaneously.
Alternatives d’orientation au travail industriel à l’Institut de technologie de Dublin

par
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Au regard de la crise économique actuelle, les diplômés de l’enseignement supérieur ont plus que jamais besoin de compétences professionnelles polyvalentes. Ils doivent être ingénieux, capables de travailler de manière réfléchie, avoir une conscience civique et un curriculum vitae étoffé. Cette étude de cas analyse comment le Programme de communautés d’apprentissage de l’Institut de technologie de Dublin propose des solutions rentables et pérennes pour répondre à ces besoins, et offre une alternative d’orientation au travail industriel. Les communautés d’apprentissage et de recherche impliquent une collaboration entre personnel et/ou étudiants et partenaires communautaires pour concevoir des projets qui reflètent la vie réelle basés sur des cours qui répondent aux besoins d’apprentissage des étudiants et de ceux des partenaires. Ce programme enrichit non seulement le cursus, mais il tisse également des liens entre les partenaires en apportant des ressources supplémentaires à l’établissement d’enseignement, tout en permettant à l’institut de remplir simultanément ses trois fonctions principales : l’enseignement, la recherche et l’ouverture.
Introduction

This paper is an institutional case study on the potential rewards from the use of community-based learning (CBL – also known as service learning) as an alternative to industry-based work placement (paid or unpaid internship) at the Dublin Institute of Technology (DIT), Ireland. Beginning with the context, we then look at the traditional industrial work placement and at community-based learning and community-based research (CBR). The bulk of the paper focuses on the benefits and practicalities of integrating CBL or CBR into a work placement module, based on our experience of co-ordinating the Programme for Students Learning With Communities in DIT. We end by considering the resources and challenges involved in developing CBL work placement modules.

Context

DIT began in the vocational education sector and is now the largest tertiary institution in Ireland. It awards a wide range of qualifications ranging from apprentice education to doctoral degrees and post-doctoral research. There is still a strong emphasis on applied learning and applied research in many of its programmes of study and DIT maintains close links with industry. DIT also has a strong record of engaging with the community sector through the initiatives of its long-standing Community Links Programme. It has a successful history of admitting and supporting students from diverse backgrounds through its access and disability support services.

It is common knowledge that the Irish economy has undergone a serious downturn recently. In just under three years, from the last quarter of 2006 to the third quarter of 2009, Irish unemployment rates rose from 4.3% to 12.4% (Central Statistics Office, 2010). In March 2010, Inter Company Comparison Information confirmed that two Irish firms were closing every day (RTE News, 2010). With widespread unemployment, wage cuts, cuts in working hours for employees and company closures, DIT staff and students are struggling to find appropriate work placement opportunities. Small companies in particular rarely have the time and resources to supervise a student, when the exercise is primarily for the benefit of the latter. Yet work placements are not only a compulsory element of many DIT degree courses, they are also a requirement for validation of the degree by the relevant professional body.
The traditional industrial work placement

The learning outcomes of a work placement module are wide-ranging. To look at just one discipline’s criteria for validation of academic courses, Engineers Ireland (EI – the professional body for engineers in Ireland) outlines six overall programme outcomes for Honours Bachelors Degrees. The first three criteria (a – c) are technical, but the remaining three are broader, and clearly relate to the communication, teamwork and other transferable skills which a work placement module normally aims to develop in a student:

d) An understanding of the need for high ethical standards in the practice of engineering, including the responsibilities of the engineering profession towards people and the environment.

e) The ability to work effectively as an individual, in teams and in multi-disciplinary settings, together with the capacity to undertake lifelong learning.

f) The ability to communicate effectively with the engineering community and with society at large.

(Engineers Ireland, 2007)

With these learning outcomes in mind, an engineering work placement module may include the following learning outcomes:

● Integrate into a commercial/industrial environment, observing the rules of that workplace regarding, for example, punctuality, health and safety regulations and completing tasks/work as set down by the employer.

● Demonstrate their interpersonal skills in a working environment.

● Describe the organisational structure and business aims of the host company.

● Explain how work is planned and organised within the placement company and explain her/his team function within that structure.

● Explain how the company deals with Health and Safety and environmental legislation.

● Evaluate the success of the work placement and write a report on the experience.

● Reflect on the effect of the work placement on their future career choices.

(DIT School of Electronics and Communications Engineering, n.d.)

There is a clear match between the learning outcomes of the work placement module and the last three accreditation criteria of Engineers Ireland, particularly in relation to teamwork, interpersonal skills, health and safety and communication with engineers. Student learning in relation to the profession’s role in, and responsibility to, society, as well as communication with society, is less in evidence in this particular module descriptor than in the EI criteria.
Staff responsible for several courses in DIT are now exploring community-based learning (CBL) and community-based research (CBR) as an alternative to, or a replacement for a component of, traditional work placements.

**Community-based learning and community-based research**

Community-based learning and community-based research are supported and promoted by the Programme for Students Learning With Communities across all colleges in DIT. This programme geographically and theoretically straddles the American tradition of service learning and the European science shop movement. Both movements work to develop projects between students and community groups which are collaborative and accredited, but have slightly different philosophies. In the United States the term “service learning” is used instead of community-based learning; “service” indicates the social origins of this movement which is based on volunteer work. According to Learn and Serve America (n.d.a.):

Service-Learning is a teaching and learning strategy that integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, and strengthen communities.

[...]

The core concept driving this educational strategy is that by combining service objectives and learning objectives, along with the intent to show measurable change in both the recipient and the provider of the service, the result is a radically effective transformative method of teaching students.

(Learn and Serve America, n.d.b.)

Much of US service learning has now moved to a model of collaboration which is reciprocal between community and college. However, the structures of some service-learning programmes (for example, those where students volunteer for a set number of hours in a community organisation in order to receive course credits) still draw on the model of the community as primary beneficiary.

In Europe the emphasis has been more on community-based research than community-based learning. This research is often facilitated by science shops. Science shops first emerged in Dutch universities during the 1970s and have spread across Europe and beyond. The European science shops’ origins combine technical research and social concerns.

Science Shops are organisations that offer citizens’ groups free or very low-cost access to scientific and technological knowledge and research in order to help them achieve social and environmental improvement (Søgaard Jørgensen et al., 2004, p. 3).
A Science Shop provides independent, participatory research support in response to concerns experienced by civil society (Hende and Søgaard Jørgensen, 2001).

The term “science” in our sense is used broadly and includes the social and human sciences, as well as natural, physical, engineering and technical sciences. Science Shops [involve] bi-directional knowledge transfer (Søgaard Jørgensen et al., 2004, p. 15).

Social science research questions, rather than technical ones, now predominate in some science shops. While the latter focus on the possibility of effecting policy change, some projects which have a technical slant can sideline personal and social learning (Zlotkowski, 2010).

Students Learning With Communities has a foot in both of these traditions. The programme focuses on project-based community-based learning, in line with the US tradition and with DIT’s vocational education roots. In the European spirit we are also developing community-based research (CBR): we advertise community research questions on our website, and in 2010/11 developed and piloted a new non-discipline-specific module on the subject. As in the United States, communities do not contribute financially to our projects (although some science shops charge reduced research fees). The programme has also incorporated the European practice of working for policy change. We work with the community from an asset-based perspective (focusing on the assets and strengths it brings to the collaboration, rather than just on their needs) and our aim is to maximise personal, technical and social learning for all partners involved.

The relationship between CBL/CBR and work placement objectives

The learning outcomes in module descriptors which incorporate CBL projects require students to develop not only discipline-specific technical skills, but also to:

- Demonstrate the link between their community learning and their classroom knowledge.
- Demonstrate teamwork and collaboration and negotiation skills.
- Demonstrate their ability to consult with, and respond to, the needs of a community partner.
- Synthesise their learning into a tangible project outcome.
- Communicate clearly their project/project outcomes to peers and where possible, a community partner, in an accessible way.
- Demonstrate their ability to reflect on and critically appraise their learning experience.
● Reflect on, question and challenge the causes and effects of inequality and disadvantage in society.

(DIT Faculty of Engineering, 2009)

While the community context for a CBL project can be significantly different to the context for an industrial work placement, there are evident similarities in the learning outcomes for students in both cases. These have been noted by Hengel and Shumer (2008) and include: making connections between experiences and subject matter learning; demonstrating social and cognitive learning and personal, social, psychological and academic growth; developing problem-solving skills which are applied in contexts beyond the classroom; and developing practical skills and citizenship skills, social involvement and productive employment.

CBL adds further outcomes to those of the traditional work placement. For example, CBL offers mutual benefits to students and community organisations, as the projects which students work on are collaboratively agreed with the community partner and are not simply an exercise to primarily benefit the student. CBL projects also assess the students’ understanding of the impact of their future profession on society and their ability to communicate with the public. The projects expose them to social inequalities (the communities are generally underserved ones) with a view to developing their sense of ethics and civic responsibility. As Duffy (2010) points out, ethics is difficult to teach, but CBL may help the student to develop an awareness of his/her beliefs and values in a social context; the use of reflection (an intrinsic part of CBL) can help develop self-awareness in general and thereby lead to ethical development.

Integrating CBL into the work placement module

The recent economic challenges in Ireland and the consequent difficulty faced by DIT staff to find industrial work placements for their students coincided with the initiation in September 2008 of the Programme for Students Learning With Communities in DIT, and its promotion of CBL and CBR across the college. As a result, the two staff members who work full-time on the programme have been working closely with DIT teaching staff to adapt work placement modules (among others) to incorporate the principles of CBL, in almost all cases at the instigation of the teaching staff. This is a relatively straightforward process, and is best facilitated when DIT staff have upcoming school or programme reviews and seek to formalise the development of CBL projects as an alternative to, or replacement component of, traditional work placements.

This process is not without precedent. At California State University-Fresno, for example, the Community Service Scholarship Program combines co-operative education with service learning. Students receive co-op/internship credit and scholarships when they complete a placement at a community
service site (Derousi and Sherwood, 1997). As in traditional co-op work placements, students who follow these programmes get real-world training. They are able to explore career options and acquire enhanced employability skills such as communication, problem solving and leadership. They also become sensitised to community and social problems. Combining co-op and service learning thus prepares students for roles as workers and citizens (Kerka, 1999).

In January 2011, the Irish government unveiled its National Strategy for Higher Education to 2030. The strategy included a specific recommendation on the use of CBL/service learning as an alternative to industrial work placement: “One solution to the challenge of finding suitable work placement for students is service learning. This has the advantage of also providing students with the opportunity to engage in civic endeavours” (Higher Education Strategy Group, 2011).

Since 2008 the following courses in DIT have turned to CBL as an alternative to industrial work placement:

1. As part of the Bachelor of Engineering course (Electrical and Electronic) and as an alternative to traditional work placements, third-year students participated in CBL projects. According to Duffy (2010), the co-ordinating DIT lecturer for this module, these projects were initially proposed by Social Entrepreneurs Ireland2 and three suitable projects with an engineering focus were identified, most of which could be carried out in the DIT’s Engineering School’s facilities. The projects were:

   a) To provide a quiet motor to drive roller and louvre blinds in a light treatment therapy room for cerebral palsy patients located in the Camphill Community3 in Kilkenny.

   b) To carry out a preliminary design for automating a district heating system for the Camphill Community in Kilkenny.

   c) To design a small-scale biodigester for the Smithfield Fruit Market, Dublin City Council.

(Duffy, 2010)

Students worked on these projects in groups in order to gain experience in team-based problem-solving tasks, communication and negotiation with their client and their peers. As they were also asked to work on other problems at the same time during the work placement phase, and some acquired paid work placements elsewhere during these projects, some students left the CBL projects before they had been completed. In the end, although work was done to advance the projects, none of them was actually completed during the year. However, project a) was continued as part of a final year assignment by a Bachelor of Engineering Technology student
(Duffy, 2010). The fact that the student took on this project for his major study shows that there can be heightened engagement of some students with CBL projects, often leading to a commitment to develop the project beyond the original module. This heightened engagement ensures that those students’ learning is enhanced and deepened in ways that may not be facilitated by industrial placements, once completed.

According to Duffy (2010), these projects are very challenging for the students as not only do they have to find a solution, but this must also be suitable for the real-world client. He feels that the use of community-based projects involving final-year students could be increased as there are many suitable engineering projects located in the community sector. Collaboration with other schools in the College of Engineering and Built Environment could also be initiated so that multi-disciplinary projects could be developed. This is reminiscent of the Engineering Projects in Community Service (EPICS) programme at Purdue University, IUPUI, in the United States, where interdisciplinary, multi-annual community-based learning projects are successfully developed and implemented. In this way, continuity is ensured and the community is well served. The community partner on the Camphill project which was continued by the final year student was certainly happy with the progress made.

2. As part of the Bachelor in Science Degree in Business and Management studies, a small number of students has opted for a CBL placement with an Irish-based charity in Malawi for their work placement option. Wells for Zoe is an Irish charity which initially focused on providing pumps and clean water in rural areas of Malawi and which has since expanded into experimental farming and early childhood education. DIT students have been volunteering to work in Malawi with the charity since 2008. In 2008/09 a business student, who had previously volunteered with the charity, was the first to receive academic credits for this work through the work placement module on the Bachelor of Science in Business and Management Studies. For these credits he completed a 3-month CBL placement in Malawi, during which time he developed new systems and structures for the charity. He also developed accountancy systems and became involved in the business operations being run by Wells for Zoe on site. In this way not only did the student meet the general learning outcomes of his work placement module, but he also added another level of learning. This included learning about the transferability of systems, of discipline-specific language and of academic learning across cultures and contexts, experiencing first-hand the sharp socio-economic inequalities between countries and living as a member of an ethnic minority. This intercultural learning is relevant in a newly multicultural society such as Ireland and given the likelihood of emigration of new graduates in the context of a severe recession. It is unlikely that this quality of learning could be achieved on a standard local industrial work
placement. Since 2008/09 other students on the BSc in Business and Management Studies have taken up the option of a CBL placement in Malawi as an alternative to placement in industry.

3. As part of the Higher Certificate in Pharmacy Technician Studies, first-year students can participate in a CBL project which involves tutoring biology and maths to secondary-level pupils in a local disadvantaged inner-city school. As part of their assessment for this project, these students are given one month's exemption from their second-year work placement module which is equivalent to 5 ECTS of the 30 ECTS allocated to that module. This is possible because the students are fulfilling in part some of the learning outcomes of the work placement module, including: “... to apply in a professional setting the skills, understanding and concepts studied in the programme curriculum [and] ... to extend communication skills” (Dunne, n.d.).

4. As part of the BSc in Mathematical Sciences, third-year students can now work on a CBL project instead of, or in partial replacement for, taking up a six-month industrial work placement. In these instances the students forgo any payment that they would likely receive for their work placement. In 2010/11 two students worked on analysis of data from a large national survey with a health-focused community partner. The community partner has offered training in the relevant software to the students as part of the CBL placement, and intends to use the results of their work to lobby for policy change.

5. The BSc in Leisure Management has a very broadly described work placement module which allows students to combine a range of smaller, optional modules which have aspects of work placement built into them. Since 2009 one of these modules has involved CBL and is run with the support of the Ladies Gaelic Football Association (LGFA) of Ireland’s Gaelic for Girls Programme and Dublin City Council. Students choosing this module are trained by the LGFA as referees and coaches and then put these skills into practice by coaching and refereeing girls in inner-city sports grounds and organising a one-day blitz event. The module is assessed through a reflective journal submitted by the students on their learning (personal, academic and social) throughout the module. In addition to the module credits, students who successfully pass the LGFA's coaching and refereeing exams during the course of the module obtain nationally recognised qualifications in these two areas.

6. A new CBL project being piloted in 2010/11 involves a small number of students in the BSc in Computer Science working with Wells for Zoe to identify, design and install relevant computer application systems in Malawi, instead of an industrial work placement. This placement is very tightly structured, involving an initial preparatory phase where students collaborate with other Irish community-based organisations on CBL projects involving
computer systems, as well as receiving training from the Irish development education organisation Comhlámh. This induction phase is followed by an immersion phase, involving a 6-week visit to Malawi by the students, followed by a research and design phase in Dublin. As 2010/11 is the first year of the service-learning module, the students will visit Malawi once, while the lecturer, Ciarán O’Leary, hopes that participating students will visit twice as of 2011/12. The intention is that this year’s student group project will be handed over to next year’s student cohort, who will implement it in Malawi as necessary. Interested students went through a detailed application process to ensure that the most committed students took part, and that they had time to raise funds for their travel costs and undergo vaccinations.

Aside from these existing modules, there are several new CBL placement modules in the planning stage. As the principles of CBL mean that projects are collaboratively designed with the community partner, we are currently exploring further opportunities for placement, such as with Wells for Zoe in the BA in Early Childhood Education, the BA in Social Care and the BSc in Human Nutrition and Dietetics. Staff responsible for the BSc in Computer Science are also exploring the possibility of students working with local communities in the post-Chernobyl Republic of Belarus. This would be carried out in collaboration with the DIT Computer Learning in Communities projects underway in Belarus which provide computers and IT tuition to local people, including young people with intellectual disabilities.

**Benefits of CBL work placement modules**

As can be seen from these few examples, the benefits to students from engaging in collaborative CBL projects such as these often outweigh those of a traditional industrial work placement module, where students may not be given a particular project to work on (with the associated responsibilities and time management learning) and may be limited to photocopying/filing/coffee-making/observation of the workplace.

Research also shows that CBR projects or “… science shops contribute to … developing student competencies and skills by applying project-oriented and problem-based methods” (Søgaard Jørgensen et al., 2004, p. 5). The INTERACTS study (idem), which analyses 21 case studies from European science shops, found that students engaged in CBR projects could benefit from developing and enhancing the following skills: social competency; professional skills; communication and co-operation skills; new knowledge and perspectives; knowledge and expertise within trans-disciplinary research; mediation skills to connect the various needs and demands of different groups with their theoretical scientific background; and computer skills. Students also enhanced their CVs and consequently their employability; they
were able to use their research findings when submitting theses or writing for peer-reviewed journals; and became more conscious of using scientific terminology with care when making presentations to the general public.

Research carried out in the United States on service learning also shows that CBL enhances students’ engagement with their college studies and increases their ability to apply the theoretical knowledge they have learnt in the classroom. It shows that CBL has a positive impact on students’ well-being and general college experience, leads to a lower drop-out rate and can improve students’ confidence and motivation (Hurd, 2008).

Not only that, but as students engage with socio-economically or otherwise disadvantaged communities through their community-based learning projects, students experience the effects of their discipline in these contexts. This offers them the opportunity (when skilfully prepared) to engage their capacity for critical thinking, develop their social awareness and challenge social norms and inequities in a way that traditional industrial placements may not. These projects have the possibility of broadening the students’ sense of civic responsibility and, as we face unprecedented economic, social, political and environmental challenges, we urgently need to work to support the development of socially responsible citizens who not only have relevant experience and skills, but are also determined to work for change.

Apart from the plentiful benefits awaiting students who engage in community-based learning projects, there are also benefits accruing to their community partners. According to Learn and Serve America, community-based learning benefits the people served and their communities – and ultimately society – in the following ways:

● It meets real needs and priorities for individuals and communities, as young people [mature students are also involved] bring new energy, capacity, and creative ideas.

● Community residents have opportunities to build positive relationships with young people.

● Communities see youth in a different way – as resources, not problems.

● A new generation of caring and experienced citizens, activists, and volunteers is cultivated.

(Mohamed and Wheeler, cited in Learn and Serve America, 2007)

In addition, as long-term relationships develop, community partners gain access to university staff expertise and have the opportunity to be involved in collaborative research. They can also influence the direction of the higher education research agenda in function of their (and other civil society organisations’) needs. This in turn enhances the relevance of teaching and research in the higher education institution.
Unlike the dwindling supply of industrial work placements, these kinds of projects are generally sustainable. The work done by students in one year often leads to new suggestions from students and community partners for work for the following year, in the same discipline and in additional new areas. As lecturers/co-ordinators and community members build relationships of trust and understanding, then larger, multi-disciplinary and even inter-disciplinary projects can emerge from their collaboration.

**Issues regarding implementation**

From a management perspective, having an office to co-ordinate and support CBL projects is essential, but not very costly. In DIT the Programme for Students Learning With Communities has a full-time staff of two, plus one part-time staff member since 2010. It has a small non-pay budget which covers costs for administration, annual award ceremonies, travel and small seed-funding grants (for interested academic staff who would like to start new projects, or develop existing ones). Academic staff rarely have the time to find appropriate community contacts even if they would like to run CBL projects. However, it only takes one or two co-ordinating staff members’ time to meet a range of community groups, discuss their strengths and needs and connect them with lecturers and students with similar interests, with a view to starting new projects. As pre-existing courses have little scope to include extra or new modules, a large part of our (i.e. the programme staff’s) work in DIT comprises discussing with interested lecturers how CBL projects can be incorporated into existing programme modules, such as the work placement module. We also offer advice on how to write up new modules to incorporate relevant learning outcomes, should staff wish to take that approach. We make time to develop relevant policies and resources designed to assist academic staff and community partners in these projects. For example, we are currently working on implementing DIT’s new child protection policy targeted at students working, learning or volunteering with children (developed by us in collaboration with Campus Life, the office for DIT student services).

To conclude, for a relatively low financial investment, a higher education institution can reap considerable benefits by considering CBL as an alternative to industrial work placement. The college benefits by increased input from community partners, and the energy and expertise they bring. DIT’s community partners, for example, are extremely generous with their time and ideas, actively participate in the Students Learning With Communities advisory board and are genuinely committed to enhancing student learning, as well as to maximising the benefits of this work in favour of their own communities. Building these links is a good way to embed the college in the community. They also increase the likelihood of non-traditional students (e.g. students with
disabilities, mature students, socio-economically disadvantaged students and students from ethnic minorities) applying to study in the college, with all the richness of experience that they bring to class and college life generally.

Creating links with communities is also a tangible way for the college to fulfil its third mission, over and beyond research and teaching (CBL and CBR clearly feed into these). New streams in European research funding are focusing on higher education and research institutes engaging with the public, on public engagement in research, and on developing the curriculum to facilitate lifelong learning. The Programme for Students Learning With Communities has successfully obtained European research funding through the seventh EU Framework Programme “Science in Society” as part of a wider consortium of CBR offices (science shops), community partners and research organisations across Europe.

One essential word of caution is that community-based learning projects really need to be considered a viable alternative to work placement, not a “second best” option. At DIT, community-based learning projects and community-based research projects are offered at no financial cost to the community partner (this is not always the case, as discussed above). If the attitude of “second-best” predominates, then we will find that students will drop out of CBL projects should the opportunity for paid industrial work placement arise (as in the engineering example described above). Staff organising work placements really need to understand and explain to their students that work placement modules, particularly those that incorporate CBL, offer benefits other than financial ones. They enhance students’ understanding of the impact of their profession in society and facilitate their ability to communicate ideas to non-specialists.

An example of best practice in this context is the new DIT BSc in Computer Science project with Wells for Zoe in Malawi. The co-ordinating lecturer, Ciarán O’Leary, who has run a range of CBL projects over several years, promoted this option from the start as a very high status alternative to industrial placement. According to O’Leary (2011):

We see this as an equivalent to work placement, rather than a substitute to it. This year there has been no difficulty placing our students in paid positions for work placement, so the ICT sector, unlike just about all other sectors, is not finding it difficult to place students in jobs. As such, we’d like to think that the service-learning module provides students with an opportunity not available to them through work placement, for example, to take on more responsibility and have more control of the direction of their work than they would get in work placement. The ability to work autonomously, for example, is a learning outcome that can be better achieved, we suspect, in our module than work placement. The ability to
understand organisational and management structures would be better served by work placement. The distinction is in the emphasis, though both modules treat more or less the same high-level learning outcomes. Equivalent, just not identical. Not a substitute, but an excellent opportunity.

O’Leary organised presentations to students by the couple who ran Wells for Zoe as well as a DIT student from the BSc in Business and Management Studies who had done his work placement there. There was an arduous application process (a long application form, a rigorous interview by students who had previously volunteered to work with the charity, plus an obligation to raise over EUR 2 000). Furthermore, O’Leary decided to limit the number of students who were allowed to go abroad, and both of these factors ensured that the participating students really wanted this placement and understood the benefits it could bring, over and above an industrial work placement. As discussed above, the intensive phases of preparation, immersion, research and design were all carefully structured. O’Leary also supervised daily reports and reflections from the students during the preparatory phase and, along with his decision to make this a rolling multi-annual project, this ensured that the students and the community partner both got the most from this project.

As regards the perceived status of CBL placements in relation to industrial work placements, our case has been strengthened by the recent endorsement of this approach in the new National Strategy for Higher Education, discussed above. We have also identified a need for an educational process involving relevant professional bodies and professionals. This would serve to highlight the additional benefits offered by CBL compared to traditional industrial work placement, and to ensure that a CBL placement is seen by these professionals and by students as enhancing their CV. We plan to begin this process in 2011/12.

There is one final point to consider if students are to maximise their learning from a CBL placement. While most work placement modules require students to keep a learning log, the richness of potential learning from a CBL placement – at a personal, academic and social level – may be lost if students are not taught and encouraged to reflect on their experiences. We have found that both students and staff feel in need of support in this area, so we developed a pilot non-discipline-specific reflection class which we delivered on CBL modules across DIT in 2009/10. We evaluated this at the end of the academic year and developed a package of handouts, slides and teaching notes. We now make these available to academic staff, along with a training workshop exploring how to use the pack, so that they can deliver the class themselves the following year. These reflection skills will be carried by these graduates into their personal and professional lives after college; they will also be used on the work placement module and help to create a new generation of “reflective practitioners” (Schön, 1991).
Conclusion

CBL placements, as an alternative to industrial work placements, offer cost-effective and sustainable solutions to many of the challenges currently facing higher education institutions (HEIs) in Europe. These include how to find work placements for students during a recession; how to maximise stretched resources to enhance student learning; and how best to prepare students for the workplace and for a future as active citizens. CBL is highly compatible with the concurrent development of both technical and non-technical transferable knowledge and skills (including awareness of the impact of the profession on society and a sense of ethics), as increasingly required by professional bodies for the validation of courses at tertiary level. Although CBL is an established pedagogy in the United States and Europe, it is still in its infancy in HEIs in Ireland. Integrating CBL into existing academic structures such as work placement modules is a relatively straightforward task, once the similarities and differences between the philosophies of both are clearly understood. Once this happens, then the CBL work placement experience can result in enhanced learning by students as well as additional benefits for HEIs and community partners. Long-term college-community collaboration on CBL projects can lead to an increasingly equitable education system (for example, through increased participation of disadvantaged groups in higher education) and a more socially aware generation of emerging professionals.

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Notes

1. From the late nineteenth century onwards a range of vocational colleges were set up around Dublin’s inner-city under the City of Dublin Vocational Education Committee. In 1992 these were merged into DIT.

2. Social Entrepreneurs Ireland is an Irish Charity that aims to identify and support social entrepreneurs and their organisations. See www.socialentrepreneurs.ie.

3. The Camphill Communities is an international charitable trust which works with people with intellectual disabilities and other kinds of special needs. See www.camphill.ie.

4. ECTS stands for European Credit Transfer System and is now the standard name for credits in the Irish higher education sector.

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In an effort to ensure accountability, and in order to prepare students for a globalised world, the higher education sector in Mexico is seeking to implement an evaluation of public higher education. Higher education institutions (HEIs) need to balance this goal against the need to protect their autonomy. This would be preserved if each institution were to operate an efficient evaluation system which is designed and executed, at least in part, by the institution itself. The process must be effective and transparent, allowing a clear communication flow to be built up with the general public as well as with the educational authorities. HEIs must, therefore, rethink an earlier conception which presupposes that maintaining the quality and good functioning of education is a purely internal affair. Implementing evaluation systems at national level is relatively new, so it is still experiencing some problems in relation to co-ordination as well as resistance from evaluatees.
La mise en œuvre de l’évaluation de l’enseignement supérieur au Mexique

par

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L’enseignement supérieur du Mexique cherche à mettre en œuvre une évaluation de l’enseignement supérieur public afin de renforcer la responsabilité et la préparation des étudiants face à la mondialisation. Les établissements de l’enseignement supérieur doivent trouver le juste équilibre entre la mise en place de cet objectif et la nécessité de protéger leur autonomie. Celle-ci pourrait être préservée si chaque établissement pouvait exploiter un système d’évaluation efficace conçu et exécuté, en partie au moins, par lui-même. Le processus doit être efficient et transparent, et permettre un échange de communication clair avec le grand public et les autorités éducatives. Les établissements de l’enseignement supérieur doivent donc reconsiderer leur conception antérieure, ce qui présuppose que le bon maintien de la qualité et du fonctionnement de l’éducation est une affaire purement interne. La mise en œuvre de systèmes d’évaluation au niveau national est relativement récente et rencontre encore des difficultés liées à la coordination et à la résistance des personnes évaluées.
Introduction

Over the last three decades of the 20th century, changes in education policies at international level have affected the role of public higher education institutions (HEIs). Managerial theories began to be applied to them and this gave rise to the implementation of mechanisms such as the use of economic incentives and a more rigorously controlled assignment of financial resources. Universities are now expected to interact with the market by means of linkage agreements. Competition is encouraged between them and their forms of management are being ever-more standardised in matters such as legislation and internationalisation through common degrees, exchanges, inter-institutional research and common evaluation methods (Bleiklie and Henkel, 2010).

These measures were initially introduced in response to the problems caused by the dramatic growth in higher education enrolments between 1960 and 1980. As a result, HEIs’ substantive functions came under criticism. There were allegations that study programmes were retrograde, that teachers were failing to meet their obligations and that they had tenuous links with society. But cross-border education and the rise of the knowledge society called for greater standardisation and investment in higher education and research; academics therefore became increasingly specialised and new ties were formed between the higher education sector and the economy.

The state responded to this state of affairs by elaborating new and more refined control systems. Traditionally, higher education was evaluated by peers within the framework of a scientific and academic community. Today, evaluation increasingly uses approaches which emphasise quantitative aspects, based on standards and indicators which are supported by data. This task is performed by means of specific national or international agencies, either inside or outside of the higher education sector. These agencies appraise and accredit institutions, programmes and individuals (i.e. academics). As a result, bureaucratic regulations carry less weight than financial stimulus and reward systems.

This situation is common in Latin American universities. In the 1980s, the structural shift in the world economy and its impact on the production and use of knowledge played a considerable role, forcing developing countries to respond to the pressure of competition in a globalised world. Emerging markets, like Mexico, which went from protectionism to free trade in a very
short time, sought to address their innovation gap by participating in the knowledge and innovation community, thereby bringing the labour force up to date with scientific and technological advances (Valenti et al., 2000). Despite the liberal tone of economic policy, the role of the state in relation to education increased, particularly vis-à-vis higher education.

The most characteristic trait of Mexican higher education post World War II was the growth in demand from new social groups. Economic shifts and political decisions brought about an increase in student numbers, essentially from the middle class, who tended to enrol in public universities. During the 1970s this was crystallised in the optimistic, official motto, “As far as education can go” (Solana, 1982). Consequently, between 1970 and 1999 the tertiary student population grew from 200 000 to 1 800 000 (ANUIES, 2000). Meanwhile, admission and accreditation criteria became more flexible and in 1983, in the face of this large-scale growth, the National Development Plan suggested that the overriding concern in the education system in general was to address quality (SPP, 1983).

From the end of the 1980s onwards, public sector HEIs began to adopt evaluation as an instrument of information and planning. In this respect, higher education became a testing ground for the entire public administration corps, where evaluation was little used. As Mexico opened up to the outside world, it was hoped that evaluation would link the education system with the national and international environment and thereby ensure academic quality. Other requirements were established simultaneously or subsequently, such as the need for HEIs to adopt an interdisciplinary approach as a model of curricular organisation, or the need for public universities to report to Congress on how they use their budget.1

The financial considerations are a determining factor. The sustained increase in official funding of higher education which prevailed in the 1970s and again in the 1990s2 (Murayama, 2010) is unlikely to continue. At government level, the logic of cost adjustment predominates and, therefore, so do restrictions and vigilance in the way funds are managed. Public HEIs must provide rigorous accounting of their spending and, as far as possible, obtain extra sources of income by entering into partnership agreements with private companies or state institutions. Similarly, the management of public funds over the last 20 years has changed the composition of academic salaries, subjecting a significant portion of staff to personal performance appraisal, which was not the case before. The salaries of academics in Mexican public HEIs are currently composed of a basic fixed wage (although this is subject to an annual increase) plus a variable, complementary bonus which is assigned through an individual annual productivity assessment, according to parameters set by each institution.
sums of money assigned for this bonus are not static: they can be adjusted, or even suppressed, depending on the financial circumstances of each HEI.

Background

Potential action by the Mexican government is limited by legal barriers. This is due to the fact that of the three types of institutions which make up the higher education system (i.e. universities, technological institutes and teacher training colleges), public universities are the most significant in terms of numbers of students, their budget and intellectual influence. They are not only legally autonomous; they are also immersed in regional contexts and diversified academic traditions which make the implementation of a unified policy system difficult.

But, in reality, the autonomy of public universities is counterweighted by financial need, for they are sustained with federal government and, to a lesser degree, local government assignments. This gives rise to three significant restrictions: i) although budget allocations to public universities are decided by the legislative branch, monetary flow is managed by federal government; ii) as a result, once the legislative branch approves the education budget, the exact monetary allocations that HEIs receive are adjusted by ad hoc criteria determined by agreement between the federal government and each specific HEI; and iii) since 1976, HEIs’ political and financial dependence on the government is accentuated in times of economic crisis and restriction on public spending, which have been frequent and often prolonged.

Efforts to evaluate public higher education in the 1990s had two objectives: i) to restructure the education system in general (Ornelas, 2008) and ii) to institutionalise the common strategic development goals of higher education in particular (ANUIES, 2000). Even today, the second objective faces multiple challenges because it is difficult to homogenise HEIs in Mexico (and Latin America in general) given the disparities in traditions, regulations, specialisations, geographical locations, political contexts and financing criteria (Grediaga Kuri et al., 2003). Such differences are sharpened by competition among public and private institutions to attract the best students. Heterogeneity does not mean that improvements across the higher education sector as a whole are unattainable (Rubio Oca, 2006a), but it is difficult to achieve commonalities in relation to organisation and performance in such a varied system. Even public policy measures introduce new differences, giving rise to resistance.

Prior to 1960 the number of students enrolled in higher education was modest and, even today, is low in comparison to other Latin American countries or OECD member countries (OECD, 2010). According to recent official estimates only some 30% of the 18-23 age group were engaged in higher
education, but an independent investigation reached a much lower net student retention rate (Gil Antón et al., 2009). Originally, Mexico’s historically low enrolment rate was due to three reasons: first, the system was elitist in nature. Second, the population only grew significantly after 1940. Third, it was only in the 1970s that, for the first time, higher education was opened up on a large scale to candidates from relatively low social backgrounds. As a result of these changes and increased enrolments in the education system as a whole, higher education capacity was doubly hard pressed from the 1970s onwards. The unprecedented growth in the student population at times totally exceeded projections and seriously challenged university planning (for an account of more recent years, see Varela-Petito, 2006).

Student numbers multiplied more than fiftyfold as of the 1970s (Reséndiz Núñez, 1998). Although, on one hand, this development was positively judged socially, on the other, it worsened structural defects in the way HEIs functioned; this, in turn, had repercussions in that students either abandoned their studies or delayed completing them. New problems arose, such as the nomination of young teachers with little or no academic experience, who were often given positions even before they had finished their degree courses. Critics have also pointed out that when higher education was opened up this benefited the middle classes who arose from the “stabilising development” which took place after World War II, but it did little for the lowest social classes (Todd and Gago Huguet, 1990; OECD, 2010).

As from the 1970s, all these considerations (coupled with political conflicts, which will not be discussed here) led the government to reshape policy for tertiary education by interweaving planning, evaluation and financing, and ultimately these threads were crystallised in agreements between the education authorities and HEIs. In line with this logic, in 1978 an agreement called the National System of Permanent Planning of Higher Education (SINAPPES) was drawn up between the federal government and the National Association of Higher Education Universities and Institutions (ANUIES) which acts as an interface with HEIs. During the 1980s, when analysts mistakenly anticipated a prolonged period of economic growth in Mexico thanks to the oil price bonanza, HEIs were implementing a complex system of co-ordinated planning in relation to national, regional and local measures (ANUIES, 1979).

The external debt crisis which began in 1982 destroyed the financial assumptions of this planning model. However, it was also obstructed by HEIs’ own inertia and, more particularly, by the absence of a solid evaluation tool with which to assess the feasibility of goals and actions and allow corrections to be made. The HEIs’ planning model should have been accompanied by evaluation mechanisms and even before the SINAPPES was created, ANUIES had envisaged this through the so-called institutional “self-study” procedure
(Castrejón Diez, 1974), but in practice these mechanisms were only very partially implemented. There was nevertheless a strong consensus among academic communities and education authorities on the need for strategic planning in higher education. However, the question of how a planning system was going to work without systematically including an objective evaluation tool did not seem to be posed seriously. Attempts to put in place strategic planning for HEIs were often swallowed up in the bureaucracy which characterised those in charge of routine academic management. Consequently, this ran counter to the objective to promote awareness of the missions and functions of higher education as a whole. The performance of the SINAPPES and its territorial sub-organisations became unsatisfactory, if not virtually inexistent.

In parallel, following the economic crisis of 1982, government policy implicitly fostered the growth of private HEIs (Muñoz Izquierdo et al., 2004). This way, it sought to resolve or buffer public higher education’s ongoing challenges such as how to absorb ever-greater student intakes, complaints about the quality of teaching and universities’ internal political struggles. Coincidentally, financial cut-backs coupled with the beginnings of serious competition from the private higher education sector not only relieved pressure on the national education authorities at a time when enrolments were growing rapidly, but also made public HEIs aware of the need for reforms as requested by the government, private business and mass media.

Private HEIs have progressively increased their share of total enrolments and they currently account for 33% of intakes (ANUIES, 2009). However, this rise is not due solely to the critical state of public education or to the fact that business groups have supported some private institutions in particular. Some public HEIs (especially universities) deliberately limit their capacity or attempt to reinstate quality by making intake parameters more demanding. Given these hurdles, and the fact that other sectors of public higher education (such as technological institutes) are not as attractive as university teaching, a considerable number of students are not finding places there and are increasingly being absorbed by private universities. For this and other reasons, the private HEI subsystem is very heterogeneous and needs to evaluate the quality of its tuition, a task that has fallen to one specific association: the Mexican Federation of Private Institutions of Higher Education (FIMPES). Nevertheless, a number of HEIs which appeared during the recent expansion of the private sector has declined to adhere to the FIMPES or to be evaluated. According to a recent empirical study, there are currently 1 170 private HEIs in Mexico compared to 366 public HEIs, but “the growth of private HEIs is chaotic and unregulated. In addition to offering the most popular degree courses without being fully accredited by the corresponding authorities, ... they
operate in conditions barely suitable for students” (Didriksson Takayanagi et al., 2009).

This largely unplanned set of changes has led to a more sharply differentiated two-tier public and private higher education system. It is based on two criteria: that of legal regulation and financing. In public education, regulation is relatively strict (there needs to be a federal or local law allowing public universities to be funded) and the bulk of their finances is assured by the state. Policy underpinning private education is more liberal: there are few legal regulations, supervision by education authorities is loose and the state is not responsible for financing it. For these reasons, as well as the fact that the expansion of the private sector has served to lessen demands on the public sector, official policy has tacitly favoured the development of private institutions.

The systematisation of evaluation

Towards the end of the 1980s, when the worst of the economic crisis was over, education policy underwent a new twist. During Carlos Salinas de Gortari’s presidency (1988-1994) national accounts were balanced, foreign debt was renegotiated and state companies were privatised. The federal government had fresh resources with which to increase higher education subsidies, but that increase was made conditional to the practice of evaluation. The state looked for a way to assign resources which would allow institutions to increase academic salaries and link performance appraisal with economic stimulus payments.

This explains why the evaluation of higher education initially acquired a (controversial) individualised and monetised dimension (Rueda Beltrán, 2008). It became individualised because, first and foremost, it set out to assess the work of each individual academic. Second, it became monetised because, in exchange, it offered a substantial increase in income for those who were well appraised. This mechanism was not compulsory; in fact, it was only applied if an academic accepted to be evaluated. Naturally, some declined, citing ideological or ethical principles. Nonetheless, a degree of institutional and, above all, economic pressure induced a growing number of academics to seek appraisal. By accepting “merit pay”, the academic community de facto, although not necessarily whole heartedly, demonstrated consensus in relation to the new planning and evaluation mechanisms. But any eventuality of merit pay being extended to the administrative staff of public HEIs was blocked by the unions, and this widened the income gap between these staff members and academics.

The practice of evaluation was established in 1990, not by the federal authorities (due to the nature of the legal-political relationship between
government and autonomous universities) but, once again, by an inter-
institutional agreement between the government and ANUIES, the latter
acting on behalf of its associated public HEIs (ANUIES, 1990). Shortly
beforehand, i.e. in November 1989, the working criteria for another
government body, the National Evaluation Commission of Higher Education
(CONAEVA) were approved. CONAEVA’s mission was defined as “a continuous,
comprehensive and participative process which permits issues to be
identified, analysed and described on the basis of relevant information. As a
result, [CONAEVA] provides value judgments that support decision making. ... In
relation to evaluation and action plans, it seeks to make improvements”

With regard to institutional evaluation, implementation criteria was
adopted to let HEIs design their own technical model, which established
another of the initial characteristics of the system: institutional self-
evaluation. This in turn was founded on two principles: i) for the evaluation to
be legitimate it had to be self-driven by the HEIs; and ii) in the case of public
universities, this procedure ensured that the government did not interfere
with the legal principle of autonomy.

As of 1989, the Autonomous Metropolitan University (UAM) located in
Mexico City implemented evaluation systematically and was the first public
sector institution to do so. It designed its own methodology but this was in
line with new government policy (Valenti and Varela, 1997). The budget
increase it received and which bettered the income of its academics served as
an incentive for other HEIs to adopt a similar evaluation-financing model. This
in turn led to a certain systemic homogenisation. Nevertheless, not all HEIs
which practiced this model received the same quantum of additional financial
support; this also depended on other factors such as the institution’s
academic weight, its scientific productivity and effective communication with
the government.

In parallel, other higher education evaluation and accreditation
procedures were established within a vast and complex network that involved
different objectives, actors, institutions and programmes and which was
driven as much by financial stimuli as by government-HEI negotiations and
their (relative) acceptance by academic communities. It involved the
Secretariat of Public Education (SEP), the HEIs themselves and other public and
private agencies (INEE, 2005; ANUIES, 2006; Rubio Oca, 2006b). It also included
some pioneer evaluation instances which already existed in 1989 such as the
National Council of Science and Technology (CONACYT), which evaluates
research projects, the quality of scientific journals and student grant
applications, and the National Research System (SNI), which evaluates
individual academic trajectories.
The accreditation of programmes is regulated by the Higher Education Accreditation Council (COPAES), which has authorised more than 20 private bodies to perform this function. In other words, COPAES is an accreddor of accrediting agencies. It does not directly accredit teaching programmes; rather, it authorises, when its requirements are met, private agencies to do so (COPAES, 2003). These agencies are comprised of specialists in different academic disciplines who are remunerated by the HEIs they evaluate.

Another form of evaluation involves students evaluating their teachers through questionnaires completed at the end of each academic term. But information derived from the routine evaluation of teachers by their students, or vice versa, is neither clear nor complete. This can be attributed to the wide diversity of HEIs, the variety of procedures involved and the freedom each academic enjoys when applying pedagogical (or non-pedagogical) criteria in the classroom. Furthermore, there are no benchmarks to compare one institution to another or one group of students to another. To compensate for this, the National Evaluation Center (CENEVAL) was set up; it tests students entering or graduating from higher or upper-middle education programmes (Gago Huguet, 1998). The objective of this non-governmental body is to complement teachers’ internal evaluation of students with an external evaluation.

The CENEVAL puts quality measurement into practice. Its mission is to design tools to measure what students learn, but it can also play a decisive role in the acceptance of candidates at prestigious institutions by setting entrance exams at the secondary or higher education levels. Through an agreement between various public education institutions in the metropolitan region of Mexico City, candidates seeking admission to upper secondary level (the so-called “bachillerato”, or pre-university level) in the metropolitan area of Mexico City are required to sit an annual common entrance test designed by the CENEVAL. The results determine whether or not the student is admitted to the institution of his or her choice. This is how the growing demand for upper secondary education is rationalised in this area, which has the highest demographic concentration in the country. Access to higher education therefore depends on two factors: the level of prestige (and therefore demand) of the institution and students’ entrance test results.

The CENEVAL also conducts (on request, and for a fee) accreditations in relation to the quality of knowledge that public or private HEI graduates have acquired. This is an individual choice; but at institutional level some HEIs also give students the option of sitting a graduation exam set by the CENEVAL. This can be a way to obtain their degree, instead of writing a thesis, for example, or passing a general knowledge exam set by the HEI where they study. Such an option is only comprehensible in light of the discredit (merited or not) that some HEIs have earned, essentially in regions outside the capital, which they
have tried to remedy by allowing students to obtain an accreditation authorised by an external private instance like the CENEVAL.

Over the years the CENEVAL has generated criticism and protest, due to suspicions of unrigorous testing, the fact that this can lead to candidates being excluded and the fact that although it is a private agency it receives public support and financing (Aboites Aguilar, 2003). Nevertheless, it has a bearing on one aspect related to the higher education system: the spread of awareness and public debate about what a student should learn according to the courses he/she has taken. This is assumed to benefit students, protecting their right to measure the knowledge they have acquired according to an external performance evaluation which is secondary to the internal evaluation carried out by the HEI where they study. The CENEVAL’s mission, then, consists of weighing up the efficacy and efficiency of HEIs, the pertinence of curricula and also aspects of equity. Because HEIs are segmented by geographical, organisational, social stratification or financial considerations (many public HEIs charge fees), learning differences must be measured in accordance with these elements. The systematic implementation of evaluation is still recent; it is also complex and poorly co-ordinated. It is therefore no surprise that there is suspicion and sometimes fierce resistance to it, but if criticism of the CENEVAL is valid, its procedures and tools, its successes and failures are at least partially made public, which is not always the case with equivalent methods applied in the classroom.

Table 1 synthesises this debate and tracks the key dates in the implementation of the main evaluation and accreditation mechanisms of higher education in Mexico.

A particular trait of this evaluation system is the practice of individual assessment which impacts on salaries. There are two objectives behind this approach: one is to reorganise the higher education system and the other is to redefine employment policy in relation to academics. During the economic crisis in the 1980s, many academics abandoned Mexican public universities and worked as civil servants, in the business sector, or in private HEIs which paid competitive salaries. Others continued to teach in public universities, but their commitment to work was undermined by the need to seek a second job to supplement their income. Because of market mechanisms, therefore, these conditions restructured the workforce in an unconventional and unexpected way, since it forced academics to diversify their profiles and become competitive. Although methods and values have changed since, some of this prevails in current higher education evaluation policy, which uses monetary incentives to drive academics to focus on productivity. It should be noted that the increases constitute extraordinary payments distinct from the academic’s normal salary, both to avoid pressure from the unions and to prevent a
subsequent impact on retirement and pension systems (Valenti and Varela, 1997).

**Systemic problems**

Evaluations focus on input, processes and results. The most critical of these, given the information they reveal and their potential social repercussions, are results. It is relatively easy to improve and account for the first two factors. However, in order to have accurate information about the quality of education and performance differences among HEIs, it is necessary to assess results. This thankless task is undertaken by the CENEVAL, among other bodies. The criticism it has received, which has even prompted some HEIs to reject its services, is related to an older technical and ethical debate

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**Table 1. Higher education in Mexico: principal evaluation and accreditation authorities**

<table>
<thead>
<tr>
<th>Authority</th>
<th>Date established</th>
<th>Evaluation or accreditation role</th>
<th>Internal/external (in relation to HEIs)</th>
<th>Direct impact on salaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONACYT</td>
<td>1970</td>
<td>Research projects, Graduate programmes, Graduate scholarships, Scientific journals</td>
<td>External</td>
<td>No</td>
</tr>
<tr>
<td>SINAPPES</td>
<td>1979</td>
<td>HEIs’ self-study initiatives</td>
<td>Internal</td>
<td>No</td>
</tr>
<tr>
<td>SNI</td>
<td>1984</td>
<td>Researchers</td>
<td>External</td>
<td>Yes</td>
</tr>
<tr>
<td>CONAEVA</td>
<td>1989</td>
<td>Higher education system as a whole</td>
<td>External</td>
<td>No</td>
</tr>
<tr>
<td>HEI Commissions</td>
<td>1989</td>
<td>Teachers and researchers</td>
<td>Internal</td>
<td>Yes</td>
</tr>
<tr>
<td>Students</td>
<td>1989</td>
<td>Teachers</td>
<td>Internal</td>
<td>Relative</td>
</tr>
<tr>
<td>CIEES</td>
<td>1991</td>
<td>Academic programmes</td>
<td>External</td>
<td>No</td>
</tr>
<tr>
<td>FIMPES</td>
<td>1992</td>
<td>Private HEIs</td>
<td>External</td>
<td>No</td>
</tr>
<tr>
<td>CENEVAL</td>
<td>1994</td>
<td>Students</td>
<td>External</td>
<td>No</td>
</tr>
<tr>
<td>COPAES</td>
<td>2000</td>
<td>Accreditation agencies</td>
<td>External</td>
<td>No</td>
</tr>
<tr>
<td>PIFI</td>
<td>2001</td>
<td>Public HEIs’ planning initiatives</td>
<td>External</td>
<td>No</td>
</tr>
</tbody>
</table>

**Acronyms**

- CENEVAL: National Center of Evaluation
- CIEES: Inter-institutional Higher Education Evaluation Committees
- CONACYT: National Council of Science and Technology
- CONAEVA: National Evaluation Commission of Higher Education
- COPAES: Higher Education Accreditation Council
- FIMPES: Mexican Federation of Private Institutions of Higher Education
- PIFI: Integral Program for Institutional Reinforcement
- SINAPPES: National System of Permanent Planning of Higher Education
- SNI: National Research System

*Source: COPAES (2003), Antecedentes, situación actual y perspectivas de la evaluación y acreditación de la educación superior en México, Consejo Para la Acreditación de la Educación Superior, Mexico.*
(Varela Petito, 1993) on whether evaluation should be primarily diagnostic and concentrate on problem solving, or if it can fairly include a sanction. If so, the sanction would take the form of granting or denying accreditation to students, giving funds to institutions in exchange of fulfilling commitments and eventually assigning funds and honours to academics according to the results of peer evaluations. Opponents are, however, of the opinion that this could favour methodical errors such as reverting to forms of evaluation which are considered to be obsolete in other countries, or moral deviances such as the temptation for academics anxious to improve their income to embellish results.

It was also pointed out from the start that the emphasis on measuring teachers’ performance on an individual basis would be to the detriment of the constructive evaluation of institutions and programmes. But this emphasis is not only founded on one criterion, that of resource allocation, but also on another constant of education policy: that of securing human resources. Education policy has attempted to complement it with other aspects of integral evaluation; some of them are the responsibility of the Inter-institutional Higher Education Evaluation Committees (CIEES), the Integral Program for Institutional Reinforcement (PIFI) or the National Program of Quality for Graduate Courses (PNPC).

An additional issue is that because the evaluation system’s regulations have a national scope and they barely take into account regional and institutional differences, this runs the risk of slowing down or fragmenting operations. In the United States, where the evaluation of higher education has been practiced over a long period and the variety and number of HEIs is much greater than in Mexico, there are diverse and regionalised systems of evaluation and accreditation (Malo and Velázquez Jiménez, 1998). In Mexico, however, given the public administration’s tradition for centralisation, ambitious and innovative public policies tend to be processed by federal instances. A nation-wide co-ordination mechanism for higher education evaluation and accreditation was therefore adopted. This was also motivated by the fact that many local state governments do not have a strong financial commitment to their HEIs, and sometimes political relations with them are tense.

The close ties between the federal government and HEIs – which the ANUIES brought about – have given rise to continuity and follow-up to education policy from a centralised perspective, providing a discussion forum and enabling decisions to be taken in relation to the implementation of evaluation (and other measures of education policy) throughout the country. Although initially HEIs were allowed a relatively high degree of independence to define their own mechanisms, since 1989 regulation of the higher education evaluation system as a whole has been in the hands of the
CONAEVA. At that time this body was made up of the secretary of the SEP, four other representatives of federal government, three public university rectors and the Executive General Secretary of ANUIES (Mercado del Collado, 1998). Hence, out of a total of nine members, five were senior officials from the Federal Executive Office, which thereby secured the presidency of the commission and the absolute majority of members, and also controlled the budget. It appears that CONAEVA entertained a certain distrust of local education administrators and HEIs themselves, given that major decision-making power remained in the hands of federal officials.

From its beginnings in 1989, the CONAEVA’s mission was to ensure that the educational modernisation programme of the time was carried out. Since then, however, its role has been tempered and nowadays it is almost inoperative. This may be due to the ambivalence of official policy, which also interfered in mechanisms outside its strict control, such as the self-evaluation of HEIs. The state also encouraged external evaluation carried out by independent bodies such as the CIEES, the CENEVAL and agencies authorised by COPAES.

Therefore, although the CONAEVA had an important role to play in relation to launching the national evaluation system, it was incapable of, or perhaps had no interest in, going any further. The excessive control that federal officials from distinct departments had over the CONAEVA probably only served to weigh it down, given the complex co-ordination that this implied. It possibly also suffered from the fact that there was inter-departmental rivalry and some officials lacked interest in education (some of them did not belong to the educational branch of government). This may be why, subsequently, programmes directly executed by the SEP brought about a sui generis re-centralisation. Among these programmes were important evaluation initiatives for HEI performance such as the Fund for the Modernization of Higher Education (FOMES) and the Teaching Staff Improvement Program (PROMEP) and, more importantly, from 2000 onwards, the PIFI (ANUIES 2006; Rubio Oca, 2006a).

This cross weaving of instances raises the following question in relation to public HEIs: who is their evaluating authority? Do they carry out this role themselves (given that they manage their self-evaluation)? Or do they report to the weakened CONAEVA, the CONACYT, the SEP (through the PIFI and other programmes), the CIEES, the CENEVAL or the accreditation agencies authorised by COPAES? This ambiguity makes different evaluation perspectives converge, permitting a broader-minded approach to evaluées, whether individuals or institutions, however it also complicates carrying out policy considerably by increasing paperwork and form-filling, taking time and resources away from fundamental academic activities. (This is a frequent criticism of evaluation systems and is echoed in other countries.) Broadly
speaking, academics are state officials and their basic salaries are determined by the education authorities, but at the same time they are graded by their peers according to their performance, and this influences the amount of (non-negligible) supplementary income that they receive. In some public HEIs, bonuses for evaluated academics can double or triple their basic salary. This has a negative impact on pensions, which are calculated simply in function of their base salary.

Within the framework of this complex government-HEI-evaluating agency relationship, a discouraging reality emerges: before 1989 HEIs were incapable of driving evaluation systematically, although this was subsequently the case, thanks to an incisive government policy supported by financial incentives. This reality is perhaps reflected in the negative perception that evaluation is above all an instrument of political control rather than a means of enlightenment (Aboites Aguilar, 2002). Although HEIs and the government co-operate on evaluation issues (they are motivated by the fact that the government needs the agreement of HEIs to implement education policy, and the HEIs need to increase their income by submitting to official demands), they also have opposing views and interests. For this reason, many medium-, low- or high-performing academics experience evaluation as an interference in their daily life and work, as a result of which the traditional hierarchy of income and prestige can be affected.

**Conclusion**

The systematic evaluation of the higher education sector in Mexico has had an undeniable impact (Pacheco Méndez and Díaz Barriga, 2003). It has forced HEIs to be open to external criticism and to adopt a scheme of values and type of relationship with authority which contrast with former practices. The conditions which characterise today’s world – i.e. political, financial, cognitive and institutional – call for greater transparency and for results to be easily available.

The logic behind the federal government’s action is driven by budgetary considerations and also by a need to reinforce control over the education sector. But it has also been influenced by pressure at national and international levels to ensure the development and quality of higher education and scientific investigation. As a result, efforts have been made to put in place a relatively credible system of periodic reporting which involves abundant data and the possibility to pass judgment on HEIs’ performance. On one hand the government is concerned about efficiency and, on the other, it needs to provide figures and arguments to avoid criticism of its management of education.
In this context of tension, the attitude of HEIs in relation to the state could be either purely passive (i.e. if they were to simply accommodate official instructions) or reactive (if they were to contest government interference). Of course relations are most productive when it is neither one case nor the other, but when there is an interactive exchange in relation to procedures, parameters and well-targeted and accepted evaluation indicators. The above issues may arise from scientific research, public debate or dialogue with peers acting as evaluators, the majority of whom are academics. One of the results of this interaction has led to the emergence of a new type of relationship between HEIs and different actors, which encourages the HEIs to consult public opinion and seek help from the Congress (Mendoza Rojas, 2007). This relationship is helping to counterbalance the influence of the (federal or local) executive with whom, decades ago, it maintained an almost exclusive relationship which ranged from harmonious to conflictual.

Similarly, the recognised competence of private universities is forcing public HEIs to invest time in public relations, to inform public opinion about their often little-known achievements and to resist the temptation to indulge in easy self-justification. This, in turn, is having an effect on private HEIs: their reputation for higher educational standards in comparison with public institutions is a double-edged sword. To sustain this belief they should submit to credible evaluations, which does not happen often.

As a result of the process described above, it has been possible to identify some advantages and disadvantages of the evaluation approach that Mexico has adopted. Given that it responds to a redesign of the state’s higher education finance system, it has been largely determined by fiscal policy. Aspects more directly related to the institutional development of HEIs, such as the academic career structure, work relations and administrative services, have received belated attention. The stimulus regime has had positive repercussions in some ways: it has raised academics’ income, incentivised certain activities, motivated academics to pursue graduate studies, differentiated their degree of dedication to the job and also retained or attracted qualified personnel. But it also has its drawbacks: it ties the idea of individual evaluation too closely to retribution, thereby exaggerating the stimulus-response method. The amount of potential income is excessive in relation to base salaries and, besides, this system “pays” for diverse types of academic activities, some significant, others less so, over and above the base salary.
In relation to the future of evaluation, this tool should be used not so much as a justification for spending but rather as an instrument of quality assurance in fundamental areas, such as:

- To update and establish more rigorous academic career criteria, described in relatively similar terms for all HEIs.
- To create closer ties between enrolment growth and quality control. This also implies improving the quality and coverage of basic, secondary and upper secondary education, as these sectors’ results have an impact on higher education.
- To improve support structures, especially those of administrative services, whose evolution has not kept pace with that of academic practices.
- To encourage the higher education system to work more closely with new information and communication technologies.
- To consolidate the link, which should be both autonomous and integrated at international level, between HEIs and industry, in line with the needs of national development plans.

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Notes

1. Mexican public universities are legally autonomous and therefore their accounts are not controlled by the government but by the federal legislative office which holds budgetary authority, in accordance with the national constitution.

2. “Educational spending at tertiary level rose significantly (by 78%) between 1995 and 2006. However, since tertiary level also rose sharply (by 61%), spending per student increased by only 10%” (OECD, 2010, p. 22).

3. Mexico is a federal state made up of 33 territorial entities (32 local states plus the Federal District, seat of the capital). But financing public HEIs falls more on the federal government than on local state governments.
4. The national authority responsible for education in Mexico is the Secretariat of Public Education (SEP); within this body, the Undersecretariat of Higher Education (SES) is responsible for higher education.

5. The ANUIES is a non-government organisation founded in 1950 which groups public and private HEIs. It engages in lobbying activities in relation to education policy and financing higher education, and is an important point of contact between government and HEIs in terms of policy design, implementation and evaluation (Medina Viedas, 2005).

6. These are peer committees which evaluate the curriculum and performance of undergraduate and graduate programmes (ANUIES 2006; Rubio Oca, 2006b).

7. SEP nominates experts to evaluate the preparation and execution of public HEIs’ institutional development plans for which federal funds are allocated (Rubio Oca, 2006a).

8. The PNPC evaluates graduate programmes which, if approved, receive special financial help from the government (ANUIES, 2006; Rubio Oca, 2006b).

9. There is currently a plan, although it is still undefined, to revive the CONAEVA.

10. The PIFI requires HEIs to consider the CIEES’ recommendations and, therefore, these external evaluation bodies are also indirectly linked to the forms of evaluation promoted by the SES.

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A tale of two strategies: higher education and economic recovery in Ireland and Australia

by

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The complex effects of the global financial crisis (GFC) have affected countries differently. The concept of stimulus packages to enable economies to withstand its full effects was widespread, as were decisions by several countries to invest in higher education as a means of stimulating the economy while placing workforce development and research on a firmer footing. While the GFC increased awareness of the need to invest in the knowledge economy, governments adopted approaches reflecting their different fundamental priorities. Arguably Ireland was left with little leeway, whereas Australia’s far better economic position might have provided an opportunity to invest in higher education through its stimulus packages. This paper examines the policy choices that Australian and Irish governments made both before, and in response to, the GFC to assess how these decisions have prepared higher education for the future.
Un conte de deux stratégies : enseignement supérieur et reprise économique en Irlande et en Australie

par

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Les effets complexes de la crise financière mondiale (CFM) ont touché les pays de manière différente. Le concept de plans de relance s’est répandu pour permettre aux économies de résister aux répercussions majeures de la CFM. De même que se sont multipliées les décisions d’investissements dans l’enseignement supérieur annoncées par plusieurs pays comme moyen de stimuler l’économie tout en renforçant le développement de la main d’œuvre et de la recherche sur une base plus solide. Alors que la CFM a renforcé l’attention sur le besoin d’investir dans l’économie de la connaissance, les gouvernements ont adopté des approches différentes qui reflètent leurs priorités. On peut faire valoir que l’Irlande a eu peu de marge de manœuvre comparée à l’Australie, dont la bien meilleure position économique lui a permis d’investir dans l’enseignement supérieur à travers différents plans de relance. Cet article examine les choix politiques des gouvernements de l’Australie et de l’Irlande, établis avant et suite à la CFM, afin d’évaluer comment ces décisions préparent l’avenir de l’enseignement supérieur.
Introduction

The 2008 global financial crisis (GFC) resulted in the failure of major corporations, rising unemployment, evictions and foreclosures. Bank solvency was questioned, credit disappeared, investor and consumer confidence collapsed and international trade declined. Individual countries were threatened by a combination of public and private debt. The United Nations (UN) estimated that world gross product (WGP) fell by 2.2% in 2009, “the first actual contraction since World War II ... [bringing] the level of world economic activity ... [to] 7% below where it might have been had pre-crisis growth continued” (UN, 2010). In response, governments and central banks introduced counter-cyclical policies and actions to stimulate their economies using fiscal measures, monetary expansion or institutional bailout instruments. The European Union was compelled to pledge nearly EUR 750 billion to defend the euro. As governments struggled with the rapidity and depth of the crisis, the OECD argued that investment in education was critical to beating the recession, and that human capital provided significant returns on investment at individual, societal and governmental levels (Gurría, 2009).

Reviewing the US government’s response to the crisis, with regard to higher education, Douglass (2010) described how the Obama administration used stimulus packages to help states avoid the inevitable consequences of budget cuts (Obama, 2009). The initiatives supported the government’s “lofty goal of keeping America’s education attainment rates competitive with global competitors”, although they ultimately proved ineffective against deteriorating state budgets. Geiger (2010) made similar observations, arguing that the “economic downturn of 2008-2009 will exaggerate the fundamental problems facing American higher education and make them more difficult to address, let alone reverse or attenuate”. There were significant budget reductions in the United Kingdom, Latvia, Poland, Hungary, Estonia, Italy and Spain; by contrast, the Scandinavian countries, Germany, France and the rising Asian economies continued to invest (Douglass, 2010; Waters, 2010; Myklebust, 2010; Handley, 2010; EUA, 2011).

This paper provides a contrasting study of the experiences of higher education in Ireland and Australia.
The broad context

Australia has a unitary higher education system that is government-regulated but independent in its governance and management, funded through a combination of government allocations and student contributions. In contrast, Ireland retains a government-regulated binary system dependent on public investment and direct government control of staffing budgets. Both countries have recently reviewed their higher education systems (Australia in 2008, Ireland in 2009-10).

The two countries fared very differently in the GFC, so choices were inevitably influenced by their relative capacity to spend on higher education. While the political philosophy of the two governments was different at the time of the global crisis, it may now be more closely aligned: the Australian Labor Party is social-democratic, but since the 2010 election it is in a minority government, dependent on Green and Centre-Right Independent support. The Irish government had been a coalition between a centrist Fianna Fail party and the Greens, but was replaced by a coalition of Christian (Fine Gael) and social democratic (Labour) parties following a general election in February 2011. In both countries, the Greens were experiencing their first time in power. Both the Australian and new Irish governments succeeded years of conservative neo-liberal policies.

The countries share a common lineage and Ireland looks to Australia for policy guidance (the Higher Education Contribution Scheme [HECS] and institutional compacts) because its market and enterprise approach to higher education has won favour with many policy influencers. They both operate in competitive environments in which neighbouring countries are investing at, or above, OECD norms, while their expenditure has trailed these norms. The key question is: given the depth of the social and economic problems facing the countries, what priority does higher education actually have?

Australia

Policy context

Australia elected a Labor government in December 2007 after eleven years of conservative government. The new government had a reformist agenda buttressed by a strong economic position and outlook, based largely on the growing economies of China and India, which depended for their growth on Australian mineral resources. The government declared higher education a major pillar of economic sustainability. Referring to OECD data showing that the sector had fallen behind its peers, it promised to redress the previous government’s neglect and increase real funding. It confidently promised an “education revolution” that would create a highly educated
workforce and strong research sector to sustain national development and productivity.

When the GFC arrived, the fear of repeating the Labor experience of the early 1990s, when it had acted too late to avoid a recession, led the government into committing AUD 46 billion in stimulus spending to shield the economy. This was criticised for generating sovereign debt, but there was a reluctance to reduce it for fear it might be too little. In its May 2009 Budget, the government outlined its intention to return to surplus by 2015-16 and to maintain government spending growth at 2% rather than the usual 3% to achieve this. At the same time, it guaranteed increases in defence spending until 2020 and anticipated increases in health spending. Higher education funding therefore faced significant competition.

Comparatively little of the stimulus spending went, in fact, to higher education. Almost 35% of it (AUD 16.2 billion) was allocated to a major schools building programme intended to provide immediate employment across the community. Higher education spending was increased by some AUD 1.6 billion over four years, about 30% of the amount that had been recommended in the 2008 review of higher education (Bradley, 2008) and not enough to support the increased enrolments that had been agreed to.

Subsequent events were to demonstrate that Australia had been far better insulated than anyone had imagined, largely due to continuing growth in China and India, which the IMF estimated to be 10% and 8.8% respectively (IMF, 2010, pp. 156-160). Australia was growing at about 3% (IMF, 2010, p. 49). In 2010 Australia’s unemployment was about 5%, interest rates were increasing, its sovereign debt was 19% of GDP and its deficit 3.1% of GDP; Ireland’s comparable figures were 64% and 13% respectively.

In evidence to the House of Representatives Standing Committee on Economics on 19 February 2010 the Governor of Australia’s Reserve Bank, Glenn Stevens (Stevens, 2010), summarised the situation as follows:

Happily ... Australia is relatively well placed. We are located in the part of the world that is seeing the most growth. And in terms of fiscal sustainability, Australia’s position is, by any measure, very strong indeed ...

[...]

This situation is quite different from those faced by the major economies. Whereas many of them had their worst recession since World War II, we had probably our smallest ... the whole crisis actually was very much a North Atlantic crisis.

So while Australia was in the unusual position to use the GFC as an opportunity to meet its higher education growth assumptions, it failed to do
so in its 2009 budget. Subsequent budgets confirmed the projected growth but added insufficient further spending to support it adequately.

The higher education policy environment

The HECS funding system was introduced by Labor, creating a graduate income contingent loan requiring students to contribute some 25% of the average cost of a place. That contribution rose steadily under Labor, culminating in the new Liberal government introducing course dependent differential contributions: law, accounting and commerce students now contribute a minimum of 84% of the total cost of their course (DEEWR, 2010).

At the same time, there has been a gradual decline in per capita funding, leading to worsening staff-student ratios. In the decade to 2007 Australia increased real public expenditure on higher education by less than 1%, compared to an average OECD increase of 51% (Figure 1; Universities Australia, 2011; OECD, 2010).

Australia had also been lagging behind its OECD peers in the percentage of GDP being spent on higher education, while the degree to which it had been using private funding to support the system was higher than the OECD average.

Figure 1. Expenditure on tertiary education as a percentage of GDP, by source of funds, 2007


The prospect of a review of higher education to set the course for the government’s education revolution was widely welcomed. The Report of the Review of Higher Education, chaired by Professor Denise Bradley, was
published in December 2008 (Bradley, 2008) and the government's response was contained in its May 2009 Budget.

Given that the government had promised a revolution, the sector was expecting dramatic policy directions and a long-term implementation strategy. The title of the government's response, *Transforming Australia's Higher Education System* (Australian Government, 2009) suggested that these expectations had been met.

**An overview of Bradley and its limitations**

The Bradley Report lacked both a long-term aspirational vision for higher education and a sustainable funding model that would address its own concern that “… the recommendations in this report, if fully implemented, are likely to do no more than maintain the relative international performance and position of the Australian higher education sector” (Bradley, 2008, p. xvi).

While confirming that Australia had been falling behind its international peers, the funding proposals appeared to consign it to that position indefinitely. It seemed focused on what the government might be able to afford rather than what the system needed to achieve and what the Report and government claimed to want. While it was understandable for the review to ensure that its recommendations were not overly demanding, not making a starker case for additional funding left the government with the capacity to argue that it had done enough even while providing less than was requested.

The compelling public benefit argument for increased funding had been made in the government’s review of research and innovation (Cutler, 2008) and in OECD reports (OECD, 2007; 2008a; 2008b) that underpinned Labor’s policy in Opposition. The Bradley Report argued that the system had suffered significant neglect, with public spending reduced to unacceptable levels. The Report also predicted that “In 2020 Australia will not be where we aspire to be – in the top group of OECD countries in terms of participation and performance – unless we act, and act now” (Bradley, 2008, p. xii).

It therefore recommended that funding should be rebalanced through an immediate 10% indexed increase in public funding for teaching and learning (Bradley, 2008, p. 149); full funding for the indirect costs of research; and concentration of research activity and research teaching in those institutions that could demonstrate capacity (Bradley, 2008, pp. 151ff and Appendix IX).

The Report proposed a participation rate of 20% by disadvantaged students, a 40% attainment rate by those in the 25-34 age group, and the introduction from 2012 of a student-driven funding model in which universities would be funded on the basis of the students they enrolled, with no quotas on total or discipline places: universal higher education. There would be compacts between the government and each university outlining
performance expectations, and universities would be subject to a new quality assurance system that would measure standards and outcomes to ensure that, in an uncapped structure, standards would not fall. It assumed that the Education Investment Fund (EIF) “should be sufficient to meet the major infrastructure needs of the sector over the coming decade” (Bradley, 2008, p. 172).

Both the Bradley Report and the government’s response highlighted the parlous state of staff-student ratios, which had worsened from 12:9 in 1990 to 15:6 in 1996 and 20:5 in 2006. However, while arguing that worsening ratios had been the cause of several of the problems identified in the Report, including student access, student retention, student experience, staff workloads and staff attraction and retention at a time of major staff shortfall, the Report failed to propose any remedial action.

**Funding reality**

The government accepted most of the recommendations for reform “to underpin our vision for Australia to be one of the most highly educated and skilled nations in the world” (Australian Government, 2009, p. 31). But actual expenditure in the three subsequent Budgets suggests that the government has accepted the Report’s aspirations rather than its funding proposals. Its five major recurrent items would have required AUD 5.47 billion in additional funding. The government instead provided AUD 1.64 billion, or about 30% of the total required to maintain the sector’s relative international position (Massaro, 2009, p. 34).

The government has made no allocations for capital infrastructure to support enrolment growth, while spending the capital in the EIF on a range of stimulus measures. By 2010 there was little left in the fund and no possibility of additional capital until the budget is returned to surplus (Australian Government, 2010a; 2010b; DEEWR, 2010).

Universities Australia, in its 2010 budget submission (2010), argued that the government should demonstrate the seriousness of its convictions and rhetoric by fully implementing the Bradley recommendations as of 2011, recalling Bradley’s injunction about the modest net impact of full implementation. It based its argument on research commissioned from KPMG Econtech, an independent provider of economic modelling services (KPMG Econtech 2009; 2010b) showing that full implementation of the Bradley recommendations would provide a 6.4% increase in GDP by 2040. The then minister of education used a study by the same company to demonstrate the benefits to the economy of her recent education reforms. That report, which modelled the effects of implemented policies, showed that the higher education reforms would only achieve an impact of some 1.7% (KPMG Econtech, 2010a), or less than 30% of full implementation.
While funding does increase over the forward estimates period due to indexation and provision for additional enrolments, the actual estimated increase of 1.6% per annum (Australian Government, 2011, p. 6-18) will not cover inflation. Also, total spending continues to fall as a proportion of GDP (Figure 2).

### Figure 2. Higher education expenditure as a proportion of GDP (including indexation, education investment funding and research funding)

<table>
<thead>
<tr>
<th>Expenditure $m</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>7,541 AUDm</td>
<td>0.57</td>
</tr>
<tr>
<td>7,851</td>
<td>0.58</td>
</tr>
<tr>
<td>8,534</td>
<td>0.58</td>
</tr>
<tr>
<td>8,955</td>
<td>0.57</td>
</tr>
<tr>
<td>9,366</td>
<td>0.56</td>
</tr>
<tr>
<td>9,691</td>
<td>0.59</td>
</tr>
</tbody>
</table>

Source: Australian Government (2011), Budget Paper No 1, Budget Strategy and Outlook 2011-12, Table 4, Section 10, p. 9, Higher Education Budget Estimates, 2009-2015; Table 7, p. 6-18

While the government introduced legislation in 2011 to give effect to demand-driven funding from 2012, there is unease at the provision in the draft legislation that gives the minister of education power to limit growth and to direct it to particular courses and institutions. The forward estimates show that demand-driven funding has been reduced to half the amount proposed in the Bradley Report. There is no provision to meet its proposal for a 10% base funding increase, and no funding to reduce staff-student ratios or for capital developments.

Staff-student ratios have been worsening since 1980 and to fund a return to 1996 or 1990 ratios (1:16 and 1:13 respectively) would cost between AUD 770 million and AUD 1.45 billion per year (Massaro, 2010). Based on achieving the 40% attainment rate and retaining a staff-student ratio of 1:20, the additional capital costs are estimated to be between USD 15 billion and USD 25 billion over the period to 2025, representing a shortfall of at least AUD 1 billion per year over the period. This suggests that the Australian system, even with the Bradley proposals fully funded, would be underfunded by some 20%.
Given that the government was not prepared to fund the recommendations in the Bradley Report in full, a better result might have been achieved had it chosen to modify the pace of growth to reflect its capacity to fund it. Universal access to quality higher education can only be achieved if per capita funding reflects the needs of a more diverse student population (Massaro, 2009; 2010). Yet the fall in per capita funding is projected to continue (Universities Australia, 2011, Figure 4) and staff-student ratios are projected to worsen (Universities Australia, 2010).

A residual problem for the Australian sector is that although the government has been reluctant to invest adequately to support its reforms, it has also reduced the capacity of the sector to raise funds. While it has deregulated the supply of places it has not deregulated their price, and it has abolished full tuition fees for domestic students. The sector has also been arguing for HECS to be deregulated so that top-up limits are abolished as part of the demand-driven funding model, allowing students to make choices between institutions based on price.

While it is generally agreed that the system needs to be funded at a higher level to ensure quality and standards, the argument has been blunted by the preparedness of institutions to enrol large numbers of students at marginal rates. This was evident again in 2011 when the government allowed for a funded over-enrolment of 10% and many universities went well beyond this, effectively accepting students for little additional income. As long as this persists, the Treasury will continue to argue that there remain significant efficiency gains to be had from the system.

Ireland

Policy context

Ireland’s historic transformation from a country dependent on agriculture and traditional manufacturing to the “Celtic Tiger” increasingly based on hi-tech and internationally traded services is the stuff of legend. In 2006, the government recorded a surplus of 3% GDP and in 2007 unemployment fell to 4.5%. However, by 2009 all had changed utterly.

Ireland has a binary higher education system of universities and institutes of technologies (IoT) as well as several colleges, with the Higher Education Authority (HEA) having statutory planning and development responsibilities for higher education and research. The university and IoT sectors have different missions, so that while undergraduate enrolments are shared about equally, the universities enrol the majority of research students. Universities enjoy greater autonomy than the IoTs but both operate within a restricted management environment. There is an uncoordinated and
unrecognised further education (FE) sector and a number of small private for-profit institutions.

Higher education remained largely disconnected from other policy considerations until the 1990s when labour shortages brought about by rapid economic growth and international competitiveness forced a new direction. From 1997, almost EUR 3 billion has been invested in higher education research and infrastructure, to ensure that by 2013, Ireland would be “... internationally renowned for the excellence of its research, and ... at the forefront in generating and using new knowledge for economic and social progress, within an innovation driven culture” (DETE, 2006).

Key policy documents and national development strategies placed higher education and the knowledge economy at the centre of national policy. The National Development Plan (GoI, 2007, p. 13) pledged to enhance enterprise development, and “improve economic performance, competitiveness, ... generate new enterprise ‘winners’ from the indigenous sector [and] attract high added value foreign direct investment.”

The “Celtic Tiger” years, 1998-2008, were broadly good for higher education. The core budget increased year on year, over EUR 3 billion was invested in higher education research and infrastructure and participation rates rose to 55%. Yet, even during this “golden age”, Ireland spent only 1.2% of GDP (public and private) on higher education, below both the OECD and European Union (EU) average and that of Australia (Figure 1; Forfás, 2009). Figure 3 presents the government core grant provided to higher education as a percentage of GDP. Exchequer funding accounts for 85% of higher education funding compared with an OECD average of 73%. Expenditure per student is 15.5% below the top OECD quartile, or 28% below including research funding (DES, 2011, pp. 111-112). Ireland’s failure to meet the Lisbon target of 3% GDP for research and development (R&D) by 2010 was related to the incapacity of the private sector to meet its 2% GDP quota (Gannon, 2010).

Ireland’s share of the GFC was aggravated by a sharp deceleration in export growth and an overdependence on housing and construction, which in turn was exacerbated by the collapse of the banking sector. GDP declined by almost 8% with government debt increasing to nearly 68% of GDP by the end of 2010 (ESRI, 2011). Unemployment was 12.9% by 2010, with over 100 000 people, including approximately 20% of graduates, expected to emigrate between 2010 and 2012; these figures are equivalent to those reached at the end of the 1980s (Anon, 2009; Hazelkorn, 1992). In response, the government was forced to seek IMF and EU financial assistance of more than EUR 80 billion. The projected fiscal contraction between 2008 and 2014 (if the government’s four-year plan is implemented in full) is estimated at EUR 29.6 billion, equivalent to 16.1% of GDP by 2014.
The higher education policy environment

In response to the crisis, the government adopted an austerity and deflationary strategy aimed at increasing competitiveness by reducing costs significantly and quickly. As might be expected, the strategy generated much public debate; as Krugman (2009) commented, “the lesson of Ireland is that you really, really don’t want to put yourself in a position where you have to punish your economy in order to save your banks.” Higher education, a beneficiary of the boom, became a victim of the crisis. Dominated until recently by questions of massification and access, the emphasis today is on preserving quality and “world class excellence” in challenging financial times and in response to continuing demographic demand with birth rates equivalent to those in the 19th century.

The strategy’s objectives are reflected in three policy initiatives: Building Ireland’s Smart Economy (2008), the Special Group on Public Service Numbers and Expenditure Programmes (2009), and the National Strategy for Higher Education to 2030 (2011), the former two setting the context for the latter.

- Building Ireland’s Smart Economy (GoI, 2008) sought to position Ireland as a knowledge-intensive economy with a “thriving enterprise sector, high-quality employment, secure energy supplies, an attractive environment, and first-class infrastructure.” It endorsed heavy investment in R&D to “incentivise multinational companies to locate more R&D capacity in Ireland, and ensure the commercialisation and retaining of ideas that flow from that investment”. Reform and restructuring of higher education was a
central feature, promoting “new organisational mergers and alliances that can advance performance through more effective concentration of expertise and investment”. A further report by the Innovation Taskforce reinforced this vision of the smart-state strategy (2010).

- The Special Group on Public Service Numbers and Expenditure Programmes (DF, 2009) recommended reductions of over EUR 5.3 billion and over 17 000 jobs across government departments and agencies, with proposed savings of EUR 0.2 million in the higher education sector. It criticised the record of research spending, the emphasis on PhDs rather than other qualifications, and the status of academic contracts. Instead, it proposed institutional mergers, amalgamating all research funding into a single agency and the abolition of the Higher Education Authority (HEA).

Despite some apparent contradictions between the two documents, the two strategies have assumed Janus-faced roles within government strategy. Since 2008, higher education has experienced an overall 17% reduction in core funding; the timing of a new government funding model for the IoTs has meant some institutions have experienced more severe cuts than might otherwise have been anticipated. Moreover, core public resources per student are declining more precipitously than headline cuts suggest, from a high of almost EUR 10 000 to less than EUR 3 000 per student. Academic employment levels are due to fall by approximately 7% by 2014, while salaries have been reduced by 5-8%; all new appointments have 10% lower starting salaries. As a result, there is evidence of talent flight among immigrants who were attracted to Ireland by good salaries and well-endowed grants.

On the other hand, the government has sought to preserve R&D funding. After an initial reduction of almost 30% between 2009 and 2010, funding was increased again in 2011 although this varies across funding agencies and programmes. The main change has been towards application-focused research, which was granted a 12.5% increase in 2011, with an emphasis on commercialisation and job creation. A parallel research prioritisation exercise is likely to enforce these trends, with more than 50% of the EUR 500 million competitive funding targeted at research fields within the four broad domains of health and life sciences, natural resources and the environment, technology and the creative/cultural industries, and advanced manufacturing and business services.

**The national strategy for Irish higher education**

A review of higher education was conducted over 2009-11, with the aim of going beyond the 2004 OECD Review of Higher Education in Ireland. Originally conceived in 2008, by the time it was announced in February 2009 the financial situation had become the dominant preoccupation. Accordingly, the review
team was tasked with assessing higher education’s fitness-for-purpose, developing a vision and national policy objectives, and identifying “focused targets” for the following five years, “having particular regard to the difficult budgetary and economic climate that is in prospect in the medium term” (HEA, 2009). Thus, not only was room for manoeuvre severely constrained from the outset but the potential for innovative thinking was also inhibited. These factors were further reinforced by a membership weighted in favour of government departments and the status quo. The National Strategy for Irish Higher Education to 2030 (henceforth: the Report) was finally released in January 2011 by the outgoing government. It was endorsed by the in-coming as “not perfect”, but providing a “sufficient blueprint to commence action now” (Quinn, 2011).

Many of its recommendations had been flagged ahead of time (Boland, 2009; Boland, 2010; Hunt, 2010; Walsh, 2009), including measures to widen participation in life-long learning, ensure matriculation across the system, equality between full-time and part-time modes of study, student and graduate tracking, and enhanced internationalisation of the student cohort. More controversially, the Report recommended the re-introduction of tuition fees, institutional contractual agreements tied to mission and performance-related funding, changes to academic contracts and the rationalisation of provision. There was strong support not only for the teaching-research nexus but also for the engagement agenda: this was a reaction to the idea that academics do not do enough teaching and that HEIs are not sufficiently active in knowledge/technology transfer. Student satisfaction and learning outcome assessments were endorsed, and the HEA was given an enhanced role to drive change and modernisation across the sector.

Recognising the role that research plays in attracting foreign direct investment, the Report endorsed the need to meet the EU 3% GDP investment target. To ensure that limited resources are well spent, it urged prioritisation and that all research funding be grouped under a single agency, possibly Science Foundation Ireland (SFI), to ensure more effective co-ordination. This reflected a perception that reductions in research funding often occurred unintentionally because funding was disaggregated across different government departments and agencies. Whatever the merits of that argument, the real reason was to ensure closer alignment between research, economic priorities, short-term impact and measurable performance. Although the Report acknowledged that all disciplines make a contribution to social and economic life, concerns remain that fields not easily tied to immediate economic imperatives, particularly the arts, humanities and social sciences, are vulnerable.

The proposal to reform the current funding model for higher education in favour of greater student cost sharing was an obvious recommendation, but
the Report avoids making any (DES, 2011, p. 121). The abolition of tuition fees had made sense in the 1990s as a means of expanding participation and access, but policy objectives to globally position Ireland Inc and increase participation rates to over 70% by 2020 simply exposed the weaknesses of a financial model heavily reliant on the exchequer (Figure 1). The Report estimates that the EUR 1.3 billion current annual funding for higher education “would need to rise to EUR 1.8 billion by 2020 and to EUR 2.25 billion by 2030 just to maintain current levels of resource per student” (DES, 2011, p. 111). A previous proposal, based upon the Australian HECS system, was on the verge of being announced when the government baulked due to public disquiet (Kearns, 2009, p. 11); a sustainability review is now underway.

Debate over the structure of the system initially threatened to abort the Report’s publication; there were three sets of arguments. First, pursuit of world-class status had over-influenced the strategies of both Trinity College Dublin (TCD) and University College Dublin (UCD) in recent years, with both going into deficit even before the current downturn. The placement of the two universities in the top 100 of the QS World University Rankings in 2009 captured the imagination of some policy and decision makers and was heralded in The Irish Times: “The critical importance of these rankings should not be doubted. The perceived quality of the higher education system is a key factor in helping to attract inward investment. The rankings can also help Ireland to attract more international students, a lucrative business opportunity ...” (The Irish Times, 2009).

Their decline in the subsequent 2010 ranking served to intensify the argument – to the chagrin of HEIs, especially those outside Dublin – that any preferential funding would come at their expense. Second, there was a view that Ireland has too many HEIs relative to its population and the financial environment, and some rationalisation is required (Flynn, 2010; McConnell, 2009; Prondzynski, 2009). Third, while some within government and policy circles wanted to retain the traditional binary system to ensure mission differentiation and cost containment – the latter being seen as a rationalisation for the former – there was also recognition that the IoT model had become too restrictive.

The debate exposed major differences on the review team: between those favouring the status quo or a greater divide between elite and mass HEIs as well as between undergraduate and graduate activity, and those favouring greater diversity of institutional missions and of teaching and research activities. In the end, the latter view prevailed, but only just; a highly unusual footnote (DES, 2011, p. 103) highlights the scale of opposition. Ultimately, the process was driven by a power struggle over status and finances.
The Report firmly focuses on looking at the “overall system requirements for higher education in Ireland” (DES, 2011, p. 96); the words “world class universities” do not appear anywhere. It sets high-level objectives, expecting HEIs to work towards these within a three- to five-year time frame with a strong emphasis on mergers and sharing resources. The universities will be subjected to greater oversight within the context of the strategic dialogue process and institutional contracts, while the twin objectives of rationalisation and diversity will create the opportunity for a few new technological universities (TU) to emerge over the next three to five years as the larger IoTs merger.

However, the Report lacks a vision for the future shape of the system (e.g. how many institutions and what types) to underpin or give direction to these proposals. Nonetheless, it seems that a re-stratified system similar to the “three-fold differentiation” strategy of the Netherlands (Committee, 2010) may ultimately emerge. There are likely to be three broad components: a small number of research-intensive universities spread around the country; a middle group of regionally-focused universities and one TU with research capacity concentrated in specialist fields; and a broader base of teaching-intensive institutions comprised of the majority of IoTs (DES, 2011, p. 70). There is a desire for diversity to extend beyond mission type and encapsulate curriculum and pedagogical profile, student profile, professional and academic orientation, campus or distance learning, etc. The economic and policy environment will actively encourage other small institutions to seek shelter in larger conglomerates. At the same time, all HEIs are urged to form themselves into “regional clusters of collaborating institutions (universities, TU, IoTs and other providers) ... to deliver on jointly agreed strategic objectives” (DES, 2011, pp. 15, 98-99), but it is not clear what drivers will be used to ensure implementation.

The National Strategy has brought Irish higher education into line with broad international policy trends and frameworks. However, in a globally competitive environment, in which higher education is the “canary in the coal mine”, the main challenge for Ireland will be the absolute and relative decline in investment in higher education compared with its neighbours and competitors. As pressure will remain on Irish public budgets well beyond the current crisis, higher education will be under great pressure for the foreseeable future with all the wider implications this has for Irish society and the economy.
Assessment of the governments’ responses

Australia

The revised intention in the 2010 Budget to return to surplus by 2013 on the basis of a new resources rent tax led to the fall of the prime minister before the 2010 general election and to a minority government after it. The government remains committed to a surplus budget by 2013, but a higher dollar, some major natural disasters and the constraints imposed by minority government mean that higher education is more likely to face cuts or stasis than any increases in funding. Assessing the situation on what has been delivered, one would conclude that Australia has done little to invest seriously in higher education, and certainly not to the extent that might have been inferred from its rhetoric about the primacy of a highly educated workforce to support sustained economic growth.

The government has continued to resist the argument that the deregulation of enrolments should be accompanied by price deregulation to enable institutions to raise fee income. Higher education will be required to meet the growth projections relying on inadequate government funding while prevented from raising private income other than through international student enrolments. The risk in this strategy is that if expected reductions in demand eventuate, any major decrease would put many universities at risk of financial failure.

We may, therefore, conclude that this has been a period of missed opportunities. Given that the review report arrived just when the government was making significant allocations to stimulate the economy, its lack of funding for higher education reforms was neither within its stated aims and ambitions for the sector, nor sensible economic strategy. While there had been some hope that the 2010 election year Budget might have provided some increases, this did not occur, and spending as a proportion of GDP will continue to decline. This is not due to the government’s desire to appear thrifty because there have been several significant increases in other areas of the economy. During the election campaign any hopes that this largesse might have flowed to higher education were disappointed as neither major party mentioned universities or research.

Ireland

The review of Irish higher education was timely – even if its recommendations repeated many of those within the earlier OECD report. Even if the economy had not collapsed, a strategy reflecting global competitiveness, internationalisation and excellence was required. It is arguable that Ireland was late to tackle many of these issues and the crisis simply exposed underlying structural weaknesses. While the government’s
“smart state” and innovation strategies highlight the importance of building R&D capacity, the overriding discourse is dominated by the problems of sovereign debt. This placed the review group in a difficult position, needing to adopt a strategy capable of delivering globally competitive institutions with reduced resources. At the same time, many neighbouring and competitor countries have greater financial capability or have adopted a Keynesian-stimulus approach specifically promoting education. As in the Australian experience, despite the rhetoric about its importance for economic growth, higher education is not as central to the public agenda as the problems in primary and secondary education.

Arguably, Irish higher education has delivered all it can on existing resources; a recent EU Economic and Financial Affairs Council (Ecofin) report says Irish universities are the most “efficient” in Europe: Irish graduates are the most highly employable, Irish universities have the highest graduation rates, and along with Finland and Sweden, have the highest “excellence” rating by academics in other EU countries (St. Aubyn et al., 2009). While the Ecofin report was based on data compiled prior to the economic collapse, Ireland continues to produce high-level graduates. This raises the fundamental question about the financial threshold for sustaining quality.

In the longer term, structural change is required, undoubtedly through realignment within and across a cohesive and integrated sector; it includes coming to terms with both the FE and private sectors which were ignored by the National Strategy report. There will be mergers and acquisitions, downsizing and field specialisation as well as new opportunities by aligning curriculum to key sectors. Ultimately, a new pedagogical and business model is required. All of this is obvious, but the Report concentrated too much on resolving “problems” and was driven by an anti-intellectualism that sees higher education as an arm of economic strategy.

There is little doubt that the confluence of factors will enable extensive restructuring at a faster pace and with less opposition than might otherwise have been the case. However, it has many drawbacks, not least the fact that efficiencies and rationalisation have become the objective of the strategic review rather than a likely outcome. More importantly, by adopting an instrumentalist or utilitarian view of education and research as simply a mechanism for the acquisition of skills and employability, the government risks its entire strategy.

Conclusion

Because it is seen as the key to national competitiveness, the pressures of global positioning in the post-GFC world dominate the dynamics of higher education policy making. Australia and Ireland are challenged by strong
neighbours. The former is dependent on them for international students and trade; the latter's island-off-an-island-off-a-continent position sums up its interdependence with the EU as well as its relative size in population and trade. Both governments have set high standards vis-à-vis OECD norms, but uneven social and economic development across their sub-regions present compelling challenges. As a result, both countries struggle to balance and fund higher education as the beacon to attract international investment and talent, and as the basis for a balanced national strategy and social inclusion.

Despite the rhetoric of the “smart state”, higher education does not attract political capital against competing demands elsewhere in society. Coming from very different structural positions – Australia with a unitary system and Ireland with a binary – both countries have sought to grasp the concept of a “world class system” rather than prioritise individual universities. In place of government-regulated mission, both are experimenting in different ways with the concept of freeing up the system through compact negotiations. There is much room for misinterpretation about how these will work in practice, and how much “negotiation” will actually occur around mission. Australian compacts are likely to be very limited because only a relatively small proportion of (non-research) funding will be performance-based, the main element being enrolment driven. Ireland’s compacts will be backed by performance-based funding but are likely to be constrained by a political culture that has tended to micro-manage. Essentially this presents the guise of autonomy within the envelope of strong(er) government, at least until the Exchequer or Treasury becomes concerned that the proposed level of deregulation is unsustainable because it defies accurate financial prediction (there is already evidence of this in Australia).

While both Australia and Ireland have fared quite differently in the GFC, it is remarkable how similar their policy directions have been. The rhetoric in both countries suggests that their governments believe in the importance of higher education and research to their material well-being and sustained prosperity, while neither has delivered on this. The GFC became an inhibitor of vision and action; their experiences illustrate how the national context conditioned the policy-making environment and how policy makers made the environment more constraining by not seizing the opportunities that came along. Indeed, it is arguable that the GFC provided a policy cover for decisions which would have been taken in any case. In the Australian case, it had been obvious for some time that the system’s reliance on international student income to offset reductions in public funding posed risks. The stimulus measures could have been used to strengthen the foundations of the higher education system, and incidentally support the country’s third largest export sector. That this did not occur will be seen as a major missed opportunity and a failure of policy. In Ireland, the policy review became trapped by the crisis,
with decision makers unable to see beyond requirements for efficiency and cost savings.

The financial crisis has crystallised the problems of sustaining mass higher education; the Irish and Australian examples – for different reasons – are good case studies but the problems thrown up by the crisis are not unique to them nor will they disappear when the recession ends. Ultimately, vision needs to extend beyond the immediate, and policy makers need to have the courage of their convictions. Without imagination, both higher education systems will find it difficult to maintain their competitive international positions in the face of the exciting new developments and significant increases in investment in neighbouring and emerging economies.

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Notes

1. This is an edited version of a paper delivered at the 2010 IMHE/OECD conference “Higher Education in a World Changed Utterly: Doing More with Less”.

2. The Australian Labor Party and the Irish Labour Party have different spellings.

3. It was suggested that government contributions had reduced by 10% between 1996 and 2008 (from AUD 12 000 to AUD 10 800 per student) (Bradley, 2008, p. 144).
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New challenges in the governance of Catalan public universities

by

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This article presents the results of a study of the principal issues involved in the governance of public universities in Catalonia. It was based on four stylised dilemmas that were drawn up to facilitate an understanding of the challenges facing university governance reforms. This paper discusses each of these dilemmas in the Catalan context and highlights a number of challenges facing managers of higher education institutions.
Les nouveaux défis de la gouvernance des universités publiques catalanes

par

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Cet article présente les résultats d’une étude portant sur les principales questions de la gouvernance des universités publiques en Catalogne. L’étude portait sur l’identification de quatre problèmes dressés pour faciliter la compréhension des défis auxquels les universités doivent faire face suite aux réformes de gouvernance. Cet article examine chaque problème dans le contexte catalan et met en évidence un certain nombre de défis auxquels sont confrontés les gestionnaires des établissements de l’enseignement supérieur.
Background

This paper reports the findings of a study undertaken over the last three years by a research team at the Autonomous University of Barcelona. It begins with a discussion of the four dilemmas in the field of university governance identified by Larsen et al. (2009). It then describes governance issues in the Catalan higher education sector, plus the specific dilemmas they face. It details the methodology used for the study as well as its results, based on the fore-mentioned dilemmas. It concludes by highlighting a number of challenges facing managers of higher education institutions in Catalonia.

The recent literature on this subject has revealed tensions in a number of key areas (Sporn, 2003). Lazerson (2010), for example, argues that the necessary changes in university management are controversial on account of the convergence of differing interests, longstanding traditions and different perspectives. More precisely, Larsen et al. (2009) identified four dilemmas in governance, namely those between a) representative democracy and organisational effectiveness; b) integrated management structures and dual management structures; c) external and internal influence in institutional decision-making; and d) between centralisation and decentralisation in more autonomous universities. Our research supports this taxonomy, and we discuss the individual dilemmas in detail below.

The first dilemma arises from the conflict between the dual goals of representative democracy and organisational effectiveness and is a source of tension between the collegiate model and a more professional approach based on results effectiveness. Although university traditions in continental Europe have created generalised management structures that emphasise the role of a representative democracy of academics (Boer and Stensaker, 2007, cited by Larsen et al., 2009), currently the approach geared to results optimisation and efficiency offers a serious alternative. The issue at the heart of the debate is not simply who should manage universities, but also what role and responsibilities should those individuals assume (Demichelle, 2000). One term encountered among the new efficiency-oriented approaches is that of new managerialism. In their study involving heads of department, deans and other senior managers, Deem and Brehony (2005) conclude that the concept and use of new managerialism pervades the way in which unipersonal bodies act, representing a change in the relationships of power and dominance.
Implementing new managerialism is not simply a technical means to reform the way we approach management; it also implies a change in the way we perceive universities, what they set out to achieve and how they are governed.

The second dilemma arises from the choice between establishing **integrated management structures** or **dual structures**. This implies taking decisions about the formal and unambiguous character of roles, styles of leadership and task specialisation. Unlike dual structures, unitary board structures affect the way in which functions and decision making in both academic and administrative areas are organised. A dual structure is characterised by the presence of two hierarchies – academic and administrative – and implies a clear separation between actors and bodies responsible for administrative aspects and teaching staff. This scenario may give rise to conflicts between decision-making bodies.

The third dilemma originates from **internal and external influences in decision-making**. Universities have frequently been criticised for being out of step with social reality and disconnected from the needs of their environment (Amaral and Magalhães, 2002; European Commission, 2006). In many countries this situation has been accompanied by a tendency to orient reforms towards a model that transfers power to external stakeholders (Henkel, 2005; Jongbloed et al., 2008). This dilemma entails defining the presence of social stakeholders – whether to a greater or lesser extent – in university life (Engwall, 2007; Bleiklie and Kogan, 2007); in practice, this manifests itself in the debate that surrounds the composition and competences assumed by every management body. Specifically, this dilemma calls for attention to be paid to the following questions: should senior managers be selected from the business sector or can they be professionals from a different working environment? Should students participate in university governing bodies? If so, should they be considered as internal or external members? These questions widen the debate concerning the size and composition of governing bodies and the need for balanced membership (Woodfield and Kennie, 2007). They also oblige us to consider whether issues such as background should enter into the selection of members (Whitchurch, 2006).

The fourth dilemma stems from the **centralisation and decentralisation** of universities and relates to the distribution of authority within them (Amaral and Magalhães, 2002). Reforms in recent years have tended to increase the authority of those who have most experience in the field of management and in addressing the challenges this involves. Such moves have generated a certain amount of tension between central and peripheral bodies (Taylor, 2006). A direct consequence of greater university autonomy is that power has been concentrated in the hands of central management bodies, leaving little operational leeway for peripheral units such as faculties and departments (Meister-Scheytt, 2007). This dilemma also raises a number of questions: what
kind of power should be invested in the different organisational levels and how should this manifest itself? How do quality assurance mechanisms in universities function? What outcomes can be expected? Who determines universities’ strategic plans? Clark (1998) and Taylor (2006) have studied these issues, the latter maintaining that one of the major challenges currently facing universities is the need to balance decision making on core issues, with responsibilities geared towards organisational units.

Governance issues in the Catalan higher education sector

In 1978, the democratic constitution established 20 autonomous regions in Spain; Catalonia is one of them. Since the 1980s the state has increasingly decentralised, devolving power to various autonomous communities in ways which, despite similarities, also show up significant differences. With a population of some seven million people, Catalonia is a region with a long history, a language of its own and distinct traditions, many of which date back to medieval times (Castro and Tomàs, 2011). Today it enjoys considerable autonomy in many areas, including the management of its universities. In practice, this means that although certain general aspects come under state control, the formulation of specific regulations and administrative management of Catalan universities are the responsibility of the regional government, in this case the Generalitat de Catalunya (Catalan Autonomous Government). In 1983, the Spanish central government transferred responsibility for managing universities to the autonomous communities and only retained oversight in a few areas such as determining curricular criteria and issuing degree certificates. In 2003, Catalonia promulgated the Catalan University Law (Llei d’Univeristats de Catalunya), which adapted state regulations to the specificities of the autonomous community.

University governing bodies can be classified on the basis of two variables: composition and scope of influence. The composition of governing bodies can be collegiate or unipersonal; their scope of influence may be general or peripheral (also called territorial). This can be represented in tabular form (Figure 1).

What characterises the unipersonal offices in particular is that they are subject to election and based on principles of representativeness; the style of management is non-professional and they are transient in nature.

A new law concerning university staff is currently pending approval by the Ministry of Education (2010). This law proposes that university administration officers’ responsibilities should not impinge on the development of staff in relation to their teaching and research activities. The managerial model of faculties and departments is therefore non-professional.
The context underpinning the dilemmas facing the Catalan higher education system

The university system in Catalonia clearly belongs to the collegiate model of representative democracy. This means that institutional power is concentrated in the hands of the academic community (Tejerina, 1999; Mora Ruiz, 2000; Michavila and Embid, 2001). This form of management can be termed “professional bureaucracy”, as defined by Mintzberg and Quinn (2003). These groups are made up of teachers and students as well as administrative and service staff. In addition, the academic community is composed of several different levels, since teachers are classified by rank and academic status. The outcome of all this is a professional bureaucracy which has the same features as bodies (Middlehurst, 2004). Consequently, managers are elected from among the teachers themselves by members of the academic community, generally the most senior. The result is a non-professional management model. The dean, the head of department and even the rector may all become temporary managing directors, albeit cognisant of the fact that their power depends on the support of the group which elected them.

With regard to the organisational structure of universities, Pedró (2004) has identified that there is a concentration of power around two distinct poles: the academic staff of faculties and departments (academia) on the one hand and administrative and service staff (management) on the other. This has led to the generalisation of permanent-type matrix structures (Mintzberg, 2003). Consequently, from a structural point of view, the academic staff (which includes teachers and researchers) and the management staff (which includes all support, administrative and service personnel) work side by side. In addition to the matrix structures, there is a departmental superstructure which has general oversight over the institution as a whole.
Another feature of Catalan universities is the low level of external stakeholder involvement in management bodies. From the social point of view, strategic groups are barely represented on management bodies. The only collegiate, external body is the Social Council which oversees certain aspects of university management but essentially economic and budgetary matters.

The Social Council is highly autonomous. It was created to serve as a mechanism to nurture bonding and ensure external control at university level. Its composition is determined by law and includes social partners (unions), employers, municipal officials and representatives of political organisations. For institutions of higher education, the most influential group is the civil service, since universities clearly depend on it from an economic and staffing point of view: almost 60% of full-time teachers are civil servants. The high number of “teacher officials” has led to an overly rigid structure which is unable to adapt to certain changes and is subject to little pressure from external stakeholders.

Finally, with regard to university autonomy, in a number of areas – particularly in the academic area and in terms of curriculum design for graduate and postgraduate degree courses – Catalan universities have increased their scope of action and capacity for decision-making. Nevertheless, autonomy has traditionally been more theoretical than real: since universities are highly dependent on the state, the latter has been obliged to fulfil a considerable number of bureaucratic requirements and to put in place strict administrative control systems. Study fields such as economics, finance and organisation also have very little autonomy. The organisational structure of universities makes a distinction between collegiate and unipersonal bodies, as well as between general (university-wide) and peripheral or territorial bodies (faculties, schools and departments) (Castro and Ion, 2011). Mora Ruiz (2001) maintains that the Spanish system is probably one of the most democratic. The debate is ongoing, however, since it is not only a question of deciding how much decision-making capacity should be given to universities, but also of determining how power should be shared within them. New management systems are currently being tested in which territorial organisations (schools, faculties and departments) take on responsibilities that traditionally have been assumed by general bodies.

In the light of the considerations above, our study aimed to identify the principal dilemmas facing the new governance model of public universities in Catalonia.

**Methodology**

The methodology underpinning this study was qualitative in nature and included interviews and focus group discussions. Interviews were conducted with 23 respondents from 4 public universities: Universidad Autónoma de
Barcelona, Universidad Pompeu Fabra, Universidad Politécnica de Cataluña and Universidad de Barcelona. Three different respondent groups were identified:

- Expert analysts in higher education governance and management. Within this group we conducted seven interviews with European experts in higher education management, as well as external stakeholders and experts working in managerial practice (at the level of chancellor, vice-chancellor and top positions in strategic management).
- Staff in administrative and academic support services. In this group we carried out four interviews with administrative staff representatives.
- Academics performing management functions in departments or faculties. We conducted twelve in-depth interviews with faculty deans and heads of departments, who represent the unipersonal bodies.

The respondent sample was established using non-probability criteria based on their representativeness and Flick’s (2004) theoretical sampling. The questions focused on the system of democratic representation, the dysfunctions of matrix structures, the low involvement of critical social groups in university life and the process whereby peripheral units (in particular schools and departments) gain internal autonomy. Subsequently, an interim report was drafted which highlighted the key results obtained from an analysis of the interviews and flagged any that were contradictory. This preliminary report served as a starting point and also oriented the second instrument, a focus group comprised of nine academic experts involved in management issues in higher education institutions.

Results

The results were organised in line with the concept and structure proposed by Larsen et al. (2009) to be used when addressing the four dilemmas of university management. With regard to the first dilemma, which concerns the potential switch towards a more efficiently organised management model, differing positions were identified among the groups interviewed. The experts argued that the world’s most prestigious universities have professional external management systems. Nevertheless, they believe that there is a very strong tradition of academic representation in managerial bodies, and therefore proposed a mixed model in which only the best-qualified or most high-ranking academics would assume management tasks, either in central bodies or faculties and departments.

One possibility is that teachers with significant lecturing and research experience, and who are able speak to others on an equal basis, might assume policy-making positions in universities. At the pinnacle of their professional career, these teachers could specialise in management
issues with a view to running faculties and university departments. As a trade-off, these teachers would receive recognition and significant compensation, otherwise no high-ranking teacher would sacrifice a career in research and lecturing. [Amparo, expert]

Staff in administrative and support services believed that universities – like other major social institutions – should be managed by professionals who do not necessarily need to have an academic background. This group was the least happy with the current model and proposed the most far-reaching reforms. Their grievances included a lack of training available to teachers selected for management responsibilities; the high rotation of academic management positions, which acts as a brake when it comes to developing policies; and a failure among teachers to implement certain measures for fear of becoming unpopular with their colleagues.

If we want to move towards a more professional and competitive university model we should opt for a more professional system. If professionals do things right, they can stay. If not, they can be fired. The problem with academic managers is that they are not totally free to act as they think best. Professionals, however, will take what they consider to be the most appropriate decisions in function of the goals established by their department or faculty. When management is decided by consensus, it is slower and less competitive. [Santiago, manager]

On the other hand, the academics interviewed believed the current model should prevail over any other. They criticised business management models designed for universities and advocated a public university model managed by its academics, controlled, for example, by social accountability mechanisms.

I think the university system is so complex and so unique that only those who really know how it functions are in a position to manage it. This is not the right place for external candidates, since they would not understand how it works. We have codices and a particular language that can only be acquired internally. I don’t mean to suggest that we live in an ivory tower, it’s simply that we must explain and justify everything we do. [Aída, dean]

Finally, the highest-level academics interviewed stated that university management should remain in the hands of academics although these should benefit from specific training and demonstrate a thorough knowledge of governance.

I think that universities cannot be treated as companies, as their main objective is profit. Continental European universities have a tradition whereby internal democracy and access to managerial positions has been confined to senior academics. Nevertheless, the system is so complex that candidates need previous experience and training in management issues
as well as clear guidance. Not everyone can be an academic as well as a manager. [Montserrat, vice-chancellor]

In relation to the second dilemma, which resides in the choice between establishing integrated management structures or dual structures, it was noted that the diversification of academic and administrative staff tasks within the university structure was greatly appreciated by both the experts and academics performing management functions who were interviewed. For both of these groups, this diversification permits a differentiation of roles and avoids confusion and conflict between the differing interests of academic and administrative staff. What the experts pointed out, however, is that in Spain, the matrix structure is applied even though it is known that teachers generally take up managerial roles on a temporary basis, which tends to blur the distinction between the two organisational units. This particular state of affairs can potentially generate a number of problems, including a gear shift for academic managers, from an unequivocally political and tactical profile to one which is more operative and entails multiple administrative tasks.

Sometimes we are taken for administrators. Public administration is, on the whole, bureaucratic, since we are required to deal with enormous amounts of paperwork. I am not overly worried about the bureaucracy, but more about the fact that having to deal with so much of it prevents me from doing my own work as a manager and leaves me little time to take decisions and solve specific problems within my faculty. [Nuria, director of a university college]

Furthermore, the academics interviewed regretted that they had little real authority over support and administrative staff.

Even though I am the head of my department, I have no authority over the department secretary. I am probably her manager from a functional, but not an organisational, point of view, since she answers to the faculty manager. I have no say when it comes to important issues. [Ana, head of department]

As a result, the system is dysfunctional – since administrative staff have dual reporting lines. On the one hand, they report to academic managers (organisational dependency); on the other, they report to academics and others who are in a position to give them instructions regarding work content (functional dependency). Administrative and service staff think that this duality should be maintained and that a more unified structure would generate confusion and problems.

I think the [matrix] structure is absolutely vital. Even if the management of teaching and research positions is carried out by teachers, I don’t believe they could survive without a strong administrative structure. This doesn’t seem to me to be a problem – quite the contrary. [Verónica, school administrator]
In relation to the third dilemma, the external experts interviewed were open to significant changes to the social groups’ current participation model in university management. This, they thought, would make the institution more transparent in the eyes of society.

Social interest groups in other European countries, including individuals from the world of politics, business, culture and science, are more involved in matters affecting the life of the university. In Spain, academics are not keen to see social stakeholders participate in decision-making bodies. I think teachers are afraid somebody from outside will try to tell them how to do their job. [Lisa, expert]

It was also evident that there are few systems which allow social stakeholders to be represented and to participate in university life. There were, however, no proposals to increase their representation. Nor did respondents believe that such a situation could create a gap between university and society.

The truth is that when travelling in Europe I see other universities listening more attentively to the business sector, which is how it should be in my opinion. We don’t have this tradition in Spain and I can’t see the teachers in my department making changes to their courses because of something suggested by a businessman or industrial expert. [José María, head of department]

Regarding the fourth dilemma, which is between centralisation and decentralisation of universities and the distribution of authority within them, respondents agreed that the functions assigned to territorial bodies (schools, faculties and departments) have little relevance to university management and policy making. Although these functions are not subject to restrictions, they are monitored by appropriate collegiate bodies. It was agreed that management bodies responsible for decentralised units should be free to define global guidelines as long as these are in line with the priorities set by university management bodies. From an academic point of view, respondents globally approved of the unipersoinal management bodies’ autonomy, particularly in relation to the curricula, managing student life and research. Lastly, it transpired that heads of department enjoyed some authority in relation to specific aspects of human resource management, in particular where contracting is concerned.

Respondents reported that internal autonomy is still rather weak. Central bodies are reluctant to decentralise power and hand it over to peripheral organisational units such as departments or faculties. Consequently, the dynamics that are taking place between departments, faculties and university central management are also taking place between universities and government administration. The result is ongoing tension – or a dilemma – between the demand for more leeway for decision making and the tendency
to maintain the current situation. Whatever the case, models that provide greater autonomy and responsibility – counterbalanced by the introduction of accountability systems – are becoming more relevant, if not very widespread.

There is a distinct trend towards homogenisation: the natural tendency for someone in command is to give instructions and enforce rules, in other words, establish homogeneous procedures. This habit is hard to break. But in fact some decisions have been made, and some policies adopted, that attempt to preserve each faculty’s individual identity, with its idiosyncrasies, needs and characteristics. Nowadays there tends to be more room for manoeuvre, although homogenising tendencies are still strong and come naturally to people responsible for control and accountability in institutions such as ours. [Rosa, head of department]

Discussion and conclusions

The study results show that universities are progressively moving towards a traditional collegiate system (Mintzberg, 1984; Vallés, 1996; Luxán, 1998) and are overthrowing the monopoly of power which used to be concentrated in the hands of in-house academics. The management system therefore needs to open up to new formulas such as those of “new managerialism” proposed by Deem and Brehony (2005) or Engwall (2007), who identify a high degree of market management ideology in universities.

The first challenge facing Catalan universities is to turn the current management model into a more professional system specifically oriented towards results effectiveness. In this regard, the academic manager should be seen as a mediator between different interests (Larsen et al., 2009) and be able to develop a dual identity between the traditional ideal of academic governance and the ideal of modern management (Aasen and Stensaker, 2007). The change of approach towards an effectiveness-oriented model should be implemented progressively rather than abruptly. It could begin with the introduction of adjustments to some services or specific areas, before subsequently being rolled out to more generalist areas.

In relation to the second dilemma, our findings concur with those of two other studies. The first is by Pérez and Peiró (1999), who assert that the matrix structure combines departments (as a grouping of teachers devoted to scientific production in one area of knowledge) and schools or faculties (responsible for teaching), while each element of this combination maintains a certain independence. The second study is by Castro and Tomàs (2010), who state that the dual organisational arrangement in universities makes a distinction between academic and managerial staff. It would therefore be accurate to say that Catalan universities are characterised by a double matrix: one is between schools and departments (units) and the other is between
academic and managerial staff (individuals). This double matrix is, in turn, capped by a department structure that is responsible for general management issues in universities. This means that there is a third organisational axis between the peripheral and general bodies. We can therefore conclude that a university's structure corresponds to three different axes: the rift between schools and departments, between academia and bureaucracy, and between general and peripheral bodies. It is unfeasible to maintain this triple logic in a university structure since it obliges decision making to be dispersed throughout a great number of organisational units, which ultimately dilutes responsibilities among many people. A complex structure such as this, with many levels and lines of decision making, is not efficient. It is a system that effectively dilutes responsibilities and hinders the monitoring of processes and results. A more organic and functional structure could be created by designing organisational units with their own objectives and resources and with autonomy from central bodies.

Results relating to the third dilemma show that when universities enjoy greater autonomy from government administration this does not lead to institutional differentiation, since power is concentrated in general or central bodies. The differentiation and adaptation required in each context should occur through the devolution of power from central bodies (i.e. the university senate) to peripheral units (i.e. faculties and departments). We believe that the management of Catalan universities should fall in line with the trend which is in place in other European countries. There, the participation of internal actors has been considerably reduced, while external stakeholders have become much more active (Stensaker et al., 2007; Santiago et al., 2008; Ferlie et al., 2008).

The Social Council seems to be experiencing difficulty in developing its functions, especially its ability to take decisions related to university guidelines. It also lacks the means to avoid the current conflict between the functions of promotion and control. Lastly, there is still a widespread perception that the composition of the Social Council is dependent on political considerations – based on electoral quotas – rather than on social representation. If the Social Council is to become a truly representative body and manage the university community, this situation needs to be reviewed and amended.

Our findings in relation to the fourth dilemma place the Catalan higher education model on a par with systems in other European countries where the management model has been modified in order to increase institutional autonomy (Demichelle, 2000). In this context universities can shape their own management structures, promote institutional decentralisation and integrate social stakeholders into university dynamics. The challenge for university managers, therefore, is to overcome the tendency to centralise decision making within institutions and instead to create a model that can quickly adapt to an increasingly competitive environment, as Larsen et al. (2009) demonstrate in
reference to Clark (1998). It is urgent to redefine the relationship between university and society, with a view to giving the latter a more representative and relevant role in university life. Those responsible for universities should be held accountable and report on the outcomes and processes generated by their decisions. Social accountability should act as a safety net between university autonomy, the stakeholders and university managers. Ultimately, management reforms should render Catalan universities more permeable to the demands of society, less complex and enable them to fulfil their commitments more effectively.

Despite the findings described above, it is important to underline that our study was subject to some limitations. First, the small number of sample universities (4) and informants (23) limited its representivity, to a certain extent. Second, we examined just one variable of the complex university system: its governance. Consequently, the results of the study should be understood as illustrating governance trends and not as turning points.

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