## Knowledge Exchange and Impact: A comparison of policy incentives and diverging spatial relationships in the UK Higher Education

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The relationship between higher education and society, and the way knowledge flows between the university and society has been always changing, influenced by broader political economy, national and sub-national, as well as institutional policy contexts. The last 30 years have witnessed a continuous process of reorganisation of the higher education sector, driven by the rise of the "knowledge-based economy", the "academic capitalism" (Slaughter and Rhoades, 2004) and "massification" of the higher education sector (McNay, 2006; Scott, 2010) . Knowledge transfer/exchange is a strand of public policy influencing higher education that has developed over the last 30 years in North America, Europe and in many of the industrialised countries (Bozeman, 2000).

Promoting knowledge exchange and external engagement of academic researchers has been of interest to policy makers at multiple levels, including European, national and sub-national governments and public funding bodies (Molas-Gallart and Casto-Martinex, 2007: Jongboed and Zomer, 2011; OECD, 2006). Setting incentives for knowledge exchange activities encompasses complex processes at the policy, institutional and individual levels. Despite this intensified policy attention and the growth in the number of studies in academia investigating the contribution of universities in innovation and economic development processes, recent work has also begun to question the high level of policy expectations, with little understanding of the actual processes of knowledge flows, and the extent to which territorial economic development can be actually achieved through the utilisation of university knowledge.

The specific background of this paper is the knowledge exchange policy, strategies and funding incentives as evolved in the English, Scottish and Welsh higher education sectors. The comparison between England, Wales and Scotland highlights divergence as well as convergence in terms of the policy visions and strategies at "national/regional" level with nuanced and distinctive policy conditions and institutional processes. This phenomenon reflects the recent "asymmetric" devolution processes in the UK, namely, England, Scotland, Wales and Northern Ireland, where higher education policy is becoming responsibility of the devolved administrations whist research policy remains centralised.

By reviewing a wide range of literature ranging from research policy, S&T studies, science communication and higher education studies, factors and processes that condition institutionalization and incentivization of knowledge exchange activities are identified. Based on the analytical frameworks drawn from public policy literature, the paper illustrates the policy evolution and different models of "policy effectiveness" (Bozeman, 2000) associated with distinctive sets of performance indicators. This is based on the qualitative analysis of policy documents, evaluation reports and other secondary sources, supplemented by a limited number of confidential semi-structured interviews with senior officers at funding councils, university research and knowledge exchange managers and academics in the UK. This paper develops the conceptual framework proposed by Bozeman (2000) by highlighting the connection between "policy effectiveness" and *knowledge transfer environment*. The roles of the funding councils are conceptualised as as *policy transfer agents*, translating the policy effectiveness models into certain indicators and metrics for funding allocations that influence the KE incentivization processes at HEIs. Against the multi-level national policy objectives and structures, different "policy effectiveness models" are pursued in both England, Wales and Scotland; each of the policy transfer agents, along with the set of relevant stakeholders, have chosen different institutionalization and incentivization strategies for funding allocation mechanisms for capacity building and embedding KE in institutional architectures.

Building on the comparative policy analysis, the paper then looks at the data on individual academics' attitudes and experiences on KE activities using the CBR survey with 22,000 academics in the UK conducted in 2008-9. The paper specifically examines the 'spatial dimension' of knowledge exchange activities – whether the individual academics work with local partners, national partners and international partners, by regions and by the nature of different types of knowledge exchange activities. Existing works show that incentives provided at the institutional level are perceived differently according to different types of institutions (Abreu et al, 2009; PACEC/CBR, 2009). There are factors inhibiting "supply side" KE activities including "traditional indicators of recognition and impact" (Ozga, 2006). Also there are factors depending on academic disciplines, career stages, institutional pressures and personal motivations (Ozga and Jones 2006). The key question is: what are the factors that affect KE activities and KE relationships of academics? Is there difference in the nature of KE relationships and activities in the devolved UK regions with different incentive mechanisms at work? The paper aims to analyse these factors in light of the complex multi-level and multiple areas of research and higher education policy landscape emerging in the UK.

The final part of paper consists of discussion of the ongoing policy agenda. While the funding councils principally support building institutional infrastructure and "capability" (and more recently, "outcomes") of KE activities, the research councils provide resources for "activities" related to research and KE. There are a number of policy documents and evaluation works conducted on the impact of the so-called third stream funding provided by the funding councils. How will the recent RCUK "Pathways to Impact" and the REF impact assessment case studies will affect the wider knowledge exchange environment as well as the nature of knowledge production and co-production – including academics' motivation, strategies and practices as well as the choice of media of KE and the nature of objects of knowledge exchange need to be investigated and documented with rigorous evidence. The paper concludes by identifying conceptual as well as methodological issues as to how to analyse these changes at individual as well as institutional levels, and raise questions about how the mechanisms for policy "feedback –loop" could be constructed between the higher education communities and public policy communities.

(963 words)