Chapter 9
Policy Pressures and the Changing Organization of University Research

Maria Nedeva, Kate Barker, and Sally Ali Osman

Introduction

The focus of this chapter is on policy effects and implementation in higher education. Through an in-depth examination of pressures for change in two UK universities we demonstrate that, within one policy environment, universities show different interpretations of the pressures and diverse responses. The implementation at organizational level appears to be highly dependent on the existing positioning of the universities within research spaces at different level of social aggregation and their organizational structure(s). We open for discussion the notion of overall policy effects and move towards a more nuanced understanding of the complex and mediated relationship between policy intervention and organizational change.

There has been a steady and rapid growth of academic literature, and policy debate, on the broad-ranging changes of the universities in the Western world. This reflects intense academic interest, not devoid of high emotion, as well as much more overt policy attention and changing empirical reality. Academic debates relate to the changes affecting university governance, the transformation of its missions (research and teaching) and the advent of a new 'third' mission. The consequences of this for the university and the emergence of new organizational forms and the reasons and social condition for all these changes to occur (or the 'pressures for change') occupy scholars of changes, policy makers and managers alike.

Thus, debates on the changing governance of the universities range from accounts of the introduction of management techniques (Shattock 2003) to innovative interpretations and analysis of academic leadership (Fuller 2007). Attention to the

M. Nedeva (✉) • K. Barker • S.A. Osman
Manchester Institute of Innovation Research, Manchester Business School,
University of Manchester, Oxford Road, Manchester M15 6BP, UK
e-mail: maria.nedeva@mbs.ac.uk; sallyaly74@yahoo.co.uk

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changing missions of the university has been channeled through discussions about the 'third mission' and its transforming potential (Molas-Gallart et al. 2002; Jones 2002; Thorn and Soo 2006; Martin and Etzkowitz 2000; Nedeva 2007), and the transformations affecting the educational mission and the extent to which the university sector can or should directly provide the economy with employable, trained graduates (Clark 1930; Hillage and Pollard 1998; Harvey 1999, 2001; van der Heijden 2001; Boden and Nedeva 2010).

These accounts and analyses vary in terms of their approach, validity and empirical and intellectual rigor. However, they mostly share two core assumptions. One is the assumption of 'unity of object' whereby the changing object is constructed along institutionalist lines as 'the university' or 'higher education'. This masks important distinctions and division in terms of the changing object. Furthermore, there is empirical evidence, particularly in the UK, that 'the university' has undergone institutional dislocation and 'fragmented' into a plethora of rather different organizations. Interestingly, these organizations vary not only across national landscapes but also within the same funding landscape. In other words, it is not only that the universities in the UK and France are different kind of organizations but also, that the University of Oxford is not the same as, indeed hardly similar at all to, the University of Chester.

The second core assumption of the literature on university change is that pressures for change are universal. This, we posit, reflects a failure to distinguish between 'policies' and 'policy instruments', on the one hand, and 'pressures for change' on the other. Policies can be possibly be construed as 'universal'; 'pressures for change' are always specific for a social actor, or group of actors, since these are shaped by the policy as well as by the way in which it is interpreted depending on specific positioning and circumstances.

We challenge these assumptions by using information from a study of university change in the United Kingdom. This study was exploratory and used a case study research design to register a range of transformations (or the lack of such) in two universities and attribute the changes to specific policy developments. One of these, University A, is a research-intensive university the origins of which go back to the nineteenth century and it is a member of the Russell Group.[1] The other one, University B, is a teaching intensive university that became a polytechnic in the 1970s and was granted university status in 1992 as part of the Further and Higher Education act. Whilst the study explored change as an organizational characteristic of the universities, here we focus only on the findings related to changes related to university research and research policy.

This chapter is structured in six parts. Following this introduction, we explain the study design and methods used to select the cases and collect the data, setting out the key organizational dimensions of the cases. Following that, we present the cases focusing on the main differences between these and describe the policy

[1]The Russell Group is a grouping of 20 research-intensive universities in the UK which jointly undertake strategy setting and lobbying.

environment for universities in the UK; the main policy playing was the periodic national evaluation of research quality in UK universities, the Research Assessment Exercise or RAE. The findings on changes in research are presented using directly quoted statements in order to reveal the perceptions and views of the interviewees. We then consider our results, both in terms of whether our objects of study (the two universities) are a single type and also whether our universal policy (the national research evaluation system) produces universal pressures for change. We conclude with implications for the study of universities as organizations.

The Study: Approach and Methodology

This study aimed to explore the changes taking place in UK universities over the last 10 years and to link these changes to specific research and higher education policies. Furthermore, the issue of the pressures for change these policies constitute in terms of different universities and research fields was also interrogated. In other words, at a general level the focus of this study was on measuring university change and attributing it to policy measures.

These issues were approached by using a comparative case study design combining documentary analysis and semi-structured interviews with academics and academic leaders (Deans, Associate Deans and Head of Department level) in two UK universities. A total of 32 interviews were conducted and analyzed. These interviews sought to explore the opinion of academics and academic leaders regarding the change that has been occurring in the two universities and its attribution to policy.[2]

To select the cases we used a classification of UK universities based on their core functions, namely research and teaching. This used data from the Higher Education Statistics Agency (HESA) about amounts and sources of funding at the level of individual universities to divide the UK universities into two distinct groups, namely research intensive and teaching intensive. This taxonomy builds on the level of research and teaching activity carried out by the specific universities as measured by the amounts of funding generated through these; it does not, however, account for the quality or 'excellence' of these activities (and the universities performing them).

The total research funding included the funding from research councils, Higher Education Funding Councils (HEFCs), European Union (EU), charities, and industry. The total teaching funding reflected the amount of funds granted to universities,

[2] In principle, change and attribution can be interrogated using two framework approaches. One of these would build on multiple data collection whereby change is measured as a difference over time and attributed causally by describing the social mechanisms that could generate this change. Another approach would be to access both change and its attribution to specific policy developments through the opinions of the respondents. Whilst the former approach is probably superior in terms of both measurement and attribution it also needs to be carried out over a long time period and is rather expensive.

based on the number of students enrolled, and the fees paid by students at different education levels. HESA data for year 2005–2006 was used for this purpose. Using the ratio of total teaching funding to total research funding a coefficient was calculated and was arranged in ascending order, where the smallest coefficient reflects a research university with a relatively high research activity to teaching and largest coefficients represent universities with a relatively high teaching activity compared to research. Using the median measure, the UK universities were divided into two groups: research intensive and teaching intensive groups. From each group one university with a high research coefficient and another with a high teaching coefficient were selected, taking into account comparable size of the two universities.

Various typologies of universities exist and are present in the literature, yet they are rarely transferable from one national setting to another. Our exercise had the merits of being robust (based on published verified national data rather than on judgments and interpretations) and simple. Research-intensive universities also deliver teaching (including undergraduate teaching), but the presence of a significant income stream for research is likely to make these universities differ from those which have teaching as the dominant income stream.

We targeted the interviews within two faculties within each case university, in order to gain benefits of cross-checking accounts of change and to link managers to academics within the same branch of the organization. In this chapter, we will not consider differences between the disciplines, which were in any case less marked than we originally expected. In each university we studied a social science faculty and in University A also a science faculty. In University B we studied in addition an applied technology faculty.[3] All interviews were conducted face-to-face, in total 32 interviews with an average time of 50 min (ranging from 30 to 70 min), in the period between November 2007 and August 2008.

During the interviews three sets of issues were explored through applying an interview guide: (a) questions regarding the pressures for change and their origin (external or internal); (b) the perceived changes in research and teaching functions during the last decade; and (c) the perceived responses in the organizational context of universities to pressures for change. Furthermore, to prepare the interviews and contextualize and supplement the data we analyzed documents setting out the organizational structure, missions and performance of the selected universities; documentary analysis was also used to outline the research policy(ies) reported to be affecting university change. The main difficulty here was the unavailability of older internal documents which would let us see the situation before the responses to pressures for change. As a result, the most recent documents (mainly from web sites) were used to account for the changes that the interviewees mentioned during the interview.

[3]For practical reasons, since the science faculty was not available for interview within the time period of the study.

The Two Universities

University A is a large research-intensive university and a member of the Russell Group of research-intensive universities; its annual research income exceeds £100 million and it teaches around 30,000[4] students from all over the world on 650 undergraduate courses and 300 postgraduate courses. University A improved its ranking in the Research Assessment Exercise from the twenties in 2001 to the teens in 2008. It is also active in developing enterprise initiatives, according to indicators such as patents, partnerships with local companies, incubated companies and active spin-out companies valued at over £100 m.

Its origins go back to the nineteenth century with the founding of the medical school as a collaborative effort from the local community. In the late nineteenth century the college of science was founded as a response of public concerns about the local manufacturing industries and the threats it faced due to rapid technological developments. At the beginning of the twentieth century, University A was granted its own charter and became an independent institution. It has nine faculties containing schools and several research centers and institutions. In this case we covered the academic fields of Biological Sciences and Education.

University A's vision is to secure a place among the top 50 universities in the world by 2015, achieved through the integrating world-class research, scholarship and education and making an impact upon global society.

University B is a teaching-intensive university. It was founded in the early nineteenth century as a specialized mechanics institute. It became a polytechnic in 1970, and was granted university status following the Further and Higher Education Act in 1992. It is one of the largest universities in the UK, having around 40,000 students. University B offers both undergraduate and postgraduate qualifications in several disciplines: architecture, graphic arts and design, business, computing, education, health care, hospitality, business management, information and library studies.

University B's vision is to provide high quality learning and teaching experience to students, to foster a community where research and scholarship inform teaching, to contribute to knowledge transfer and to collaborate with the business community.

In addition to the functional differences and orientations outlined above, the cases have different governance structures. In this chapter we do not attempt to link changes in research to governance structures (and it was not a theme which emerged from the empirical work). University B, being a post-1992 university, has a board of governors who are local senior members of the social and business community who have a strong influence upon the overall strategy of the university. The academics are consulted but not able to exert as much influence on organizational directions as University A, where the senate passes decisions on academic matters including curricula and quality and a council (including lay members) oversees the strategy and management.

[4] HESA Statistics – Higher Education numbers 2007/2008.

In the next parts of this chapter, we present our findings. Here, we use direct quotations from the interviewees to demonstrate the perceived pressures and changes in the domain of research. The direct quotations allow us to see the differences in perception and response to the national policy.

The Policy Environment

Universities in the UK have been subject to on-going changes in policy towards higher education and research. Many of these are in line with international trends: increasing participation in higher education, more internationalization (with research performance and competition for students no longer within the national domain) and institutional reforms. The UK has seen periodic reviews of higher education teaching quality processes, access and social inclusion, links to business and industry and, quite strongly, the skills and employability agenda (Boden and Nedeva 2010). Deem et al. (2007: 39) observed: "UK higher education has been the subject of a series of direct and indirect modernization endeavors by government and university funding bodies. Such an approach to higher education has, since the 1980s, placed considerable emphasis on cultural change and the need to overtly manage academics and academic work in the context of marketization and gradual privatization of publicly funded education, using explicit performance and quality indicators for teaching and research and at times introducing considerable restrictions on units of funding per student and capital expenditure".

Henkel (2005) argued that during the last quarter of the twentieth century higher education became an increasingly important instrument of national economic policy. As a result, universities were pressured to change their cultures and structures, and to review their assumptions about their traditional roles, relationships and boundaries.

For research, the dominant policy change for research in higher education has been the continual cycles (every 6–7 years) of the Research Assessment Exercise (RAE).[5] Although its origins lie in the low-key research selectivity exercizes which started in 1986, the policy imperative to concentrate research funding in the most highly performing universities has grown stronger. The RAE is a national research evaluation system, as defined by Whitley (2007) based on a peer review of research outputs in around 70 disciplinary areas. According to the ratings given and the number of people entered, the Higher Education Funding Agencies allocate research funding for the next period, about six billion UK pounds over the lifetime of the cycle.

The intention (and consequent expectation) has been to increase the concentration of funding to the very highest performers, meaning that only subject areas with "world leading" and "internationally excellent" research performance secure funding. Whilst there had probably been some grade inflation across RAE cycles, as

[5] Renamed the Research Excellence Framework or REF after the 2008 cycle, to denote some major changes in the formulation of the exercise.

the bar has constantly been raised, there has been enormous pressure on those universities who depend on this stream of research income to demonstrate international excellence and reputation.

The 2001 exercise attempted to concentrated further research funding in the universities with the highest ratings and so the consequences of failing here were severe for universities which depend on this research income. Doing well in the RAE became crucial for them and so they entered a strategic game to optimize their chances of success. This has involved attention to internal preparation, and performance management. There are some reported unintended effects of the RAE, such as discrimination against applied and interdisciplinary research[6] (for example, Vick et al. 1998; McNay 2003).

So we can already see that this national level policy is likely to be felt differently by different universities and parts of universities, for instance, those performing applied research versus very academic, disciplinary-bound research groups. Indeed, our interviewees whilst reporting rather different kinds of organizational change unanimously attributed these to past cycles of the RAE; they were speaking about the previous rounds which reported in 2001 (Roberts 2003) and 2008, and were following the debate regarding the rules of the forthcoming exercise of 2013.

Findings: Research Funding, Orientation and Evaluation

Our comparison will examine three areas of possible change in research, as elicited during the semi-structured interviews. The first area for questioning concerned research funding, including the level, the composition of sources, the intensity of competition for funding and the nature of support provided by the universities for funding applications (for example in writing proposals, coordination). These are summarized in Table 9.1.

Table 9.1 Research funding by university

	University A	University B
Level	Not changed – high	Not changed – low
Composition of sources	Not changed – HEFCE, Research Councils, other public; global	Not changed – very little from HEFCE, accidental from RCs and mostly from industry and users; local
Level of competition	High but coping (refers to RCs and global public)	Global public competition perceived as high but not relevant; private no change
Support for applications	Structures for support and prioritization have emerged	Not evident in research

[6]The REF requires reporting on the impact of research partly to offset the RAE's effect of focusing on publications in the most prestigious academic journals.

Perhaps somewhat surprisingly, the funding for research had not changed in both universities. In university A it remained high and in university B it remained low. In 2007–2008 university A secured over 100 million pounds (GBP) and in the 2008 RAE it ranked in the teens overall. In university B most of the research funding came from collaboration with industry:

> We get some funding from HEFCE but that is very small in comparison to research-intensive universities. We have to find other ways of funding research, we have certainly seen more confidence in bidding for research council funding and, yes, we have some success there although I am sure we could do better. I think what worked also is partnerships with other universities, perhaps those with a track record in research and that has helped us really well. (Vice Dean for Teaching University B)

Alongside little change in overall research funding, we see little change also in the composition of the funding sources. University A still secures funding from the HEFCE (via the Research Assessment Exercise ratings), from the research councils, other public sources and from international sources such as the European Commission. University B still secures very little from the HEFCE due to low performance in the RAE, some research council project applications which succeed but mostly still from local industry and users as well as within Europe as partners in consortia. Interestingly, in university B international PhD students are viewed as a source of research income, including those registered with the university but working at a distance. This is a different perception of what constitutes "research funding" from the research-intensive university:

> In terms of research money in the faculty, a lot of it comes from overseas international students, we deliver research abroad. We have a model that is unique. I think where we deliver is from America right across Europe, and we have registered research students whom we support at a distance and that has been very successful, that has generated income. (Dean, University B)

Both universities perceive increasing levels of competition for research council and international grants, but the reactions are different. University A notes very high levels of competition but is still succeeding:

> It is harder to get research money, I have been lucky, I always had a research grant, but it is hard to keep continual funding and it is definitely much difficult, especially for new people, who had to balance their teaching with applying for research grants. (Senior Lecturer, University A)

University B perceives the competition as high but not relevant as it can focus attention on its strength of industrial collaboration:

> It is clear that [funding] is becoming increasingly difficult to access. The sort of traditional research council type studentship and traditional grants of that sort, the competition now is much greater, the amount of money available for those organizations has been reduced and become much more focused…It has been easier for some of the more research-oriented universities to adjust and to form the necessary activities that are needed to access that funding. What we have tried to do is to work closely with industrial collaborators. (Professor, University B)

Table 9.2 Change of research orientation

	University A	University B
Application and use	Shift towards application	No change – always applied orientation
From individuals to groups	Yes	No change

So, university B attends to its industrial research and research students and does not attempt to compete for research council and similar grants, while university A re-organizes and introduces structures for support and prioritization in order to maximize its chances of winning research funding:

> From a grant-funding point of view, we now have teams of people who view applications for grants before those are submitted, so we try and say that we submit the best quality possible and the younger members of staff have regular mentoring meeting where they are encouraged to apply for money and keep publishing papers. (Senior Lecturer, University A)

We were interested to find evidence for changes in orientation in research (see Table 9.2). University B which concentrates on applied research and has expanded areas of research to support new areas of teaching, such as tourism, in partnership with employers:

> We have always considered ourselves as an institution of applied learning and I think people have generally considered that we are applying knowledge in the research we do. (Professor, University B)

University A shows change here. However, it is not towards more fundamental research as might be expected in order to win competitive peer reviewed grants, but towards more applied research. This change is seen as emanating from the research councils:

> Orientation is rather guided by the research councils as they are instructed by the government to have more directed research, the initiatives that call for proposals in certain areas, really dictate that people need to align their research, so there is much more structure I think in what funds are available for, research has to be within a given framework more than it was maybe 20 years ago, where simply the ideas were produced from the individual scientist. (Associate Dean for Teaching, University A)

Picking up the last point from the quotation above, university A reported shifts from individual to group research, something which university B did not mention. There is more collective research and grant applications, not only in sciences but also in social sciences:

> There is a much greater understanding that research had become a collectivised enterprise. We recognize that having lone, individual scholarship would not help our performance. There might be place for individual scholars but our work must be much more collectivised, otherwise how we are going to manage new scholars at the beginning of their career? I think schools and departments now structure and organize themselves around that collectiveness in a way that was not probably the case ten years ago. (Dean, University A)

Table 9.3 Change in evaluation

	University A	University B
Increase	Yes	Yes
Focus	Quality and impact of papers	General scholarship in relation to teaching
Follow up	Strategy for increasing impact of research	Strategy for applying research

Our final area for questioning concerned perceptions about changes in research evaluation (see Table 9.3). As we noted earlier, UK universities have been undergoing evaluations of their research output in the periodic assessment exercises which strongly determine levels of funding.

Here, both universities report an increase in evaluation, although in the teaching-intensive university the perceptions about the importance of evaluation were more varied. In both universities it is the RAE which is mentioned as the underlying driver for the increased focus on evaluation:

> I think before the RAE there was no formal evaluation of our research but after the introduction of the RAE specially the second and third round, a lot of pressure was felt by academics to produce more research with higher quality. (Associate Dean for Teaching, University A)

We see again evidence for different meanings given to research in the teaching-intensive university:

> Yes, now we are driven by the RAE. I have been around for 26 years and I can see, probably research was more informal. What you did is that you follow the area of interest but now you got to be more focused, you are target driven, and you have to meet those targets. I am not involved in the RAE; I am trying to develop an area of research with professors in creative technology, so I am trying to do collaborative research. In new universities, we have our teaching duties. I think it is expected from us to do some research, but without being monitored by someone closely as in the redbrick university in research, but most of us do it for our own benefit to expand our knowledge of our subject area, that is the main reason why I do it. (Professor, University B)

Research can be "non-RAE" and can include scholarship to support teaching in university B. There is more flexibility in how research is assessed within the teaching-intensive university:

> Our expectation is that all academic staff would involve and engage themselves in research and scholarship. That now features in terms of annual appraisal, where all staff are expected to account for their contribution to research and scholarship, but that is on a sliding scale going from high level high impact research in established research centers with critical mass, good productivity down to individuals who are making contributions to professional association, groups who are making contributions to research in pedagogy in terms of how it influences teaching, learning and assessment, in their particular area of the university. (Vice Dean for Research, University B)
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> We are very low funded for research so we look at research more as part of a scholarly activity. Research is just a part of that. We have a new research strategy being in place, probably for two years and recently been reviewed. It looks at different patterns of applied research and what scholarship is and what research might contribute and it is a broader,

> more inclusive definition of that sort of activity, and each and every member of staff now is expected to engage in some or more parts of those and interestingly that wasn't the case before. (Dean, University B)

The second quote above shows us that evaluation and attention to research are still present in the teaching-intensive university, but its meanings are not the same as for the research-intensive university.

While university B focuses on the internal assessment of research and scholarship of individuals in the context of teaching, university A mirrors the requirements of the RAE by focusing attention on the quality of papers and journals and research income:

> The way grant funding bodies evaluate our research has not changed but the way the university evaluates our research has changed. Most of us feel that we are continuously assessed about how many papers we publish and the journals we publish in and how much money we succeed in getting into the university, I think that is much more publicly known among our groups than it was in the past. (Lecturer, University A)
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> The basic principal in this faculty over the last few years was how to increase the number of high impact publications, so there were a number of things that we have done to look at that, in terms of peer review before publication, collaboration, someone maybe able to make a perfectly adequate publication from their science but actually by collaboration with somebody else internally just that 20 % of work could actually make it much more meaningful and publishable in one of the high impact journals. Certainly within this faculty we operate that system of collaborating within research groups and peer review of research publications. (Associate Dean for Research, University A)

From the above remarks, we see that both universities have developed strategies and evaluation, but the teaching-intensive university seeks to map and understand how it does apply research in different ways to support teaching, and the research-intensive university picks up the cues from the RAE about maximizing the academic impact of its research outputs.

The Universal Policy Pressure?

In both universities, changes are reported in research, although with large differences in the areas for change and the nature of the changes. The universal policy identified is the Research Assessment Exercise, as it is applied in the same way to all institutions of higher education in the UK. What is interesting is to see how the ways in which the two organizations interpret and mediate the policy to translate this in policy pressures are different. The research-intensive university (A) has introduced structures and organizational processes of internal control so that it can compete more effectively for public funding for research, both through the RAE and through grant applications. The arena for competition is not purely national, but international as well. The teaching-intensive university (B) is changing to position itself for a different market: a more local one for applied research, services and to improve teaching. After paying some attention to the RAE, this is now marginal to

their strategic considerations and changing to fit the requirements of the RAE is simply not relevant to their core mission:

> I wouldn't say the RAE has affected my type of research because I have always enjoyed looking at sport exercise research. I haven't let the RAE influence the type of research that I do. I still investigate what I am interested in. That didn't change for me personally. It may have changed to other areas because not all subjects are entered in the RAE. This is a selection process so you submit against the areas that you feel you are strong in. (Professor, University B)

The research-intensive university shows much more direct linkage between its changes and the policy:

> The internal pressures for change would be driven from the external pressures, so ultimately if there wasn't an RAE culture and if resources haven't dropped that much we would have been doing the same thing that we did twenty years ago. We had reorganization at the faculty level to produce the research institutes but that has been driven by the desire of the university to make sure that our RAE is high as possible, which is driven by external agenda to make sure that, it is of highest quality. (Associate Dean for Research, University A)
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> It is really the university and the department responding to the external pressures, the RAE, the criteria of achieving, the desire of the university for more external research funding, it sees that as quite important probably because it is a very science-oriented university, but it's really, I think external pressures that brought about these changes. (Lecturer, University A)

The national research evaluation system as a universal policy does not, therefore, bring consistent responses in different types of university and its steering mechanisms are anything but universal. The pressures for change that universities experience, and respond to, crucially depend on their starting points and aspirations. Hence, the research intensive university (A) translates the pressures into intensifying efforts to achieve international standing in research and research income generation. It raises its game in professional management of research and re-organizes researchers in order to improve output quality, visibility, flexibility and grant-winning. The teaching intensive university B de facto opts out of RAE-type research which will stand the approval of traditional academic peer review. The pressure is translated rather into looking even more towards the locality for service provision and small scale applied research which cements teaching links.

Even what is meant by "research" in discussing with academics is different: in university A it means competitive grant-funded projects which lead to peer reviewed articles in influential journals, and in university B it means having some PhD students and working on problem-oriented research for business.

In some sense, finding these and similar changes is not a surprise: we did select the cases for difference. However, it is important that the different change is ascribed by our interviews to the same policy. Furthermore, were the assumptions of 'unity of object' and universality of pressures for change to hold one could reasonably expect that having to operate within the same policy and funding space would have led to a level of convergence in university structures, practices and strategic change. What we found is that traditional differences not only persist but also that the later change is path-dependent and follows long-standing and established organizational trajectories.

Conclusions

We set out to interrogate two key assumptions of the latest policy driven change in universities, namely the assumptions of 'unity of object' and 'universality of pressures for change'. We did this using results from an exploratory study of two universities in the UK based upon qualitative interviews with supporting documentary evidence; these universities represent two different types found in the UK.

Our data does not allow us to measure change directly (as difference over time) or claim causal relationship(s) to specific policies either through statistical analysis or by working out the mechanisms for change to occur. This is not our objective either. Working with the strongly held perceptions of both senior academic managers and leaders and more junior academics we believe that there are two distinct responses to a specific policy, namely the RAE. The pressures for change and the manifestations of organizational change are specific and not universal, even when the policy is "universal".

At one level, our argument and findings is fairly straightforward – different organizations translate policies as different pressures for change and act accordingly. In the case of universities, the outcomes of external pressures depend upon the nature of the policy, the positioning of the organization in the research space and the share of its participation in international research fields. Our findings, although indicative, illustrate two important points: (a) that the two universities are sufficiently different to generate variance in response; and (b) that one policy translated in rather different pressures for change as perceived by key organizational actors. In other words, the assumptions used by many studies of the effects of policy on university change do not hold. This in turn has two sets of implications.

Our argument and findings have conceptual and methodological implications in that attention should be paid to organizational differences among organizations: not all "universities" are the same, and not all "university research" is the same. These differences need to be better understood both within national settings for forming policy and steering mechanisms, and, even more so, for international comparative research and benchmarking. Methodologically it is important to continue work on developing analytical typologies of universities – this will allow the analysis to go beyond the institutional ('the university') or individual cases that are difficult to aggregate. Apart from that, it is important to develop more detailed and nuanced understanding of the complex and mediated relationship between policy and the organizations of research (universities, research institutes and research and knowledge communities).

Our findings contain a clear message for policy as well: blanket policies can, and indeed do have, many unintended and undesirable effects. In principle, there are two ways to deal with this matter, one of which is to aim to design differentiated policies accounting for the specificities of different organizational forms. This, however, is likely to have prohibitive development and implementation costs. Another option is to transform the way in which policy is developed, moving away from 'normative' pressures to providing more opportunity platforms and increasing the strategic space of organizations.

References

Boden, R., & Nedeva, M. (2010). Employing discourse: Universities and graduate 'employability'. *Journal of Education Policy, 25*(1), 37–54.

Clark, H. F. (1930). Economic effects of education. *The Journal of Higher Education, 1*(3), 141–148.

Deem, R., Hillyard, S., & Reed, M. (2007). *Knowledge, higher education, and the new managerialism: The changing management of UK universities*. Oxford: Oxford University Press.

Fuller, S. (2007). University leadership in the twenty-first century: The case for academic Caesarism. In D. Epstein, R. Boden, R. Deem, F. Rizvi, & S. Wright (Eds.), *The world yearbook of education 2008: Geographies of knowledge/geometries of power – Higher education in the 21st century*. New York: Routledge.

Harvey, L. (1999). *Employability audit toolkit*. Birmingham: Centre for Research into Quality.

Harvey, L. (2001). Defining and measuring employability. *Quality in Higher Education, 7*(2), 97–109.

Henkel, M. (2005). Academic identity and autonomy in a changing policy environment. *Higher Education, 49*(1–2), 155–176.

Hillage, J., & Pollard, E. (1998). *Employability: Developing a framework for policy analysis* (Department for Education and Employment (DfEE) Research Report no RR85). London: Department for Education and Employment.

Jones, G. (2002). *The third mission creating a business culture for higher education in Wales*. Cardiff: Institute of Welsh Affairs.

Martin, B., & Etzkowitz, H. (2000). The origin and evolution of the university species. *Journal for Science and Technology Studies, 13*(3–4), 9–34.

McNay, I. (2003). Assessing the assessment: An analysis of the UK Research Assessment Exercise, 2001, and its outcomes, with special reference to research in education. *Science and Public Policy, 30*(1), 47–54.

Molas-Gallart, J., Salter, A., Patel, P., Scott, A., & Duran, X. (2002). *Measuring third stream activities. Final report to the Russell Group Universities*. Brighton: University of Sussex.

Nedeva, M. (2007). New tricks and old dogs: The 'Third Mission' and the re-production of the university. In D. Epstein, R. Boden, R. Deem, F. Rizvi, & S. Wright (Eds.), *The world yearbook of education 2008: Geographies of knowledge/geometries of power – Higher education in the 21st century*. New York: Routledge.

Roberts, G. (2003). *Review of research assessment, report to the funding bodies*. Available at http://www.ra-review.ac.uk/reports/roberts.asp

Shattock, M. (2003). *Managing successful universities*. Maidenhead: Open University Press.

Thorn, K., & Soo, M. (2006, August). *Latin American universities and the third mission* (World Bank Policy Research Working Paper 4002). Washington, DC: World Bank, Latin American and the Caribbean Region, Education Sector Unit.

van der Heijden, B. (2001). Pre-requisites to guarantee life-long employability. *Personnel Review, 31*(1), 44–61.

Vick, D. W., Murray, A. D., Little, G. F., & Campbell, K. (1998). The perceptions of academic lawyers concerning the effects of the United Kingdom's research assessment exercise. *Journal of Law and Society, 25*(4), 536–561.

Whitley, R. (2007). Changing governance of the public sciences. In R. Whitley & J. Glaser (Eds.), *Changing governance of the sciences* (pp. 3–27). Dordrecht: Springer.