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Publication records of accounting and finance faculty promoted to professor: evidence from the UK

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ABSTRACT

This study investigates publication profiles of 137 accounting and finance faculty promoted to professor at UK universities during 1992 to 2007. On average, 9 papers in Association of Business Schools (ABS) (2008)-listed journals, with 5 at the highest 3*/4* quality levels in a portfolio of 20 outputs are required for promotion. Based on various theoretical perspectives, multivariate models of key performance benchmarks (quality and quantity measures) are constructed and have good explanatory power ($R^2 \geq 0.7$). Publication requirements seem to have increased over time, argued to be mainly attributable to government-initiated Research Assessment Exercises (RAE). For internal promotions, there is some evidence of higher hurdles but no evidence that quality requirements differ based on gender; sub-discipline; research intensity of institution peer group; or government-initiated research ranking of unit. Similarly, the quality benchmark is not reduced for those having an increased recent publication history, a high number of non-ABS outputs or sole-authored papers. Comparison with the US suggests underlying geographically-based paradigm differences. UK promotion benchmarks are argued to have evolved through a dynamic and complex interaction between university managers, the government and the accounting and finance academic community.

Keywords: faculty; journals; professor; promotion; productivity; publication

Publication records of accounting and finance faculty promoted to professor: evidence from the UK

1. Introduction

For various reasons, academics have an ongoing interest in the publication records of their peer group, at the level of both the individual academic and the academic unit (e.g. division, department or school). First, publication and subsequent citation are primary indicators of academic reputation at both the individual and institutional level (Beattie and Ryan, 1989, p. 267). Second, academics are periodically required to take decisions that rely on the evaluation of publication records. These may be personal career decisions, such as the choice of academic institution in which to seek appointment or the timing of promotion applications. They may also concern the careers of others, as in the case of appointment panels, promotion committees and probationary evaluations (e.g. Glover *et al.* 2006, Beattie and Goodacre 2004, Fogarty *et al.* 2004). Third, an individual's aggregate contribution to knowledge, assessed through peer group evaluation, forms part of their academic identity and can be viewed as reputational capital that can influence rewards (e.g. via promotion).

It has been argued that increased managerialism in the academic environment over recent years has changed many aspects of academic work and identity. This managerialism has led to a focus on corporate efficiency, entrepreneurialism and 'profit'-orientation; in effect, universities and academics have been encouraged to become 'academic capitalists'. Papers have criticised this 'commodification' of academic labour and the corresponding desire of government and institutions to 'control' and 'manage' scholarly activity (e.g. Gendron 2008, Tinker 2006, Gray *et al.* 2002, Parker *et al.* 1998, Willmott 1995, Puxty *et al.* 1994, Saravanamuthu and Tinker 2002). Also, the roles of universities and of the academic disciplines therein have come under increasing scrutiny and challenge (see, for example, Gibbons *et al.* 1994). Henkel (2005a) explores the impact of such changes in higher education on academic identity and autonomy within a theoretical framework that 'incorporates individuation and identification within influential, largely self-regulating communities or social institutions'. Academic identities have traditionally been seen as being formed and sustained mainly by the relevant discipline and the higher education institution, with the discipline as the major influence. However, in contrast with some disciplines such as physics and economics with relatively clear epistemic boundaries (Henkel 2005a), accounting and finance can be described as relatively fluidly framed. Several other disciplines have influenced the development of accounting and finance and are evident in the variety of output disciplines of accounting and finance scholars (Beattie and Davie 2006,

Beattie and Goodacre 2004). Given such ‘fluid’ boundaries one might expect a less strong ‘discipline’, absent any countervailing social factors. Indeed, the (related) discipline of ‘business studies’ has been characterised as having weak internal coherence in conceptions and representations (Musselin and Becquet 2008). Also, institutions are usually argued to be more powerful in the spheres of appointments, evaluation and rewards (Henkel 2005a). Consideration of the promotion process has the potential to shed light on the relative contributions of ‘discipline’ and ‘institution’ to academic identity.

The purpose of this study is to present, for the first time, a description and analysis of benchmarks of promotion (to the senior rank of professor) prevailing at UK accounting and finance higher education institutions during the period 1992 to 2007. The paper makes three main contributions. First, promotion publication benchmarks are informative in several decision settings, such as recruitment, promotion, cross-disciplinary comparisons and resource allocation. Second, analysis allows the examination of factors thought to influence promotion hurdles, a key aspect of the scholarly recognition and reward system. Our analysis involves consideration of a relatively comprehensive set of factors, in contrast with prior studies’ focus on just one or two. Finally, the evidence presented offers insight into the theoretical debate on the relative influence of discipline and institution and current policy debates concerning the management of academic labour and the government research assessment exercise, now termed the Research Excellence Framework (REF).

The results reported are based on the data contained in various editions of the British Accounting Review Research Register (hereafter the Register; various years). This biennial publication covers both the accounting and finance disciplines because they are closely related and are frequently located within the same organisational unit within UK institutions (albeit increasingly as part of a larger business school). The Register includes all the self-reported publications of staff in the UK and Ireland.¹ The publication records of successful professorial promotees over the period 1992 to 2007 are analysed by institution peer group, external versus internal promotion, gender, sub-discipline, time period, and recency of publication. The publication record characteristics considered include quantity measures; journal versus non-journal outputs; and journal quality ranking. Both univariate and multivariate analysis is undertaken.

The remainder of this paper is structured as follows. Section two describes the UK academic context for the study. Section three includes five sub-sections covering various strands of

relevant literature. Section four develops specific research questions to be addressed. The fifth section describes the methods, in particular how the database was constructed from the Registers as initial data sources. Results are presented and discussed in section six. A final section summarises and concludes.

2. UK academic context

The higher education sectors in many developed countries have seen significant growth and change over the last few decades (Saravanamuthu and Tinker 2002). In the UK, government policy in the early 1990s sought to increase the percentage of school leavers entering university from approximately 12% to 40%. To achieve this increase in capacity, ‘new’ universities were created by the abolition of the ‘binary divide’ between polytechnic institutions and universities in 1992. The term ‘pre-1992’ is used throughout the present paper to describe the old, more research-focused, institutions with the term ‘post-1992’ being used for the new, less research-focused, institutions. In 2007, over 100 degree-awarding institutions were involved in accounting and finance education and research in the UK (British Accounting Review (BAR) Research Register 2008). The sector growth is reflected in a large increase in both students and staff in accounting and finance, with staff numbers rising by an average of over 8% per annum over 14 years from 513 in 1982 to a peak of 1,539 in 1996, though staff numbers have remained fairly static in the subsequent years (Brown *et al.* 2007, Register 2008). The number of accounting and finance professors increased from 37 in 1982 to 247 in 2004 with this rank representing a growing proportion of faculty (Brown *et al.* 2007).

The UK faculty ranking system has three main levels: lecturer, senior lecturer and professor. These are broadly comparable to the US designations of assistant professor, associate professor and full professor, which some UK universities have also adopted. Promotion to senior lecturer is normally based on performance in the three areas of teaching, research and service, with excellence in any two out of three and satisfactory performance in the third area typically being required for internal advancement. Promotion to a professorial chair is normally related explicitly to research performance; *per se*, it does not (usually) provide any personal research funding. It does, however, permit the professorial salary to be individually negotiated, rather than being tied to the national scale. Tenure is not available within the UK, but most appointments at all levels are open-ended posts.² Of particular relevance to this paper is the fact that, for over 20 years, a significant element of government funding has been allocated to universities based on the outcomes of periodic peer-review based Research Assessment

Exercises (RAE) which evaluate research quality. Each submitted member of staff can nominate up to four outputs for assessment over the period of approximately six years. Five quality bands exist: 4* (the highest), 3*, 2*, 1* and unclassified. Increasingly, government funding is linked selectively to higher quality outputs, such that funding for outputs evaluated at 4* receive proportionately much higher funding, with 2* or below receive minimal funding.³ The most recent results were in 2008 (RAE 2008); the next round (now renamed Research Excellence Framework) (REF 2011) is expected in 2014. Institutional reputation and hence income, especially from international students, are believed to be strongly linked to these published outcomes, providing major institutional incentives in respect of research. The UK research evaluation process has been replicated in several other countries.

In the UK, the US and many other countries, there is growing concern regarding the demographics of the accounting and finance academic community. A US study documents trends from 1993 to 2004, showing an ageing and shrinking community of faculty in the face of rising student numbers (AAA 2008). Another US study investigated the supply and demand for accounting PhDs and concluded that there would be an overall shortage in new accounting faculty over the subsequent ten years (AACSB 2003, Plumlee *et al.* 2005, 2006). In the most recent triennial survey of UK university managers concerning staff recruitment and retention (UCEA 2008), accounting and finance is highlighted among the subject areas that consistently experience recruitment shortages. The academic labour market for faculty positions is thus very thin, with the consequence that recruitment and retention issues are very high on the agenda for senior academic managers.

Commentators in many countries have noted the increasing pressure to publish in what are deemed by evaluators to be high-quality journals (e.g. Chow *et al.* 2008, Gendron 2008, Brown *et al.* 2007, Reinstein and Calderon 2006, Brinn *et al.* 2001, Van Fleet *et al.* 2000, Woodside 2009). Consequently, the use of formal quality lists such as the Financial Times list, the Association of Business Schools list of top journals (ABS 2008, 2009), and Harzing's Journal Quality List (Harzing 2008) has increased. It is believed that the pressure to publish in top ranked journals encourages 'greater uniformity of the research process', 'career instrumentalism', an 'institutionalised approach to research' (Hopwood 2008, p. 87 and 90), and 'superficiality and stagnation' (Gendron 2008).

These two trends (the thin market for faculty and the increased pressure to publish) have the potential to create offsetting forces impacting on promotion benchmarks over time. While

publication rates in top journals increased until 2000, partly attributable to RAE effects (Brown *et al.* 2007), there is *prima facie* pressure to promote faculty early in the competition to recruit/retain individuals.

Notwithstanding the period of significant growth in staff, the UK accounting and finance academic community can be described as relatively close and collegial. There are a comparatively small group of active researchers; for example, based on the 2001 RAE, approximately 500 staff were submitted as research active, representing about one third of accounting and finance staff (Beattie and Goodacre 2006). The community has the advantage of being relatively close geographically and has strong well-established local networks. In particular, the British Accounting Association (renamed in 2010 as the British Accounting and Finance Association to better reflect its constituency and membership), founded in 1947, now has approximately 800 members, many of whom are employed in UK higher education institutions. It has published its official journal, the *British Accounting Review*, since 1969. It also organises an annual conference and has several regional groups offering local area conferences (e.g. the Scottish annual conference is attended by about 70 participants). There are several ‘special interest’ groups, as well as two specific sub-groups, the Conference of Professors in Accounting and Finance (CPAF) and the Committee for Departments of Accounting and Finance (CDAF), all providing and encouraging intra-group networking via meetings and/or newsletters. The UK also operates a system of external examining, in which a senior staff member from one university acts for a period at another university in a validating role for undergraduate or taught postgraduate (MSc/MBA) examinations or for a PhD oral examination (which is the norm in the UK). Additionally, it is normal practice to have external assessors on professorial appointment panels. These activities provide further opportunities for ‘learning’ and for benchmarking general standards across institutions as well as networking; these are in addition to joint work on research projects, all of which are facilitated by relative proximity. Finally, the community has been characterised by academics’ appreciation of, and involvement in, professional accounting (and finance) associations. A significant proportion of staff had a professional accounting qualification: 74% in 1982, falling to 50% by 2004 (Brown *et al.* 2007).

There have also been significant demographic trends and changes over time. The accounting and finance community is getting older and several of the ‘founders’ have now retired. There has been considerable growth in the number of academics with PhDs (Brown *et al.* 2007), with virtually all new appointments now required to have completed doctoral research. A major

factor here is universities' desire for staff to be submissible to research assessment exercises; appointees with recently completed PhDs are more likely than professional accountants to have published outputs within the relatively short (and usually imminent) period of assessment. This factor also contributes to the commensurate reduction in staff with professional accounting qualifications. Staffing has become increasingly international, partly driven by policy and related to growth in overseas student numbers, but partly a response to the shortage of well-qualified local (research) staff; these issues have also encouraged a move towards the introduction of a limited number of teaching-only contracts. Finally, the move towards interdisciplinary research, coupled with the inclusion of accounting and staff within larger Business/Management School groupings, has created a more diverse 'local' environment for many accounting and finance staff.

3. Prior literature

In this section, five diverse strands of literature relevant to the analysis and understanding of publication criteria for promotion are reviewed: first, the academic reward system, the impact of managerialism and academic identity; second, the pre-eminent role of research in promotion decisions and the value given by assessors to different forms of publication; third, journal quality ranking studies; fourth, prior empirical studies of accounting and finance faculty publication records and promotion benchmarks; and gender influences.

3.1 The academic reward system, the impact of managerialism and academic identity

Publication and subsequent citation produce the reputational capital that underlies the academic reward system, with promotion representing a key reward. Publication and citation practices are inextricably bound up in the processes underlying the development of scholarly knowledge. Studies of the development of accounting thought have generally either been atheoretical or have adopted Kuhn's model of scientific growth. The value of Kuhn's work lies in his recognition that non-cognitive factors, in particular social, cultural, institutional, and external factors, can all be involved in scholarly knowledge development. Beattie and Davie (2006) propose a composite neo-Kuhnian model and use author co-citation analysis to map empirically the literature structure of the accounting discipline. Findings indicate the existence of geographically-based competing research elites, consistent with the findings of Lukka and Kasanen (1996), who distinguish a dominant US elite from an emerging, mostly European, elite. This has been attributed to paradigm differences, with US journals favouring the financial economics paradigm, with its attendant methodology of

positivism, while non-US journals have more diverse content and methodological heterogeneity (Raffournier and Schatt 2010).

In recent years, many countries, including the UK, have introduced managerialist strategies into the higher education sector that seek to control activity using a limited range of quantifiable performance measures, such as percentage of first class honours degrees and number of refereed journal publications (Gray *et al.* 2002, Gendron 2008). Driven partly by the reduction in public spending on the sector, universities have undergone processes of corporatisation and economic rationalism, resulting in the customerisation of teaching activities and the commodification of academic labour (e.g. Saravanamuthu and Tinker 2002; Parker 2011).

The use of a narrow set of research performance measures is likely to have undesirable unintended behavioural consequences, such as a shift away from high-risk, innovative or longer-term projects (Neumann and Guthrie 2002) and the displacement of knowledge-based values in favour of commercial values (Parker, 2002). The change in environment faced by researchers is such that Moizer (2009) characterises publishing in journals as a ‘game’, played by authors, reviewers, editors and bureaucrats. He laments the fact that the original purpose of publishing, the advancement of knowledge, has been lost in the competition to publish in journals designated ‘A grade’ which bring rewards in the form of promotion and increased salary.

From a more general (non-accounting and finance) viewpoint, it has been argued that this shift in nature of the higher education system is most noticeable in the UK (Musselin 2009). In a series of studies of the impact of this shift, Henkel (2000) takes a communitarian perspective and considers the relationship between institutional and professional constraints, starting from the discipline and institution as the main ‘communities within which academics construct their identities, their values, the knowledge base of their work, their modes of working and their self-esteem’ (Henkel 2000, p. 22). She responds to the challenges to the discipline as the basis for knowledge production (mode 1), represented *inter alia* in the thesis of a new mode of knowledge production (mode 2) by Gibbons *et al.* (1994). This argues that the creation and dissemination of knowledge is increasingly undertaken within hybrid structures across multiple sites, including non-academic institutions.⁴ Within a theoretical framework that incorporates individuation and identification within academic communities, and based on interview empirical data, Henkel maintains that the discipline remains a stronger source of academic identity than assumed by many social theorists (Henkel 2005a, 2005b). Promotion, as part of the academic reward system, is partly dependent on the ‘establishment of an individual epistemic identity through making an individual contribution to knowledge’ (Henkel,

2005a, p. 149). It involves the interaction between the appointing institution and disciplinary values, so has the potential to inform this debate.

A change in academic identity types is argued to have emerged from the shift towards managerialism. Stiles (2004) describes three conceptual bases of academic identity, reflecting separatist, integrationist and hegemonist views of society, knowledge and academic organisation. The autonomy, power and relatedness of social actors are viewed as fundamental in shaping the nature of academic identity. These actors include government organisations, companies and universities. According to Stiles, the traditional separatist perspective views society in terms of a number of mainly autonomous actors, with well-defined boundaries between the principal actor groups and limited interaction. Within this framework, academic identity is seen as cohesive and collegial, promoting common values such as the acquisition of knowledge, with distinct Mode 1 domains of enquiry.⁵ The integrationist view assumes actors with a degree of autonomy but less distinct boundaries, requiring greater interaction between actors. Exchange and diffusion between different knowledge domains leads to transdisciplinary and more applied forms of knowledge, consistent with Mode 2 and academic entrepreneurialism. This results in a potentially fractured and conflictual academic identity as more traditional collegial values are less widely held. The hegemonist perspective suggests a social view based on actors with dominant power that breaks through organisational boundaries. The powerful elite subjugates the academy to its own ends. Knowledge arises through a conflictual process and emerges as an ideological domain biased in favour of particular actors. The academic organisation is subsumed or co-opted within the social system and results in a dependent and subservient academic identity. Within this hegemonist perspective, managerial writers argue that the elevation of private-sector management within universities (New Public Management) emphasises regulation, market-based analysis and resource management using performance indicators. This leads to dominant rational-economic managerial values, including focus on customer-orientation, career advancement and financial reward. The hybrid, integrationist model is found to be most descriptive of the nature of academic identity within business schools in recent years (Stiles 2004, p. 169).

Further, and likely related, recent years have seen the proliferation and increase in perceived importance of university and, in particular, business school rankings. The latter have provided a comparison group and a hierarchy of schools perceived to be role models for the field, as well as creating criteria for evaluation, including measures for competition and comparison (Wedlin 2007). Similarly, the UK research assessment exercises have facilitated the ranking of institutions' research performance. As a result, the higher education environment has become more visibly

competitive and universities (and business schools therein) have responded by an increased focus on image and brand. Within such an environment, powerful (hegemonist) institutions have increased incentives, and also the potential capability, to differentiate their ‘product’ by seeking ‘measurably’ higher quality academic staff. If successful, this may lead to quite different expectations for professorial promotions between universities. Further, university managers are likely to seek to exert greater control over such decisions. By contrast, within the traditional separatist view promotion requirements are perhaps more likely to be driven by the shared values of the cohesive college of academics within a particular discipline. The relative influence of institution and discipline in determining promotion requirements can provide an interesting contribution to the debate that Henkel (2005a, 2005b) describes. Government policy provides a key context and policy changes can be expected to influence promotion benchmarks over time (effectively raising the bar). Moreover, government policy can affect institutions and individuals differently, dependent on their research focus, with the more research intensive institutions raising the bar the most and attracting individuals with commensurate research abilities and values. However, to the extent that the discipline influences benchmarks for promotion, temporal and inter-institutional variations are less likely to be observed.

3.2 Pre-eminent role of research

Scholarly activity involves three elements: teaching, research and service. Service includes administration and managerial roles internal to the institution as well as external roles such as journal editing, membership of professional committees, etc. (Gray *et al.* 2002). Of the three elements of scholarly activity, research is often argued to be pre-eminent with some suggesting that academics operate in a ‘publish or perish’ environment (e.g. Parker *et al.* 1998). Hermanson (2008, p. 55-56) observes that ‘research drives reputation, rewards, and opportunities far more than teaching or service. This appears to be true at the vast majority of universities in the US, even many of those with a teaching-oriented or balanced mission’. Glover *et al.* (2006, p. 196) also argue that research is the most important criterion for promotion.⁶ Outside the US, Parker *et al.* (1998) provide interview evidence from the UK and Australia that publication is viewed as the major element in the assessment of academics. Recent cross-disciplinary UK studies based on academic perceptions reinforce the finding that research holds a pre-eminent role in relation to teaching, especially in pre-1992 institutions (Young 2006, Parker 2008, HEA 2009).

Several writers discuss the value of different forms of publication, such as refereed journal

articles, research reports/monographs, research books, textbooks, chapters in books, refereed conference papers, and edited books and professional journal articles (e.g. Carmona 2006, Beattie and Goodacre 2004, Parker *et al.* 1998, and Beattie and Ryan 1991). Carmona (2006, p. 241) presents evidence that books and research monographs exert a ‘considerable impact on the diffusion of accounting research’. However, while the intrinsic value of outlets other than refereed journal articles is widely recognised, in practice refereed journal articles seem to have greatest value. Moreover, in certain decision contexts, such as decisions made in leading institutions or in relation to REF outputs to be submitted, this can be restricted to ‘top’ journals, and sometimes only those within the boundaries of the discipline. Carmona (2006, p. 246) argues that there are two opposing views concerning the importance of ‘related-discipline’ (i.e. non-accounting and finance) journals in assessments of research performance. One view is that academic reputations are based on publications that are likely to be read by their peers, hence non-accounting and finance publications are seen as less relevant. The other view is that, as an interdisciplinary discipline, publications in non-accounting and finance journals have comparable value. In this context, Christensen *et al.* (2002) find that US accounting faculty commonly use non-accounting journals as publication outlets and that this tendency increases throughout the career.

It should be noted, however, that the research publication element provides a necessary but not sufficient condition for promotion (Fishe 1998). Even within the research domain, leadership in research, success in gaining research grant funding and successful PhD student supervision are other relevant aspects in many institutions. Outside the research domain, high quality teaching, academic service, management expertise (or potential) and, increasingly, the ability to be externally oriented in order to attract international students and establish business links all feature to a greater or lesser extent in promotion decisions. The relative importance of each aspect often varies with the specific needs of the organisation at a particular point in time, the urgency of those needs as well as the research intensity of the university (Street *et al.* 1993, Higher Education Academy 2009). These aspects are conditioned by a range of essentially random factors, including the characteristics of the competing applicants for promotion or professorial appointment.

3.3 Journal quality ranking studies

Given the key role of academic journal articles in the scholarly communication network of many disciplines, it is perhaps unsurprising that journal rankings emerged as managerialism increased

in the sector. The main approaches to such rankings are based on either citations or surveys of perceptions.⁷ Citation studies, which treat citations as objective indicators of influence, commonly use the *Social Sciences Citation Index (SSCI)* database (http://www.thomsonreuters.com/products_services/scientific/Social_Sciences_Citation_Index). The number of accounting and finance journals included in this database remains small, despite several new admissions in the last few years. A typical study in the finance discipline is that of Chan *et al.* (2000), who rank 59 journals using the SSCI. Perception studies typically ask respondents to rate journals on their ‘quality’ (or an associated concept such as ‘readability’, ‘value’ and/or ‘familiarity’). An illustrative comprehensive study by Ballas and Theoharakis (2003) obtained responses from 1,230 accounting academics located across the world. This study showed, *inter alia*, that perceptions are influenced by factors associated with geographic location.

Each of these approaches has limitations. Citation studies depend on the assumption that a citation is an objective indicator of influence, while perception studies may suffer from inherent biases such as a pre-disposition towards journals in which respondents publish. Given these limitations, it is perhaps understandable that rankings have emerged which collate the results from several separate ranking studies (e.g. ABS 2008, Harzing, 2008). The present study makes use of the ABS (2008) quality groups. Personal experience and discussions within the accounting and finance community suggest that this is the most widely used ranking in the UK for business disciplines. An advantage of this list is that it includes many journals outside the accounting and finance discipline, as it has been shown that UK academics in the accounting and finance community publish in a wide range of journals across many disciplines (Beattie and Goodacre 2004).

3.4 Accounting and finance faculty publication and promotion benchmarks

Two recent descriptive studies of publication patterns within the UK academic accounting and finance community use the *Register* as a data source. Brown *et al.* (2007), a longitudinal study covering the 24-year period 1980 to 2003, find that per capita publication rates declined from 1998. They argue that the publication pressures of the RAE (2001) assessment exercise contributed to the peak in the ‘all journal articles’ category in 2000. Beattie and Goodacre (2004) perform a more fine-grained study of the two-year period 1998 to 1999. *Inter alia*, they find that the publication profile of professors from ‘old’ universities is distinct from that of professors from ‘new’ (post-1992) universities. The latter have, on average, a higher total

number of publications but a *lower* number of top journal publications.

It is interesting that no generic ‘theory of promotion’ exists.⁸ This is perhaps due to relevant promotion criteria being occupation-specific. Personal experience, however, suggests that a two-stage process occurs: objective factors (match with job specification) prevail at the initial screening stage, whereas subjective factors such as collegiality, communication skills, and intellect take precedence at the second, interview stage. Additionally, specific factors such as ‘strategic fit’ with the academic unit’s research specialisms, teaching needs, or leadership requirements, act as unpredictable influences on the final decision. To date, all published studies of promotion benchmarks in the accounting and finance disciplines are US based. Given the dominance of US journals and the fact that so few UK academics publish in the leading US journals⁹, the findings of these studies are likely to be of limited relevance to UK academics.

Glover *et al.* (2006) examine the publication records of 85 accounting faculty promoted to full (and associate) professor at the top 75 US accounting research programmes during the eight-year period 1995 to 2003. Outputs are split into six overlapping quality sets of accounting and business journals as well as other journal outputs, books and monographs. The number of quality publications at the time of promotion is positively related to the perceived quality of the institution, but in lower level institutions publication quantity seemed to be used to compensate for reduced quality. Similar results were found by Fische (1998) for promotion to full (and associate) professor in the finance discipline, based on the numbers of publications in seven top journals¹⁰ for 126 promoted US faculty. Faculty in higher quality departments generally had a higher proportion of quality outputs and a larger number of citations, but the number of publications was not significantly greater than those in lower institutions. Once again, there was evidence of production substitutes among finance journals for faculty at the lower ranked institutions.¹¹

The study by Swanson (2004) is of particular interest because it compares the publication quality norms that prevail in four business disciplines (accounting, finance, management and marketing) in the twenty-year period 1980-1999. Drawing on Ellison’s *q-r* theory (Ellison 2002), Swanson argues that differences exist in quality norms across disciplines and over time within a discipline. Ellison’s *q-r* theory states that journal gatekeepers consider two aspects of a manuscript: the importance and interest of the main idea (*q*); and all other quality attributes, such as clear exposition, links to prior literature and statistical rigour (*r*). The *q-r* model predicts that quality norms gradually become more demanding over time, absent editor intervention.

Over time, referees are argued to demand higher rigour (r-quality) which will tend to reduce the number of studies that meet the standard required for acceptance. What is more, achieving the higher r-quality will take up more researchers' time, thereby further reducing the number of high quality papers for review. Swanson finds that the mean percentage of faculty publishing in a top journal is found to be significantly lower in accounting compared to the other three disciplines: 6% for accounting, 11% for finance and for management and 13% for marketing. Also, in a regression of the number of articles published in a small number of top journals in a discipline against time, Swanson finds insignificant or significantly negative coefficients. In light of the referenced growth in academic staff over the same period, he interprets these as implying that an upward drift in quality norms (predicted by q-r theory) has limited the output of articles. However, such evidence is relatively weak and other interpretations may be valid including, for example, publisher-imposed limits on journal space or an increased number of competitor journals over the period.

3.5 Gender effects

Several studies have compared the publication records of male and female accounting faculty, with conflicting results. Studies that have not found significant differences include Fogarty (2004), Streuly and Maranto (1994), Dwyer (1994), and Mann and Ormundson (1991). In contrast, Rama *et al.* (1997) found that, in non-doctoral schools, females gaining promotion had more publications than males, while Buckless *et al.* (1998) report female adjunct professors required more impressive credentials than males to attain career advancement. All of these studies are based on the US academic community. A recent cross-discipline study set in Canada did find that it took females longer to gain promotion compared to males (Stewart *et al.* 2009). Potential explanations are that females devote more time to service activities and less time to research than males (Link *et al.* 2008) or characteristically seek promotion only when success is more likely compared to males. Others relate to cultural stereotypes and choices related to caring and nurturing.

4. Research questions

A primary research objective of the present paper is to identify both the quantity (number of outputs) and quality of research outputs needed for promotion to professor in the UK in the accounting and finance discipline. In addition, analysis is undertaken to investigate a range of moderating variables in relation to promotion benchmarks suggested by prior literature and

anecdotal evidence. Each of these variables is now considered in turn.

For a variety of reasons, including issues of funding, the ‘new’ (post-1992) universities have in general found the sustained development of research expertise and culture a major challenge.¹² Thus, the ‘binary divide’ in large part remains in place, both in terms of overall university rankings¹³ and performance in the UK RAE.¹⁴ Prior US research suggests that there are considerable differences in research output requirements for promotion depending on the research intensity of the accounting and finance department (e.g. Glover *et al.* 2006, Fishe 1998). Recent UK research into the reward and recognition given to teaching in higher education indicates that the more research intensive institutions are believed to give low emphasis to teaching (HEA 2009, p. 52). To the extent that the institution influences promotion benchmarks, a different emphasis on research might also be expected to be reflected in promotion to professor in the UK, leading to our first research question (RQ):

RQ1: Are the number and quality of research outputs required for promotion to professor different in pre-1992 compared to post-1992 universities?

Second, certain features of the UK academic labour market encourage a perception by academic staff that gaining promotion within their home institutions (internal promotion) is more difficult than obtaining a promoted post by moving to another university (external promotion). There exists a thin market for good research academics in accounting and finance, partly due to the existence of more lucrative alternative employment opportunities in the fields of accounting and finance, which reduces the competition for external appointments. Also, internal promotions usually involve cross-discipline competition with academics whose discipline norms appear to result in a markedly higher number of outputs, which creates a very competitive internal market. Even within the business area disciplines, there appear to be significant differences in output quantities and qualities (Swanson 2004). Additionally, promotees can engage in gaming, whereby success in securing an external promotion is used to lever the offer of an internal promotion. The net impact of these influences is explored in the second research question:

RQ2: Are the number and quality of research outputs required for promotion to professor different for internal and external promotions?

Third, the influence of gender in promotion contests has produced conflicting results in prior studies of the US academic market (see earlier). This issue is addressed in the third research

question, which seeks to identify any differences between the pre-promotion output portfolios of male and female academics:

RQ3: Are the number and quality of research outputs required for promotion to professor different for promotions achieved by male and female academics?

Fourth, the various business-related disciplines have been shown to have different publication norms (Swanson, 2004), especially in relation to the number of outputs. We investigate whether this finding extends to the accounting and finance sub-disciplines:

RQ4: Are the number and quality of research outputs required for promotion to professor different for promotions within the separate accounting and finance areas?

Fifth, there have been many changes in the UK academic environment over the last 30 years. The accounting and finance academic community, faced with huge increases in student numbers, has experienced a large increase in the number of academic staff, together with an increase in the proportion who are PhD-qualified and a decline in the proportion who are professionally qualified (Brown *et al.* 2007). The research assessment environment has increased both the pressure to publish and the pressure to publish in designated top journals (RAE 2001, 2008, REF 2011, Moizer 2009, p. 294), although there has also been a rise in the number of academic accounting journals (Zeff 1996). The joint effect of these forces is a very thin market in accounting and finance faculty capable of producing research deemed of high quality. For example, Chan *et al.* (2007) found that publishing 5 (15) or more articles in 15 years places an accounting researcher close to the top 10 (1) percentile of the global productivity distribution. Similarly, only one third of the UK accounting and finance community were submitted to RAE 2001 as 'research active' (Beattie and Goodacre 2006). Other changes include the internationalisation of UK universities (both students and staff) and increased pressure to raise income in unregulated markets via taught postgraduate (TPG) programmes and the like. The latter potentially reduces the amount of time academics have available for research, yet increases the importance of reputation-enhancing research, of considerable influence in attracting high quality students into both TPG and PhD programmes. Prior US research suggests that the quantity and quality of journal outputs in pre-promotion publication portfolios may change over time. Read *et al.* (1998) found that portfolio size increased (decreased) for accounting promotions to associate professor at non-doctoral (doctoral) institutions. In the UK context it is, *a priori*, unclear whether the changes in the academic environment have *reduced*

the promotion benchmark (due to the thin market and high levels of competition to recruit/retain) or *increased* the promotion benchmark (as institutions respond to the external pressure from government funding policy or other performative forces (Gendron 2008)). Research question 5 addresses this critical issue:

RQ5: Has the number and quality of research outputs required for promotion to professor changed over time?

Sixth, prior research argues that both stock and flow of papers may be important in promotion decisions (Fishe 1998). Staff demonstrating a recent accelerated flow of papers may be promoted earlier based on the perceived quality of the flow (i.e. based on potential). In this scenario, recency is deemed to substitute for quantity. This may be especially likely in a thin labour market and in the UK context where there is increased focus on the recent subset of papers available for inclusion in the RAE assessment period current at the time. Other staff may be promoted based primarily on attaining an acceptable stock of publications, demonstrating sustained research performance over a longer period of time. It may, of course, be necessary to have both a ‘good’ flow and ‘good’ stock of publications, indicating a complementary effect. Moreover, the relative importance of these two measures may vary both across time and across institutions. To investigate these issues, the main analysis (which is based on the 10 year pre-promotion publication portfolio, a stock measure), is repeated using a restricted most recent four year set, a flow measure, to investigate research question 6:

RQ6: (a) Are publication rates in the four years leading to promotion to professor higher than publication rates in the ten year pre-promotion period? (b) If so, does this reduce the number of outputs required for promotion?

Four further potential determinants of pre-promotion output requirements are investigated in the current study within a multivariate context.

First, the research quality of the promoting institution may be important (Glover *et al.* 2006, Fishe 1998). This could operate at the institution level or at the ‘department’¹⁵ level within the institution. For example, within pre-1992 institutions, both the Russell Group (20 universities) and the 1994 Group (18 universities) seek to differentiate themselves from other universities based on ‘high quality’ research. However, as observed in research assessment exercise results (RAE 2001, 2008), there are often considerable differences in research quality across different

disciplines within an institution, so discipline-level RAE ranking might also affect expectations for chair appointments. The degree of variation across institutional types can also shed light on the extent to which the discipline rather than institution influences promotion benchmarks.

RQ7: Does the research quality of the promoting department or institution have an impact on the number and quality of research outputs required for promotion to professor?

Second, while formal research assessment in the UK focuses primarily on quality, it is also possible that research output volume may have some impact on promotion decisions. This can reflexively impact upon the publishing strategy adopted by the individual with (by analogy with the biological r/K selection theory) K -strategists focussing on publications in designated top journals while r -strategists maximise quantity by targeting a large number of publications in lower-ranked journals (Faria 2003, cited in Moizer 2009). These arguments suggest a negative relationship between output volume and pre-promotion portfolio quality and this possibility is investigated in research question 8:

RQ8: Does higher output volume substitute for output quality in pre-promotion portfolios?

Third, a US-based survey reports a perception that researchers may be given less than full credit for co-authored research due to the fractional input and may need at least one sole-authored paper for tenure to provide evidence of ‘independent researcher’ capability (Schinski *et al.* 1998). This suggests that a larger number of outputs may be required to compensate for co-authored research, potentially leading to a negative relationship between outputs and the number of sole-authored papers.

RQ9: Does the number of sole-authored papers reduce the number of outputs required for promotion?

Fourth, research reports prepared for professional accounting and other bodies are typical outputs following the receipt of research grants, and are often a requirement of the grant-awarding body. While such reports represent a relatively small proportion of research outputs (3.5% according to Beattie and Goodacre 2004), they can provide evidence of a different dimension of research, namely practical relevance. Anecdotal evidence suggests that this dimension has been valued in the past by some institutions, and its importance is set to increase further in the UK, given the high proposed weight (20%) attached to research ‘impact’ in the

proposals for the next research assessment exercise (REF 2011). The impact of research reports on promotion decisions forms the basis for the final research question.

RQ10: Does the number of research reports reduce the number of outputs required for promotion?

5. Methods

5.1 The data-source

The biennial *Register* collects, via a survey of all institutions, details of the publications of accounting and finance faculty during consecutive periods of two calendar years.¹⁶ Knowledge that the register is widely used by academics provides strong incentives on both individuals and institutions to ensure completeness. Recent prior research using the *Register* acknowledges the need for significant tidying of the raw data, but after some testing also identifies the source as reasonably reliable (Beattie and Goodacre 2004, 2006, Brown *et al.* 2007). Since the 1990 edition, the definition of ‘publication’ used excludes working papers, unpublished conference papers, in-house publications, private reports, and forthcoming publications.¹⁷

5.2 The database

The database was designed to support a rigorous analysis of publications at the community, institutional and individual levels, as well as social aspects of publishing activity such as promotion requirements, co-authorship behaviour and gender issues. To serve this purpose, a relational database, using Microsoft Access was constructed. This database extends that used by Beattie and Goodacre (2004) longitudinally by including twelve issues of the *Register* from 1984 (the first publication of the *Register* in bound form) to 2008.¹⁸ The two principal data tables are the staff table and the publications table. The staff table included 7 fields capturing personal details, including aspects of background experience and training. The staff table has two supporting tables: institution and position. The publications table, linked via the author identifier to the staff table, captures authorship details as well as recording the type of publication. A fundamental distinction is made between serial and non-serial publications (Beattie and Ryan 1991), in that the title of all serial publications is recorded but only the nature of non-serial publications (e.g. book chapter, professional report).

Promotion to professor was identified by comparing the academic ‘position’ field in the subsequent version of the *Register*. The publication records of promoted staff with pre-

promotion records available for at least 10 years (5 biennial *Registers*) were extracted into an Excel spreadsheet for further manipulation and analysis.¹⁹ The choice of 10 years emerged judgmentally from balancing the need for a relatively complete publication history with the desire for a reasonable sample size, necessary for statistical analysis. For consistency, it was considered preferable to maintain a constant pre-promotion period for all professors. The 10 year period is also broadly consistent with arguments in prior US research (Fishe 1998) suggesting a normal gestation period of 11 to 12 years for promotion to full professor.

The raw data then underwent detailed ‘manual’ checking for errors and for consistency in the precise naming of journals, necessary for matching journal outlets across academics. Finally, given the assumed importance of publication quality as well as number of publications, it was necessary to adopt a suitable quality proxy. The RAE (2008) subject overview report for Panel I (RAE 2009) makes it clear that, although the sub-panels did not use place of publication as an evaluative criterion, a correlation was observed:

It is worthy of note that there was not a perfect correlation between the quality of a piece of work and its place of publication. Although much top-quality work was indeed published in what are generally regarded as leading journals, top-quality work could also be found in journals occupying a lower position in conventional rankings. Similarly, some of the work considered that had been published in so-called leading journals was thought to be of less than top quality. (RAE 2009)

While accepting that an agreed journal quality measure is elusive (and perhaps even illusory), for the purposes of the present paper it was necessary to make use of a proxy for publication quality. The need for an up-to-date measure with wide journal coverage encouraged the acceptance of the Association of Business Schools Journal Quality Guide (ABS 2008). The second version of the Guide was published in May 2008, listing 125 ‘Accounting and Finance’ Journals within a full list of 1,025 business journals, and uses a broadly similar scale to categorise journal quality to that used within RAE 2008 to categorise output quality. However, the descriptions used in the Guide (reproduced in the Table below) differ from RAE 2008, particularly in not using labels related to either ‘international’ or ‘national’ quality levels, or related to the criteria of ‘originality’, ‘significance’ or ‘rigour’. While other broad listings are available internationally (e.g. ABDC 2010, Harzing 2008), the ABS Guide seems to be the most comprehensive and widely used listing currently available that has been developed by UK academics specifically for the UK academic market.²⁰

Specification of Journal Quality Standards applied in ABS (2008)

Quality Rating	Meaning	No. and (%) of Journals in ABS Guide
4* A top journal in its field	Publish the most original and best executed research papers. These journals typically have high submission and low acceptance rates. Top journals generally have the highest citation impact factors within their field. A small number of them rank by reputation and citation amongst the world elite of academic journals.	103 (10.0%)
3* A highly regarded journal in its field	Publish original and well executed research papers. These journals typically have good submission rates and are very selective in what they publish. Papers are heavily refereed. Highly regarded journals generally have fair to good citation impact factors relative to others in their field, although not all highly regarded journals carry a citation impact factor.	254 (24.8%)
2* A well regarded journal in its field	Publish original research of an acceptable standard. Papers are fully refereed according to accepted standards and conventions. Well regarded journals have modest citation impact factors or do not carry one at all.	406 (39.6%)
1* A recognised journal in its field	These journals, in general, publish research of a modest standard. Papers are refereed relatively lightly according to accepted conventions. Few journals in this category carry a citation impact factor.	253 (24.7%)
N A new or recently published title	These journals are recent entrants to the field and it is therefore difficult to form a judgement as to overall quality. They do not carry a citation impact factor.	9 (0.9%)

The publications listed in our extracted data from the *Registers* were matched to the journals listed in the ABS Guide and checked for consistency. This enabled a summary of journal output quality to be calculated and reported based on the starring criteria. Unclassified outputs (i.e. below 1* level) and non-serial publications such as monographs, book chapters and professional reports, whose quality is indeterminate (based on the information available), are grouped together as ‘non-ABS’ outputs.

Several measures of pre-promotion outputs are analysed and reported: the number of papers published in ABS (2008) journals of particular quality (proxied by the 4* to 1* judgements with the ABS Guide); total number of ABS publications; total non-ABS publications; total number of outputs; weighted ABS score; number of 3* + 4* papers; and, the number of 3* + 4* papers as a percentage of total ABS papers. The weighted ABS score is equivalent to the single-number ‘GPA’ measure being used by many, post-RAE 2008, to facilitate the ranking of universities within an individual subject area (termed ‘Unit of Assessment’ (UoA) in RAE 2008), or in aggregate across all subject areas of a university. It is calculated as:

$$\text{weighted ABS score} = \frac{(\text{No. of 4* papers} \times 4) + (\text{No. of 3* papers} \times 3) + (\text{No. of 2* papers} \times 2) + (\text{No. of 1* papers} \times 1)}{\text{Total no. of ABS papers}}$$

This score assumes that quality ratings represent an interval level of measurement, whereas only an ordinal level exists. This is, therefore, a crude measure of the overall quality of the refereed journal papers within a particular professor's pre-promotion portfolio.

Initially, research questions are addressed using univariate analysis of pre-promotion outputs across the several dimensions outlined in section 4 above. While this is useful, particularly in a descriptive sense for benchmarking performance, the univariate analysis requires a *ceteris paribus* assumption, which is unlikely to be tenable. Accordingly, the second stage involves a multivariate analysis using OLS regression, seeking to take all factors into account simultaneously and to include the other potential explanatory factors outlined at the end of section 4. This seeks to 'explain' the different characteristics of observed pre-promotion publication portfolios in terms of attributes of the promotee and the promoting institution and/or department. It is beyond the scope of the present study to investigate what determines the gaining of promotion to professor *per se*; i.e. we do not consider why some academics obtain promotion to a chair and some do not. This would require a different research design, including information on those who do not gain promotion.

Two measures are adopted as dependent variables in the analysis. The total number of ABS (2008) publications is selected as a proxy for the volume of research meeting a particular quality threshold. The total number of outputs is selected as a more complete measure which fully captures research volume. Both were measured over the 10 year period 'prior' to promotion.²¹ Dummy variables (= 1) were used to identify the key dimensions of: post-1992 institution; internal promotion; female academic; working in the finance sub-discipline or at the finance/accounting interface; and time period of promotion. For the latter, the most recent period 2006-7 was treated as the base period for comparison, so the dummy for this period is excluded from the regressions. To assess the impact of any 'recency effect', the total number of ABS journal publications and total outputs measured over the *four-year* period immediately prior to promotion were used, matched in the regressions with the equivalent dependent variable. An indicator of 'recency' impact would be the finding of a negative relationship here; i.e. if a promotee has a larger number of *recent* outputs they might need a commensurately smaller number of total outputs as a result.

To incorporate the four additional factors outlined at the end of section 4, further proxies/variables are needed. As proxies for institution/department research quality, separate

dummy variables were used to identify the promoting institution being a member of the Russell Group of 20 universities or of the 19 universities belonging to the 1994 Group.²² The RAE 2008 research assessment can provide a potentially useful indicator of discipline-based research quality. Given that some institutions made submissions to both the ‘Business and Management’ (B&M) and the ‘Accounting and Finance’ (A&F) panels, for consistency across institutions an aggregate RAE 2008 score was calculated.²³ This was measured as the average of the profile GPA scores received for the submissions to B&M and A&F panels, weighted by the number of staff submitted to each panel.²⁴

To investigate whether output quantity might substitute for output quality, a proxy for ‘quantity’ is required. The proxy used was the total number of outputs over the 10 year period minus the number of ABS journal publications and minus the number of research reports for professional accounting and other bodies. The first deduction is necessary to avoid inherent correlation between the dependent variable and this ‘quantity’ proxy; the second avoids overlap with the separate independent variable used to assess the impact of research reports. Sole-authorship was measured by the number of ABS publications for which the promotee was the sole author.²⁵ The final variable included was the number of research reports.

6. Results

6.1 Sample characteristics

Two-way cross-tabulations of five characteristics (time period, pre/post-1992; internal/external; gender; sub-discipline) of the 137 chair promotions in the sample are provided in Table 1.²⁶ Overall, 77% were to pre-1992 institutions and 23% to the less research intensive post-1992 institutions (Panel A). The last *Register* used in the study listed a total of 103 institutions at the end of 2007, with 50 post-1992 and 53 pre-1992 institutions. Promotions in the present sample were to 23 post-1992 and 39 pre-1992 institutions reflecting 46% and 74% of the *Register* ‘institution populations’, respectively. The larger percentage for pre-1992 institutions reflects the greater number of professors in these more research-intensive environments.²⁷

[Table 1 about here]

Association tests (Chi-square or Fisher’s Exact test) were conducted to detect any significant bivariate associations between promotees’ characteristics. Table 1 (Panel A) provides a cross-tabulation of promotions to pre- and post-1992 institutions over the time period, with no real

pattern discernible. Panel B shows that almost twice as many of the promotions were internal (64%) rather than external (i.e. to a different institution), which may indicate a willingness of institutions to seek to retain good research staff in the supply-weak market and research assessment environment of the UK; again there is no discernible time pattern here. Panel C indicates that 80% (20%) of the sample promoted academics were male (female), reflecting the general gender imbalance in senior positions across many sectors of the economy (e.g. Higgs 2003, ACCA 2007). There is fairly weak evidence here of a 'positive' time dimension to the imbalance, with some indication of an increasing number and proportion of chair promotions for females. The Pearson correlation between proportion of female promotions and time is also a significantly positive 0.85 ($p = 0.008$). It will be interesting to see whether this trend will be sustained in the future. There is also weak evidence ($p = 0.096$) of a greater number of promotions in more recent periods in the Finance area than in Accounting (Panel D). However, there does not seem to be any association between gender and pre-/post-1992 institutions (Panel E) or internal/external promotions (Panel F). Finally, Panel G provides strong evidence that the split between accounting and finance professors is different in pre- and post-1992 institutions; approximately 1/3 of promotions are in finance in pre-1992 but less than 1/10 in post-1992 institutions.

6.2 Univariate results

6.2.1 Overall output distributions

Table 2 (Panel A) presents distributions of outputs in the 10 years prior to promotion for the 137 promoted professors, analysed initially by the number and quality of journal articles using the Association of Business Schools Academic Journal Quality Guide (ABS 2008) as a proxy for output quality. The overall mean (median) number of ABS journal articles was 8.7 (8.0) with 5.3 (5.0) at the 3*/4* quality level. With the addition of 11.8 (10.0) non-ABS outputs, this gives a total of 20.4 (18.0) outputs.²⁸ The similarity between means and medians suggests that there is no great outlier distortion of the mean. There is clearly a wide variation in pre-promotion output levels with the number of ABS outputs ranging between 0 and 21, and total outputs between 3 and 73. The lower levels here presumably indicate that research is not always the most important attribute that UK universities seek to reward via promotion to professor. While there are unlikely to be any formally designated non-research chairs, it is possible that a very small number may have *de facto* been of this nature.²⁹

[Table 2 about here]

Individuals and promotion committees may wish to have an idea about minimum acceptable levels of research output for promotion to professor. To get a rough idea of the minimum output levels that would normally be expected, in the absence of unusual non-research circumstances, the 16.5th percentile measure is reported; this is similar to the mean of the lower tercile reported by Glover *et al.* (2006). This indicates that a typical minimum output level might be 2.0 journal papers at 3*/4* level, within 4 ABS articles and 10 total outputs. However, this needs careful interpretation in the context of the relative research intensity of the university, as discussed in the next section.

6.2.2 Analysis based on institution research intensity (RQ1)

Panel B of Table 2 reports the same measures based on promotions to more research intensive (pre-1992) and less research intensive (post-1992) university groupings, respectively. This panel shows statistically significant differences between the mean levels of outputs required for promotion in the two groupings. As expected for greater research-focused institutions, pre-1992 universities have higher research-based promotion thresholds. For example, the mean number of 3*/4* level outputs is higher [6.2 versus 2.6], within a higher number of ABS papers [9.4 versus 6.1] showing also as a higher weighted ABS score [2.62 versus 2.12]. Typical minimum output levels (16.5th percentile) are also higher for pre-1992 institutions: 2 journal papers at 3*/4* level, within 4 ABS articles and 10.2 total outputs compared with 0, 2 and 10.0 respectively for post-1992 institutions. However, while the number of higher quality outputs is typically greater for pre-1992, the number of non-ABS outputs is lower on average (mean = 11.4 versus 13.0) leading to a different number of total outputs (20.8 versus 19.1), though neither difference is statistically significant. Overall, *ceteris paribus* (i.e. based on univariate analysis), it would appear that the quality of outputs is a more important criterion for promotion to professor in the more research intensive universities (RQ1).

6.2.3 Analysis of internal and external promotions (RQ2)

Comparisons of outputs for promotion within an institution (internal) and for promotion to professor at another university (external) are provided in Panel A of Table 3. These show that there are slightly higher thresholds for internal promotion. For example, the mean number of 3*/4* outputs is 5.8 compared with 4.5, within total ABS outputs of 9.3 and 7.6, for internal and external promotions, respectively; both differences are significant at the 5% level. Broadly similar differences are found on other measures but are not statistically significant. Thus, there is some evidence overall of a higher threshold to obtain promotion within an individual's own

university (RQ2). Further analysis based only on the more research-intensive pre-1992 institutions (not tabulated) also provides some (limited) evidence of different expectations, with internal promotions having a mean of 10.2 ABS outputs compared with 8.0 for external promotions, with the difference significant at the 5% level. Similarly the mean number of 3*/4* outputs is significantly higher (10% level) at 6.6 (internal) compared with 5.3 (external), though all other differences are non-significant. It is important to recognise that internal promotions include cases where an external offer was made and the home institution successfully made a counter offer. This may explain, at least partly, why only limited differences were found. It may indeed be the case that internal promotion is more difficult in the absence of an external offer.

6.2.4 Analysis of gender differences in promotions (RQ3)

Table 3 (Panel B) splits the promotion statistics by gender. The number of outputs required for promotion for males and females is very similar. The mean (median) number of ABS papers for males is 8.7 (8.0) and for females 8.6 (9.0), with high quality (3*/4*) output numbers slightly higher for males at 5.5 (5.0) compared with 4.6 (5.0); however, none of the differences is statistically significant. Overall there is no evidence of any gender effect, i.e. there is no evidence that it is harder for females to get promotion, although the sample of female promotees is small ($n = 27$) and this could affect the power of the test. To examine whether gender effects might exist at the more research intensive institutions, Panel B of Table 3 was recalculated based only on pre-1992 institutions. The (unreported) results show almost identical numbers of pre-promotion outputs for males and females. Mean ABS outputs are 9.4 for males and 9.5 for females and mean 3*/4* outputs are 6.3 for males and 5.4 for females. Thus, even in research intensive universities, there is no evidence of any gender difference in outputs required for promotion (RQ3).

[Table 3 about here]

6.2.5 Analysis of promotions within accounting and finance sub-disciplines (RQ4)

Categorisation of promotions into accounting, finance and accounting/finance (the latter category comprises academics at the interface between the two sub-disciplines) was undertaken separately by two researchers based on information available in the *Registers* or occasionally on an individual's web pages.³⁰ This categorisation resulted in 98, 33 and 6 promotions within accounting, finance and accounting/finance, respectively. Panel C of Table 3 shows that promotions in accounting typically have slightly lower mean levels of ABS journal outputs (8.3

versus 9.3/9.5) and these of slightly lower mean quality (total 3*/4* outputs of 5.0 versus 6.0/6.1), but the differences between accounting and finance are not statistically significant. By contrast, accounting promotees have a statistically significant larger mean number of non-ABS journal publications (13.9 versus 5.1/6.3) and, therefore, also of total outputs (22.3 versus 14.4/15.8). Given the potential distortion arising from the tiny number of finance promotions in post-1992 institutions (only three of the 39 finance and accounting/finance sub-sample), the comparison between accounting and finance was repeated based only on pre-1992 promotions. The (non-tabulated) results confirm no difference in ABS publications (mean = 9.4, for both accounting and finance promotions) but much higher non-ABS outputs for accounting promotions (mean = 14.1) than for finance (mean = 4.9). Overall, there is no evidence that the key ABS journal requirements differ between the accounting and finance sub-disciplines (RQ4).

6.2.6 Time series analysis of promotion thresholds (RQ5)

To assess the effect of changes in the academic environment, the time series of numbers of promotions and research output promotion thresholds are presented in Panel D of Table 3. Each row summarises the promotions that took place within a particular two-year *Register* period; annual analysis is not possible as the precise promotion dates are not available within the data sources. While the relatively small number of time periods limits the analysis, there does not seem to be a very clear general trend in average promotion thresholds over the 16 year period; however, there are some interesting patterns. For total ABS journal outputs, the 1992-3 threshold seems to be relatively low (mean = 4.1) rising to one peak in 1996-7 (mean = 11.1), another in 2000-1 (mean = 10.2) and possibly a third in 2006-7 (mean = 10.7). The pattern for ABS 2* journal outputs is also similar. There is certainly no evidence of any time-related downward trend in the numbers of quality outputs (proxied by ABS journals) required for promotion. Rather, while not clear from the pattern of mean thresholds, there is a significant upward trend in the total number of ABS journals in pre-promotion portfolios (Pearson correlation coefficient = +0.28; $p = 0.001$). By contrast, there does appear to be a fairly clear downward trend in total non-ABS outputs, which is confirmed as statistically significant (Pearson correlation coefficient = -0.31; $p = 0.000$). Oneway ANOVA confirms that there are significant differences in means over time for these three variables, and post-hoc significance tests broadly confirm the above observations (see Note 6 to Table 3).

It could perhaps be argued that the pattern for total ABS journal publications matches the end of the three RAE cycles (1992-6, 1997-2000 and 2001-7), though the small number of completed cycles and number of promotions within each period (12-21) warrant cautious interpretation.

One rationalisation for the end-of-cycle peaks would be that the RAE focuses universities' attention on researchers with high quality outputs. One mechanism to encourage retention of such researchers is promotion to professor; indeed, there is some evidence that a larger proportion of promotions were internal during the three end-of-cycle periods: 74% compared with 58% in other periods, on average.

The observed trends in ABS publications (upward) and non-ABS publications (downward) are also consistent with an RAE effect. The RAEs have required research-active staff to 'submit' their four 'best' publications for evaluation. This RAE emphasis on a small number of 'high quality' publications, together with research grant income and PhD student numbers, may have encouraged a greater researcher focus on output quality rather than quantity. The peer-review process for journal publications together with the various journal ranking schemes (such as ABS) also provide a rough indication of output quality. This potentially reduces (but does not eliminate) the uncertainty related to how the four submissions will be evaluated by the RAE Panels. In turn, this would encourage a lower emphasis on non-journal outputs (such as book chapters and reports for professional bodies) and papers in non-ABS journals, as observed. Further, the increasing number of promotions in the finance sub-discipline, typically having lower numbers on non-ABS outputs, has likely contributed to the downward trend in non-ABS publications.

Finally, Levene's test (for the homogeneity of variances) was carried out to assess whether there are any significant time-related differences in the variances of the number of ABS journal papers and the total number of publication in pre-promotion portfolios. Neither of these two benchmarks showed significant differences in the variances over time. Similarly there were no observable trends in variances (i.e. in simple regressions of benchmark variances against time the slope coefficients were insignificant).

Overall, assuming that journal publication standards have not changed, there is no evidence to support the contention of 'falling standards' in UK promotions. However, there do appear to have been changes in pre-promotion portfolios over time, conjectured to be related to the RAE regime in the UK (RQ5). The changes are consistent with government policy impacting on institutions and encouraging hegemony; in turn, individuals are likely to be influenced by this. The reduced variety of output types also provides evidence of a homogenising tendency (Churchman 2002), though no further support for such arises from reduced intra-output type variation.

6.2.7 Investigation of a 'recency' effect in promotion portfolios (RQ6)

To investigate whether there is evidence of 'recency' in pre-promotion publication portfolios, the original analysis (reported in Table 2) was repeated based on a restricted data set of outputs in the 4 years immediately preceding promotion.³¹ Results from this further analysis are reported in Table 4.

[Table 4 about here]

This shows that the mean (median) number of ABS publications in the 4 year 'pre-promotion' period was 4.8 (5.0) with 2.9 (3.0) 3*/4* publications, within a total of 10.2 (9.0) outputs. If there is a 'recency' effect, the publication rate would be expected to be higher in the 4 year than in the 10 year period; i.e. the mean of the 4 year period would be greater than 4/10ths of the 10 year period. This is tested using a 1 tail t-test and significance is reported at the foot of the table.

There is strong evidence of 'recency' in six of the summary statistics. In particular, in answering RQ6(a), the publication rate for the total number of ABS papers, the number of high quality papers (3*/4*) and the overall number of outputs are all significantly higher (at the 1% level). For example, the mean number of ABS papers over 4 years (4.8) is significantly higher than the expected 3.5 (40% of 8.7 per Table 2), based on the 10 year output level. This 'recency' effect is consistent with academics seeking promotion after a recent period of relatively high level and quality of research performance; based on our sample of successfully promoted academics, this recent performance seems to carry some weight in promotion panel decisions.

6.3 Multivariate analysis (RQs 1 to 10)

A difficulty in interpreting the univariate results is the necessary *ceteris paribus* assumption. Results from the multivariate analysis, which allows for the competing alternative explanations for univariate observations, are provided in Table 5. Three OLS regression models are presented, each possessing good explanatory power with adjusted R^2 over 70%. Model 1 has the total number of ABS journal papers as dependent variable and covers the full sample. There are several interesting observations. First, this model provides no evidence that the number of ABS papers required for promotion is lower in post-1992 institutions once other potential explanatory factors are taken into account, in contrast with the univariate analysis (RQ1). Second, and generally consistent with univariate results, internal promotions (RQ2), gender (RQ3) and

accounting or finance sub-discipline (RQ4) do not seem to affect pre-promotion portfolios of quality journal outputs.

Third, Model 1 also shows that the number of ABS publications required was significantly lower in four (perhaps 5) earlier time periods than in the most recent base period 2006-7. This does suggest that promotion requirements may have increased over time (with lower expectations prior to 2000), particularly in line with the increasing importance of and focus on research assessment in the UK (RQ5). However, an alternative explanation for the rise in ABS publications might be that it merely reflects the general increase in the number of journals available. Allowing for the changes in journal numbers in the 10 years prior to promotion, the mean number of ABS journals available to 2002-3 promotees was 77% higher than to 1992-3 promotees. Over the same time period, UK accounting and finance staff numbers rose by just 2%, although professorial numbers were up by 66% and senior staff (professors, senior lecturers, readers and principal lecturers) increased by 30% (Brown *et al.* 2007).³² To investigate the potential impact of journal growth, additional regression models (equivalent to Models 1 and 2) were estimated with all variables involving journal numbers scaled by the mean number of journals available at the time of promotion. The (non-tabulated) results show that all of the time dummy variables continue to have negative coefficients but at reduced significance levels; three (one) remain statistically significant in Model 1 (Model 2) variants. This suggests that journal growth may be a moderating factor in the observed time-related changes in promotion requirements.

Fourth, there is a very strong significantly positive association between output numbers in the 4-year and 10-year pre-promotion periods. While the univariate analysis provides evidence of 'recency' in publication rates (RQ6(a)), this does not seem to reduce the number of ABS publications required for promotion, i.e. the impact of 'recency' seems, at best, to be relatively small (RQ6(b)).

Fifth, the research quality of the institution (proxied by inclusion in the Russell or 1994 Groups) does not seem to be significant and neither does the 'department' ranking in the most research assessment exercise (RAE 2008 score) (RQ7). While the positive coefficient on RAE 2008 score is relatively high and of expected sign, its non-significance is retained even when the 'competing' quality proxies (Russell and 1994 Groups) are excluded from the regression (in non-tabulated results). The lack of significance may reflect a limitation that the RAE 2008 score is not sufficiently representative of the aspirations of the accounting and finance group to which

the professor is appointed (if the score is based on a larger Business and Management grouping). Alternatively, it may suggest that more highly ranked RAE groupings have greater opportunities, or adopt a deliberate strategy, of appointing (or retaining) professors with established research records rather than newly-promoted professors. However, the lack of significant inter-institutional variation here (RQ7), and between pre- and post-1992 institutions (RQ1), is also consistent with the A&F discipline exerting an important moderating influence over promotion benchmarks.

Finally, the 'quantity' proxy (non-ABS outputs) is weakly significantly positive, suggesting that promotees with larger numbers of ABS journal publications also typically have larger numbers of other publications; i.e. they are generally more productive. This is inconsistent with the logic of quantity substituting for quality (RQ8). Similarly, both sole-authorship (1% level) and the number of research reports (not significant) are positively related to ABS publications, providing little evidence that sole-authorship (RQ9) or research reports (RQ10) have a significant substitution effect in promotion decisions. Sole authored publications do not seem to have a greater impact than co-authored papers, certainly not to the extent of reducing the overall number of quality publications required for promotion. Rather, it would appear that they are complementary factors: relatively prolific academics publishing in ABS listed journals are also more likely to have sole-authored papers. This does not necessarily mean that the latter are considered as unimportant by interview panels, however.

Tests for collinearity suggest that it is not a major issue in the regression models. The bivariate correlation matrix shows just one correlation above 0.5: the Pearson correlation between post-1992 and RAE 2008 score is -0.72. The largest variance inflation factors in the three models are 3.0, 2.0 and 2.9 respectively, well below the suggested cut-off of 10. Similarly the condition index, based on maximum and minimum eigenvalues from Principal Components Analysis of the explanatory variables, is between 4.6 and 4.8 for the three models, once again way below the suggested cut-off of 10. However, the relatively high post-1992/RAE 2008 score correlation does suggest caution in interpreting coefficients on either variable, which may be proxying for the other.

In light of the above, further investigations based only on the more research intensive pre-1992 sub-sample of promotions are carried out in Model 2, again with the number of ABS journal papers as dependent variable; interpretation of the RAE 2008 score coefficient should not be affected by any hint of collinearity. Very similar results are obtained. The coefficient on RAE

2008 score is positive, but again not significant (RQ7). One difference is that Model 2 provides weak evidence (10% level) that internal promotion may require a higher number of ABS journal articles for promotion at pre-1992 institutions (RQ2).

[Table 5 about here]

Model 3 repeats the Model 1 analysis across all institutions but is based on the broader ‘quantity’ measure of total number of publications of any type. The results are generally similar to Model 1, but three factors now emerge as statistically significant (at the 5% or 1% level). First, it appears that internal promotions may require a higher numbers of total outputs than external promotions, controlling for other effects (RQ2). This may reflect a perception (or reality) that output volume is considered necessary when ‘competing’ for promotion within an institution against academics in other disciplines, in which a far greater number of outputs is the norm (Sinclair 2004).³³ Second, there is strong evidence of a lower total number of outputs for promotions in the finance area, consistent with the univariate analysis (RQ4). Finally, there is evidence that more outputs are typical in pre-promotion portfolios for promotions at the ‘1994 Group’ of institutions (RQ7).

6.4 Specific journals included in pre-promotion portfolios

The specific journal outlets included within the pre-promotion portfolios show a high degree of correspondence with the publication pattern distribution reported for the entire community in Beattie and Goodacre (2004). *Journal of Business Finance & Accounting*, *Accounting and Business Research*, *British Accounting Review*, *Critical Perspectives on Accounting*, *Accounting, Auditing & Accountability Journal*, and *Accounting Education: An International Journal* are the most frequent journals, each with over 50 papers; the first five have a 3* rating in ABS (2008) and the latter is 2*. The 27 most popular journals account for 65% of the total 1,187 ABS journal papers in the promotion portfolios. A large proportion (68.8%) of the papers were published in 79 different journals within the Accounting and Finance (A&F) subject area (as defined in ABS (2008)), but the remainder (31.2%) were published in a total of 127 ‘other discipline’ journals. This is consistent with the observation made elsewhere that accounting and finance research both draws upon and contributes to literature in other disciplines (e.g. Beattie and Davie 2006).

Interestingly, a very small number of papers from 4* journals were included in the pre-

promotion portfolios. Professors' pre-promotion portfolios included a total of just 69 papers (5.8% of total ABS papers) published in 9 journals in the A&F subject area, rated as 4* within ABS (2008). 41 of these papers were published in just one of the 4* journals (*Accounting, Organizations and Society*) with a further 28 papers in 8 other A&F 4* journals. All of these eight journals are edited and published in the US and it is well-established that UK academics find it difficult to publish in such journals (Jones and Roberts 2005). Further, Beattie and Davie (2006) document the existence of geographically-based competing research elites (one US and one non-US) based on methodological differences. The scarcity of 4* A&F journals outside the US, combined with the different methodological scope of *Accounting, Organizations and Society*, represent constraints that promotion panels (and aspiring promotees) have to operate within. An additional 21 papers were published in 15 non-A&F subject area 4* journals making 90 papers in total (7.6% of total ABS papers). Further detailed analysis shows that there were actually zero 4* publications in the pre-promotion portfolios of 65% (91%) of promotions at pre-1992 (post-1992) institutions; i.e. overall, only 40 out of the 140 promotions (29%) had any 4* publications. Two mutually non-exclusive explanations can be put forward for the small number of 4* publications.³⁴ First, it may be that the 4* standard for A&F journals applied within ABS (2008) is relatively 'harsh' compared with other disciplinary areas.³⁵ Second, it might be that promotions to professor are obtained relatively early in the A&F discipline, due to the thinness of the labour market, with professors producing higher quality work after they achieve promotion; future research can assess the empirical validity of this argument.

6.5 Comparison with Glover et al.'s (2006) study of promotions in the US

In their US study, Glover *et al.* (2006) identify a restrictive set of journals to represent output quality based on prior journal quality surveys. They group journals in a hierarchy as Top 3 Accounting and Through Top Business (top business journals in other disciplines but including the 3 accounting journals), then Through Top 6 Accounting (i.e. an extra 3 accounting journals added to the full business list), Through Top 15 Accounting and Through Top 25 Accounting. The latter full list includes 25 accounting plus 35 business journals making 60 journals in total. This contrasts with our approach which potentially includes any of the 1,025 journals listed in ABS (2008) including the 125 journals listed in the Accounting and Finance subject group.

To enable a comparison with the study by Glover *et al.*, Table 6 lists the journals common to both studies; i.e. journals represented in UK pre-promotion portfolios that are also included in the list of 60 journals in Glover *et al.* (2006). It also shows the ABS quality rating of each

journal, the numbers of papers published therein by the UK promoted academics, and the Glover *et al.* categorisation.

[Table 6 about here]

Overall, 267 (22%) out of the total of 1,187 ABS journal papers were published in Glover *et al.* journals, with accumulating totals as shown in the table. Only 3 journals in the Glover *et al.* list are significantly represented in the UK pre-promotion portfolios: *Accounting, Organizations and Society*, *Journal of Business Finance & Accounting* and *Accounting and Business Research*. Thus, there is a very restricted crossover in the publication journal set between the US and the UK, as previously highlighted in Jones and Roberts (2005). This reinforces the view of Lukka and Kasanen (1996), supported by empirical evidence by Beattie and Davie (2006), that accounting remains a local discipline, with a US elite distinguishable from an emerging non-US elite. Consequently, the reported Glover *et al.* (2006) promotion ‘benchmarks’ are of very little help or use in the UK environment; also, further comparisons between the two sets of results are of little benefit.

7. Summary and conclusions

The study establishes promotion publication benchmarks in relation to the quantity, quality and nature of research outputs associated with promotion to the senior rank of professor in the UK. This is achieved using the publication records of academic staff in the accounting and finance community promoted to professor over 1992-2007, as detailed in the biennial British Accounting Review Research Registers. Prior literature on promotion hurdles, and anecdotal evidence from the UK setting, suggest a range of factors related to these benchmarks. Statistical analysis is used to examine these relationships.

On average across the sixteen year period, approximately 9 papers in ABS (2008)-listed journals, with 5 at the 3*/4* level in a portfolio of 20 outputs are required for promotion. However, the distributions show that there is a wide variation in implied promotion requirements. Recognition of this variation is important in any use of the benchmarks, to avoid the average becoming an expectation in circumstances for which it may not be appropriate. Perhaps unsurprisingly, there is evidence consistent with academics seeking promotion after a recent period of relatively high level and quality of research performance. Multivariate analysis provides evidence that publication requirements in terms of ABS ranked journal papers have increased over time, an effect possibly attributed to the dominant impact of the government

research assessment exercises. To some, this could be seen as evidence of an increased emphasis on research, presumably a desired outcome from a government or managerial perspective. To others, it could be seen as the outcome of increasing commodification and managerialism, with a consequent increase in the incidence of hegemonist academic identities (Stiles, 2004), with potential consequences of focus on short-term, less risky, less practically-relevant research and reduced focus on teaching, service and collegiality (Adler and Harzing 2009, Puxty *et al.* 1994, Humphrey *et al.* 1995, Willmott 1995, Parker *et al.* 1998, Parker 2011). The reduced variation in output types is also consistent with increased homogeneity (Churchman 2002, Parker 2011).

For internal promotions, there is some evidence of higher expectations in the total number of outputs and, within the more research-intensive pre-1992 institutions, in ABS listed publications. However, there is no evidence that requirements differ for: male versus female candidates; or accounting versus finance professors (though finance professors do have fewer non-ABS listed publications in their pre-promotion portfolios). The research intensity of institution peer group is also unrelated to the ABS publication benchmark, a finding which is inconsistent with US research and research from other disciplines that finds the promotion hurdle to be higher at more research-intensive institutions (Glover *et al.* 2006, Seggie and Griffith 2009). The government RAE research ranking of the unit is also unrelated, which may suggest a reduced emphasis on newly-promoted professors in higher ranked groups.

There is no evidence of a substitution effect in relation to increased recent publication history, quantity of non-ABS outputs or sole-authorship, all of which show a significant complementary effect. The restricted crossover in the pre-promotion publication journal set between the US and the UK is interpreted in terms of the greater paradigmatic diversity permitted in the UK and consistent with prior research (Lukka and Kasanen 1996, Beattie and Davie 2006).

The present paper focuses on research outputs, only one dimension of the promotion process, albeit a major one. In light of this, the noted variation in pre-promotion portfolios is to be expected. Other factors such as teaching, service (both external to, and within, the university) and management and leadership potential (of increasing importance in managerial institutions) are also important. The weight ascribed to such factors will depend on the particular needs of the institution at the time of promotion.

The promotion publication benchmarks provided in this study can assist in a variety of decision settings (e.g. recruitment, those considering making an application for promotion to a chair and

those involved in promotion panels, cross-disciplinary comparisons and resource allocation). The statistical analysis tests, in a new and different setting from the US, whether a range of factors influence the promotion hurdle. Also, the combined evidence offers insight into current policy debates concerning the management of academic labour and the Research Excellence Framework (REF 2014) and the theoretical debate on the relative influence of discipline and institution.

Two aspects of the study are of specific relevance to the theoretical debate. First, government policy has influenced institutions, and in turn affected individual academics, generally to require a larger number of quality publications for promotion. Second, the relatively low level of variation in pre-promotion portfolios between different categories of university such as Russell Group and 1994 Group institutions and between pre- and post-1992 institutions is surprising. Henkel (2005a) discusses prior literature relating to academic identity which suggests that institutions typically have greater influence over appointment and rewards (including promotions) than does the discipline. In the present study, such influence would potentially have been observed within the multivariate models as significant coefficients for the institutional factors such as 'post-1992', 'Russell Group', '1994 group' and 'RAE 2008 score'. However, this argument appears to have reduced validity for promotions within the accounting and finance discipline, as observed in non-significant coefficients (in 10 out of 11 possible cases). Why might this be so?

First, as stated in section 2, the UK accounting and finance community is quite strong, collegial and seems to share certain values and ideals. Second, for the community to exert influence it needs a mechanism for doing so. One mechanism is the inclusion of internal accounting and finance staff on appointment and promotion panels, which is the norm within the UK. A second is the tradition of appointing external assessors to serve on appointment interview panels and/or advise on internal promotion applications. The involvement of external agents is a feature that distinguishes the higher education promotion process from that employed in many other types of organisations. While external assessors are often selected by university managers, they are usually sympathetic to the academic group seeking the appointment. Importantly, the assessors are invariably professors from within the accounting and finance community, so appreciate the traditions and norms of the community. In a sense they act as influential gatekeepers to the professorial 'elite'. While 'gatekeeping' can have pejorative connotations it is also a useful function in maintaining potentially desirable characteristics, in this case, a modicum of consistency in the (research output) requirements for professorial appointment or promotion. It

seems that the evidence here echoes Henkels's view that:

[The dominance of the discipline] has been strongly defended by elite members and remains a powerful influence in reward systems and in the creation and maintenance of academic agendas. It remains a strong source of academic identity, in terms of what is important and what gives meaning and self-esteem. (Henkel 2005b, p. 173)

The results are also consistent with the traditional *separatist* academic identity, described by Stiles (2004) as cohesive and collegial, promoting common values such as the acquisition of knowledge. Finally, in addition to these disciplinary effects, the thin market in A&F staff acts as a further countervailing force to limit the impact of hegemonist institutional behaviour.

Overall then, it would seem that promotion benchmarks have evolved through a dynamic and complex interaction between university managers, the state (via governmental policy and particularly via the RAE/REF) and a socially constructed accounting and finance academic community. However, the present study represents an historical narrative and it will be interesting to see how these interactions evolve in future, once the various demographic (and institutional) changes work through the higher education system.

As with all studies, the present study has a number of limitations. First, there is inbuilt selection bias, in that only those who have successfully achieved promotion to professor feature within the study (i.e. no comparison is possible with the publication portfolios of those who have been *unsuccessful* in their promotion application). Second, the proxy used for journal publication quality necessarily involves an element of subjectivity and is less than ideal. Finally, while the results provide an indication of the research output standards required for promotion across a range of universities, this activity only represents a partial picture (albeit a major part) of the characteristics required for promotion.

ENDNOTES

¹ Promotions in Irish universities are excluded from the present study as the higher education environment is different to the UK.

² Tenure was effectively abolished in the UK via the 1988 Education Reform Act on the insistence of the government. The only real protection that academic employees now have is that of employment law relating to open-ended contracts and to fixed-term contracts longer than 2 years duration. Also, many universities recruit lecturers/assistant professors on probationary contracts and the award of a permanent contract is not guaranteed. We are grateful to the editor and a reviewer for these two corrective comments.

³ In 2011/2, funding in England and Wales is allocated for 4*, 3*, 2*, 1* outputs in the following proportions: 30.6 : 10.2 : 1 : 0; in Scotland, the equivalents are: 10.2 : 4.3: 1: 0. STEM subjects (Science, Technology, Engineering, and Mathematics) receive significant additional government funding allocations.

⁴ These include increased collaborations with industry, especially in science, often as a requirement of funding. Similarly, the development of inter-disciplinary teams, either within an institution or covering several institutions, as a means of addressing increasingly complex research issues may contribute to the breakdown of disciplinary allegiances.

⁵ Stiles (2004) describes these two modes of knowledge production in the following terms: “Traditional forms of knowledge, known as Mode 1, have been generated within elite specialist mono-disciplinary university departments and laboratories. These are insulated from the wider social environment because of established scientific rules on the compromising of integrity and the risk of contamination. However, a new form of knowledge production, Mode 2, is said to be appearing in broader socio-economic contexts outside traditional structures. Such knowledge sites are heterogeneous and emphasize applied rather than basic knowledge; transdisciplinarity; social accountability and reflexivity; and quality control by a wider set of stakeholders (Gibbons *et al.* 1994).”

⁶ US survey evidence has consistently shown that faculty members and evaluators weight research more heavily than either teaching or service in promotion and tenure decisions. See, for example, Street and Baril (1994) for the accounting discipline and Tripathy and Ganesh (1996) for the finance discipline. Street and Baril (1994) survey deans and accounting department heads at US AACSB-accredited universities to establish the relative importance assigned to 39 scholarly accomplishments in promotion and tenure decisions. They find that publications, external recognition and funding count most across all institutions. Academic publications and external recognition dominate at doctoral-granting institutions, while practitioner publications, pedagogical publications and teaching are more highly weighted at universities with a more comprehensive mission.

⁷ Studies also exist based on: library journal holdings (market test studies); the internet download frequency of working papers; inferences about individual quality choices based on the subset of outputs selected for submission to the RAE from the set available; and dissertation citation analysis. The number of journals ranked varies, although it has tended to increase over time in line with the number of journals in existence.

⁸ Seggie and Griffith (2009) apply the economic concept of imperfect substitution and the associated assignment problem to the academic promotion decision, while Baker *et al.* (2006) apply tournament theory to the internal promotion competition in law firms.

⁹ Brown *et al.* (2007, p. 126) note that, over the last 10 years in their study period, only six articles were published by UK academics in the three accounting journals which are often recognised as being among the set of top publications: The Accounting Review (TAR), Journal of Accounting Research (JAR) and Journal of Accounting and Economics (JAE).

¹⁰ Three finance journals (Journal of Finance, Journal of Financial Economics, Review of Financial Studies), Journal of Business and three economics journals (Journal of Political Economy, American Economic Review and Econometrica).

¹¹ They publish, on average, 20% of their articles in the top 4 finance journals and 32% in the next top 11 finance journals, compared to faculty at the higher ranked institutions who publish, on average, 42% of their articles in the top 4 finance journals and 12% in the next top 11 finance journals.

¹² Casual empiricism suggests that senior managers at the post-1992 institutions bemoan the fact that home-grown research talent tend to move on to the pre-1992 universities where teaching loads are often lower and the institutional reputation is higher.

¹³ Commenting on the Independent on Sunday's 'The Complete University Guide 2008', Andy Sharman commented: 'The post-1992 crop of universities once more failed to break into the top 50 and the binary divide that has separated them from the old universities remains intact. Only Nottingham Trent and the University of Hertfordshire managed to cross the traditional line, beating Bangor, which was the lowest placed old university' (Sharman 2008).

¹⁴ For example in RAE 2008, accounting and finance academics were typically submitted within either the 'Accounting and Finance' (A&F) or the 'Business and Management' (B&M) units of assessment (UoA). In a ranking of institutions based on the simple grade point average (weighted quality score), just 1 (out of 7) and 1 (out of 45) post-1992 university appeared in the top half of the rankings of these UoAs, respectively. By contrast, in the bottom half of the rankings they had 5 (out of 7) and 38 (out of 45), respectively. The mean GPA score and number of research active staff submitted by post-1992 institutions were also significantly lower than pre-1992 institutions: for the A&F UoA, mean GPA = 1.90 versus 2.43; mean number of FTE research active staff = 6.0 versus 15.5; the equivalent figures for the B&M UoA were: 1.87 versus 2.61 and 19.0 versus 50.9.

¹⁵ In recent years, academics within the UK accounting and finance discipline are more likely to form part of a larger business or management school grouping than existing as a fully independent department, though there are notable exceptions. In some institutions, it is possible that the research quality of this larger grouping is likely to exert a significant influence.

¹⁶ To be included, individuals must meet one or more of the following criteria: be located in an accounting and finance department; have a primary commitment to teaching and research in accounting and finance; be a teacher who does the bulk of their teaching on accounting and finance degree courses; or be a researcher who publishes in accounting and finance journals.

¹⁷ Consequently, to ensure comparability, it was necessary to remove a small number of working papers from the pre-promotion publication records of some promotions occurring in the earlier years of the study.

¹⁸ The first (unbound) edition of the *Register* was published as the *AUTA: News Directory* in 1982 (Brown *et al.* 2007) but, given its extremely patchy publication coverage, was not used in constructing the source database for the current study.

¹⁹ A change (typically) from Senior Lecturer to Professor identifies a promotion. However, the date of promotion is not usually available, so the timing of promotion can only be identified as occurring within the two year period covered by the Register identifying a professor for the first time. On average, this means that promotions take place half-way through the two year period. We categorise all publications in this two year period as 'pre-promotion' which means that, on average, we include 1 year of post-promotion publications. Given the imprecision of the promotion date, this is almost unavoidable – indeed it is useful in that it implicitly allows for one year of 'forthcoming papers', on average, which would typically be taken into account in promotion decisions. A more detailed explanation of the treatment of promotion timing is given on the authors' personal web pages.

²⁰ The Association of Business Schools published a third edition of its journal rankings guide in 2009 (ABS 2009). Investigation of the changes in journal rankings between versions 2 and 3 identified a very small number relevant to the present study. In particular, there are 12 changes which could potentially affect the results: 6 journals went up and 6 went down by one grade, affecting 30 out of the total of 1,006 ABS listed journal papers in our analysis. Given this negligible effect, we have continued with the ABS (2008) rankings.

²¹ Two other measures were used in some regressions as a check for robustness: the number of 3* plus 4* publications and the weighted average ABS score. The broadly similar results are not reported here.

²² Further information, including a list of member institutions is available on their respective websites: <http://www.russellgroup.ac.uk/> and <http://www.1994group.ac.uk/>. The 1994 Group expanded to 19 institutions on 1 August 2009 when the Institute of Education, University of London joined the group.

²³ Unfortunately, a separate RAE quality profile for the accounting and finance discipline is only available for a relatively small number of groups (14 in total). Members of the accounting and finance groups were typically submitted either to the 'Business and Management' (B&M) or the 'Accounting and Finance' (A&F) panel,

depending on whether accounting and finance was considered as part of an overall business school submission. If to the former panel, then accounting and finance is subsumed in the overall B&M profile for the institution. However, this will provide an overall indicator of research quality within the broad business area which can be used as a rough proxy for accounting and finance.

²⁴ The usefulness of this proxy for research quality in the present study requires the additional assumption that quality is relatively stable over time. Anecdotally, while there have been some changes over the timeframe studied here, these appear to be relatively small in contrast to a broadly stable institutional ‘pecking order’ in accounting and finance research.

²⁵ An alternative measure, the number of sole-authored 3* plus 4* ABS publications was also used, with similar (unreported) results.

²⁶ The sample represents 63% of the population of 217 promotions to professor that are identifiable from the *Registers* during the sample period. The remaining 80 promoted staff were either promoted to Irish universities or did not have the required minimum of 10 years pre-promotion records available within the *Registers*.

²⁷ Inspection of the list of institutions included in the sample suggests that some of the larger London-based institutions may be under-represented in the sample, perhaps reflecting a different approach to promotions and rewards. Overall, subject to this proviso, the sample of promoted professors seems likely to be broadly representative of the population, especially from the perspective of UK academics.

²⁸ On average, pre-promotion portfolios contain 5.9 non-journal types of output, particularly book chapters (2.6), books (1.1) and research reports for professional accounting bodies (0.9), plus 5.9 journals not included in the ABS (2008) listing. This latter category includes some (mainly lower quality) refereed journals together with professional magazines and newspapers.

²⁹ Unfortunately, we have no means of identifying any such chairs *ex ante*, so we have kept all observations in the analysis; the potential impact of this on the reported results is likely to be minimal.

³⁰ The information used included professorial title (if any), stated research interests, teaching specialisms, the nature (title and journal placement) of outputs and personal knowledge. While this necessarily involved a degree of subjectivity, a high level of consistency was achieved between the researchers: just 3 individuals were reclassified as a result of the different initial judgements.

³¹ The 4 years is actually 3 years pre-promotion and 1 year post-promotion, on average, as described earlier for the 10 year data. Further, the analysis of internal/external promotions and gender in Table 3 was repeated on this 4 year data with identical conclusions (though obviously based on smaller numbers of outputs); i.e. there is no evidence of a difference between internal and external promotions or between pre-promotion outputs by males and females.

³² The international nature of research and publishing has to be recognised, so other country demographics are also important. For example, while full time ‘tenure-eligible’ accounting staff in the US fell by 19% over a broadly similar period, staff in other business fields rose by 20% and accounting academics within research-oriented institutions rose by a modest 8% (AAA 2008).

³³ For example, Sinclair (2004, p. 6) in a survey of 1,048 PhD supervisors in Australia reports that the mean number of refereed journal papers published by supervisors in the Natural Sciences is 66 compared with 29 in the Social Sciences (which includes Accounting and Finance).

³⁴ One of the reviewers suggested a further explanation, concerning potential institutional bias within rankings (such as ABS, even though it’s a British ranking!) towards US-based journals and epistemologies. S/he argued that one of the logical conclusions of this paragraph is proactive commitment in the face of epistemological inequities: accounting academics, in the UK and elsewhere, do not have to remain passive in the face of systemic biases ensuing from US epistemological hegemonic forces. For instance, academics can actively promote certain journals. They can also make pressure on certain journals to make their editorial scope more open to research diversity.

³⁵ There are 9 A&F journals ranked as 4* in ABS (2008) representing 7.2% of the 125 A&F journals therein; 8 of the 9 are edited and published in the US with papers authored by US academics in the main. Overall in ABS (2008), 10% of the total of 1,025 journals are categorised as 4*.

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Table 1: Cross-tabulations of sample characteristics of promotions to professor 1992-2007

Panel A

	1992-3	1994-5	1996-7	1998-9	2000-1	2002-3	2004-5	2006-7	Total	%
Pre-1992	8	14	8	13	14	14	18	16	105	77%
Post-1992	4	4	2	7	4	6	3	2	32	23%
Total	12	18	10	20	18	20	21	18	137	100%

Fisher's Exact Test = 5.27 (p = 0.636)

Panel B

	1992-3	1994-5	1996-7	1998-9	2000-1	2002-3	2004-5	2006-7	Total	%
Internal	7	10	8	12	14	14	10	12	87	64%
External	5	8	2	8	4	6	11	6	50	36%
Total	12	18	10	20	18	20	21	18	137	100%
Internal %	58%	56%	80%	60%	78%	70%	48%	67%	64%	

Fisher's Exact Test = 6.09 (p = 0.537)

Panel C

	1992-3	1994-5	1996-7	1998-9	2000-1	2002-3	2004-5	2006-7	Total	%
Male	12	17	8	17	16	13	14	13	110	80%
Female	0	1	2	3	2	7	7	5	27	20%
Total	12	18	10	20	18	20	21	18	137	100%

Fisher's Exact Test = 12.05 (p = 0.077)

Panel D

	1992-3	1994-5	1996-7	1998-9	2000-1	2002-3	2004-5	2006-7	Total	%
Accounting	10	14	6	18	14	13	15	8	98	72%
Finance/Acc&Fin	2	4	4	2	4	7	6	10	39	28%
Total	12	18	10	20	18	20	21	18	137	100%

Fisher's Exact Test = 11.83 (p = 0.096)

Panel E

	Pre-1992	Post-1992	Total
Male	85	25	110
Female	20	7	27
Total	105	32	137

Chi-sq = 0.01 (p = 0.922)

Panel F

	Int	Ext	Total
Male	68	42	110
Female	19	8	27
Total	87	50	137

Chi-sq = 0.36 (p = 0.546)

Panel G

	Pre-1992	Post-1992	Total
Accounting	69	29	98
Finance/Acc&Fin	36	3	39
Total	105	32	137

Chi-sq = 6.30 (p = 0.012)

Table 2: Summary of outputs in 10 years prior to promotion to professor – full sample and partitioned by institution type

	ABS- listed journals				Total ABS	Total non-ABS	Total Outputs	Weighted ABS Score	Total 3* + 4*	3* + 4* % of total ABS
	4*	3*	2*	1*						
Panel A: Overall results (n = 137)										
Mean	0.7	4.7	2.4	1.0	8.7	11.8	20.4	2.51	5.3	60%
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.00	0.0	0%
16.5th percentile	0.0	1.0	0.0	0.0	4.0	3.0	10.0	2.09	2.0	29%
Q1	0.0	2.0	0.0	0.0	5.0	4.0	12.0	2.29	2.0	40%
Median	0.0	4.0	2.0	0.0	8.0	10.0	18.0	2.59	5.0	63%
Q3	1.0	7.0	3.0	1.0	12.0	16.0	25.0	2.94	7.0	86%
83.5th percentile	1.0	8.0	4.6	2.0	13.0	18.0	30.0	3.00	9.0	96%
Maximum	9.0	15.0	10.0	7.0	21.0	55.0	73.0	4.00	17.0	100%
Panel B: Pre-1992 vs post-1992 institutions										
Promotion to pre-1992 institution (n = 105)										
Mean	0.8	5.3	2.5	0.8	9.4	11.4	20.8	2.62	6.2	65%
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.00	0.0	0%
16.5th percentile	0.0	1.2	0.0	0.0	4.0	3.0	10.2	2.29	2.0	38%
Q1	0.0	2.0	0.0	0.0	6.0	4.0	12.0	2.36	4.0	50%
Median	0.0	5.0	2.0	0.0	9.0	9.0	17.0	2.67	5.0	67%
Q3	1.0	8.0	4.0	1.0	13.0	16.0	27.0	3.00	9.0	88%
83.5th percentile	1.0	9.0	5.0	1.8	14.0	18.0	30.8	3.00	10.0	100%
Maximum	9.0	15.0	10.0	7.0	21.0	55.0	73.0	4.00	17.0	100%
Promotion to post-1992 institution (n = 32)										
Mean	0.1	2.5	2.1	1.4	6.1	13.0	19.1	2.12	2.6	43%
Minimum	0.0	0.0	0.0	0.0	0.0	1.0	3.0	0.00	0.0	0%
16.5th percentile	0.0	0.0	0.0	0.0	2.0	4.0	10.0	1.67	0.0	0%
Q1	0.0	1.0	0.0	0.0	3.0	5.5	11.0	1.74	1.0	10%
Median	0.0	2.0	2.0	1.0	6.0	11.0	18.0	2.24	2.0	42%
Q3	0.0	3.0	3.0	2.3	8.5	17.0	24.3	2.58	3.3	64%
83.5th percentile	0.0	5.8	3.0	3.0	9.0	18.0	25.0	2.87	5.9	84%
Maximum	2.0	7.0	9.0	6.0	14.0	45.0	58.0	3.40	7.0	100%
Significance of tests for difference between pre-1992 and post-1992 promotion mean outputs ¹										
	***	***			***			***	***	***

Notes

1. Differences between means for pre-1992 and post-1992 institutions significant at 1% (***) and 5% (**), respectively (2-tail t-test)

Table 3: Association between pre-promotion publication portfolio and various characteristics

	ABS- listed journals				Total ABS	Total non-ABS	Total Outputs	Weighted ABS Score	Total 3* + 4*	3* + 4* % of total ABS	
	4*	3*	2*	1*							
Panel A: Internal vs external promotion											
Internal promotion (n = 87)											
Mean	0.7	5.1	2.5	1.0	9.3	12.1	21.4	2.49	5.8	59%	
Median	0.0	5.0	2.0	0.0	9.0	11.0	19.0	2.63	5.0	60%	
External promotion (n = 50)											
Mean	0.5	4.0	2.1	1.0	7.6	11.2	18.8	2.54	4.5	61%	
Median	0.0	3.5	2.0	0.0	7.0	10.0	15.0	2.52	4.0	67%	
Significant differences in mean outputs ¹					**				**		
Panel B: Male vs female promotions ²											
Male (n = 110)											
Mean	0.7	4.8	2.2	1.0	8.7	11.9	20.6	2.56	5.5	63%	
Median	0.0	4.0	2.0	0.0	8.0	10.5	18.0	2.67	5.0	67%	
Female (n = 27)											
Mean	0.5	4.1	3.1	0.9	8.6	11.2	19.8	2.29	4.6	50%	
Median	0.0	5.0	2.0	0.0	9.0	8.0	17.0	2.40	5.0	50%	
Panel C: Accounting vs finance professors											
C(i) Accounting professors (n = 98)											
Mean	0.6	4.4	2.4	0.9	8.3	13.9	22.3	2.47	5.0	58%	
Median	0.0	4.0	2.0	0.0	8.0	12.0	20.0	2.50	5.0	60%	
C(ii) Finance professors (n = 33) ^{3,4}											
Mean	0.8	5.2	2.2	1.1	9.3	5.1	14.4	2.61	6.0	66%	
Median	0.0	4.0	1.0	1.0	8.0	4.0	13.0	2.69	5.0	72%	
C(iii) Finance and accounting/finance professors (n = 39) ^{3,4}											
Mean	0.8	5.4	2.2	1.1	9.5	6.3	15.8	2.61	6.1	66%	
Median	0.0	5.0	1.0	1.0	8.0	4.0	13.0	2.69	5.0	67%	
Significance of tests for difference between accounting and finance discipline professor mean outputs ⁴											
C(i) vs C(ii)						***	***				
C(i) vs C(iii)						***	***				
Panel D: Time series analysis of mean pre-promotion outputs											
'Year' of promotion ⁵	No of promos										
1992-3	12	0.4	2.6	0.9	0.2	4.1	16.3	20.3	2.48	3.0	66%
1994-5	18	0.7	4.6	1.4	0.6	7.3	14.6	21.9	2.48	5.2	65%
1996-7	10	0.5	6.1	3.3	1.2	11.1	19.6	30.7	2.36	6.6	52%
1998-9	20	0.6	4.8	1.4	0.5	7.3	11.3	18.6	2.61	5.4	68%
2000-1	18	0.8	4.8	3.4	1.2	10.2	11.2	21.4	2.63	5.6	58%
2002-3	20	0.2	5.0	2.4	1.3	8.8	11.4	20.2	2.35	5.2	55%
2004-5	21	0.6	4.6	3.4	0.9	9.5	9.6	19.0	2.49	5.2	53%
2006-7	18	1.4	4.9	2.4	1.8	10.7	5.7	16.4	2.59	6.4	62%
Significant mean differences ⁶				***	**	***	**				

Notes

- Differences between means for internal and external promotions significant at 5% (**) (2-tail t-test)
- None of the differences between means for male and female promotions were significant at the 1% or 5% levels (2-tail t-test)
- Six professors in the sample act at the interface between accounting and finance; these six are excluded from C(ii) and included within C(iii), respectively
- Differences between means for accounting and finance professors significant at 1% (***) and 5% (**), respectively (2-tail t-test)
- The 'year' of promotion identifies the two-year period during which the promotion occurred
- ANOVA test; Tukey HSD post-hoc tests show: *ABS 2** has significantly lower means in 1992-3 than the highs in 2000-1, 2004-5
*ABS 1** has significantly lower means in 1992-3, 1998-9 than the high in 2006-7
Total ABS has significantly lower means in 1992-3 than the highs in 1996-7, 2000-1, 2004-5 and 2006-7
Total non-ABS has significantly lower means in 2006-7 than the highs in 1992-3 and 1996-7

Table 4: Summary of outputs in 4 years prior to promotion to professor

	ABS- listed journals				Total ABS	Total non-ABS	Total Outputs	Weighted ABS Score	Total 3* + 4*	3* + 4* % of total ABS
	4*	3*	2*	1*						
Overall results (n = 137)										
Mean	0.3	2.6	1.3	0.6	4.8	5.4	10.2	2.35	2.9	55%
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00	0.0	0%
Median	0.0	2.0	1.0	0.0	5.0	4.0	9.0	2.50	3.0	60%
Maximum	5.0	12.0	8.0	4.0	16.0	37.0	53.0	4.00	13.0	100%
Significance of tests for difference between 4 year and 10 year rates of output ¹										
Mean 10 year [Table 2]	0.7	4.7	2.4	1.0	8.7	11.8	20.4	2.51	5.3	60%
4/10 * Mean (10 year)	0.3	1.9	0.9	0.4	3.5	4.7	8.2	2.51	2.1	60%
		***	***	***	***		***	Note 2	***	Note 2

Notes

1. Test of whether mean of '4 year' > 4/10ths of mean '10 year' (1 tail t-test)
2. 4 year means for *Weighted ABS Score* and *3*+4* % of total ABS* are actually significantly **less** than 4/10ths of mean '10 year' at the 5% level (1 tail t-test)
3. *** (***) represent significance at the 1% and 5% levels, respectively

Table 5: OLS multivariate regressions of factors affecting pre-promotion portfolios for promotions to professor 1992-2007

		MODEL 1			MODEL 2			MODEL 3		
		all promotions			pre-1992 promotions			all promotions		
Dependent variable:		No of ABS Journal papers			No of ABS Journal papers			Total no of outputs		
Independent variables	Exp sign	coeff	t-stat		coeff	t-stat		coeff	t-stat	
post-1992	-	-0.065	-0.08					1.078	0.54	
internal	+	0.324	0.65		1.100	1.73	*	2.854	2.35	**
female	?	-0.563	-0.94		-0.675	-0.95		-0.907	-0.61	
finance	?	-0.287	-0.46		-0.571	-0.78		-4.496	-3.15	***
acc/fin	?	0.464	0.40		0.445	0.37		-1.760	-0.62	
1992-3	?	-3.599	-3.34	***	-3.617	-2.82	***	2.784	1.10	
1994-5	?	-3.764	-4.06	***	-3.572	-3.36	***	-6.422	-2.77	***
1996-7	?	-2.970	-2.73	***	-2.098	-1.67	*	0.268	0.10	
1998-9	?	-2.982	-3.25	***	-2.457	-2.26	**	-4.941	-2.18	**
2000-1	?	-1.460	-1.57		-1.928	-1.84	*	-1.828	-0.80	
2002-3	?	-1.452	-1.67	*	-1.474	-1.48		0.221	0.10	
2004-5	?	-1.014	-1.21		-0.729	-0.79		-0.278	-0.13	
total no of ABS papers (4yr)	-	0.978	11.93	***	0.979	10.55	***			
total outputs (4yr)	-							1.402	16.97	***
Russell Group	+	-0.226	-0.37		-0.035	-0.05		1.814	1.20	
1994 Group	+	-0.429	-0.52		-0.350	-0.41		4.096	2.06	**
RAE 2008 score	+	1.635	1.60		1.618	1.35		1.187	0.48	
non-ABS outputs (excl reports)	-	0.055	1.91	*	0.058	1.59				
sole-authored ABS papers	-	0.342	3.83	***	0.312	3.04	***	0.446	2.10	**
total no of research reports	-	0.223	1.41		0.081	0.41				
Constant		0.247	0.09		-0.135	-0.04		1.722	0.25	
n			137			105			137	
Adj Rsq			0.73			0.72			0.75	
F			20.58	***		16.06	***		24.53	***

Notes

***, ** and * represent significance at the 1%, 5% and 10% levels respectively (2-tail)

Dependent variables

No of ABS Journal papers: total number of papers published in journals listed in ABS (2008) over the 10 year period ‘prior to’ promotion; *Total no of outputs*: total number of outputs of any type over the 10 year period ‘prior to’ promotion.

Independent variables

post-1992: promotion to, or at, a post-1992 institution (D); *internal*: internal promotion (D); *female*: female (D); *finance*: academic working within the finance sub-discipline (D); *acc/fin*: academic working at the interface between accounting and finance sub-disciplines (D); time dummies: *1992-3*, *1994-5*, *1996-7*, *1998-9*, *2000-1*, *2002-3*, *2004-5* represent promotion within the named two year period (D); promotion in 2006-7 is the base period (with no dummy); *total no of ABS papers (4yr)*: total number of papers published in journals listed in ABS (2008) over the 4 year period ‘prior to’ promotion; *total outputs (4yr)*: total number of outputs of any type over the 4 year period ‘prior to’ promotion; *Russell Group*: promotion to, or at, one of the 20 universities in the Russell Group (D); *1994 Group*: promotion to, or at, one of the 18 universities in the 1994 Group (D); *RAE 2008 score*: GPA of the promoting institution’s submission to the UK Research Assessment Exercise 2008, measured as the average of the GPA scores received for the submissions to the “Business and Management” and “Accounting and Finance” Panels, weighted by the number of staff submitted to each panel; *non-ABS outputs (excl reports)*: total number of outputs excluding ABS journal papers and research reports (professional and other) over the 10 year period ‘prior to’ promotion; *sole-authored ABS papers*: number of sole-authored ABS-listed journal papers over the 10 year period ‘prior to’ promotion; *total no of research reports*: total number of research reports (professional and other) over the 10 year period ‘prior to’ promotion.

Table 6: Journals from Glover et al.'s (2006) lists included within UK promotion portfolios

Journal	ISSN	Subj group	ABS Grade	No of papers in J	Glover et al	No of papers in group	Cum No
Accounting Review	0001-4826	A&F	4	1	Acc03		
Journal of Accounting & Economics	0165-4101	A&F	4	2	Acc03		
Journal of Accounting Research	0021-8456	A&F	4	4	Acc03	7	7
Academy of Management Review	0363-7425	GEN MAN	4	1	Bus		
Journal of Business Ethics	0167-4544	ETH-GOV	3	6	Bus		
Journal of Finance	0022-1082	A&F	4	7	Bus		
Journal of Financial Economics	0304-405X	A&F	4	6	Bus		
Journal of International Business Studies	0047-2506	IB & AREA STUD	4	1	Bus		
Long Range Planning	0024-6301	STRAT	3	5	Bus		
MIS Quarterly	0276-7783	INFO MAN	4	2	Bus		
RAND Journal of Economics	0741-6261	ECON	4	2	Bus		
Review of Financial Studies	0893-9454	A&F	4	3	Bus	33	40
Accounting, Organizations and Society	0361-3682	A&F	4	41	Acc06		
Contemporary Accounting Research	0823-9150	A&F	2	2	Acc06	43	83
Accounting Horizons	0888-7993	A&F	3	2	Acc15		
Auditing: a Journal of Practice & Theory	0278-0380	A&F	2	1	Acc15		
Journal of Accounting, Auditing and Finance	0148-558X	A&F	3	1	Acc15		
Journal of Accounting and Public Policy	0278-4254	A&F	3	6	Acc15		
Journal of Accounting Literature	0737-4607	A&F	3	1	Acc15		
Journal of Business Finance & Accounting	0306-686X	A&F	3	81	Acc15	92	175
Abacus	0001-3072	A&F	2	7	Acc25		
Accounting and Business Research	0001-4788	A&F	3	78	Acc25		
Journal of Accounting Education	0748-5751	MAN DEV & EDU	2	2	Acc25		
J of Management Accounting Research (AAA)	1049-2127	A&F	2	1	Acc25		
Review of Quantitative Finance and Accounting	0924-865X	A&F	3	4	Acc25	92	267

Notes:

Acc03 = Top 3 Accounting

Bus = Through Top Business (top business journals in other disciplines but including the 3 accounting journals)

Acc06 = Through Top 6 Accounting (i.e. an extra 3 accounting journals added to the full business list)

Acc15 = Through Top 15 Accounting

Acc25 = Through Top 25 Accounting (includes 25 accounting plus 35 business journals making 60 journals in total)