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Regional Competitive Intelligence: Benchmarking and Policymaking

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Keywords:	benchmarking, policymaking, learning, competitiveness, innovation



CRITICAL SURVEY
REGIONAL COMPETITIVE INTELLIGENCE:
Benchmarking and Policymaking

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ABSTRACT

Benchmarking exercises have become increasingly popular within the sphere of regional policymaking. This paper analyses the concept of regional benchmarking and its links with regional policymaking processes. It develops a typology of regional benchmarking exercises and benchmarkers, and critically reviews the literature. It is argued that critics of regional benchmarking fail to take account of the variety and development of regional benchmarking systems. It is suggested that while benchmarking exercises are informing policy adaptation and innovation, they have been constrained by political and financial factors. It is concluded that regional benchmarking is facilitating the heightened regional interaction necessitated by globalisation.

JEL Codes: O18 - Regional, Urban, and Rural Analyses, O38 - Government Policy
P51 - Comparative Analysis of Economic Systems, R58 - Regional Development.

Key Words: benchmarking, policymaking, learning, competitiveness, innovation.

L'intelligence compétitive régionale:
la fixation des points de référence et les décisions politiques.

Huggins

Dans le domaine des décisions quant à la politique régionale, la fixation des points de référence est devenue de plus en plus populaire. Cet article cherche à analyser la notion de fixation des points de référence et ses liens avec les décisions quant à la politique régionale. On développe une typologie d'exercices pour ce qui est de la fixation des points de référence régionaux et de ceux qui les fixent, et fait la critique de la documentation. On affirme que les critiques de la fixation des points de référence ne tiennent compte ni de la diversité, ni du développement des systèmes de fixation des points de référence. On laisse supposer que les exercices de fixation des points de référence ont été limités par des forces à la fois politiques et financières, tandis qu'elles contribuent à l'adaptation et à l'innovation des politiques. On conclut que la fixation des points de référence favorise une interaction régionale plus grande pour affronter la mondialisation.

Fixation des points de référence / Décisions politiques / Apprentissage / Compétitivité
/ Innovation

Classement JEL: O18; O38; P51; R58

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Inteligencia competitiva regional: análisis comparativo y diseño de políticas

Robert Huggins

ABSTRACT

Los análisis comparativos son cada vez más populares en el campo del diseño de políticas regionales. En este artículo analizo el concepto del análisis comparativo regional y sus vínculos con los procesos para diseñar políticas regionales. Desarrollo una tipología para los análisis comparativos regionales y comparadores, y desde un punto de visto crítico evalúo la literatura. Sostengo que los críticos del análisis comparativo regional no tienen en cuenta la variedad y el desarrollo de los sistemas comparativos regionales. Sugiero que si bien los análisis comparativos informan sobre la adaptación e innovación de políticas, están limitados por factores políticos y financieros. Para terminar sostengo que el análisis comparativo regional facilita una intensa interacción regional que es necesaria para la globalización.

Key Words:

Análisis comparativo
Diseño de políticas
Aprendizaje
Competitividad
Innovación

JEL Codes: O18 - Regional, Urban, and Rural Analyses, O38 - Government Policy P51 - Comparative Analysis of Economic Systems, R58 - Regional Development.

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Regionale Wettbewerbsinformationen: Benchmarking und Politik

Robert Huggins

ABSTRACT

Im Bereich der Regionalpolitik erfreuen sich Benchmarking-Untersuchungen wachsender Beliebtheit. In diesem Beitrag werden das Konzept des regionalen Benchmarking sowie seine Verbindungen mit den regionalpolitischen Gestaltungsprozessen analysiert. Ich entwickle eine Typologie der regionalen Benchmarking-Untersuchungen und Benchmarker und unterziehe die Literatur einer kritischen Überprüfung. Ich argumentiere, dass die Kritiker des regionalen Benchmarking nicht die Vielfalt und Entwicklung der regionalen Benchmarking-Systeme berücksichtigen. Ich behaupte, dass sich Benchmarking-Untersuchungen zwar auf die Anpassung und Innovation der Politik auswirken, doch zugleich durch politische und

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3 finanzielle Faktoren eingeschränkt werden. Mein Fazit lautet, dass regionales
4 Benchmarking durch die verstärkten regionalen Wechselwirkungen begünstigt
5 wird, die aufgrund der Globalisierung nötig geworden sind.
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8 JEL Codes: O18 - Regional, Urban, and Rural Analyses, O38 - Government
9 Policy P51 - Comparative Analysis of Economic Systems, R58 - Regional
10 Development.
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12 Key Words:

13 Benchmarking

14 Politik

15 Lernen

16 Konkurrenzfähigkeit

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INTRODUCTION

Benchmarking exercises have become increasingly popular within the sphere of regional policymaking in recent years, with some scholars arguing that regional benchmarking, undertaken carefully and meaningfully, is an essential prerequisite for informed and strategic policymaking (MARTIN, 2005; ROTA AND VANOLO, 2006; MALECKI, 2007). From a theoretical perspective such popularity is linked to notions concerning the means by which regions are able to learn (MORGAN, 1997), particularly through methods based on comparison (ROSE, 1993) or monitoring (SABEL, 1996). Prevailing critical discourse in this area has highlighted the distinctiveness of regional environments as limiting the utility of what is considered ‘copy and paste’ and ‘one-size-fits-all’ policymaking, as regional stakeholders purport to transfer perceived ‘best practice’ from one region to another (ASHEIM, 1997; 2002; BOSCHMA, 2004; TUROK, 2004; BRISTOW, 2005; HOSPERS, 2005; 2006; WINK, 2007). Such discourse has usually analysed regional benchmarking as a generic concept or methodology, rather than focusing on the variety and evolution of differing forms of such benchmarking. This evolution has occurred as regional policymaking has begun to shift from processes undertaken principally on an intra-regional basis, to one that is also integrating processes based on inter-regional learning activities (BATHELT et al., 2004; HASSINK, 2007). At a political level, the proliferation of benchmarking efforts is considered by some to be intrinsically linked to new governance structures rooted in a culture of accountability and audit (GREENE et al., 2007). These issues have resulted in benchmarking becoming a highly contested concept and practice across academic and policymaking boundaries.

The concept of benchmarking first came to prominence in the corporate sector, initially in Japan and then adopted by firms such as Rank Xerox, as a means of identifying and learning from ‘best-in-class’ practices or products from elsewhere (UNDERWOOD, 2002; MURPHY, 2005). Benchmarking is a process whereby firms look beyond their boundaries as a means of learning and stimulating innovation. There is no singular accepted definition of benchmarking, but it is generally considered to be a method of making improvements by making comparisons, and learning the lessons these comparisons generate (BOXWELL, 1994). In practice, however, corporate benchmarking is often associated with processes by which firms seek to directly imitate and copy the practices and products of their competitors

(UNDERWOOD, 2002). As a result of the apparent link between benchmarking and processes of imitation and copying, corporate benchmarking exercises have been criticised as misleading and wasteful undertakings (HAMEL AND PRAHALAD, 1994; UNDERWOOD, 2002). HAMEL and PRAHALAD (1994) consider that such exercises often result in firms adopting and developing out-of-date practices and products, with benchmarking doing no more than identifying the practices a competitor used to implement or the products it used to make.

When HAMEL and PRAHALAD (1994) made their criticisms, corporate benchmarking was still an evolving concept and has continued to develop and respond to the competitive and innovation requirements of firms (KYRÖ, 2003). Regional benchmarking is currently at a stage in its evolution where it is subject to similar criticisms. Critical analysis has focused on the extent to which benchmarking efforts are consistent with endogenous approaches to regional development, and the importance of measuring and understanding factors such as human capital, education, production and innovation systems from a regionally external perspective for aiding such development (MOULAERT and SEKIA, 2003). It is now accepted in most quarters that regional economic development, competitiveness and innovation policies, and the manner in which such policies are implemented, form part of the institutional architecture through which regions 'learn' (ASHEIM, 1996; MORGAN, 1997). Establishing such policies is itself a process, undertaken by regional stakeholders to facilitate regional learning (RUTTEN and BOEKEMA, 2007). This paper argues that regional benchmarking is becoming a feature of this policymaking and facilitated learning process, which seeks to understand regional contexts and promote improved regional innovation and competitiveness outcomes.

The aim of the paper is to analyse the concept of regional benchmarking and its links with regional policymaking processes. It develops a typology of regional benchmarking exercises and regional benchmarkers, and critically reviews the literature, both academic and policy oriented. The paper is structured as follows: after reviewing the policy context underlying the emergence of regional benchmarking, an analysis of the key forms of regional benchmarking is presented. This is followed by a critical discussion of the role of benchmarking in regional policymaking processes and the conclusion.

POLICY CONTEXT

From the perspective of regional policymaking, benchmarking forms part of processes concerned with learning by comparing, whereby regions seek to measure the performance, activities and policies of their competitors (ROSE, 1993; MALECKI, 2007). The political drive underlying the push towards the development of benchmarking as a policy development has varied across the globe. In the US, for example, regional benchmarking exercises have tended to be undertaken by independent think-tanks and academics, who have essentially played an ‘ideas-mongering’ role (Rose, 1993) in seeking to measure and understand apparent new modes of regional economic development (for example, DE VOL, 1999; ATKINSON and GOTTLIEB, 2001) or unilaterally by particular regions (for example, ERICKEK and WATTS, 2003; MTC, 2006). In Europe, regional benchmarking activity has become more prevalent due to the adoption by the European Union (EU) of a new mode of governance across a wide range of policy areas. The ‘Open Method of Coordination’ (OMC) is an institutional innovation adopted by the EU as a means of promoting a switch from governance models based on a top-down regulatory approach to those based on mutual learning and the identification and transfer of so-called ‘best practice’ (LUNDVALL AND TOMLINSON, 2002; ARROWSMITH et al., 2004).

Emerging from the Lisbon Summit, and the objective of making the EU a highly competitive and dynamic knowledge-based economy, the OMC explicitly promotes benchmarking activities as a key means of catalysing economic and social development across the EU and tracking its progress (DE LA PORTE et al., 2001; KAISER and PRANGE, 2004). This has resulted in benchmarking becoming central to the EU’s approach to co-ordinating economic and social policy, with increased importance being given to the development of benchmarking activities and exercises in the formulation of policy in a number of fields, including competitiveness, innovation and regional policymaking (LUNDVALL and TOMLINSON, 2002; ARROWSMITH et al., 2004; ROOM, 2005). The OMC is closely aligned to the concept of learning-by-monitoring, which consists of co-ordination through goal-setting linking the performance of co-operating parties – monitoring – to discussions of how to improve operations in light of this performance (learning), i.e. it links the

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evaluation of performance to the reassessment of goals (SABEL, 1996). Interestingly, in the context of the OMC, the focus on benchmarking stemmed from recommendations produced by Europe's corporate sector, i.e. the European Round Table of Industrialists (ERT, 1996).

The Lisbon agenda and its drive for improved competitiveness and a shift towards a knowledge-based economy has become central to regional policy agendas (KITSON et al., 2004; MALECKI, 2004; BRISTOW, 2005). Regional benchmarking is also a key thread of the European Commission's (EC) Mutual Learning Platform, which was established in 2005 to define policies to make regional innovation more effective, with the EC funding a number of regional benchmarking projects across the EU (EUROPEAN COMMISSION, 2006). The focus the OMC gives to methods of transferring best practice has led many to criticise benchmarking efforts, particularly regional benchmarking, due to perceived limitations of trying to replicate and copy activities from elsewhere (ASHEIM, 1997; 2002; BOSCHMA, 2004; HOSPERS, 2005; 2006). In this paper, it is argued that regional benchmarking efforts are not merely copy and paste instruments, but a means of providing a stimulus for thinking about and engaging in new ways of development (BESSANT and RUSH, 1999; ARROWSMITH et al., 2004).

Many regional strategy building and development initiatives contain some form of benchmarking component. This is most common in establishing or furthering regional economic or innovation strategies where this often an attempt to identify 'competitor' or 'exemplar' regions (MARTIN, 2005). Even though every region operates in a distinct economic environment with a distinct institutional endowment, a region can compare itself to others in order to assess the suitability of its strategy, and whether or not current policy is addressing the right problems and actors (SABEL, 1996). Such comparison or benchmarking most often incorporates a broad analysis of 'key performance indicators' across these regions, as well as possibly more qualitative evidence on the structure, economic and social, of these regions and their policy framework (CHARLES and BENNEWORTH, 1999; PETTY, 2005; PARKINSON and KARECHA, 2006). In most instances, such benchmarking is carried out at arms-length, with there being little or no direct engagement with the benchmarked regions, although in recent years there has been an increasing focus on inter-regional learning

processes and collaboration across regions (KETELS and SÖLVELL, 2005; JOHANNESSON, 2006). It is argued that benchmarking activities merely result in the unsuccessful imitation of the regional ‘hardware’, such as science and research parks, existing in competitor or leading regions (BOSCHMA, 2004, HOSPERS, 2005; 2006) rather than ‘software’ such as networks and knowledge exchange mechanisms.

It is the case that there is often little to distinguish the visions, missions, and objectives contained within the strategies of different regions. Many are generic and anodyne in their content, resulting in the production of vacuous strategy and policy documents. Whether or not such an outcome is the result of the use of benchmarking, the ineffective implementation of benchmarking and/or its results, or is unconnected to benchmarking is unclear. The relative newness of regional benchmarking techniques and regional-level strategy building processes in many contexts (for example, regional development strategies are a relatively new addition to policy framework of England) are factors which form part of the regional learning process. There is little to suggest that approaches excluding a benchmarking element would produce more effective strategy building, particularly as the continuous emergence of ‘competitor regions’ means that it is extremely difficult to sustain regional competitiveness based solely on knowledge created and shared within a region (MALECKI, 2007; HOSPERS, 2005).

Benchmarking exercises have the potential to form part of the toolbox of instruments available to regional policymakers. They are able to contribute to policymaking in three broad ways: delineating and monitoring regional economic development and its progress; facilitating the exchange and gathering of knowledge on regional practices and policies; and promoting the image and attractiveness of regional economies. While the first two functions are at the crux of the link between regional benchmarking and policymaking, the third aspect refers to the role benchmarking can play in contributing to the collective exercise of image building and communication, as a component of the process of making transparent the awareness of a region about its own assets and its competitive position (BELLINI and LANDABASO, 2007) or ‘being good’ and letting it be known (MALECKI and HOSPERS, 2007).

TYPES OF REGIONAL BENCHMARKING AND BENCHMARKERS

Corporate benchmarking has proved to be an evolutionary practice developing from relatively simplistic ‘reverse engineering’, comparing the characteristics, functionality, and performance of competitive offerings, to increasingly sophisticated modes of ‘process benchmarking’, ‘strategic benchmarking’, and ‘network benchmarking’ (AHMED and RAFIQ, 1998; KYRÖ, 2003). As the modes of benchmarking becomes more sophisticated the more they are typified by increasingly intensive and systematic learning by firms (KYRÖ, 2003). Similarly, regional benchmarking is developing upon its own evolutionary path, progressing from quite simplistic forms to more complex modes (LUQUE-MARTÍNEZ and MUNÓZ-LEIVA, 2005). These modes can be classified into three groups based on the focus of the benchmarking exercise: *performance benchmarking* – based on a comparison of metrics portraying the relevant characteristics of benchmarked regions; *process benchmarking* – based on a comparison of the structures and systems constituting the practices and functioning of benchmarked regions; and *policy benchmarking* – based on a comparison of the types of public policy considered to influence the nature of the practices and subsequently the characteristics of benchmarked regions. In general, as regional benchmarking become more sophisticated it builds on the preceding modes, i.e. it is difficult to undertake regional process benchmarking without first undertaking a performance benchmarking exercise, and similarly policy benchmarking usually builds upon the findings of process benchmarking exercises.

Alongside these three types of regional benchmarking, there is also the issue of who undertakes the benchmarking exercise, i.e. who or what is the benchmarker? Regional benchmarkers generally consist of one of the following: *independent benchmarkers* – external benchmarkers such as academics, consultants, or financial and business institutions that have no particular affiliation to one or more of the benchmarked regions; *single region benchmarkers* – the authority/authorities or stakeholders attached to the objectives and orientation of the benchmarking exercise in one of the benchmarked regions; and *multi region benchmarkers* – the authority/authorities or stakeholders attached to the objectives and orientation of the benchmarking exercise in more than one of the benchmarked regions. These types also echo the evolution of corporate benchmarking, whereby multi region benchmarkers resemble the relatively new phenomenon of network benchmarking, involving companies sharing

experiences in order to alleviate a mutual or common problem (HUGGINS, 2000; KYRÖ, 2003). Table 1 provides a summary of the various potential permutations relating to both the form of benchmarking and type of benchmarker.

Table 1 About Here

PERFORMANCE BENCHMARKING

As Table 2 illustrates, performance benchmarking is by far the most prevalent type of regional benchmarking, rapidly increasing as the focus of regional development policy has been drawn to the concepts of regional competitiveness and regional knowledge economies (COOKE, 2002; HUGGINS, 2003; MALECKI, 2007). Performance benchmarking provides ‘comparative statics’ in the form of regional league tables and ranks that seek to measure, analyse and compare relative performance (ROSE, 1993; BRISTOW, 2005). The policy emergence of the knowledge economy has resulted in regional economies becoming defined by metrics such as R&D expenditure, patents, the production of intangible goods, education levels, specialisation in high-technology and knowledge-based sectors, and science and technology investment (MALECKI, 2004; RAAB and KOTAMRAJU, 2006; COOKE, 2007; HUGGINS and IZUSHI, 2007). In general, the sole purpose of regional performance benchmarking is to ascertain how certain regions, or a particular region, are performing based on an identified set of metrics representing a particular set of regional characteristics (ERICKCEK and WATTS, 2003). The question this begs is: performing compared to where?

Table 2 About Here

In general, the choice of regions against which to benchmark will depend on the type of regional benchmarker. Independent benchmarkers will usually seek to benchmark the performance of a relatively high number of regions chosen against specific criteria, such as location (for example, regions in particular parts of the world) or underlying economic structure (for example, high economic performers, lagging regions, or regions in transition). Single region benchmarkers may choose regions against which to benchmark themselves based on criteria relating to economic commonality or similarity, i.e. those regions in one’s ‘class’ (LUQUE-MARTÍNEZ

and MUNÓZ-LEIVA, 2005; IURCOVICH et al., 2006); or they may chose regions they identify as being ‘aspirational’, i.e. regions whose economic fortunes they wish to emulate. Multi region benchmarking usually consists of comparing the performance of a group of regions that are also seeking to improve cooperation and linkage between themselves, although the set of benchmark regions need not necessarily be restricted to those involved in the multi region benchmark network. Examples of multi region performance benchmarking include the Baltic Sea area regional benchmarking exercise (KETELS and SÖLVELL, 2005) and exercises in relatively under-developed areas such as the Central Java Business Climate Survey (HARMES-LIEDTKE, 2007). In general, multi region benchmarking also tends to incorporate process and policy benchmarking.

The choice of regions against which to benchmark should involve ‘searching the globe selectively’ (ROSE, 1993) not only to ensure that the objectives of the performance benchmarking exercise are met, but also to ensure that these regions are appropriate candidates for resulting process or policy benchmarking exercises. Performance benchmarking may be a one-off activity (IURCOVICH et al., 2006), but is usually undertaken on a periodic basis, such as annually or biennially, as a means of assessing how a set of regions are adapting and adjusting to ever changing market, technological and competitive conditions (MARTIN, 2005). One of the key features of performance benchmarking is the ability of making comparisons across regions over time (LUQUE-MARTÍNEZ and MUNÓZ-LEIVA, 2005).

The most well known performance benchmarking exercises tend to be those undertaken by independent benchmarkers and include the European Regional Innovation Scoreboard (HOLLANDERS, 2007), the US Best Performing Cities Index (DE VOL et al., 2007), US State Technology and Science Index (DE VOL et al., 2004), Beacon Hill Institute Metro and State Competitiveness reports (BEACON HILL INSTITUTE, 2006a; 2006b), the Creativity Index (FLORIDA, 2002), the European Competitiveness Index (HUGGINS and DAVIES, 2006), the World Knowledge Competitiveness Index (HUGGINS, IZUSHI and DAVIES, 2005), and the UK Competitiveness Index (HUGGINS and DAY, 2006). The inspiration underlying these independent exercises has often stemmed from previously established exercises that benchmark the competitiveness or innovation capabilities of

nations, such as the World Economic Forum’s Global Competitiveness Report (LOPEZ-CLAROS et al., 2006) and the IMD’s (2006) World Competitiveness Scoreboard.

Regional performance benchmarking has increased rapidly since the late 1990s and early 2000s, with many exercises and studies concentrating on comparing indicators related to regional competitiveness, economic development, innovation and the conversion towards a knowledge-based economy. Alongside exercises undertaken by independent benchmarkers, there has been considerable growth in the number of performance benchmarking exercises undertaken by single regions. Regions and cities such as Cardiff (PARKINSON and KARECHA, 2006), Northern Ireland (NIEC, 2001), Holland’s Randstad (TNO, 2005), North East England (CHARLES and BENNEWORTH, 1999), and Lazio (FILAS, 2006) in Europe, and Massachusetts (MTC, 2006), Silicon Valley (HENTON et al., 2007), Minneapolis-St. Paul (PETTY, 2005), Michigan (ERICKCEK and WATTS, 2003), Philadelphia (INNOVATION PHILADELPHIA, 2002), Ontario (ONTARIO SCIENCE AND INNOVATION COUNCIL, 2002), Nova Scotia (NOVA KNOWLEDGE, 2006) in North America have implemented performance benchmarking exercises in recent years, mainly focused on comparing competitiveness and innovation activity against a group of selected comparator regions. Also, benchmarking projects in underdeveloped regions such as Central Java and Vietnam have been undertaken as a result of demand from local policymakers (HARMES-LIEDTKE, 2007). Performance benchmarking exercises, including those undertaken by independent, single region or multi regional benchmarkers, seek to make a connection with regional policymaking. However, the impact on regional policymaking is restricted to making a systematic analysis of regional strengths, weaknesses and potential in relation to the performance of a defined set of pre-selected comparator regions. Therefore, performance benchmarking is an important first component of regional policymaking activities, but one which needs to incorporate process and policy benchmarking in order to provide high value policy learning.

PROCESS BENCHMARKING

While performance benchmarking provides the comparative statics facilitating a baseline understanding of how regions differ, it does not provide the comparative

dynamics facilitating an understanding of practices or policy learning (ROSE, 1993). For instance, regional innovation metrics are not sufficient to analyse regional innovation systems (ZABALA-ITURRIAGAGOITIA et al., 2007). However, both process and policy benchmarking are far less evident forms of regional benchmarking. In terms of regional competitiveness, the challenge for the benchmarker is to identify those factors that best reveal the sources of competitiveness, which it is not always possible to do from existing metrics. An example of the progression from performance, to process and policy benchmarking might be as follows. A performance benchmarking exercise finds that Region A is highly dependent on its higher education sector for its knowledge creation and R&D investments. A subsequent process benchmarking exercise finds that in Regions B, C, and D, which are also highly dependent on their higher education, their knowledge transfer systems are more adept at creating greater commercialisable outputs. The obvious extension of this process is that Region A seeks to understand why Regions B, C, and D's systems are superior. It would not necessarily be the objective of Region A to impose any of the knowledge transfer systems in place in the other regions. Instead, a process benchmarking exercise could be used to inform policymakers of whether or not it is a credible strategic option to tackle the low level of commercialisation. It may well be the case that the relative ineffectiveness of the knowledge transfer system is due to the unsuitability of the knowledge being created by higher education for commercialisation.

A more appropriate feature of Region A's policy framework would be either to seek to generate more commercialisable knowledge within other sectors in the region, or propose to alter or extend the type of knowledge the higher education sector creates. Alternatively, if it is considered that changes to Region A's knowledge transfer system are required then policy benchmarking can be used to assess the applicability of transferring related policies, or components of such policies, from other regions. This highlights that regional benchmarking is not necessarily a means of facilitating the direct transfer of practices, but of enabling a broader level of learning concerning the appropriateness of particular forms of intervention. In particular, process benchmarking aims to discriminate between what is specific, incidental or exceptional to and among benchmarked regions (ENTRIKIN, 1991; ROTA and VANOLO, 2006). ROSE (1993) draws an important distinction between policy innovation, the relatively

risky adoption of a novel idea – due to the lack of transferable policies from elsewhere - and policy learning, less risky lessons that draw on the experiences of what was once an innovation elsewhere.

While performance benchmarking can be considered as a form of regional stocktaking, process benchmarking is based upon the insights into what makes processes effective and efficient (IURCOVICH et al., 2006). Process benchmarking is necessarily based more on qualitative data and information than performance benchmarking. However, most regional benchmarking exercises still tend to focus on gathering quantitative data, as its collection is less resource intensive (ROTA and VANOLO, 2006). Process benchmarking provides the shift away from characteristics that are relatively easy to measure to learning about less tangible systems and practices (LUNDVALL and TOMLINSON, 2002; MALECKI, 2007). Process benchmarking resembles LUNDVALL and TOMLINSON's (2002) concept of systemic benchmarking, whereby practices and the relations between them are compared among different systems using a variety of analytical tools and methodologies. As LUNDVALL and TOMLINSON (2002) suggest, the aim is not necessarily to search for best practice, but to improve a system's performance by the contemplation of another system's features. Where process benchmarking exercises have been undertaken they have usually followed or occurred in tandem with performance measurement exercises. For instance, the benchmarking study of 'Competitive European Cities' commissioned by the UK government incorporated process benchmarking through a qualitative review of the economic and social infrastructure in the benchmarked cities (PARKINSON et al., 2004). Also, DE VOL's (1999) relatively early benchmarking exercise of the high-technology economies of US metro areas analysed and compared the structure of high-technology clusters in these metro areas.

POLICY BENCHMARKING

Policy benchmarking is part of the policy learning process which ROSE (1993) refers to as searching experience and lessons across space. Its role is it to help 'find' policies and strategies that may usefully inform future policy building in the region(s) undertaking the search. In this respect, it is a starting point to a policy learning process that might subsequently seek to use policies adopted in comparator or

aspirational regions to copy, adapt, synthesise, establish hybrids or inspire future policies in the searching region (ROSE, 1993). Without regional benchmarking the searching experience is liable to be a rather random process. Prospective evaluation of whether a policy has the potential to be transferred in some form involves 'bounded speculation', consisting of the appraisal of a chain of reasoning (ROSE, 1993). In a regional sense, the chain, or continuum, from performance, to process and regional policy benchmarking contains this reasoning. Regional policy benchmarking is a relatively new form of benchmarking used to understand and evaluate alternative policy options, supplying policymakers with examples of interventions from other regions, including the financial, legal and regulatory aspects of such interventions (IURCOVICH et al., 2006).

Regional benchmarking exercises are beginning to integrate all three benchmarking modes, with a stronger focus being given to policy benchmarking. In the US, the independently undertaken State New Economy Index (ATKINSON and CORREA, 2007) and Metropolitan New Economy Index (ATKINSON and GOTTLIEB, 2001) have both attempted to integrate policy benchmarking into their frameworks by trying to understand how policy measures can influence industrial structure, skills and innovation activities. Another benchmarking exercise in the US focused on urban development in Baltimore, Cleveland, Detroit, Philadelphia and Pittsburgh has utilised case studies and policy reviews of each of the cities as a means of stimulating inter-city policy learning (FOX and TREUHAFT, 2006). However, it is in Europe that regional policy benchmarking has been most prevalent, largely as a result of exercises funded by the European Union.

In recent years, the Europe Union has funded a set of related projects principally concerned with regional policy benchmarking in the area of innovation, many of which are seeking to understand the link between regional performance and regional policy. Benchmarking projects such as ARISE, COMPETE, EMERIPA, EURBEST, EURO-COOP, IMPACTSCAN4POL, IASMINE, INNOWATCH, MERIPA and OMEN (see Table 2 for links to project websites) all share similar underlying frameworks, whereby a network of European regions undertake a multi region benchmarking exercise utilising one or more of a number of methodologies such as quantitative and qualitative assessment, case studies, workshops, exchange visits, and

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study tours in order to systematically analyse the impact of innovation policies across the benchmarked regions and exchange policy practices considered to have the potential to inform policymaking in the other benchmark regions. This form of inter-regional policymaking adds potentially the most powerful dimension to the utilisation of regional benchmarking, encompassing the continuum across performance, process and policy benchmarking modes, and undertaken by a multi regional benchmarker allowing performance, practices and policies to be compared with other regions with which cooperation and increased linkage is sought. Benchmarking of this kind seeks to find commonalities and complementarities across regions that could form the basis of future collaboration (LUQUE-MARTÍNEZ and MUNÓZ-LEIVA, 2005). A good example of this is the formation of the Innovation Alliance of thirteen European regions, which is an outcome of the Innovation Society 2006 initiative (INNOVATION ALLIANCE, 2006).

One of the first activities of the Innovation Alliance was to undertake two benchmarking projects – one quantitative and one qualitative – of the participating regions (HUGGINS, 2006; JOHANNESSON et al., 2006). This benchmarking compared the regions not only in terms of performance, but also their asset base (e.g. relevant clusters, formation of the regional innovation system, and quality of life) and their ‘institutional capacity’, including the types of policies being implemented and the role of leadership in each region. The benchmarking found that although the regions necessarily differed according to tradition, business structure and available assets, they all identified common future drivers of competitiveness and innovation, especially a focus on the further development of high value added knowledge-driven sectors.

It is this commonality which has provided the initial thrust for the development of the Innovation Alliance, with future work set to focus on further identifying the particular profiles and niche strengths of each region within knowledge-based sectors, and stimulating cooperation between industry and science across the regions (JOHANNESSON et al., 2006). Although policy benchmarking is best suited to this multi and inter-regional learning environment, it is also undertaken on a single region basis. For example, North East England has undertaken a benchmarking study to assess economic development and competitiveness policies in a number of European

regions (GHK and CURDS, 2006). A limitation of this approach is that data capture is often restricted to secondary sources, allowing little to scope to develop an in-depth picture of the relevance and potential transferability of particular policies and initiatives.

REGIONAL POLICYMAKING AND BENCHMARKING

In much the same way as HAMEL and PRAHALAD (1994) argue there are substantial weaknesses innate within the benchmarking exercises of firms, there are those who suggest the impact of regional benchmarking exercises on regional policymaking community is limited or even negative (ASHEIM, 1997; ASHEIM, 2002; BOSCHMA, 2004; WINK, 2007). GREENE et al. (2007) argue that regional benchmarking explains very little beyond the obvious, and forms part of a new political rationality comprising of a shift in market economies towards an audit culture and a wider neo-liberal approach to economic governance. Others argue that while regional performance benchmarking exercises often attract substantial media attention and provoke public debate, they conceal more than they reveal since they are snapshots frozen in time (CORTRIGHT and MAYER, 2004). BRISTOW (2005) contends that 'competitiveness league tables are inevitably seductive for regional development agencies and the media keen to absorb 'quick and dirty' comparative measures of regional economic performance' (p. 294). However, the more fundamental criticism of regional benchmarking concerns the premise that it is founded on facilitating imitation rather than a deeper form of policy learning.

Benchmarking is considered by some to be intrinsically flawed as a policy learning mechanism as its aim of attempting to export so-called 'best practice' policies from one region to another is not only extremely difficult to achieve, due to the specificity of regional contexts, but also results in the copying and imitation of policies inappropriate to the policy receiving region (ASHEIM, 1997; ASHEIM, 2002; BOSCHMA, 2004; HOSPERS, 2005; 2006; WINK, 2007). The apparent downside, therefore, of regional benchmarking is considered to be its propensity to stimulate serial reproduction as well as the imitation and replication of the same ideas from place to place, with the outcome being 'one-size-fits all' policymaking and 'identikit' regional strategies (MALECKI, 2004; BRISTOW, 2005; HOWELLS, 2005; TÖDTLING and TRIPPL, 2005). By investing in the same or similar technologies

and infrastructure and copying apparent best practice, regions are considered to ‘undermine their potential competitive advantage and should not be surprised that in the end a painful regional shake-out will occur’ (HOSPERS, 2005, p. 453).

Clearly, the effective transfer and implementation of policy from one region to another is problematic (LUNDVALL and TOMLINSON, 2002; MALECKI, 2007). However, standardisation rather than uniqueness across borders characterises most areas of public policy, which suggests that it is not impossible (ROSE, 1993). As COOKE (2002) argues, the contention that policy accomplishment cannot be transferred across borders ‘belies economic history and denies human ingenuity’ (p. 6). Nevertheless, further disdain of the validity and utility of regional benchmarking exercises is based on the view that a lack of spatial comparability across regions renders such as exercises limited to making performance comparisons, rather than methods of facilitating policy transfer (TUROK, 2004; GREENE et al., 2007; MALECKI, 2007). It is this notion of copying and imitation through policy transfer that is misleadingly associated with benchmarking exercises undertaken at the regional level. Whereas corporate benchmarking may be undertaken purely to imitate, regional benchmarking conforms more to the learning and improvement aspects of such exercises. While firms directly compete to sell their products and services in their chosen market, regions are not largely involved in such direct competition. The competitiveness of regions refers more to the presence of conditions that enable firms in these regions to compete in their chosen markets, and for the value these firms generate to be captured within the region (BEGG, 1999).

KRUGMAN (2003), a renown sceptic of the concept of territorial competitiveness (e.g. KRUGMAN, 1994), has more recently suggested that the competitiveness of a region is based on its ability to provide sufficiently attractive wages and/or employment prospects and return on capital. In this sense, regions ‘compete’ in trying to provide the best platform for operating at high levels of productivity, which is significantly different from the kind of direct trade and market competition undertaken by firms. Regional benchmarking exercises facilitate an understanding of how this platform might be best enhanced, with performance, process and policy benchmarking playing complementary roles. The concept of benchmarking as it has been applied in the corporate sector, and its use by some firms to identify and directly

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3 imitate innovations from elsewhere (DATTAKUMAR and JAGADEESH, 2003),
4 needs to be differentiated from regional benchmarking. Due to a whole range of
5 regional specificities and context (BOSCHMA, 2004), the aim of regional
6 benchmarking exercises is to produce a targeted policy framework for future
7 development, and not the direct imitation of policies or practices implemented in other
8 regions.
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16 While the corporate community uses benchmarking to provide an external perspective
17 on improving processes and performance measures within the internal value-chain
18 firms, which is likely to be relatively well defined (KYRÖ, 2003), regional
19 benchmarking is concerned with assisting regions in identifying regional value chains
20 and then supporting improvements. Most corporate managers generally understand
21 their operational model and the source and performance of the value created by their
22 firms. Due to the complexity of regional environments, policymaking in most regions
23 has yet to evolve to the stage where there is this level of understanding (BELLINI and
24 LANDABASO, 2007). Therefore, benchmarking, through comparative analysis,
25 assists this understanding by providing regions with intelligence on their operational
26 model and their performance in comparison with other regions. This establishes a
27 platform for a targeted policy framework, rather than producing an isomorphic
28 process of policy transfer (LAGENDIJK and CORNFORD, 2000; RADAELLI,
29 2000). As ROSE (1993) argues, 'a lesson can conclude with a positive endorsement
30 or be negative, warning of difficulties in imitating what is done elsewhere' (p. 22).
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44 In general, benchmarking has led to increasingly sophisticated policymaking, and
45 informs our understanding of systemic change within regions (MALECKI, 2007).
46 However, much activity has been restricted to performance benchmarking, rather than
47 the types multi and inter-regional policy and process benchmarking which have the
48 potential to make the deepest contribution to policy learning. This lack of progression
49 from performance benchmarking is an aspect which ARROWSMITH Et al. (2004)
50 find common across benchmarking activities in most policy fields. In general,
51 regional policy learning activities remain more confined to local and intra-regional,
52 rather than inter-regional, learning (SABEL, 1996; BATHELT et al, 2004;
53 HASSINK, 2007). The relative lack of external and inter-regional awareness within
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the regional strategy building process arises mainly as a result of structural weaknesses within this process.

The political economy of many regions is such that the development of economic and innovation strategies targeted at improving competitiveness have a tendency toward intra-regional processes (HASSINK and LAGENDIJK, 2001; ROBERTS and BENNEWORTH, 2001). Whilst policymakers within regional development agencies and authorities may be tasked with establishing, furthering, and evaluating these strategies, the process itself is usually undertaken through a networked polity (ANSELL, 2000). This consists of a wide range of stakeholder groups within a region that have a position, which may be formal or informal, in the policymaking process (ROSE, 1993). The process is based on widespread consultation and engagement with a broad spectrum of regional and local institutions, which may represent differing or conflicting interests. Often, undertaking an effective benchmarking exercise can prove problematic when there are potentially conflicting policy goals and polarised factions seeking to promote different agendas (ARROWSMITH et al., 2004; MALECKI, 2007). Nevertheless, the engagement of these stakeholders is important from three perspectives. First, without engagement it is less likely that these groups will agree to the policies recommended. Second, these institutions, especially local authorities, may be important financiers and implementers of the actions arising from the strategies. Third, these stakeholders are a crucial source of localised and regionalised learning, bringing with them a wealth of experience concerning the issues and problems regions face, as well as the scope for particular forms of intervention.

The third perspective is clearly a very necessary component of the regional policymaking process, with localised learning resulting from an embedded monitoring of the evolution of a region, impacting on the mind-set of the particular interests represented (MORGAN, 1997; LAGENDIJK, 1999). Such learning, however, is double-edged, since it may correctly diagnose problems of relevance to policymaking, but give an incorrect prognosis of the potential for appropriate solutions. For example, an on-going, common and difficult experience for regional policymakers concerns decisions regarding future support for industries and sectors in long-term decline and which offer low value added. The perspective of local interest groups and stakeholders is often one where the apparent solution is publicly-funded

financial assistance in a bid to revive the competitiveness of the local or regional sector. While such local responses are understandable, they are a result of learning based on an outlook conditioned by the path dependency and 'lock-in' a region has experienced (HASSINK and LAGENDIJK, 2001; BOSCHMA, 2004; MARTIN and SUNLEY, 2007). This conditioning constrains the scope, innovativeness, and future appropriateness of the interventions proposed and lobbied for by these institutions. This is not to insinuate that processes of local engagement or intra-regional learning be cast aside in favour of unilateral policymaking by regional development agencies and authorities. It is to suggest that there is requirement for future regional policymaking to be based on a more equitable balance between inter and intra-regional learning processes. Inter-regional learning based on benchmarking provides a means for regions to 'de-lock' themselves by building their adaptive capacities and creating new paths (MARTIN and SUNLEY, 2006).

If inter-regional learning processes such as benchmarking are of importance for effective policymaking, why is there still such a dominance of the intra-regional approach? One answer is resource requirement. As ROSE (1993) highlights, problems in implementing policies, particularly at the local and regional level, often arise due to a lack of adequate financial resources. To undertake a regional benchmarking exercise that goes beyond arms length approaches requires substantial resources in terms of time and finance to undertake activities, such as focused study visits, international data collection, and the development of appropriate reporting and analytical tools. On the other hand, intra-regional learning processes are usually already embedded within the policymaking infrastructure of a region through a variety of routes, such as the boards of regional agencies and authorities, and therefore require far less resource to activate.

Alongside appropriate resource allocation, multi-level governance structures and the relationship between regional and national policymaking (and in Europe, EU-level policymaking) can constrain effective policy development (GIORDANO and ROLLER, 2003; GREENE et al., 2007). In most regions, particularly in Europe, regional policymaking is required to be set within an overarching national policy framework (the actual funding of which is possibly a mix of both national and European sources). While such a framework is predominately a sensible approach for

ensuring regional coherence across nations, it has a limiting effect on regional policymaking. Principally, these limitations concern the mechanisms by which consensus is built around regional policies, with the role of regional policymakers often reduced to attempting to align local interests within the parameters set by a national framework.

As a consequence of efforts to operate within a system of multi-level policymaking, the capacity to engage in horizontal inter-regional learning is limited (BENZ and EBERLEIN, 1999; GERTLER and WOLFE, 2004). Within the EU, the European Commission has responded to these limiting effects by introducing a range of initiatives, such as those previously cited, aimed at facilitating inter-regional policy benchmarking. However, such ‘top-down’ benchmarking and policy learning initiatives run the risk of casting a further shadow of coercion over regions (ARROWSMITH et al, 2004; MALECKI, 2007). As MALECKI (2007) indicates, and the exercises listed in Table 2 confirm, this approach differs from regional benchmarking initiatives in the US, which usually consist of either independent or single regions benchmarkers, with the downside being potential restrictions on the capacity for policy learning. In summary, regional policymaking, especially relating to innovation, is intrinsically difficult to manage due to the requirements for high levels of institutional cooperation, constraints on available financial resources, and complex governance systems involving intergovernmental relations both upwards, in the form of national government and the European Union, and downwards, in the form of municipalities and provincial governments. (SABEL, 1996; BELLINI and LANDABASO, 2007).

All these aspects impact on the potential effectiveness of benchmarking as an effective policymaking instrument. However, even if they are surmountable, some consider that the ethics and the ‘darker side’ (ARROWSMITH et al., 2004) underlying benchmarking exercises calls into question their promotion. GREENE et al. (2007) express ‘fundamental concerns about the ethics and value of these studies in both an academic and policy context’ (p. 15). Of key concern is the possibility of the results of benchmarking exercises being utilised by stakeholders to gain legitimacy for preconceived beliefs or proposals for action rather than stimulating new ideas or policy innovation (BRISTOW, 2005; BOLAND, 2007). BOLAND (2007), for

example, is sceptical of the trend for single region benchmark exercises to be outsourced to high profile 'academic consultants', which he considers is a strategy utilised by regional policymakers to directly influence policy formulation.

Whilst there is undoubtedly some merit to these concerns, the means by which certain interest groups seek to advance their views and beliefs is an issue common to the field of policymaking per se. From the perspective of the link between regional policymaking and benchmarking, while (performance) benchmarking exercises have often been restricted to identifying the symptoms of regional weaknesses and failure, new models are seeking to pinpoint the poor developmental capacities underlying these symptoms (MORGAN, 1997). Despite the backlash from those in the academic community who consider benchmarking as a crude and over simplistic means of achieving regional policy objectives, it is forming an increasingly critical tool for policymakers and is rapidly becoming more methodologically sophisticated (DI NICOLA et al., 2004). As BELLINI and LANDABASO (2007) argue, there is an enduring divide between academics and regional planners, which has meant that academic theory had tended to be diagnostic rather than providing planners with an effective and pragmatic way to improve their policymaking.

Lesson-drawing, as ROSE (1993) suggests, is a return to the original notion of social science, which is both comparative and theoretical, and while policy cannot be expected to be fully fungible across regions, total blockage should not be expected either. It is clear that if a region uses a benchmarking exercise to try to re-create Silicon Valley through copycat behaviour it is undoubtedly doomed to fail (HOSPERS, 2005; 2006). Most regional benchmarking efforts, however, are shifting away from the imitation of 'best practices' and the unattainable search for an 'optimal' development model (BOSCHMA, 2004), toward the adaptation of good practices and more reflective policymaking. Although the days of regional policymaking based on 'high-tech fantasies' (MASSEY et al., 1992) are not fully behind us, more efforts are being made to understand the processes that make operations such as science parks and business incubators effective (HUGGINS and IZUSHI, 2007). For instance, the inter-regional benchmarking exercises supported by the European Commission are clearly seeking to understand the softer more intangible factors underlying regional competitiveness, such as networks and social capital. The

European Commission is also attempting to connect benchmarking with other modes of policy intelligence gathering such as foresight exercises (HOWELLS, 2005; IURCOVICH et al., 2006).

Knowing and measuring how other regions are doing, as MALECKI (2007) argues, ‘seems to be a prerequisite for membership among competitively advantaged regions’ (p. 645). However, if the evolution of regional benchmarking is to be successful, current benchmarking efforts must only be a starting point. The recurring paradox of regional benchmarking exercises is that while it is paramount to understand practices and policies related to soft, rather than hard, infrastructure and intangibles such as networks, knowledge transfer mechanisms, and social capital, there are few metrics and tools available to enable such benchmarking. BELLINI and LANDABASO (2007), for example, point to the benefits of benchmarking regional social capital, arguing that ‘we need to learn how to measure social capital in different regions and to monitor its evolution over time’ (p. 247).

CONCLUSION

This paper has outlined the development of regional benchmarking exercises across the globe. The rapidity with which the number of benchmarking projects has grown in the 1990s and 2000s is clearly related to a perceived necessity to make sense of the seemingly dramatic shifts occurring in the structure of advanced economies, as knowledge and innovation become the bedrocks of competitiveness. Critics suggest that regional benchmarking is a flawed technique since it does not allow regions to see themselves in a manner that is meaningful or constructive to policy formulation. Such criticism fails to take account of the variety and rapid development of regional benchmarking systems. Instead, it largely draws on well-worn arguments regarding problems in transferring policy from one context and environment to another. Although these issues are certainly of high relevance to regional benchmarking, the future challenge for benchmarking is broader. While each region has a unique combination of competitiveness requirements, globalisation is necessitating heightened interaction and linkage, which will require regions to increasingly pool and consolidate their competitive strengths as a means of eradicating their weaknesses. Without effective benchmarking, regions are unlikely to have the prerequisite competitive intelligence to engage in these processes of global

connection. As DATTAKUMAR and JAGADEESH (2003) find in their review of benchmarking activity in the corporate sector, 'quite often, the benchmarking concept is understood to be an act of imitating or copying. But in reality this proves to be a concept that helps in innovation rather than imitation' (p. 176).

In Europe, at least, the growth of regional benchmarking has formed a component of the drive towards new forms of governance that impact on regions, but which have been accompanied by a bottom-up push from regions themselves to engage in such exercises. The extent to which such exercises are the result of the embedding of an audit culture in governance structures is questionable. In a globalised world, where regions must increasingly look externally in order to understand their role, benchmarking represents more a form of 'foreign policy', allowing regions the opportunity to see themselves in a wider context (MALECKI, 2004). Such activities are still relatively embryonic, with much regional benchmarking to date limited to performance benchmarking exercises. This, in turn, has constrained the impact of such exercises on policymaking, which have been hampered by both political and financial factors.

It will be instructive to understand the type of benchmarking that emerges in the future, with there being a growing emphasis in both the business and policy worlds on 'real time benchmarking', especially as a result of increased global security risks. The globalisation of production and knowledge means that regional policymakers already have innate difficulties in maintaining up-to-date intelligence to inform relevant policymaking. Regional benchmarking has notoriously long time lags, particularly compared with national exercises, and more development is required in this area. Such development inevitably has financial and intellectual resource implications, which may lead to a benchmarking divide between core and peripheral regions, compounding the very problems regional policy is seeking to alleviate. This is the essence of the learning region discourse, whereby the open and connected create virtuous circles of dynamism and growth, and the isolated and disconnected vicious circles of stagnancy and mediocrity.

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Table 1: Summary of Types of Regional Benchmarking and Regional Benchmarkers

		Types of Regional Benchmarker		
		Independent Benchmarkers	Single Region Benchmarkers	Multi Region Benchmarkers
Types of Regional Benchmarking	Performance Benchmarking	Metrics based comparison of characteristics, undertaken by regionally external organisations	Metrics based comparison of characteristics, undertaken by authorities/stakeholders representing one region	Metrics based comparison of characteristics, undertaken by authorities/stakeholders representing more than one region
	Process Benchmarking	Structures and systems comparison of practices, undertaken by regionally external organisations	Structures and systems comparison of practices, undertaken by authorities/stakeholders representing one region	Structures and systems comparison of practices, undertaken by authorities/stakeholders representing more than one region
	Policy Benchmarking	Comparison of the public policies influencing processes and performance, undertaken by regionally external organisations	Comparison of the public policies influencing processes and performance, undertaken by authorities/stakeholders representing one region	Comparison of the public policies influencing processes and performance, undertaken by authorities/stakeholders representing more than one region

Table 2: Examples of Regional Benchmarking Exercises

Benchmarking Exercise	Thematic Focus	Regional Coverage	Type of Benchmarking	Type of Benchmarking	Periodicity	Source
Efficiency of the High-Tech Economy	Knowledge economy and innovation indicators	US states	Performance	Independent	One-off	Raab and Kotamraju (2006)
Great North Opportunity Forecast	Social and economic competitiveness (120 related metrics)	11 US cities specifically benchmarking Minneapolis-St. Paul	Performance	Single Region	Biennial	Petty (2005)
High-Tech and I-Tech Activity	High-technology sectors	US metropolitan areas	Performance	Independent	One-off	Chapple et al. (2004)
Regional Responsible Competitiveness Index	Corporate responsibility	Two UK regions	Performance	Independent	One-off	MacGillivray et al. (2007)
Urban Competitiveness in English Cities	City competitiveness	Major English cities	Performance	Independent	One-off	Deas and Giordano (2001)
State Competitiveness Report	State competitiveness	US states	Performance	Independent	Annual	Beacon Hill Institute (2006a)
Metro Area Competitiveness Report 2006	Metro competitiveness	US metropolitan areas	Performance	Independent	Annual	Beacon Hill Institute (2006b)
Cardiff: A Competitive European City?	City competitiveness	UK cities specifically benchmarking Cardiff	Performance	Single Region	One-off	Parkinson and Karecha (2006)
State of the English Cities	Competitiveness and social cohesion	English cities	Performance	Independent (but commissioned by UK government)	Intermittent (2000, 2006)	Parkinson et al. (2006)
Index of Regional Competitiveness for Finland	Regional competitiveness	Finnish regions	Performance	Independent	One-off	Huovari et al. (2001)
The Knowledge Driven Economy: Indicators for Northern Ireland	Regional competitiveness and knowledge economy	UK regions specifically focused on benchmarking Northern Ireland	Performance	Single Region	One-off	NIEC (2001)
Cities of Opportunity: Business-Readiness Indicators for the 21st Century	Economic and social conditions	11 global cities	Performance	Single Region	One-off	Partnership for New York City (2007)
Development Report Card for the States	Economic performance and business vitality (67 metrics)	US states	Performance	Independent	Annual	CFED (2007a)
Assets and Opportunity Scorecard	Social and financial security (46 metrics)	US states	Performance	Independent	Annual	CFED (2007b)

Creativity Index	Creativity, innovation diversity	US regions and states	Performance	Independent	Intermittent (2002, state creativity index published in 2003)	Florida (2002)
Randstad Monitor	Regional and sector competitiveness	20 urban European regions specifically focused on benchmarking the Randstad region	Performance	Single Region	One-off	TNO (2005)
An Economic Development Benchmarking System for Rural Michigan	Economic and social conditions	Selection of US counties specifically focused on benchmarking counties in Michigan	Performance	Single Region	One-off	Erickcek and Watts (2003)
The Competitiveness Project: Regional Benchmarking	Regional competitiveness	UK regions specifically focused on benchmarking North East England	Performance	Single Region	One-off	Charles and Benneworth (1999)
City Benchmarking: Granada	Economic, social and environmental development	Andalusia's (Spain) provincial cities specifically focused on benchmarking Granada	Performance	Independent	One-off	Luque and Munõz, 2005
Regional Competitiveness and State of the Regions	Regional competitiveness	UK regions	Performance	Independent (undertaken by UK government)	Annual	DTI (2007)
Local Economic Development Indicators	Economic and environmental development	UK local districts	Performance	Independent	One-off	Wong (2002)
BISER (Benchmarking the European Information Society)	Information and communications technology	EU regions	Performance	Independent	One-off	Empirica (2004)
Index of the Massachusetts Innovation Economy	Innovation and technology	10 US states focused specifically on benchmarking Massachusetts	Performance	Single Region	Annual	MTC (2006)
State of the Region Report: Competitiveness and Cooperation in the Baltic Sea Region	Competitiveness and clusters	Regions in the Baltic Sea area	Performance	Multi Region	Annual	Ketels and Sölvell (2005)
European Regional Innovation Scoreboard	Regional Innovation	EU regions	Performance	Independent (commissioned by the EU)	Intermittent (2002, 2003, 2006)	Hollanders (2007)

Regional Lazio Innovation Scoreboard	Regional innovation and competitiveness	Italian regions specifically focused on benchmarking Lazio	Performance	Single Region	Biennial	Filas (2006)
Urban Audit	Demographic, economic, social and environmental (250 metrics)	European cities	Performance	Independent	On-going	www.urbanaudit.org
Index of Silicon Valley	Demographic, economic, social and environmental	Specifically focused on benchmarking Silicon Valley against state and US performance, but 2007 edition also benchmarks against 15 regions around the globe for key metrics	Performance	Single Region	Annual	Henton et al. (2007)
Innovation and Entrepreneurial Index	Knowledge economy and innovation indicators	8 US cities specifically focused on benchmarking Philadelphia	Performance	Single Region	One-off	Innovation Philadelphia (2002)
Ontario Innovation Index	Innovation, science and technology	4 provinces in Canada and 4 US states specifically focused on Ontario	Performance	Single Region	One-off	Ontario Science and Innovation Council (2002)
NovaKnowledge Report Card	Education and workforce development	Canadian provinces specifically focused on benchmarking Nova Scotia	Performance	Single Region	Annual	Nova Knowledge (2006)
Best Performing Cities Index	Economic structure and sectoral employment	US cities	Performance	Independent	Annual	DeVol et al. (2007)
State Technology and Science Index	Science and technology	US states	Performance	Independent	Intermittent	DeVol et al. (2004)
European Competitiveness Index	Regional competitiveness	European regions	Performance	Independent	Biennial	Huggins and Davies (2006)
World Knowledge Competitiveness Index	Knowledge economy and innovation	125 regions from around the world	Performance	Independent	Biennial	Huggins et al. (2005)
UK Competitiveness Index	Regional and local competitiveness	UK regions and local areas	Performance	Independent	Annual	Huggins and Day (2006)
Business Climate Survey in Central Java	Business and economic environment	7 districts in the South of Central Java Province	Performance	Multi Region	Biennial	Harmes-Liedtke (2007)
Provincial Competitiveness Index in Vietnam	Competitiveness and regulatory frameworks	Provinces and major cities in Vietnam	Performance	Independent	Annual	Harmes-Liedtke (2007)
Washington State Index of Innovation and Technology	Innovation and competitiveness	10 US states focused specifically on benchmarking Washington state plus benchmarks for Washington state's localities	Performance	Single Region	Annual	Washington Technology Center (2006)
IMPACTSCAN4INNOPOL	Impact of regional innovation policy focused on SMEs	7 European regions	Performance and Policy (linking policy to	Multi Region	On-going	http://www.impactscan.net/default.aspx

			performance)			
MERIPA (Methodology for European Regional Innovation Policy Assessment)	Regional innovation policy	5 European regions	Performance and Policy (linking policy to performance)	Multi Region	On-going	http://www.meripa.org/en/home.htm
Competitive European Cities	City competitiveness	European cities specifically focused on benchmarking large English cities	Performance and Process (economic and social infrastructure)	Independent (but commissioned by UK government)	One-off	Parkinson et al. (2004)
America's High-Tech Economy	High-technology sectors	US metropolitan areas	Performance and Process (Structure of high-tech clusters)	Independent	One-off	DeVol (1999)
What Works in Regional Economic Development	Regional competitiveness	European regions specifically focused on benchmarking North East England	Performance, Process (industrial structure and systems), and Policy	Single Region	One-off	GHK and CURDS (2006)
State New Economy Index	Knowledge economy and innovation indicators	US states	Performance, Process (innovation and skills infrastructure), and Policy	Independent	Intermittent (1999, 2002, 2007)	Atkinson and Correa (2007)
Metropolitan New Economy Index	Knowledge economy and innovation indicators	US metropolitan areas	Performance, Process (innovation and skills infrastructure), and Policy	Independent	One-off	Atkinson and Gottlieb (2001)
Compete: Sharing Best Practice in European City Regions	City and city region competitiveness	6 European cities	Performance, Process and Policy ('best practice' profiles, study visits, exchange workshops)	Multi Region	One-off	www.compete-eu.org
EMERIPA	Regional innovation policy	8 European regions	Performance, Process and Policy (practice exchange)	Multi Region	On-going	www.emeripa.net

ARISE (Accelerating Regional Innovation Strategy Exchanges)	Regional innovation policy	6 European regions	Performance, Process and Policy (qualitative assessment of the impact of regional policy)	Multi Region	On-going	www.arise-project.com
Shared Prosperity, Stronger Regions	Urban development	5 'core' US cities	Performance, Process, and Policy (case studies and policy review)	Independent	One-off	Fox and Treuhaft (2006)
BAK International Benchmark Club	Regional competitiveness	Regions around the globe (although club members consist of stakeholders from European regions)	Performance, Process, and Policy (case studies, use of 'experts', study tours)	Independent	On-going	http://www.bakbasel.ch
Innovation Alliance	Innovation and clusters	13 European regions	Performance, Process, and Policy (review of assets, experiences and policy priorities)	Multi Region	On-going	Johannesson et al. (2006)
EURBEST (European Regions Benchmarking Economic Strategy and Transfer)	Regional innovation and entrepreneurship	22 European regions	Performance, Process, and Policy (study tours, good practice exchange)	Multi Region	One-off	EURBEST (2007)
IASMINE	Impact of regional innovation policy	5 European regions	Policy (exchange and assessment of policy practices)	Multi Region	On-going	www.iasmine.net
EURO-COOP	Impact of regional innovation policy	9 European regions	Policy (quantitative and qualitative assessment)	Multi Region	On-going	www.iccr-international.org/euro-coop/index2.html
INNOWATCH	Impact of regional innovation policy focused on SMEs	4 European regions	Policy (quantitative and qualitative assessment)	Multi Region	On-going	http://project.idetra.com/innowatch/
OMEN	Impact of regional innovation policy	6 European regions	Policy (quantitative and qualitative assessment)	Multi Region	On-going	http://www.omen-project.org/
Making Connections: Transforming People and Places	Urban development	6 North European city areas	Process and Policy (case studies, workshops)	Independent	One-off	URBED (2006)