Universities, Localities and Regional Development: The Emergence of the ‘Mode 2’ University?*

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There has long been a tension between the roles of the university in servicing the needs of sub-national economies and civil societies, those of the national state and those of learning and the pursuit of knowledge in an abstract sense (Scott, 1990; Delanty, 2001). The balance between these concerns has shifted over the last century, but the position in liberal democracies through much of the twentieth century can be accurately characterized by a significant degree of separation and segregation between the university, the state and the market. Recently, however, it has been posited that the balance is shifting away from relative autonomy towards a new ‘mode of knowledge production’ (Gibbons et al., 1994; Ruivo, 1994; Nowotny et al., 2001) in which the growing engagement of universities with their regions and localities is an important aspect. The first part of this article explores the knowledge economy rhetorics which have come to dominate public policy rationales in many liberal democracies and interrelationships with questions of territory and scale. Second, the implications for universities are considered as they are confronted by a number of challenges and choices in navigating the waters of increasing societal expectations. Finally, the article highlights key questions that emerge from our preliminary overview of these issues within a wider research agenda around universities, the knowledge economy and regional development.

Accounting for the new agenda

Although national contexts strongly affect the extent and nature of links between universities and regions, a number of recent surveys suggest that this is a widespread trend (Garlick, 2000; Goddard and Chatterton, 2001; Jimenez and Zubieta, 2001; Puukka, 2001). This has been supported by research that has highlighted the direct and indirect impacts of higher education on the economy, as well as the increasing social and civic roles of universities. While this has long been the case in the United States, where many universities have a history of community engagement and a wide educational mission, as a result of the Morrill Land Grant Acts (1862, 1890), increasing sub-national engagement elsewhere is linked more to issues of economic development, competitiveness and growth. A wide range of government policies to improve national competitiveness cast universities in a central role in relation to the production and dissemination of socially useful knowledge, indeed, in several countries the creation of a local university has been an explicit element in the development strategies of regional agencies (Thanki, 1999). Here, then, the growing salience of these local and regional...
links, in the context of the increasing ‘external’ engagements of universities, can be explained by the contemporaneous expansion of government activity in relation to economic development, regeneration and competitiveness.

While there are differences in the historical roles of universities across economies, the general movement towards increasing sub-national engagement remains a relatively recent phenomenon. For some, money, or rather the lack of it from the public purse, would seem to provide a powerful rationale for this shift (Slaughter and Leslie, 1997). Universities have had to adapt, often with resistance and regret, to the need to seek alternative ‘tied’ sources of funding from business, industry, civil society and non-national state actors. In certain cases, notably the United States, greater sub-national engagement is seen more as a result of the devolution of responsibility for funding higher education to the sub-national state. Elsewhere, the issue is not diminishing funding per se, but rather expectations of what can be expected from academic work rising at a faster rate than levels of available funding. Yet inadequate funding offers only a partial and thus superficial account of the rationales underlying public policy changes. Rather, the ‘new’ role of universities in relation to sub-national economies and societies has been widely justified in terms of the development of the knowledge economy and changing notions of scale.

The knowledge economy and universities

Despite political, economic and social upheaval and change, the university remained a relatively stable, though evolving, institution from its medieval roots until the second half of the twentieth century (Barnett, 1990). Two primary functions have been the pursuit of knowledge — or ‘science’ for short — in a range of academic disciplines (Fuller, 2000: 5) and the provision of a liberal education to an elite, as part of a more general aim to create a more knowledgeable and enlightened population (Scott, 2000: 192). To meet these aims, universities have generally been granted a partial degree of autonomy from the state and society. On the whole, there has been a traditional disconnection between the mission of universities and the immediate economic and social development needs of states and localities, with research being driven by the advancement of knowledge, rather than the world of application.

In many countries, links between universities, the state and industry became stronger after 1945, especially in the context of the Cold War and the role of science in its prosecution. Much applied scientific research was carried out in specialist state research institutions (Gummett, 1991; Piganiol, 1991). However, the university’s main focus remained the pursuit of basic, ‘blue skies’ research in science, the social sciences and the humanities. Ruivo (1994) considers this first ‘paradigm of science’ in the post-war years as the era of ‘science as the motor of progress’ in which there was an almost unquestioning belief in the inherent value of pure science and proportionately high levels of basic research funding. By the 1970s, however, the ability of science to deliver social and economic benefit was being questioned. The focus shifted to the way in which science could be directly applied to ‘solve’ national problems and to how scientific and social scientific knowledge could have increased relevance. Then, from the 1980s, this conception of science gave way to a third paradigm — ‘science as a strategic opportunity’ in which the focus was on growth and national welfare, the development of foresight, university-industry links and the relationship between science and innovation (Ruivo, 1994: 160; see also Gibbons, 2001). Inherent in this most recent shift is a different conception of the function of the university in relationship to the state and the market, which can be explained primarily in the context of the development of the knowledge economy.

Most writers on the subject date the concept of the knowledge economy back to the influential work of Bell in 1973, often acknowledged as the first to recognize the key role of knowledge as a factor in the production and reproduction of economies and
societies (de Weert, 1999; Bryson et al., 2000; Scarborough, 2001). More recently, in *The Rise of the Networked Society* (1996), Castells outlines the rise of ‘informational capitalism’ and argues that while information and knowledge have always been important for economic growth, the ability to produce, circulate and apply knowledge is now more fundamental to competitiveness than the traditional tangible wealth-creating assets of land, labour or capital. Various characteristics have been highlighted as evidence of these profound socio-economic shifts. These include the growth of high-tech industries and the expansion of the scientific base; the move away from manufacturing to a service-based economy; the development of new information technologies and accelerated technological change; the increasing complexity and sophistication of production processes; the reliance on specialist skills; the rising importance of the use and transfer of knowledge for economic activities and the application of knowledge to knowledge (Neef, 1998; Bryson et al., 2000). In this context, new scientific and social scientific knowledge assumes increased importance in terms of its ability to shed light on issues of economic and societal adaptation and change. However, knowledge has always played an important role in human activities (Stehr, 1994), so it is rather the ‘quantity, speed and acceleration’ of knowledge production and the complexity and permeation of knowledge into all spheres of life that specially mark the current economic phase (de Weert, 1999: 52).

How do the development of the knowledge economy and the new paradigm of science affect the university? Indeed, in a society where the ability to produce, disseminate and exploit knowledge becomes a driving force, is it possible for universities, who have traditionally been the semi-monopolists in the first two of these fields, to be unaffected? Universities have always occupied a space that is socially created and supported and so have never had the complete autonomy that idealized versions of reality suppose. Such autonomy as they do have is, broadly speaking, socially sanctioned, or at least tolerated, always provisional and subject to revision in line with social and economic change.

In the current era of ‘knowledge capitalism’ (Burton-Jones, 1999) innovation becomes the driving concern. Recognition of science’s capacity for innovation leads to a wish to exploit this systematically in order to achieve various socio-economic goals. This necessitates a new role for universities in which priority is placed upon extracting economic and competitive benefit from knowledge production. To fulfil this role, universities must produce exploitable knowledge and facilitate its diffusion. Gibbons et al. (1994) note that a key feature of the new knowledge economy is the emergence of a ‘Mode 2’ of knowledge production. ‘Mode 1’ science is generated within disciplinary contexts; problems are set and solved by means that are controlled by the specific disciplinary communities themselves. By contrast, ‘Mode 2’ research is created in broader, trans-disciplinary contexts. It is carried out in a ‘context of application’ and the previous distinctions between ‘pure’ and ‘applied’ research are increasingly transgressed: fundamental problems are investigated in the course of ‘applied’ research programmes and the possibilities of application are increasingly shaping programmes of ‘pure research’.

Knowledge in the context of application implies closer connections between different institutions and actors in the knowledge production system and requires universities to ‘reach out’ and cooperate with industry and government to a far greater extent than before (see also Etzkowitz and Leydesdorff, 2000). Such changes are located in wider shifts in social organization which characterize the globalized and knowledge-based world, notably the increasing prevalence of the ‘network’ in a plethora of social, political, economic and technological domains (Castells, 1996; Graham and Marvin, 2001). In relation to innovation, knowledge is often expensive and difficult to acquire, it is spread amongst a variety of actors in a ‘distributed innovation system’ and technologies and products are increasingly complex (Coombs and Metcalfe, 2000). To circumvent such difficulties, the ‘network’ and other forms of collaborative relationship have become more commonplace. Here, then, universities’ increasing sub-national engagement must be seen not only in the context of a
knowledge-based economy, but also in the context of changing social forms of organization which encourage networking, collaboration and the permeability of organizational boundaries.

The knowledge economy also implies a shift in the nature of skills necessary for competitive success. The argument here is that it is no longer possible for developed countries to compete as providers of manual labour or on the basis of natural resources, rather they must rely on the skills and creativity within the workforce. Thus, a premium is increasingly being placed on the pedagogic role of universities as producers of the educated workforce that the knowledge economy requires. In many countries with traditional elite systems of higher education, such as the United Kingdom, university education is no longer seen as a privilege for few, but an expectation for the many. Having undergone one mass expansion in the 1960s and 1970s, such universities are being asked to open their doors to as wide a population as possible, taking in many students from non-traditional backgrounds and responding more closely to local market needs.

**The knowledge economy, territory and scale**

All these developments help to explain the shifting role of universities in relation to competitiveness and wealth creation. However, why is the new role of universities framed in part, though not solely, in the context of their contribution to sub-national territories, to cities and regions? To understand this, it is necessary to draw on work within urban and regional studies and political economy which explores economic change in relation to scale and territory and the linked processes of globalization and regionalization.

Indeed, rather than seeing economic activities as being disembedded from territory via globalizing processes existing in a space of flows, many writers stress that the sub-national level is crucial in building national economic competitiveness and in the development of the knowledge economy (Storper, 1995; Taylor, 1996; Brenner, 1998). Most often cited in this context, and certainly best known in policy circles, is the work of the business economist, the ‘godfather’ of clusters, Michael Porter, whose 1990 thesis on the *Competitive Advantage of Nations* stresses that firms draw on location-specific factors for competitive success and on resources inherent within local environments. Porter, along with others from very different theoretical orientations such as Allen Scott, sees that regions are increasingly becoming important locations for the competitive activities of mobile investors and as engines of national growth (Scott, 1998; Dunning, 2000: 22). Theories of agglomeration and the importance of economic processes being embedded in localized social networks offer the prime explanation (Fujita and Krugman, 1995; Soja, 2000). Writers have referred to the shift from mass production to flexible specialization or from Fordism to post-Fordism to describe how the sub-national level may offer more appropriate economies of scale in order to avoid complex externalities (Newlands, 1995). In the most dynamic locales, face-to-face relations remain important, particularly given the divide between different kinds of knowledge and their relationship to space (Amin and Graham, 1997; Bryson et al., 2000). On the one hand, the knowledge economy is characterized by ‘explicit’ cognitive knowledge, or information, which can be easily stored and codified, often through the use of information technology, and so is in principle accessible globally (Allen, 2000: 27). However, the recent focus has been on ‘tacit’ knowledge — most commonly referred to as ‘know-how’. As tacit knowledge is hard to codify, it is less easily transferred across wide distances (Bryson et al., 2000: 3). This form of knowledge is being increasingly recognized as a specialist kind of knowledge, frequently specific to a firm, network or locality, offering unique competitive advantage compared with more widely networked knowledge.

The importance of localities for the development, exploitation and diffusion of tacit knowledge has been widely recognized, giving rise to a plethora of studies on ‘learning by doing’ and knowledge accumulation within firms, other organizations and regions (Malecki, 2000; Evangelista *et al.*, 2002; Simmie *et al.*, 2002). However, it is important
to note that the general significance of local networking and clustering for competitiveness is not securely established in academic circles, and the debates on knowledge, scale and territory are far from over (Gordon and McCann, 2000; Martin and Sunley, 2001; Simmie, 2002). This limitation has not, however, prevented national and sub-national governments and agencies from adopting clusters and networks as articles of faith and as the basis for competitiveness and economic development policies. Consequently, there is evidence that the sub-national level is acquiring greater economic significance. Without going into all the variants, two situations have frequently been described: on the one hand, the innovative ‘milieux’ that foster high-tech industries; and on the other hand, places such as the financial districts of the ‘global cities’ where those who control the financial system concentrate (Cohen, 1981; Friedmann and Wolff, 1982; Sassen, 1991; Cooke et al., 1997). To this can be added the more recent phenomena of the ‘creative city’, building on work by academics such as Richard Florida (2002).

These contrasting cases highlight a broader issue, namely the uneven impact of globalizing processes on sub-national economies and societies. The removal of national protective barriers in trade and services and the opening up of markets to global competition has created an environment in which inequalities and regional disparities have worsened and the gap between rich and poor has enlarged, in a world characterized by a ‘survival of the fittest’ mentality: free trade is not, of course, fair trade. Explicit government policies at the national, European and, to a far lesser extent, global level have therefore aimed at building up strength and capacity in less deprived regions and areas to enable them to compete on equal terms. In the context of increasing regionalization at the macro-level, with the European Union, the Association of South East Asian Nations, the North American Free Trade Area and so on, policies aimed at strengthening regions also assume importance in ensuring the cohesion of these larger continental blocs. At the micro-level, as the global economy is marked by social fragmentation and exclusion, cities and regions are seen as playing an increasingly important role in social and economic inclusion and cohesion (Buck et al., 2002; Le Galès, 2002).

Closely linked to, though not fully determined by, the ‘economic emergence’ of the sub-national level, has been the ‘political birth’ or ‘renewal’ of the importance of cities and regions. Many countries have moved towards increased regionalization and devolution, in some cases slowly and in a piecemeal fashion, as in the case of the UK, in others more dramatically, such as in France and Spain (Jones and Keating, 1995). On a general level, there is now an emerging system of multi-governance, in which nation-states are gradually ceding certain governance functions to the sub-national and supra-national levels (Hooghe, 1996; Marks et al., 1996; Benz and Eberlein, 1998; Conzelmann, 1998). This has two consequences for higher education. First, the increased political influence of sub-national agencies with an economically-oriented remit leads to new demands on universities to serve ‘their’ regions and cities as allies in urban and regional growth coalitions. Second, the shift from ‘government’ to ‘governance’, associated more generally with the economic transition from a Fordist to a post-Fordist regime (Stoker and Mossberger, 1994), implies a new role for a variety of actors at the sub-national level, of which the university is just one.

The rising importance of the sub-national level in economic and political terms provides a territorial focus for the university’s new role in the knowledge economy. There is an increased stress on its contribution to competitiveness via harnessing the economic benefit of science and knowledge, in which the sub-national scale plays an important role. However, at the same time as meeting these new demands, universities must respond to global challenges, opportunities and threats and continue to fulfil their traditional roles of teaching and research. More is expected of higher education, in spite of either decreasing, or a lack of additional, funding for ‘third mission’ or outreach activities and this creates considerable tensions and stresses for the university.
Crisis or opportunity for the ‘Mode 2’ university?

The social and political priority given to the advancement of the knowledge economy has profound impacts across the whole range of university activities. It has perforated the previously far clearer boundaries between social and political objectives and those of the universities. At the same time, the knowledge economy itself can be seen as part of a wider societal transformation. Indeed, a largely persuasive and complex argument has been put forward by Gibbons et al. which situates the shift from ‘Mode 1 science’ to ‘Mode 2 research’ within a wider transformation from a ‘Mode 1 society’ to a ‘Mode 2 society’ (Gibbons et al., 1994; Nowotny et al., 2001). If this is the case, a pertinent question concerns whether the transition to a ‘Mode 2 society’, the development of the knowledge economy and the economic and political significance attached to sub-national entities is also leading to the emergence of a ‘Mode 2 university’.

What might the key characteristics of a ‘Mode 2’ university be? First, it is closer to government and the market and is more directly responsive to national and regional needs in teaching, research and specific enterprise activities. Second, it conducts research in an interdisciplinary fashion and according to new criteria such as economic and social relevance. Third, it is innovative and interacts in a number of different networks and it is a key player in evolving systems of regional and local governance. Finally, changes in mission and practice are accompanied by internal turmoil, reorganization and restructuring. This transition entails both opportunities and threats. In responding to the new demands being placed upon them, universities are undergoing a crisis of purpose accompanied by pervasive problems of finance, administrative organization, internal culture, management and governance. The roots of this ‘identity crisis’ derive from the two wider socio-economic shifts, characteristic of the emerging ‘Mode 2’ society.

Knowledge, state, market and society

Recent years have seen a growing interpenetration of the state and the market, with the state becoming a mediator or facilitator especially in relation to the drive for innovation and competitiveness. This involves the adoption of quasi-market systems and processes in the public sector (including the universities). Such institutions are increasingly judged in terms of their business performance through extended regulatory systems, performance indicators and so forth, not by the traditional reference to a public service ethic or their own professional values. This shift from a public service to entrepreneurial ethos is a shift from accountability based on trust and mutuality to auditable accountability based on formal contracts. Various writers have referred to a ‘new managerialism’, the rise of the audit society, or a ‘new policy language’ to characterize these shifts (Ziman, 1994; Delanty, 2001).

As the need to be competitive, cost-effective and to respond to market pressures is impressed upon universities, this has the effect of commercializing universities’ activities in research and teaching. First, in the context of constraints on public funding for research, universities have turned increasingly to alternative support from the private sector. In teaching, a wider range of groups and interests now claim a legitimate concern in shaping university education. Two constellations stand out: government and industry, on the one hand, and the new mass of potential consumers of higher education, on the other hand. Increasingly, what universities teach and how they do it is changing in response to pressure from both these sources. Government and industry stress the need for graduates with better ‘key’ or ‘generic’ skills and the need for the universities to focus on the new skills required by the knowledge economy. Students are also strongly market-oriented and flock to courses which offer a passport to employment in the dynamic sectors of the economy. Many disciplines, in order to survive, have to reinvent themselves in market friendly forms. At the same time, it is argued that the increasing recognition of science’s capacity for economically productive innovation involves a movement from support for ‘basic’ or ‘pure’ scientific research whose
evolution is determined by the ‘advancement of knowledge’ and whose direction is
determined by (mainly academic) scientists, to support for research that is closely linked
to societal priorities (Gibbons et al., 1994). Funding is increasingly tied to the
production of ‘socially robust’ research involving new partnerships with business and
industry, the public sector, and the community. Quality control thus involves forms of
social accountability and acceptability that go beyond those set by the purely cognitive
context of ‘Mode 1 science’.

There are a variety of opinions on the desirability of such changes. Some
commentators stress the benefits of an entrepreneurial, reflexive, innovative and more
streamlined university (Clark, 1998; Van der Sijde and Schutte, 2000; Jongbloed and
Goedegebuure, 2001). Indeed, responding to market needs has led to the rise of
innovative disciplines and disciplinary combinations and new creativity in fields such
as health care, informatics, biomedical research, and the creative arts. An important
issue surrounds the struggle of these newer academic fields to receive recognition and
resources within a system of evaluation and reward that is still dominated by the norms
and values of the traditional university disciplines. More generally, the shift from
universities being largely linked to the reproduction of elites to a broader, more
democratic social role means closer working not just with local business, but with local
communities too, and this is creating new opportunities for academic work. Similarly,
the interdisciplinary pursuit of research in the context of application and in partnership
with industry and government, also has the potential to lead to exciting new areas of
research at the ever blurring interface between disciplines and organizations.

But many lament the dangers of commercialization, the rise of the ‘market-
university’ and ‘McDonaldization’, in terms of academic quality, academic freedoms
and the loss of the uniqueness of the university as an institution (Buchbinder, 1993;
Ritzer, 1996). Here, research groups are seen as prioritizing commercial return over
academic standards, with ‘quick hits’, the ‘bottom line’ and ‘meeting market needs’
becoming the underlying rationale for research to the detriment of the ‘pursuit of
knowledge’ that formed the university’s traditional raison d’être and specialism
(Coombs and Metcalfe, 2000: 10). There is concern that making local and regional
strengths or market needs the focus of research and teaching precludes innovations that
are not linked to them. This implies that the aims of increasing innovation and those of
social relevance, accountability and economic return are potentially contradictory, as
the need to meet social and economic criteria inevitably entails a ‘shrinking of the field
for research’ (Ziman, 1994). In any case, the search for innovation implies freedom and
risk and this is incompatible with too great a focus on efficiency, public sector auditing
requirements, user engagement and identifiable outputs (Fuller, 2000). Thus, a further
set of policy and academic tensions and contradictions emerge which universities must
manage. Issues include the pressures on traditional methods of management and
governance, on systems of remuneration and reward, on the culture of collegiality and
on evaluations of worth and status based on respect for knowledge production for its
own sake.

Competition, contextualization and contestability

Paradoxically, the university is perhaps the institution most challenged by the
knowledge economy as the traditional semi-monopoly of the university and its authority
in large areas of knowledge production is increasingly threatened. On the one hand, if a
market in knowledge is created in a competitive economic climate, one would expect
competition in knowledge production and provision to increase. Such is the nature of
market forces. On the other hand, as Gibbons et al. (1994: 10) argue, the problem is
‘self-inflicted’. As universities have succeeded in producing skilled graduates, in
response to demands for a mass higher education system, such graduates move out of
the university and create new sites for research and knowledge production. New
knowledge producers include ‘knowledge officers’ within companies and those
companies becoming knowledge organizations themselves (Barnett, 2000). The rapid
development of ICT and of e-learning facilitates these new providers which include so-called ‘corporate universities’ as well as various commercial, on-line, ‘e-universities’. The development of the knowledge economy can also be situated within a broader process which Nowotny et al. (2001) describe as the ‘contextualization’ of science in which ‘science and society have invaded each other’s domain’. Increasingly, even those involved in areas of basic or pure research find themselves having to negotiate not just the support for their work, but even the very definition of research problems and content in a wider social area termed ‘the agora’. In doing so, science moves beyond merely reliable knowledge production to the production of socially robust knowledge, sensitive to a much wider range of social factors and implications. In this sense, the authority of the university to determine what is researched and how this is done is weakened.

Although it might be seen as the key driver of the knowledge economy, a number of literatures suggest that the university is in fact having to compete with others for this role and faces an erosion of its semi-monopoly in the field of knowledge production (Barnett, 2000). This is why some authors refer to the ‘contestability of knowledge claims’ (Stehr, 1994), the ‘delegitimation of the university’ (Delanty, 2001) or the ‘end of knowledge’ thesis, in which the knowledge sustained by the university no longer has any particular status, no particular legitimacy, and knowledge loses the power to enlighten (Barnett, 2000). One view of the future, then, sees only that the interpenetration of the state and the market and the new mode of knowledge production erode the traditional roles and values of the university. These changes are having profound effects on the culture and organization of universities and on the skills required of their academic and administrative staff. Inevitably, there is a growing conflict of values and a concern that universities are being forced into new roles which are incompatible with the traditional and still strongly held belief in ‘academic freedom’ (Concicao et al., 1998). Universities are being shaped by new forms of regulation and quality control. What universities do is closely specified by government, measured and assessed and rewarded or penalized as a consequence. Painful adjustments are taking place in university ‘missions’, in how they are organized and staffed (with resultant implications for labour relations) and above all in the content of their academic production. These observations lead some authors to speak of a ‘postmodern university’ or a ‘university in ruins’ (Readings, 1996; Smith and Webster, 1997; Maskell and Robinson, 2001).

On the other hand, some suggest that the current era offers opportunities for the university. Delanty, for instance, writes that the university can embrace a new role in society as a key institution of modernity (Delanty, 2001). Barnett, while accepting much of the validity of the ‘end of knowledge’ thesis, sees that there is a new epistemology which awaits the university, one that is ‘open, bold, engaging, accessible and conscious of its own insecurity’, but one which is predicated on the ability of the university to become entrepreneurial and to market its knowledge wares through academic capitalism (2000: 409). Thus, we see a circular process in which the development of the knowledge economy, globalization and regionalization are creating the circumstances for universities’ sub-national and entrepreneurial links, but in which entrepreneurship and sub-national engagement are at the same time seen as a potential response to the tensions and pressures then created. As Goddard and Chatterton suggest, ‘for many universities regional engagement is becoming the crucible within which an appropriate response to overall trends in higher education is being forged’ (2001: 9).

Rhetorics and realities?

What will condition the responses of individual institutions — and thus the prevalence of the emerging ‘Mode 2’ university — is a matter for further research. The nature of universities’ sub-national engagement varies cross-nationally, being affected by differing national political systems, territorial relations, degrees of integration into
the global economy and of regionalization, the nature of the higher education funding system, specific local circumstances and institutional peculiarities. Not all universities are the same, with the result that different approaches will evolve to allow universities to seize opportunities and manage threats in the current environment. Consequently, more empirical case studies are needed involving different types of higher education institutions, in different regional and national systems and circumstances. The links between contemporary social and economic transitions and changes in higher education and its institutions will only become clearer and better defined after such work is done.

This needs to be accompanied by more cross-national and varied case studies of how change is impacting internally on universities in response to the myriad pressures placed upon them and the implications for issues such as academic freedom and the university’s ability to pursue research at the frontiers of knowledge and in a critical manner. Another important set of issues concerns just whether, and how, universities move from being somewhat limited participants in local social and economic development to key actors. At the same time, there is an absence of both theoretical and empirical work about how universities balance national and internationally oriented missions and activities and the growing pressure for more multifaceted local and regional engagement.

But perhaps most importantly, we need to separate the compelling rhetoric of change from the realities of everyday practices, through empirical work on the extent to which the knowledge economy is, in fact, fundamentally altering economic development and scientific endeavours. The ‘Mode 2’ thesis, the invasion of science in society and other accounts of changes in knowledge production are both complex and plausible, as reflected in the pervasive nature of knowledge-based discourses in policy rationales. Yet there has been less empirical work on such dynamics in action. Are scientific practices being transformed by changing socio-economic conditions? Are universities actually becoming ‘Mode 2’ institutions? Is ‘Mode 1’ science being eclipsed or is there some new accommodation between ‘pure’ and ‘contextualized’ research? Can investing in the knowledge base really make the difference to wealth creation and growth that is anticipated and, if so, at what cost? This is a large research agenda for urban and regional studies, but arguably one which social scientists are well equipped to pursue, through drawing on a rich and varied history of interdisciplinarity and socially contextualized research questions. We now need to turn this to our advantage by examining the changing institutional and contextual conditions in which knowledge is produced.

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