

How much difference can current policy make to professional contract researchers?

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This article explores the role of the professional contract researcher in higher education. The factors which have led to the need for directed policy growth, the perceived consequences of these policies and the shortfalls of policy in practice. It begins by exploring the questions who are researchers, where do they work and what are their problems? It will then go on to describe the current policies targeting this cohort and highlight areas of policy which are expected to address some of the issues of concern. It will then identify areas where policy may continue to fall short in practice and address ways in which these gaps may be filled

Background

A researcher first and foremost contributes to the advancement of knowledge. The definition and title of researchers come in many shapes and sizes in higher education (HE). Usual monikers for the selected population are Postdoctoral Fellow, Postdoctoral Research Fellow, Research Associate, Research Officer, Research Fellow, Senior Research Associate.

As Akerlind points out 'a consistent problem besetting research into contract researchers is the lack of an agreed definition as to what constitutes one' (Åkerlind, 2005; Thompson et al, 2001). As Akerlind states 'there is variation between universities in the titles assigned to post-doctoral contract researchers, and in whether these researchers are classified as academic or non-academic staff. Further, many researchers work outside of universities, conducting research for industry or government.' However, as the focus of this essay is on postdoctoral research in universities (also representing those researchers most likely to be interested in an academic career), the definition of a professional contract researcher might be '*a fixed term, research only, base-grade academic appointment, with PhD qualification*' (Akerlind 2009). There are also variations between countries but despite this, issues and expectations facing postdoctoral researchers are similar internationally (Thompson et al, 2001; Nerad and Cerny, 1999; Helbing et al, 1998; Science journal special issue, 1999).'

Researchers are usually scholars who can demonstrate specialized knowledge or expertise in an academic discipline, who are valued by their ability to think critically and analytically, to generate and communicate interesting and original insights via high-quality written work and research papers; possess research skills such as the ability to use sources effectively,

to gather and organize information, to generate raw data, analyze text, data and theory and have the ability to liaise with/collaborate/teach students, colleagues and academics from other institutions in an effective and appropriate way (Wiki <http://en.wikipedia.org/wiki/Researchers>). However, their prime function is to contribute to the advancement of knowledge. Even once their name and role has been defined, the problem of identifying the population remains. There is often no separate institutional record of contract researchers.

Technological and economic evolution which has occurred since the 1960 model of education mean that researchers now arguably form a fundamental element of the supply of skills which will be required if the UK is to maintain its leading position in the world (OECD, 2006). As the report states, 'employment in the knowledge-based economy is characterised by increasing demand for more highly-skilled workers. The knowledge-intensive and high-technology parts of OECD economies tend to be the most dynamic in terms of output and employment growth. The science system, essentially public research laboratories and institutes of higher education, carries out key functions in the knowledge-based economy, including knowledge production, transmission and transfer. But the OECD science system is facing the challenge of reconciling its traditional functions of producing new knowledge through basic research and educating new generations of scientists and engineers with its newer role of collaborating with industry in the transfer of knowledge and technology. Research institutes and academia increasingly have industrial partners for financial as well as innovative purposes, but must combine this with their essential role in more generic research and education. The latter is essential in the sense that without it, the point of interaction with industry is lost. Within this economic-oriented model, fundamental research is still expected to provide the life blood feeding into industry.'

However, throughout the higher education sector in the UK, recent decades have witnessed the increasing use of fixed-term and part-time labour to supply the research base of the UK. This is to the extent that around 50 percent of 'academic' research staff are currently employed on fixed term contracts (Bryson and Barnes, 2000: 189). As Collinson states 'One of the principal rationales for this trend has been articulated as the drive toward a more 'flexible' and cheaper workforce in order to cope with increasing student numbers (Kogan et al., 1994)'. Up to the beginning of the 1980s, people employed in this way could be relatively optimistic about their chances of a permanent academic post – it was merely a question of waiting for the right opportunity. However, since then university staff posts have dwindled through HEFCE (Higher Education Funding Council for England) cuts but the numbers of research workers on short term contracts has risen almost five-fold. (New Scientist, 1991) The massifying of HE and the reframing of it in this way has been accepted by what appears to be a remarkably malleable society. By keeping academics very busy teaching, researching and performing exercises like the periodical research assessment exercise (RAE) which directly affects the income of their working environments, it could be mooted that they have been kept too busy to be able to organize themselves to mount an appropriate response. This would be reminiscent of the Marxist philosophy of divide and

rule. Within the wider economy, human capital and post-Fordist theories (Harvey, 1989) about the contemporary world of work have been heavily influential. In the demand for workers to be more 'flexible' (Barlow, 1995). One of the principal means by which employers have engineered such flexibility has been to increase casual, part-time, and contract work, and these forms of employment constitute an increasingly important feature of the labour markets of the leading capitalist countries (Lane, 1989; Mayne et al., 1996). Generally, workers hired on short-term contracts labour under less favourable conditions and with less pay. Within the higher education sectors of such states, the 'flexible' work force has proliferated (McInnis, 2000; Parker and Jary, 1995; Shumar, 1997).

As Collinson (2000) states 'Since 1980 numbers of contract researchers have increased fourfold, whilst simultaneously the number of permanent research posts has decreased from 13 percent to 4 percent of the total (Bryson and Barnes, 2000: 199). In 1998, 28,596 staff were employed on research grades, a staggering 96 percent of whom were on hourly-paid or fixed-term contracts (Bryson and Barnes, 2000:194–9). The gender balance within contract research reflects the general structure of academia, with women under-represented at senior research grades and over-represented at more junior levels (Court et al., 1996: 25), and proportionately much more likely to be employed on a fixed-term contract in every category (Bryson and Barnes, 2000: 214).'

Academic interest in higher education contract researchers has developed in recent years (Bryson and Barnes, 2000; Freedman et al., 2000; Patrick, 1998). As Collinson points out, 'although contract researchers represent a growing pool of expertise, little is known about the work routines and daily practices of their occupational lives (Allen Collinson, 2000; Allen Collinson and Hockey, 1998). Indeed, present knowledge about the reproduction of academic occupational culture remains relatively sparse (Abbas and McLean, 2001; Blaxter et al., 1998; Delamont et al., 1994), and the limited amount of published research has tended to focus upon teaching staff, with scant attention paid to other occupational groups within higher education (Delamont, 1996; Edwards, 2000). Despite the importance of their contribution to the higher education sector as a whole, it is clear that in comparison to academics employed on 'permanent' contracts, fixed-term staff suffer considerable inequalities. Poor salary structures, inadequate pension provision, reduced holiday entitlement and sickness provision, lack of security, and little if any career development, make it extremely difficult for many to sustain a 'career' in this sector of academia. Very few contract researchers manage to achieve the more senior grades of the salary structure, despite considerable experience.'

Need for a policy

There has long been a concern with the extensive use of short term contracts for researchers. This dominance of short-term contracts is not just bad for the researchers, but also bad for the quality of research. In the short term, the divisions and uncertainty the practice introduces into research employment could limit effective team work in undertaking research projects creatively and

efficiently; in the longer term it restricts the personal and career development of researchers themselves. Members of the Association of Research Centres in the Social Sciences (ARCISS) have shared information on practices and experience of different contractual arrangements for research and support staff in their centres. ARCISS members were involved in the Research Careers Initiative – this monitored progress toward meeting the commitments of the 1996 Concordat and identified and encouraged good practice in the career management and development of contract research staff.

In May 2001 ARCISS organised a national conference ‘A Better Future for Researchers?’ at which presentations were made from different interests and perspectives (not exclusively in the social sciences) and debated. Subsequently ARCISS has supported the EU Fixed Term Directive (<http://www.berr.gov.uk/whatwedo/employment/employment-legislation/fixed-term-employees/index.html>) ARCISS believes that ‘the widespread use of fixed-term contracts for researchers in universities is a consequence of the rigidity of their standard terms and conditions of employment; it is far less common in independent institutes, public sector research establishments or commercial research and consultancy enterprises.’

In addition, the UK government is concerned that research careers are not always perceived as attractive by the best graduates. The Thrift review (Thrift, 2008) seeks to establish whether this is the case and, if so, why the situation exists and what can be done to improve matters. As Thrift states in particular, the review identifies a need for the UK government, universities and research councils to establish a more sophisticated understanding of the supply and demand of researchers across all sectors and disciplines so that policies can be better targeted. The message of the review is straightforward. Many initiatives are currently either in place or being put in place but they need stitching together and supplementing in order to provide coherent policy that covers all stages of the research career. Thrift concludes ‘For the health of the UK research base 15 years from now, it is imperative that this process is started.’

The review concentrates on ‘researchers working within higher education but recognises that the UK’s research base is diverse, consisting of researchers not only in academia but also in the public sector, business and industry and the third sector’. The evidence suggests that it is crucial for government, research councils, universities and industry to understand that the supply and development of the next generation of world class researchers is affected both by the initial attractiveness of research careers and the retention and the advancement of the most talented researchers (from the UK and overseas) at subsequent levels. Equally, the evidence shows that today’s researchers are part of a research architecture which spans the globe. Researchers are more mobile than ever before and a “brain drain” of both promising and elite researchers from the UK continues to be a clear and present danger. The report highlights that international competition will continue to intensify and the UK may be left vulnerable if it does not take more decisive action in certain areas.

To this end, Thrift recommended amongst other things that 'Government should establish mechanisms to develop a more sophisticated long-term understanding of the supply of and demand for researchers across all sectors and disciplines. The Research Councils should develop consistent mechanisms to record the demographic characteristics of their researcher communities and track successful early career researchers across specific disciplines in order to inform future funding strategies for early career researchers and that Research Councils and grant-awarding bodies should consider the provision of awards of longer-duration for early career researchers, providing high-quality performance is demonstrated. Universities should consider whether they could do more to encourage greater transferability of researchers between academia and industry where appropriate.'

What is a policy?

Clearly then on a number of counts, a policy would seem to be required to correct the deficiencies of the current system within the research arena. In general, a policy is a statement of principles and/or values that mandate or constrain the performance of activities used in achieving institutional goals. A policy is general in nature, has broad application and helps to ensure compliance with: applicable laws and regulations; contract requirements; and delegation of authority. Policies promote operational efficiencies and reduce institutional risk. Policies do not contain requirements. Directives, processes, procedures, work instructions, and the like flow from policies and the requirements are specified in them. (Wiki)

Specific examples of policies might include policies operating to control development of the environment e.g. planning policies. Planning Policy Statements (PPSs) (and their predecessors Planning Policy Guidance Notes (PPGs)) are prepared by the Government after public consultation to explain statutory provisions and provide guidance to local authorities and others on planning policy and the operation of the planning system. They also explain the relationship between planning policies and other policies which have an important bearing on issues of development and land use. Local authorities must take their contents into account in preparing plans. The guidance may also be relevant to decisions on individual planning applications and appeals. Planning policy is a good example of the balance between top-down and bottom-up policy. Top-down policy seeks to control the development of the environment except in conditions of housing shortage. Bottom-up grass-roots action occurs from a different perspective and might involve the desired development of an individual's house for improvement or increase in size; or the development of a patch of garden to allow a second dwelling to be built. Local opposition can prevent such developments and may seem unreasonable to the appellant.

Another example of policy might be Communities and Local Government's policy on Gypsies, Travellers and Travelling Showpeople. There is a rich heritage of Gypsies and Travellers in this country - going back at least 500 years. However, they have been called the most socially excluded ethnic

minority in the country and nearly a quarter of Gypsies and Travellers who live in caravans have no authorised place to stay and raise their families. This means that they are forced to resort to roadside camping or other unsuitable locations. This causes difficulties for those families in terms of access to basic facilities and services as well as potentially causing inconvenience for local residents with a consequent risk of community tensions. The Government's policy therefore is aimed at increasing authorised site provision for Gypsies and Travellers, whilst ensuring that strong enforcement powers are available to tackle unauthorised sites. The Government has given local authorities strong powers to enforce against both unauthorised developments (where Gypsies and Travellers develop land without planning permission) and unauthorised encampments (where Gypsies and Travellers camp on land they do not own without permission). Top-down policy provision appears to provide for all arguments but implementation of the policy tends to reveal gaps that were unforeseen. For example, increased litter, difficulties between communities tensions and possible increased crime may be unforeseen outcomes of the above policy.

With respect to professional researchers, the policy in question is known as The Concordat and was launched in June 2008. To quote the Vitae (a national organisation championing the personal, professional and career development of PhD students and contract research staff in higher education establishments) web-site, 'It is an agreement between the funders and employers of researchers in the UK. It sits alongside a range of local, UK and European initiatives including the European Charter for Researchers and Code for Conduct for the Recruitment of Researchers. The agreement represents a significant development in national policy to support good management of researchers and their careers. Through the implementation of its principles it aims to enhance the researcher workforce and thereby sustain research excellence bringing benefits to the health, economy and well-being of the UK'.

Only by implementation of such a policy across a research-intensive HE institution and the monitoring of its effectiveness can conclusions be drawn as to the effectiveness of a policy. At present, consultation and feasibility studies are being carried out by Cambridge University to formulate a University response for an implementation proposal to the Research Concordat. The aim of this work is to carry out a consultation study across the University regarding whether the principles of the new Research Concordat are currently addressed within Cambridge and if not, how this might be carried out in the future and the feasibility of doing this. The methodology necessitated the constitution and running of several focus groups across the University. The Concordat to Support the Career Development of Researchers was published in 2007(<http://www.researchconcordat.ac.uk/>)and comprises seven principles which signatories to the Concordat agreed to uphold viz

- 1)recruiting and retaining researchers of the highest potential;
- 2) recognition and value of researchers;

- 3 -4) support and career development of researchers both self-managed and by the employer;
- 5) researcher's responsibilities for their development and life-long learning;
- 6) diversity and equality; and
- 7) review of sustainability of research careers so as to lead to sustainability of research careers.

Cambridge University is a signatory to the Concordat. Accordingly, it has become necessary to develop a code of practice to implement and thence monitor, how the Concordat principles are being upheld across the University. This will benefit both the researcher community and will provide useful data when reporting back to research funders. To begin with, current practice for researcher support was monitored and found to vary across the University. In general, researchers should receive a contract of employment prior to commencing their work; have a role profile; an induction meeting with supervisor and/or the wider University; on-job training (discipline-specific) and off-job training (generic/discipline-specific); annual appraisal; be assigned a mentor; be aware of the provision of careers advice from the Careers service; be eligible for promotion and salary progression: at the point of contract expiry - be given adequate warning and support.

In reality, it is evident from HR statistics that several of the above procedures are not carried out rigorously across the researcher population. Why might this be the case? There could be several reasons for this, not least being the different perspective of these staff involved to their role in the policy implementation e.g. staff could be crippled by the amount of work expected of them, managers could be lazy, there could be confusion over their role and such duties may not fit into their schedule etc. It is hoped that information gathered from the focus groups will enable these deficiencies to be addressed. Examples include the provision of targeted career's advice for post-docs in the physical sciences and life sciences by the appointment of careers advisors for post-docs in the life sciences or physical sciences; tailored training for PIs in all aspects of leadership and group management via a PI Development Programme, appraisal, cv and interviewing training via generic University-wide training.

Initial discussions across the University between HR, staff development and senior academics have suggested that focus groups should comprise a mix of PIs and researchers at different stages of their careers. Questions for focus group consideration could consider the following issues which map, as indicated, to the Concordat principles:

Do PIs think they have sufficient understanding or receive sufficient training in recruitment and selection techniques for high potential researchers and do they give due attention to equality and diversity criteria (maps to Principle 1 and 6). As a PI, what do you consider might constitute a critical path of

training and development for researchers? (maps to Principles 3 and 4). How do you ensure your researchers are aware of appropriate information systems e.g. career's advice, training in interviewing and curriculum vitae (cv) techniques offered by the University? (maps to Principle 5). Do you know if the University monitors and evaluates any training and development it provides to researchers (maps to Principle 6 and 7)? Do you think this could be improved or is it adequate?

Could you suggest new avenues for supporting researchers in your department? However, once again the contextual argument needs to be brought into play here – is it different in different departments and disciplines, who decides what is sufficient understanding or training etc.

Possible questions for researchers might include:

Did you understand what was expected of you at interview, was due attention given to equality and diversity criteria (maps to Principle 1 and 6) As a researcher, what would be a useful critical path of training and development for you to enable you to sustain your career? (maps to Principles 3 and 4)

Are you aware of appropriate information systems e.g. career's advice, training in interviewing and cv techniques offered by the University? (maps to Principle 5) Do you know if the University monitors and evaluates any training and development it provides to researchers (maps to Principle 6 and 7)? Do you think this could be improved or is it adequate? Can you suggest any new methods of support for your career development which you felt were not available in Cambridge at present?

Perspectives

In discussions around the issue of how to best develop researchers, PIs made the following general points:

Many of the procedures requested by administrator or policy makers are in conflict e.g. the RAE (research assessment exercise – <http://www.hefce.ac.uk/research/ref/reform/rae.asp>) requires information on no. of times invited to talk internationally this is in direct conflict with giving younger researchers in the group a chance to step up the ladder. The RAE gives credit for acting selfishly. Incentives to PIs to help post-docs are important e.g. people do RAE as this leads to more research money for the Department. If one offered a free post-doc position for every post-doc one placed in a permanent post then PIs might try harder to place them. Groups and disciplines differ e.g. particle physics – not unusual to have 50 or 60 year olds on short term funding; whereas in theoretical physics/condensed matter – it is unlikely that the candidate would be able to stay in the field unless on independent funding past the age of 30.

PIs suggested that critical paths of training for researchers might include:

- Identifying those for academic careers: Filtering out of candidates who overcome most of the academic hurdles early on in their careers

occurs fairly early on e.g. good grades, good degrees, good referees, good ideas, good publications

- They should be capable of gaining independent research funding as this allows independence and an independent reputation to be built. This is essential so that they do not remain in the shadow of the PI's own reputation.
- Need to undertake some teaching practice e.g. at least lecturing to graduates
- Give talks in their own names and build collaborations in their own names
- Be recognized as Co-investigators on grants

It was interesting to note that a researcher would only have received this advice if the PI was a capable mentor. This raises the interesting question as to whether this ability should become under closer focus. What is the perspective of the PI? Is it different to that of the researcher? Does each have a very different agenda and if so should we verbalize these and try to reconcile them? Moreover, it was equally important to identify and support those not destined for academic careers by advising that entering a third post-doc was not a good idea and to supply training in interview techniques, exposure to alternative career paths would be good practice, presentation, communication and management skills would be good practice. Tailored days for the department might also work. As a result of further focus groups, It has become clear that many of the Concordat principles were not being sufficiently upheld across departments.

Downside of Concordat

As with all policies, it is becoming evident that the ideal intentions do not translate well into the living identity.

Principle 1 – recruiting and retaining researchers of the highest potential. Clearly desirable in an ideal world but not easy to deal with in a world where salaries are not comparable to house prices and able candidates are tempted away from the bench early on. Rather than recruit and retain it is perhaps often the other way around. Positives of research and a proper career pathway need to be made more visible.

Principle 2 – recognition and value of researchers. Important to remember that researchers are/should be scholars. In the sciences, there has been a move to allow technical skills to overshadow this point and scholarship within the periods of contracts needs to be encouraged. It goes without saying that the unknown outcome nature of research means that this is not an easy concept to implement

Involvement in management of the organization at group level increases a sense of worth but is not always practically possible as lack of continuity of employment leads to unacceptable continuity issues in management

Principles 3 and 4

Support of career development – ideally this should involve milestones set out during regular appraisals. In reality, the latter rarely take place in the haphazard and rapid pace of competitive research. The nature of research can mean that each last experiment is the make/break one for the field and

therefore the outcomes are fragile and mouldable in a way that may be unimaginable in other professions

Principle 5 Researcher's responsibility for self-development /life-long learning – self-development comes with increased self-awareness. It is often in the nature of research that self-awareness is bottom of the list. In general, researchers are focussed on their field and not themselves. This degree of self-sacrifice is overlooked in the Concordat but is expected within the disciplines. Lack of career pathways is important as tenure is often associated with one major breakthrough and could be another contributing factor to the dedication of post-doctoral staff apparent in the sciences.

Principle 6 – diversity and equality - unwritten, invisible glass ceilings exist which lead to lack of equality. In particular, with regard to women, bonding meetings often take place in venues or at times unsuitable for family life. Flexible or part-time working is often frowned upon or considered light.

Principle 7 – sustainability of a research career – this overlooks the fact that to sustain a career in one field it may be necessary to be geographically mobile throughout one's career. This is incompatible with family responsibilities. It also overlooks the nature of research itself, which is iterative and involves cycles of growth, confidence, recognition and sophistication of a researcher often involving lateral movement within a discipline (Akerlind, 2005).

In conclusion, the importance of research to the UK economy and to knowledge advancement is without question. However, there is clearly a mismatch between these needs – one economic, the other altruistic – and reality. Who is the research base in the UK? Within HE, it appears to be in the hands of a transient population of students and young temporary research staff (post-docs) - mentored briefly by busy academics (with teaching, writing and administrative portfolios) – whom, in the case of the former, all too soon transit the sector into more stable, often unrelated, career paths. A small proportion of the research base withstand the harsh realities of the system and continue as a body of experienced full-time researchers – arguably, in research terms our most precious asset – yet despite their abilities are often forced into considerable hardship as a result of the lack of tenured positions and are often eventually lost from the system as well.

Can this be a sensible investment in the future, in terms of both the UK economy and knowledge advancement, does the Concordat address this or is it rather addressing the labour force legalities and ignoring the key gap questions? This article has sought to argue the latter viewpoint and it will be of interest to witness the unravelling of future policy in this arena.

References:

REFERENCES:

Åkerlind, G.S. (2005) PDRs: Roles, Functions and career prospects, Higher Education Research and Development, 24, pp. 21-40.

Akerlind (2009) Postdoctoral research positions as preparation for an academic career, International Journal for Researcher Development Vol 1 84-96

Abbas, A. and M. McLean (2001) 'Becoming Sociologists: Professional Identity for Part-time Teachers of University Sociology', *British Journal of Sociology of Education* 22(3): 239–352.

Allen Collinson, J. (2000) 'Social Science Contract Researchers in Higher Education: Perceptions of Craft Knowledge', *Work, Employment and Society* 14(1): 159–71.

Allen Collinson, J. and J. Hockey (1998) 'Capturing Contracts: Informal Activity among Contract Researchers', *British Journal of Sociology of Education* 19(4): 497–515.

Barlow, K. (1995) 'Higher Education as a Form of Labour Market Reform', in J. Smyth (ed.) *Academic Work*. Buckingham: SRHE/Open University Press.

Blaxter, L., C. Hughes and M. Tight (1998) 'Writing on Academic Careers', *Studies in Higher Education* 23(3): 281–96.

Bryson, C. and N. Barnes (2000) 'The Casualisation of Employment in United Kingdom Higher Education', in M. Tight (ed.) *Academic Work and Life: What it is to be an Academic, and how this is Changing*. Amsterdam: JAI Press.

Court, G., J. Rick, S. Dench, I. La Valle and J. Moralee (1996) *Equal Opportunities in Social Science Research Careers*. Brighton: Institute for Employment Studies.

Delamont, S. and P. Atkinson (1995) *Fighting Familiarity: Essays on Education and Ethnography*. Cresskill, NJ: Hampton Press.

Delamont, S., O. Parry, P. Atkinson and A. Hiken (1994) 'Suspended between Two Stools: Doctoral Students in British Higher Education', in A. Coffey and P. Atkinson (eds) *Occupational Socialisation and Working Lives*. Aldershot: Avebury.

Delamont, S., P. Atkinson and O. Parry (1997a) 'Critical Mass and Doctoral Research: Reflections on the Harris Report', *Studies in Higher Education* 22(3): 319–31.

Delamont, S., P. Atkinson and O. Parry (1997b) 'Critical Mass and Pedagogic Continuity', *British Journal of Sociology of Education* 18(4): 533–49.

Edwards, R. (2000) 'Numbers are not Enough: On Women in Higher Education', in M. Tight (ed.) *Academic Work and Life: What it is to be an Academic, and how this is Changing*. Amsterdam: JAI Press.

Freedman, E.S., H. Patrick, B. Somekh, and F. Wikeley (2000) *Quality Conditions for Quality Research: Guidance for Good Practice in the Employment of Contract Researchers*. Southwell, Notts: British Educational Research Association.

Harvey, D. (1989) *The Condition of Postmodernity*. Oxford: Basil Blackwell.

Kogan, M., I. Moses and E. El-Khawas (1994) *Staffing Higher Education: Meeting new Challenges*. London: Jessica Kingsley.

Helbing et al., 1998 Lane, C. (1989) 'From "Welfare Capitalism" to "Market

Capitalism”: A Comparative Review of Trends towards Employment Flexibility in the Labour Markets of Three Major European Societies’, *Sociology*23(4): 583–610.

Kogan, M., I. Moses and E. El-Khawas (1994) *Staffing Higher Education: Meeting new Challenges*. London: Jessica Kingsley.

Lane, C. (1989) ‘From “Welfare Capitalism” to “Market Capitalism”’: A Comparative Review of Trends towards Employment Flexibility in the Labour Markets of Three Major European Societies’, *Sociology* 23(4): 583–610.

McInnis, C. (2000) ‘Towards New Balance or New Divides? The Changing Work Roles of Academics in Australia’, in M. Tight (ed.) *Academic Work and Life: What it is to be an Academic, and how this is Changing*. Amsterdam: JAI Press.

Mayne, L., O. Tregaskis and C. Brewster (1996) ‘A Comparative Analysis of the Link between Flexibility and HRM Strategy’, *Employee Relations* 81(3): 5–19.

Nerad M and Cerny J. (1999) Postdoctoral patterns, career advancement and problems *Science* 285 1533-5

Parker, M. and D. Jary (1995) ‘The McUniversity: Organization, Management and Academic Subjectivity’, *Organization*2(2): 319–38.

OECD (2006) *The Knowledge-Based Economy* OCDE/GD(96)102 7-8

Patrick, H. (1998) ‘Contract Researchers in Education: A Review of the Literature’, paper presented at the British Educational Research Association Conference, Belfast, August.

Shumar, W. (1997) *College for Sale: A Critique of the Commodification of Higher Education*. London: Falmer.

Thompson J., Pearson, M., Åkerlind, G., Hooper, J., & Mazur, N.(2001). *Postdoctoral training and employment outcomes*, EIP Report 01/10. Canberra: Higher Education Division, DETYA .

Thrift (2008) *Research Careers in the UK : a government review* at http://www.dius.gov.uk/higher_education/shape_and_structure/he_debate/~/_media/publications/N/Nigel%20Thrift%20contribution%20to%20HE%20Debate