



## Jockeying for Position: What It Means and Why It Matters to Regional Development Policy When Places Compete

Edward Malecki

To cite this article: Edward Malecki (2004) Jockeying for Position: What It Means and Why It Matters to Regional Development Policy When Places Compete, *Regional Studies*, 38:9, 1101-1120, DOI: [10.1080/0034340042000292665](https://doi.org/10.1080/0034340042000292665)

To link to this article: <http://dx.doi.org/10.1080/0034340042000292665>



Published online: 18 Aug 2010.



Submit your article to this journal [↗](#)



Article views: 465



View related articles [↗](#)



Citing articles: 64 View citing articles [↗](#)

# Jockeying for Position: What It Means and Why It Matters to Regional Development Policy When Places Compete

EDWARD J. MALECKI

Center for Urban and Regional Analysis and Department of Geography, Ohio State University, 154 North Oval Hall, Columbus, OH 43210-1361, USA. Email: malecki.4@osu.edu

---

(Received March 2003; in revised form July 2004)

MALECKI E. J. (2004) Jockeying for position: what it means and why it matters to regional development policy when places compete, *Regional Studies* 38, 1093–1112. The realization that places compete for investment has expanded in recent years to encompass competition among places for the attention of migrants, tourists and media glow as well as investment. The most competitive places have been multidimensional in their attractions and have made the transition to the knowledge-based economy. The latest priority is being placed on attracting mobile workers and mobile investment. Creative workers are the core of the knowledge economy and of its geographies such as ‘intelligent places’ and ‘learning regions’. Knowledge metrics, innovation indices and report cards are increasingly common, each seemingly developed to sort the list of places in a different order. Lists or league tables of ‘the best places’ for business, to live, retire and visit are key features of economies and societies whose factors of success are highly mobile. Competition in a geographical context and entrepreneurial responses are unlikely to go away, reinforced by an industry comprised of consultancies, the trade press, formal education and other means of learning. Consequently, policy-makers need to grasp the nature of place competition and the critical roles of knowledge and of networks in the strategies of the most competitive places. The standard of competition is complex, comprising innovation indices and cooperation within the network of world cities.

Competition    Regional development    Policy    Knowledge    World cities

MALECKI E. J. (2004) Lutter pour la première place: l’importance de la concurrence interville pour la politique d’aménagement du territoire, *Regional Studies* 38, 1093–1112. Dans les années récentes, se rendre compte que les villes se font concurrence pour l’investissement s’est élargi pour englober la concurrence interville qui cherche à séduire les migrants, les touristes et les médias ainsi que l’investissement. L’attrait des villes les plus compétitives a été multidimensionnel, et elles se sont transformées en économies basées sur la connaissance. La dernière priorité c’est attirer les travailleurs mobiles ainsi que l’investissement mobile. Les travailleurs créatifs sont au coeur d’une économie basée sur la connaissance et de ses localisations, telles les ‘villes intelligentes’ et les ‘régions d’apprentissage’. Il semble que la mesure de la connaissance, les indices de l’innovation, et les tableaux de bord sont employés de plus en plus afin de classer les villes. Un classement des ‘meilleures villes’ pour le commerce, la retraite, le tourisme constitue une caractéristique clé des économies et des sociétés dont les facteurs moteurs sont très mobiles. Il est peu probable que la concurrence sur le plan géographique et la réponse de la part des entrepreneurs s’atténuent, ce qui est renforcé par une industrie comportant des cabinets, une presse spécialisée, l’éducation et d’autres moyens d’apprendre. Par la suite, les décideurs devraient saisir la notion de concurrence interville et les rôles décisifs que jouent la connaissance et les réseaux dans les stratégies des villes les plus compétitives. Le niveau de la concurrence est complexe, comportant des indices de l’innovation et de la coopération au sein du réseau des grandes villes de taille mondiale.

Concurrence    Aménagement du territoire    Politique    Connaissance    Grandes villes de taille mondiale

MALECKI E. J. (2004) Bemühungen, sich gut zu plazieren: was es bedeutet, und warum es für die regionale Entwicklungspolitik wichtig ist, wenn Orte miteinander konkurrieren, *Regional Studies* 38, 1093–1112. Die Erkenntnis, daß Orte um Investitionen kämpfen, hat sich in den letzten Jahren dahingehend ausgeweitet, daß der Wettbewerb unter Ortschaften sich nicht nur auf Investitionen, sondern auch auf die Aufmerksamkeit von Zuwanderern, Touristen und das Rampenlicht der Medien richtet. Die konkurrenzfähigsten Orte sind diejenigen, welche vielfältige Attraktionen anbieten und den Übergang zu einer auf Fachkenntnissen aufbauenden Wirtschaft geschafft haben. Der letzte Schrei in Vorrangstellung ist die Fähigkeit wanderungsfreudige Arbeitskräfte und freies Kapital anzuziehen. Schöpferische Arbeitskräfte bilden den Kern der auf Kenntnissen beruhenden Wirtschaft und ihrer geographischen Bezeichnungen wie ‘Intelligenzorte’ und ‘dazulernende Regionen’. Immer häufiger stößt man auf Messungen des Standes der Fachkenntnisse, Innovationsindexe und Berichterstattungen, die alle anscheinend zum Zweck der Neueinordnung der Ortschaften in Ranglisten geschaffen werden. Listen oder Ligatabellen ‘der besten Standorte’ für Geschäfte, Wohnort, Ruhestand und Ausflüge sind Hauptmerkmale der Wirtschaften und Gesellschaften, deren zu Erfolg

führende Faktoren sich durch hohe Beweglichkeit auszeichnen. Wettbewerb in einem geographischen Zusammenhang und Unternehmerreaktionen werden wahrscheinlich nicht aufhören, sondern eher bestärkt durch eine Industrie, die sich aus Beratern, der Handelspresse, formaler Schulbildung und anderen Lernmöglichkeiten zusammensetzt. Entwicklungspolitiker müssen infolgedessen die Natur der Standortkonkurrenz sowie die kritischen Rollen von Fachkenntnissen und Netzwerken bei den Strategien der konkurrenzfähigsten Orte verstehen. Der Wettbewerbsstandard ist komplex, und umfaßt Innovationsindexe und Zusammenarbeit im Netzwerk der Weltstädte.

Wettbewerb Regionale Entwicklung Bestrebungen Fachkenntnisse Weltstädte

MALECKI E. J. (2004) Maniobrando para conseguir una posición: qué significa y por qué es importante para las políticas de desarrollo regional que los lugares compitan, *Regional Studies* **38**, 1093–1112. La realización de que los lugares compiten por inversión ha aumentado en los últimos años para abarcar la competición entre lugares para atraer la atención de emigrantes, turistas, y periodistas así como para atraer inversiones. Los lugares más competitivos han sido multidimensionales en sus atracciones, y han hecho la transición hacia una economía basada en el conocimiento. La prioridad más reciente se ha dirigido hacia la atracción de trabajadores e inversiones de carácter móvil. Los trabajadores creativos forman el corazón de la economía del conocimiento y de sus geografías como por ejemplo lo son los ‘lugares inteligentes’ y ‘las regiones que aprenden’. Las métricas de conocimiento, los índices de innovación tarjetas de reporte son cada vez más comunes, cada uno de ellos desarrollados de forma similar para clasificar la lista de lugares siguiendo un orden diferente. Las listas o las tablas de ligas de los ‘mejores lugares’ para los negocios, para vivir, retirarse y para visitar son rasgos clave de las economías y de las sociedades cuyos factores de éxito son altamente móviles. La competición en un contexto geográfico y las actividades emprendedoras que se producen como respuesta es probable que no desaparezcan, reforzadas por una industria que comprende asesorías, prensa especializada, educación formal y otras formas de aprendizaje. Consecuentemente, los diseñadores de políticas necesitan comprender la naturaleza de la competición entre los lugares y los roles críticos del conocimiento y de las redes (networks) en las estrategias de los lugares más competitivos. El estándar de la competición es un asunto complejo, el cual comprende índices de innovación y co-operación dentro de la red (network) de las ciudades globales.

Competición Desarrollo económico Política Conocimiento Ciudades globales

JEL classifications: O38, R00, R10, R59

## INTRODUCTION

Since the mid-1970s, a higher degree of competition among countries has been evident. Shifting fortunes and the rise of Japan prompted widespread reappraisal of relative national ability, particularly in high-technology industries (GILPIN, 1975; US DEPARTMENT OF COMMERCE, 1983), including a series of over 30 sector-specific studies by the International Trade Administration, US Department of Commerce.<sup>1</sup> Since 1990, the perception is widespread that Europe, Japan (and other Asian countries such as China) and the USA are competing in the global marketplace (DE WOOT, 1990; HART, 1992; JACQUEMIN and PENCH, 1997; OFFICE OF TECHNOLOGY ASSESSMENT, 1991; STOPFORD and STRANGE, 1991).

KRUGMAN (1994/96, p. 34) suggests that despite the common use of the term ‘competitiveness’, ‘countries do not compete with each other the way corporations do’. He interprets competition and competitiveness through the lens of an international trade expert, and describes many instances of the misuse of competitiveness as ‘careless arithmetic’. For Krugman, the principal reason countries do not compete with each other is that they cannot go out of business.

CAMAGNI (2002b), in a recent critique of Krugman’s views in the context of regions, makes two important conclusions. First, regions unlike nations more or less *can* go out of business, becoming so depleted by outmigration that they are at a long-run

competitive disadvantage. Regions and localities do compete for investment, as the chosen location of workers and as the destination of tourists – all of which will be made (either completely or partially) in some places and not in others. LEVER and TUROK (1999, p. 792) declare that ‘cities and other places compete with one another. This takes many different forms – some direct head-to-head competition for particular projects or events; others more indirect, subtle and incremental in nature’. Second, the basis for competitiveness at the regional scale is one of *absolute*, rather than comparative, advantage. Trade theory, on which Krugman’s argument relies, based on concepts such as natural resource endowments and relative availability of labour and capital, cannot address adequately ‘increasing returns linked to cumulative development processes and the agglomeration of activities’ and

the specific advantages strategically *created* by the single firms, territorial synergies and cooperation capability *enhanced* by an imaginative and proactive public administration, externalities *provided* by local and national governments and the specificities historically built by a territorial culture.

(CAMAGNI, 2002b, p. 2405, original emphases)

Camagni also focuses instead on *non-price competitiveness* and draws on the work of COOKE and MORGAN (1998) and of PORTER (1990, 2001) to explain the absolute advantages of human capital and infrastructure, which can be measured to some extent, and intangible

advantages such as social and relational capital, cooperation, collective learning and untraded interdependencies, which almost certainly cannot be measured. For comparisons among nations, cost and price competitiveness have become less important, increasingly replaced by technological competitiveness and the ability to compete on delivery (indicated by transport equipment and infrastructure) (FAGERBERG, 1988).

Competition among places involves more than marketing or attempting to sell them. It involves the enhancement or improvement in the attributes that make it possible to attract and keep investment and migrants – that is, to become ‘sticky places’ (MARKUSEN, 1996). In addition, competition raises the level of information – and the factual basis that underlies that information. That is, competition includes marketing but also it connotes more than advertising, which can be based on highly selective if not misleading information.

The following sections lay out some of benefits and problems of competition among places.<sup>2</sup> The next section examines briefly competition among nations, as embodied in annual competitiveness rankings. The paper then turns to competition among subnational territories and cities, contrasting imitative ‘low-road’ policies with ‘high-road’, knowledge-based policies. The final sections turn to an assessment of the disadvantages and benefits of competition among places. The disadvantages of competition mainly concern the perils that low-road strategies build so that no strengths can prevail over the long term, which presents particular difficulties for regions trying to catch up in the context of territorial competition based on knowledge. There are many benefits of scanning (i.e. looking over the environment systematically for new knowledge), which aids in learning and absorbing knowledge to be put to use as conditions change (HOWELLS, 2002; JOHANNESSON *et al.*, 1997).

### COMPETITIVENESS AND COMPETITION AT THE INTERNATIONAL SCALE

Whether or not nations can or do compete, their competitiveness can be measured. International comparisons have become commonplace, and indeed two competing groups provide annual rankings of national economies based on measures of competitiveness. The first, the WORLD ECONOMIC FORUM’s (WEF, 2003) Global Competitiveness Programme, since 1979 has published annual competitiveness reports covering the major economies of the world, now 80 countries. The WEF hypes its *Global Competitiveness Report (GCR)* (CORNELIUS and SCHWAB, 2003) as ‘the most authoritative and comprehensive assessment of the comparative strengths and weaknesses of national economies around the world’ (WEF, 2003, p. 1). Specific dimensions of competitiveness are also the

focus of separate reports, such as *The Global Information Technology Report 2002–2003* (DUTTA *et al.*, 2003), a new series that began in 2002, and *Environmental Performance Measurement: The Global Report 2001–2002* (ESTY and CORNELIUS, 2002), a (so far) one-off report that focuses on measuring national environmental sustainability and national environmental performance.<sup>3</sup>

All of the WEF reports now centre on country rankings or ‘league tables’ on two dimensions of competitiveness: growth competitiveness, or prospects for the next 5–8 years, and microeconomic competitiveness, which refers to a country’s effective use of its current stock of resources, based on the four elements of PORTER’S (1990) ‘diamond’ framework. Growth competitiveness includes three component indices: technology, public institutions and macroeconomic environment, and the indices themselves have sub-indices. For example, technology itself is comprised of sub-indices on innovation, information and communication technology (ICT) and technology transfer, and the public institutions index consists of sub-indices for contracts and law and for corruption.

Perhaps appropriately for the concept of competitiveness, the WEF has a competitor in the production of annual competitiveness rankings. Since 1989, the International Institute for Management Development has produced a direct competitor to the GCR, the *World Competitiveness Yearbook (WCY)*. Both annual reports include both ‘hard data’ and data from surveys of executives. Without the series of offspring that now revolve around the GCR, and including fewer countries (50), the WCY analyses a larger number (314) of different criteria, grouped into four ‘competitiveness factors’: economic performance, government efficiency, business efficiency and infrastructure (INTERNATIONAL INSTITUTE FOR MANAGEMENT DEVELOPMENT, 2002). The 2003 edition for the first time includes regional economies – Bavaria (Germany), California (USA), Catalonia (Spain), Ile-de-France (France), Lombardy (Italy), Maharashtra (India), Rhone-Alps (France), Scotland (UK), and Zhejiang (China) – separately from their national economies.

There might well be advantage in having competition among competitiveness rankings, since they provide distinct information (ROESSNER *et al.*, 2002; YGLESIAS, 2003). Both the GCR and the WCY have added items related to technology and infrastructure in recent years. Analyses of the high-technology competitiveness of countries suggest that inputs and outputs can be tracked over the long term, with predictive power (PORTER *et al.*, 2001; ROESSNER *et al.*, 1996). There remains a bias toward rich countries seen in the neoliberal policy prescriptions implicit in them (LALL, 2001).

Although a country’s overall ranking reflects a combination of factors or variables combined in some manner, their combination is not the same as *systemic*

*competitiveness* (BRADFORD, 1994; MEYER-STAMER, 1997). This concept suggests that sustained industrial competitiveness rests not only on firms' capabilities (the micro-level) and a stable economic framework (the macro-level), but also on a tissue of supporting, sector-specific and specialized institutions and targeted policies (the meso-level), and on governance structures that facilitate problem-solving between state and societal actors (the meta-level). Clearly, this bears strong resemblance to the concept of systems of innovations (or innovation systems), on which much has been written, particularly at the national scale (EDQUIST, 1997; LUNDVALL, 1992; NELSON, 1993). Some aspects of institutions are found in both the *GCR* and the *WCY*, but the nested (micro, macro, meso, meta) levels of the systemic competitiveness approach envisions institutions as more than merely variables in a large empirical analysis.

### REGIONAL COMPETITION: THE LOW ROAD

The distinctiveness of regional economies has been evident at least since the publication of PORTER (1990) and NAM *et al.* (1990), reinforced by OHMAE (1995) and SCOTT (1998). The *WCY* is the first of the global rankings to examine several regional economies, despite the presence among the *GCR* team of Porter, who has recognized regional clusters as the heart of national competitiveness since 1990. The European Commission also assessed regional competitiveness at the same time, identifying several factors as most important to regional economies: proximity to markets, the communication system, financial institutions and product life-cycle stage (NAM *et al.*, 1990). This list goes a step beyond traditional, cost-based factors that lead to low-road, race-to-the-bottom, policies.

Perhaps the height of interregional competition of the low-road variety took place in the 1970s in the USA, when 'the second war between the states' was announced by BUSINESS WEEK (1976) magazine. This label, repeated throughout the 1980s (RYANS and SHANKLIN, 1986), was reinforced by acrimonious competition among states to attain high rankings on the annual *General Manufacturing Business Climates* rankings of the 50 US states by the accounting firm Alexander Grant (subsequently renamed *General Manufacturing Climates* and the *Grant Thornton Manufacturing Climates Study*). These annual rankings served to define what was meant by a good business climate during the 1980s. Just as business climate was interpreted in various ways, labour 'skill' took on meanings beyond technical qualifications. Skill 'more often means the behavioural characteristics of labour: 'qualities as "good company employees," in terms of attendance, flexibility, responsibility, discipline, identification with the company and, crucially, work rate and quality' (MORGAN and SAYER, 1985, p. 390). These behavioural traits or 'soft skills'

are subtle qualities that frequently outweigh the conventional, measurable 'hard' skills (MOSS and TILLY, 1996).

Competition on the basis of low wages, docile labour and low taxes, which perpetuate an inability to upgrade to an economic base of higher skill and higher wages, had been common in the US South since the 1930s (COBB, 1993). The Grant Thornton business climate's focus on variables related to costs and taxes brought a devastating critique by the CORPORATION FOR ENTERPRISE DEVELOPMENT (CfED, 1986). The CfED's *The Development Report Card for the States* (1987) proposed an alternative set of guidelines for state economic development: performance, business vitality and development capacity as the organizational framework for 71 measures of each state economy (Table 1) (CfED, 2003a, b). The Grant Thornton studies ended in 1993; the annual *Development Report Cards* continue.

Competition among regions of the low-road variety, unfortunately, has not yet died out, especially among regions desperate to land scarce mobile investment such as auto assembly plants. Subsidies of all kinds are tossed out to attract these facilities, mediated by site location consultants who assess the 'business climate' and 'labour climate' of communities to justify providing incentives. Not only smokestacks, but also corporate headquarters are sought in this way, recently including US\$61 million to Boeing by the city of Chicago, Illinois, to choose the city as its new headquarters location (KHAN, 2002).

If territories compete for a relatively small number of large investment projects, THOMAS (2003) demonstrates they are in a Prisoners' Dilemma game: there is no incentive for them to cooperate or not to continue to compete by offering subsidies and other incentives to investors. The problem is lessened, Thomas suggests, in areas where a strong central government, or supra-national government such as the European Union, can control and restrain such competition. The degree of such control may well be an illusion reinforced by distance. DICKEN (1990, p. 181) concluded that:

there is no clear and systematic UK policy towards inward investment. Investment promotion is carried on by what can reasonably be called a 'confusion' of different agencies and institutions, a hierarchy of various levels between which there are substantial tensions and within which there is intense competition. . . . The territorial development agencies of Scotland, Wales, and Northern Ireland, with their stronger identity, institutions and interests, are able to compete strongly for investment in part on the strength of their research and analytical skills.

'Smokestack chasing' was thought to have died out, replaced by third- and fourth-wave 'entrepreneurial' policies in cities and regions (CLARKE and GAILE, 1998; EISINGER, 1988; FOSLER, 1988; HAIDER, 1986; ISSERMAN, 1994; LEICHT and JENKINS, 1994; SCHMANDT and WILSON, 1990). Supply-side policies

Table 1. Measures used in the Development Report Card for the States, 2002

Indicators	Performance: how well is the state's economy providing opportunities for employment, income and an improving quality of life?	Business vitality: how dynamic are the state's large and small businesses?	Development capacity: what is the state's capacity for future development?
Sub-indicators	<p>Employment: measuring the extent to which the economy is providing work for those who seek it: long-term employment growth, short-term employment growth, unemployment rate, mass layoffs</p> <p>Earnings and job quality: measuring how well people are compensated for the work they do: average annual pay, average annual pay growth, employer health coverage, working poor, involuntary part-time employment</p> <p>Equity: identifying the extent to which the opportunity to attain a high standard of living is widely shared: poverty rate, income distribution, income distribution change, rural/urban disparity</p> <p>Quality of life: examining the non-material aspects of a high standard of living, such as social conditions and civic capacities to determine: net migration, infant mortality, uninsured low-income children, teen pregnancy, heart disease, homeownership rate, charitable giving, voting rate, crime rate</p> <p>Resource efficiency: identifying the intensity of finite natural resource use to evaluate sustainability: per capita energy consumption, renewable energy, toxic release inventory, vehicle miles travelled, recycling rate, greenhouse gas emissions</p>	<p>Competitiveness of existing businesses: measuring the strength of a state's traded sector and whether businesses are being sustained: traded sector strength, change in traded sector strength, business closings, competitiveness index, manufacturing capital investment</p> <p>Structural diversity: determining if the economic base of the state is sufficiently varied so the state can grow even if the market for products produced by any industry changes: sectoral diversity, dynamic diversity</p> <p>Entrepreneurial energy: evaluating the extent to which new firms are generated and whether they are contributing to employment growth: new companies, change in new companies, new business job growth, technology jobs, initial public offerings</p>	<p>Human resources: identifying the education and skill levels of the workforce: basic educational skills, proficiency – reading, basic educational skills proficiency – mathematics, average teacher salary, K-12 education expenditures, high-school graduation, high-school attainment, college attainment</p> <p>Financial resources: focusing on the availability and use of capital to meet the full range of business needs: income from dividends, interest and rent, venture capital investments, Small Business Investment Companies (SBIC) Program financing, loans to small businesses</p> <p>Infrastructure resources: measuring the conditions of a state's physical infrastructure: highway deficiencies, bridge deficiency, urban mass transit, sewage treatment needs, digital infrastructure</p> <p>Amenity resources and natural capital: assessing quality of life and the sustainability of natural resources: energy costs, urban housing costs, health professional shortage areas, conversion of cropland to other uses, air quality</p> <p>Innovation assets: measuring technical knowledge and technological resources: PhD scientists and engineers, science and engineering graduate students, households with computers, university research and development, federal research and development, private research and development, SBIR grants, royalties and licenses, patents issued, university spin-outs</p>

Source: CORPORATION FOR ENTERPRISE DEVELOPMENT (2003b).

to attract businesses were supplemented by demand-side policies aimed at the retention of existing businesses and, to a lesser degree, by policies to support the creation of new firms and the expansion of existing businesses (EISINGER, 1988; FOSLER, 1988). However, it is clear that low-road competition still exists (LEVINE, 1995; LOVERIDGE, 1996; RAINES, 2000). Impact studies project unrealistic impacts to justify larger bundles of 'incentives' (CONNAUGHTON and MADSEN, 2001), firms overstate their future employment to receive incentives (GABE and KRAYBILL, 2001) and land-use planning is tailored to the needs of investors (TEWDWR-JONES and PHELPS, 2000).

Local economic development practitioners continue to focus on traditional location factors such as land,

labour, capital, infrastructure and location. Only after those are softer intangible factors considered: institutional capacity, business culture, community identity and image, and quality of life. Knowledge and technology lie in between, but behind traditional factors. WONG (1998) interprets this as suggestive of a lingering supply-side orientation.

*Competitiveness and interlocal competition: marketing and glurbanization*

At the urban scale, territorial competition combines the concerns of property-oriented growth machines with those of newer city marketers who manipulate images and repackage the 'place product' (CHESHIRE

and GORDON, 1996). Particularly striking are the similarities in the images projected by cities as they compete for business investment, shoppers, tourists and new residents (HOLCOMB, 1994). Indeed, consultants and 'how to' texts effectively ensure that this will be the case (e.g. KOTLER *et al.*, 1993). Places not only can be sold, but also the 'place product' can be branded, launched and repositioned for the appropriate demographic segments (ASHWORTH and GOODALL, 1990; HEATH and WALL, 1992; KOTLER *et al.*, 1993). In the context of tourism, for example, the built infrastructure consists of facilities that 'are similar from city to city' because they are aimed at the same market segments: meetings and conventions, sports, entertainment, and shopping. 'Few cities can forgo competition in each of these sectors' (JUDD, 2003b, p. 14).

HARVEY's (1989, p. 12) review of urban entrepreneurialism identified characteristics that remain largely intact:

Many of the innovations and investments designed to make particular cities more attractive as cultural and consumer centers have quickly been imitated elsewhere, thus rendering any competitive advantage within a system of cities ephemeral. ... Local coalitions have no option, given the coercive laws of competition, except to keep ahead of the game thus engendering leap-frogging innovations in life styles, cultural forms, products and service mixes, even institutional and political forms if they are to survive.

Even as they advise localities on how to compete, KOTLER *et al.* (1993, p. 15) acknowledge that 'the escalating competition ... for business attraction has the marks of a zero-sum game or worse, a negative-sum game, in that even the winner ultimately becomes the loser'. SWYNGEDOUW (1992, p. 58) observes that 'frenzied' and 'unbridled' competition results in over accumulation and the threat of devaluation. Worse perhaps is the fact that the economics of urban redevelopment projects are so flawed that cities 'face the possibility of being caught in a vicious cycle of having to provide larger subsidies to finance projects that deliver even fewer public benefits' (LEITNER and GARNER, 1993, p. 72). So why do places compete if the benefits are so few and uncertain? In short, because 'all places are in trouble, but some are in more trouble than others' (KOTLER *et al.*, 1993, p. 3; SHORT and KIM, 1998). Moreover, because interurban competition never relents, regeneration must be repeated, because 'all places are in trouble now, or will be in the near future' (KOTLER *et al.*, 1993, p. 346).

Despite similar motivations from place to place, local conditions vary sufficiently (varying degrees of 'trouble', perhaps) that, despite apparent similarities, there is no convergence on a single urban/regional policy in the USA and the UK, even if each can be characterized as a form of competitive regionalism (JONAS and WARD, 2002). Regulatory and institutional structures

are 'built within the locality' (SWYNGEDOUW, 1992, p. 57). JESSOP and SUM (2000, p. 2295) call the local tailoring of policies *glurbanization*, the urban counterpart to glocalization. These are 'entrepreneurial strategies that are concerned to secure the most advantageous insertion of a given city into the changing interscalar division of labour in the world economy'.

#### *But is it entrepreneurial?*

The shift during the 1980s from managerialism to entrepreneurialism, focusing 'on investment and economic development with the speculative construction of place rather than amelioration of conditions within a particular territory ... is entrepreneurial precisely because it is speculative' (HARVEY, 1989, pp. 7–8). Rather than being merely reactive, cities compete for production of goods and services, for consumption (including tourism and retirement, arts and festivals), for command and control functions, and for redistribution of surpluses through central governments. Because so many places are chasing the same goal, 'serial reproduction of similar forms of urban redevelopment' is inevitable (HARVEY, 1989, p. 10). LOVERING (1995) insists, however, that the urban 'package' is commodification rather than entrepreneurial activity; entrepreneurship implies that a product is something new or innovative. Indeed, HARVEY (1989, p. 11) acknowledges that 'the search to procure investment capital confines innovation to a very narrow path'.

The speculative or entrepreneurial qualities of urban investments derive from the inability to predict exactly which package will succeed in luring mobile production, financial and consumption flows into a particular space (HARVEY, 1989, p. 11). The inability to predict outcomes has led JESSOP and SUM (2000, p. 2290) to suggest five possible types of innovative urban forms and functions:

- Introduction of new types of urban place or space for producing, servicing, working, consuming, living, etc. (e.g. technopoles, intelligent cities, cross-border cities, multicultural cities).
- New methods of space or place production to create location-specific advantages for producing goods/services.
- Opening new markets, including modifying the spatial division of consumption through enhancing the quality of life for residents, commuters or visitors (e.g. culture, entertainment, spectacles, new cityscapes, gay quarters, gentrification).
- Finding new sources of supply to enhance competitive advantages, such as new sources of immigration, new sources of funding from the central state, attracting inward investment or reskilling the workforce.
- Refiguring or redefining the urban hierarchy and/or altering the place of a given city within it, such as

world or global city position, regional gateways, hubs, cross-border regions and 'virtual regions'.

The elites in entrepreneurial cities, particularly bankers, newspaper publishers and other location-bound businesses, remain in control of the images of their cities (HALL and HUBBARD, 1996; LOVERING, 1995; RACO, 1998). The local dependence of firms can lead to the formation of local business coalitions to promote local economic development. These local business coalitions appeal to the local population and its local consumption/status needs, e.g. orchestras, professional theatre companies, major sports franchises, shopping malls and bricked streets (COX and MAIR, 1988, p. 320).

#### *Media attention*

Competition among cities for the attention of investors, tourists and new residents also requires attention to media images and rankings. Annual 'Best cities for business' rankings of *Fortune* magazine have been joined by the *Forbes–Milken Institute Best Places Ranking Index* (MILKEN INSTITUTE, 2002). Other publications, such as *ENTREPRENEUR* (2002) and *INC.* (2000), whose readership is comprised of entrepreneurs, produce lists of the *Best Cities to Start and Grow a Company in Now*. Even *AméricaEconomía* has begun an annual ranking of cities in Latin America, in which Miami ranks far out in front of São Paulo, Brazil, the second-ranked city (ABARCA, 2002).

While not a completely new phenomenon, place-marketing has taken on a larger importance as media outlets proliferate. Places see a need to advertise their attractions to target markets, such as visitors, residents and workers, business and industry, and export markets. For each of these, a marketing programme can include creation of a positive image, developing attractions, and improving local infrastructure and quality of life (GOLD and WARD, 1994; KOTLER *et al.*, 1993; RYANS and SHANKLIN, 1986). Maintaining – or creating – a positive image is perhaps most important to the largest, or global, cities, including London, New York and Tokyo. In recent bidding for the 2012 Olympic Games, both London and New York are in the running primarily to stay in the media eye in a positive light. In general, the cities that compete the most are those that are most competitive (SHOVAL, 2002).

MCCANN (2004) emphasizes the relationships between media discourse and urban politics in his analysis of *Money* magazine's 'best places to live' in the USA. There are such lists, compiled annually by various publications and organizations, frequently with the objective of selling new publications. McCann shows that these rankings are a genuine focus of local policy-makers and business leaders, wherein the objective to improve a city's ranking becomes a centrepiece of local growth strategy and its discourse.

The discourse of interurban competition, crystallized in the popular media's images and rankings, sustains and encourages ideological conformity about what it takes to 'win' in this competition. Established strategies – redevelopment of central cities, convention centres, sports facilities, and shopping and restaurant districts – are being supplemented by concern for the 'people climate' (amenities and culture), rather than only the business climate of a place (FLORIDA, 2002). The centrality of quality of life to attract and keep mobile professionals – some of whom might start new firms – broadens the scope of 'best places for business' to include amenities and other 'quality of life' considerations. This is the latest in a wave of entrepreneurial strategies to address competition in a geographical context. Such responses are unlikely to go away, reinforced as they are by an industry comprised of consultancies, trade press, formal education and other means of learning (PAINTER, 1998).

#### *Tourism and regional competition*

Amenities also figure prominently in efforts to attract tourists. Indeed, the same amenities – a cultural 'scene' incorporating architecture, art and history, and diverse restaurants and shops – are among the local attributes seen as desirable for both local residents and visitors. Tourism is an ill-defined sector that has risen in importance as both business tourism and leisure tourism have expanded greatly, sparking policies and building 'urban entertainment amenities' explicitly to attract visitors (EISINGER, 2000). The 'infrastructure of play' includes renovated waterfronts, shopping areas, and entertainment and cultural districts that demand local investment (JUDD, 2003a). Business tourism, which encompasses conferences, conventions, and sector-specific exhibitions and fairs, also demands local investment and marketing (BRADLEY *et al.*, 2002; CUADRADO-ROURA and RUBALCABA-BERMEJO, 1998; LAW, 2002).

Tremendous competition also has emerged for 'hallmark events', such as blockbuster touring art exhibitions and periodic sporting events such as the Olympic Games and the Football (soccer) World Cup (LAW, 2002; SHOVAL, 2002). Such hallmark events can take place in only one location and only every 2 or 4 years, so they are a classic scarce resource for which cities (and their regions and countries) compete with one another. More frequent, perhaps annual sports championships may induce competition among a small band of cities in a single country, such as the Super Bowl of American football and the Final Four college basketball tournament in the USA. More prominent are attempts to land the Olympics as a high-profile hallmark event. Such efforts, even if not successful, direct media attention toward new symbols – of the 'cultural capital' in a post-modern city (Sydney, Australia) (WAITT, 1999),



or of new image for a city and its nation-state (Cape Town, South Africa) (HILLER, 2000).

More generally, sports tourism and mega events and hallmark events are part of a constant competition between cities and regions attempting to draw in mobile capital (JONES, 2001). Big entertainment projects, whether sports or eating, drinking and shopping, generally place the concerns of visitors to cities above those of the those who reside in the city (EISINGER, 2000).

European cities have not blindly followed the US model, particularly with regard to tourism, for several reasons. European cities are structurally unique, and the accumulation of cultural capital such as distinctive architecture is itself a tourist attraction. Moreover, European urban cores retain a mix of functions, including residential, which means that large sports and convention facilities (typical in downtown areas of US cities) are not feasible (VAN DEN BERG *et al.*, 2003). Nonetheless, PERRY (2003, p. 21) insists that 'privatizing discourses' are 'being carried on in every city in the world in one way or another'. The 'essential equipment' of a 'first-class' tourist city includes a sports stadium or arena, a convention centre and major convention hotels, all paid for by the citizens of the city (PERRY, 2003, pp. 35–36). Some of this is the discourse of entrepreneurialism, which may have relatively little connection with who will benefit and who will not from popular policies (EISINGER, 2000).

While the bundle of attractions and the involvement of public financial support remains largely as HARVEY (1989) described it, a glimmer of local uniqueness has entered. Local culture and history are incorporated into restaurant and entertainment district redevelopment, if only to implant some authenticity (FLORIDA, 2002; JUDD *et al.*, 2003).

#### KNOWLEDGE POLICIES: COMPETITION ON THE HIGH ROAD

It is more difficult for cities and regions to aim for the 'high road' rather than the 'low road' in development. The nuances operating in regional and local systems of innovation are scarcely the traditional factors of production in economics. Even agglomeration, a seemingly simple concept, has proven very difficult to untangle in its various guises (GORDON and MCCANN, 2000).

Urban and regional competitiveness is inherently multidimensional, including both traditional factors of production, infrastructure and location, as well as economic structure and more 'ethereal' factors, such as quality of life and environmental urban amenities. Competitiveness also reflects effective governance, urban strategy, public–private cooperation, and institutional flexibility (KRESL, 1995; DEAS and GIORDANO, 2001). Least likely to be understood and reflected

in local strategies are high-road policies to promote entrepreneurship and technology-based economic development. Three sets of prominent examples have attracted international attention. First, the success of industrial districts in Italy and Denmark – 'competitively advantaged regions', as COOKE (1996a, p. 162) calls them – demonstrate that a high-road strategy to regional development is possible (ASHEIM, 1996; COOKE, 1995). There are few such regions where learning, associational behaviour and working clusters operate. Silicon Valley, California, is on the list, as is Baden-Württemberg, Germany (a 'model region'), Emilia-Romagna, Italy, and the UK's Motor Sport Valley (COOKE and MORGAN, 1998; COOKE, 2002a). Second, a few 'new economy' clusters have emerged, including the Telecom Corridor in Richardson, Texas, biotechnology in Cambridge, Massachusetts, and biotech and ICT clusters in Cambridge, UK. Third, newly created, policy-led clusters with promising beginnings have emerged in Oulu, Finland, and winners of a German BioRegio competition centred in Cologne, Heidelberg, Munich, and Jena. The German competition among regional innovation systems is a rare case of a competition among regions initiated, encouraged and carried out by a national ministry, the German Ministry of Education, Science, Research and Technology (BMBF), and focused on the ability of regions to meet objectives to commercialize biotechnology (COOKE, 2002a; DOHSE, 2000).

The economic base of cities is increasingly producer services, which respond not simply to access to markets, inputs or a fixed supply of labour, but to up-to-the-minute information, specialized services and a quality life that facilitates recruitment of skilled and highly mobile professionals. FLORIDA (2002) and NEVAREZ (2003) suggest that elite labour sustains the new industrial space, with quality of life as a locational asset. In this context, urban and regional competitiveness aimed at becoming learning regions, working clusters and knowledge economies with functioning regional or local innovation systems, may be the preferred goal (COOKE, 2002a). These objectives are less sporadic or ephemeral than permanent, incremental and focused on long-term development – development of regions rather than *in* regions (LOVERING, 2001). Such an objective combines structural change, such as incorporation of the information economy (DRENNAN, 2002), and the imperatives of lifestyle and amenities to attract the creative workforce of the new economy (FLORIDA, 2002). It has been clear for some time that urban amenities – more than climate – attract tourists as well as mobile professional workers (FLORIDA, 2002; MALECKI and BRADBURY, 1992). People with higher knowledge and skill, whether labelled as 'symbolic analysts' (REICH, 1991) or 'the creative class' (FLORIDA, 2002), also are more capable of entrepreneurship, a key part of the process of continual regional rejuvenation.

FLORIDA's (2002, pp. 223–234) description of quality of place resonates with the soft, intangible qualities used to describe knowledge economies and innovative milieus: an interrelated set of experiences: what is there, who is there, what is going on. Quality of place does not occur automatically; it is an ongoing dynamic process that thrives on authenticity, diversity and interaction. Entrepreneurial cities seem unable to create the 'buzz' found in centres of cultural creativity (STORPER and VENABLES, 2002). There are several reasons: the factors are too soft; the needs of each industry are different; each industry agglomerates in a different district or 'quarter' of the urban area; and each creative person and firm uses the locality in different ways (DRAKE, 2003; SCOTT, 2000).

Despite attempts by cities to be creative (FLORIDA, 2002), innovative (BEGG, 2002; Simmie, 2001) and intelligent (KOMNINOS, 2002), innovative regions are not found everywhere. Large cities in Europe's core region (however defined; NIJKAMP, 1993) have much – but not all – of Europe's innovative activity (MATTHIESSEN and SCHWARZ, 1999; PACI and USAI, 2000; RODRÍGUEZ-POSE, 1999). Europe's regions have originated in different ways: via top-down regionalization (as in France) or bottom-up regionalism (as in Belgium and in Spain). The top-down creations are less able to muster the assemblage of features common to 'accomplished regional economies': agglomeration economies, institutional learning, associative governance, proximity capital and interactive innovation (COOKE *et al.*, 2000; COOKE, 2002a).

COOKE (2002b) argues the case for regional innovation systems using agglomeration economies, institutional learning, associative governance, proximity capital and interactive innovation. Criteria for innovation at the regional level include *infrastructural* (finance, hard infrastructures such as telecom and transport, and soft knowledge infrastructures) and *superstructural* (institutions and organizational aspects of both firms and policy). If regional systems of innovation are a standard to be attained, it is perhaps in the soft superstructural dimensions where regions vary most (COOKE *et al.*, 1998, 2000). The organizational elements that involve firms are perhaps the softest of all. Here, COOKE *et al.* (1998) list trustful (rather than antagonistic) labour relations, workplace cooperation, worker-welfare orientation, mentoring (versus 'sink or swim'), externalization and innovation (in contrast to adaptation) as characteristics of strong potential for regional systems of innovation. These characteristics are similar to those diffused among the suppliers of a firm that chose 'soft' transfer or 'competitiveness transfer' of technology, one which recognizes the human relations requirements of new technology (ETTLINGER and PATTON, 1996). In innovative milieus, equally soft and invisible dynamics are at work: learning and interaction, both of which are difficult to measure and therefore difficult for policy to create, maintain or

change (MAILLAT, 1995). Particularly difficult to influence are the cognitive aspects of a regional system, which strongly affect the ability to adapt to new conditions (GRABHER, 1993; MAILLAT, 1996). Thus, strategies should be aimed at the intensification of the productive capacities of the cities and regions in which they are based through the construction of 'territorially rooted immobile assets' (BRENNER, 1998, pp. 15–16).

It is easier, however, to create science parks and technopoles as symbols of local innovativeness than it is to create communication and technology transfer (KOMNINOS, 2002). It seems to be as difficult, if not impossible, for regional leaders truly to 'get it' with regard to innovation as it is for them to understand the appeal of diversity (FLORIDA, 2002). LEITNER and SHEPPARD (1998) fear that places that cannot attain high-road competitiveness automatically and instinctively tend to shift to low-road, low-wage strategies.

In small communities, which often cannot afford the costly, highly visible projects of large cities, 'soft' cultural and social variables matter most for regional development: institutions, leadership, culture, community (MCDOWELL, 1995). In all places, the popular cluster concept has been widely misapplied as merely the collection of sectors that have traded interaction, indicated by input–output linkages. Not measured in input–output matrices are the links between firms and organizations and institutions (AUSTRIAN, 2000, PORTER, 1998a, b). These links and other intangible, untraded interdependencies among firms are often more important than input–output relations (CHESNAIS, 1986; PENEDER, 2001; STORPER, 1997).

#### *Innovation indices*

Silicon Valley arguably stands as the leader in the global race; attempts to replicate its success stretch back decades (MICKLETHWAIT, 1997; MICKLETHWAIT and WOOLDRIDGE, 2000; MILLER and COTÉ, 1987; ROGERS and LARSEN, 1984; ROSENBERG, 2002). Although each region has its own set of strengths, including localized tacit knowledge, that cannot be replicated elsewhere, successful regions such as Silicon Valley do not stand still. In general, the superior organizing capacity of strong regions enables them to initiate new efforts as well as to maintain older successful policies (CHESHIRE and GORDON, 1996; VAN DEN BERG and BRAUN, 1999). Since the mid-1990s, i.e. before the recent dot-com meltdown, JOINT VENTURE: SILICON VALLEY NETWORK (2003) has worked to deal with growth, rejuvenation and issues that in Europe would be called cohesion, such as housing affordability, civic involvement, health and quality of life. An annual *Index of Silicon Valley* tracks indicators of the region's economy and quality of life.

Other regions have begun to emulate the practice of annual benchmarking. The Minneapolis–St Paul region, Minnesota, through the Great North Alliance,

has recently released its third *Great North Opportunity Forecast* (PETTY, 2002), which expanded its comparison base from seven other urban regions in 2000 to 11 regions in 2001. INNOVATION PHILADELPHIA (2002) has completed an extensive *Innovation and Entrepreneurial Index* that compares Philadelphia with several other places with which the city-region competes, such as Baltimore (Maryland), Boston (Massachusetts), New York (New York), Pittsburgh (Pennsylvania), Raleigh–Durham–Chapel Hill (Research Triangle, North Carolina), San Diego (California) and Washington, DC. The mixed results (Is our glass half empty or half full?) are refreshingly honest. Table 2 compares aspects of Silicon Valley, the Great North and Innovation Philadelphia.

In Canada, Ontario has published an *Ontario Innovation ... Index* since 2000, including 'benchmarking

Table 2. Categories and measures used by three regional organizations in the USA

Region	Silicon Valley, California, 2010	Great North Alliance, Minneapolis, Minnesota	Innovation Philadelphia, Pennsylvania
Categories and measures	Innovative economy	Performance Prosperity Regional personality Pull Resource flow	Knowledge
	Liveable environment	Innovation capacity Inspiration Invention Entrepreneurial introduction	Capital
	Inclusive society	Development capacity Minds Means Economic momentum	Location
	Regional stewardship		
Total number of indicators	31	58	29
Comparison regions		Chicago, IL Boston, MA Atlanta, GA Dallas, TX Seattle, WA Phoenix, AZ Denver, CO Austin, TX Orange County, CA Salt Lake City, UT Research Triangle, NC	New York, NY Boston, MA Research Triangle, NC San Diego, CA Pittsburgh, PA Baltimore, MD Washington, DC/Northern Virginia

Sources: INNOVATION PHILADELPHIA (2002); JOINT VENTURE: SILICON VALLEY NETWORK (2003); PETTY (2002).

comparisons' with three other Canadian provinces (Alberta, British Columbia, Quebec), four states in the USA (California, Massachusetts, Illinois, Michigan) and one country (Sweden) (ONTARIO SCIENCE AND INNOVATION COUNCIL, 2002). NovaKnowledge has published the *Nova Scotia Knowledge Report Card* since 1998 to define and monitor the progress of Nova Scotia's knowledge economy, mainly in comparison with other Canadian provinces (NOVAKNOWLEDGE, 2002).<sup>4</sup> These are relatively traditional compilations of science and technology indicators. Other regions, especially in the USA, have begun to address more subtle aspects of regional success, such as attracting and keeping young people (FOCUS ST LOUIS, 2002).

Objective comparisons of data for a region and its primary competitors were somewhat rare until recently. The STATE SCIENCE AND TECHNOLOGY INSTITUTE (SSTI, 2002) compiles and critiques the reports available for states and for urban regions, as well as several reports at the national scale in the USA. The SSTI suggests several benefits of innovation indices or report cards. First, an index, particularly in a traditional industrial economy, may help increase the population's recognition of what is necessary to thrive in an economy that is more knowledge based, technologically more sophisticated and globally more competitive. Second, an index can help to identify the areas that warrant the most immediate attention of targeted programmes and policies. Third, an index offers the political opportunity and supporting evidence to engage in longer-term policies and programmes than typically can result when leaders are motivated by short election cycles. Fourth, researchers and policy-makers can assess the direction of a region's or a state's economy if the index includes multi-year data and is done regularly to measure change. Finally, an index may provide data to support 'branding' and other promotional marketing strategies of a region or city.<sup>5</sup>

Currently, seven nation-wide indices in the USA rank states on innovation, technology and knowledge. Perhaps the best known are *The State New Economy Index* (newly updated for 2002 to compare with the original in 1999) and *The Metropolitan New Economy Index* (ATKINSON *et al.*, 1999; ATKINSON and GOTTLIEB, 2001; ATKINSON, 2002). Both indexes use five key economic dimensions of state and/or local: knowledge jobs, globalization, economic dynamism, digital economy and innovation capacity (Table 3).

Such reports are elaborate indeed, with broad frameworks for what constitutes a knowledge base and a range of well-documented data sources. At the same time, LEVER (2002) shows there are no straightforward links between knowledge and innovation at the city scale and economic growth in Europe. FLORIDA (2002) suggests a strong link in the USA, centred around the role of the 'creative class' of mobile professionals who increasingly determine the locations of firms.

Regional (multi-state) organizations also get into

Table 3. Indicators in the New Economy Index

Dimension	Indicator
Knowledge jobs	Information technology jobs (per cent of total jobs)
	Jobs held by managers, professionals and technicians (per cent of total workforce)
	Workforce education level (weighted measure of advanced degrees, bachelor's degrees, associate's degrees and some college coursework)
Globalization	Education level of the manufacturing workforce
	Export focus of manufacturing (per cent of jobs dependent on exports)
Economic dynamism	Foreign direct investment (per cent employed by foreign companies)
	Gazelle jobs (per cent of jobs in fast-growing companies – those with sales revenue that has grown 20% or more for 4 straight years)
Transformation to a digital economy	Job churning (business start-ups and failures as a per cent of all firms)
	Initial Public Offerings (their value as a per cent of gross state product)
	Online population (per cent of adults with Internet access)
	Commercial Internet domains (number per firm)
	Education technology (weighted measure of the per cent of classrooms wired for the Internet, teachers with technology training and schools with more than 50% of teachers with school-based e-mail accounts)
	Digital government (a measure of digital technologies in state governments)
	Online agriculture
Technological innovation capacity	Online manufacturers
	Broadband telecommunication
	Number of high-technology jobs (jobs in electronics, software and computer-related services, and telecommunications as a per cent of total employment)
	Number of scientists and engineers (per cent of workforce)
	Number of patents issued (per '000 workers)
	Industry investment in research and development (per cent of GSP)
	Venture capital (per cent of GSP)

Note: GSP, gross state product.

Source: ATKINSON (2002).

regional assessments. The Southern Growth Policies Board, formed by 13 governors of states in the US South in 1971, has long tracked innovation and technology through its Southern Technology Council. In 2000, the board began to publish an annual *Southern Innovation Index* to promote innovation, entrepreneurship and economic growth in the South. The index identifies 56 benchmarks and compares each state against the US average and against a target figure. Less a regional index than a compilation of those of the various states, it is a typical data-rich report that provides regular comparisons on measures believed to be related to regional development. As an annual index, the *Southern Innovation Index* and other compilations of 'indicators' can provide policy guidance in contrast to 'mere data' (GODIN, 2003).

The creation of indices is not the work of consultants or of local or regional boosters alone. Federal government agencies have weighed in, such as the Technology Administration of the US Department of Commerce, which has prepared a report of *State Science & Technology Indicators* in 2000 and 2001; this report did not appear in 2002 (US DEPARTMENT OF COMMERCE, TECHNOLOGY ADMINISTRATION, 2001). These studies used 37 different metrics that assess research and development (R&D), educational attainment, scientists and engineers, finance, and high-technology industry in each state. For the past decade, the US NATIONAL SCIENCE FOUNDATION (2002) has produced for several years the basic raw material for this and other

studies, the Science and Engineering State Profiles. These are somewhat less comprehensive than the internationally focused *Science Indicators* (since 1987 *Science and Engineering Indicators*) (GODIN, 2003).

One of the more elaborate studies is the *State Science and Technology Index*, commissioned by TechVentures Network, formerly Bay Area Regional Technology Alliance, with support from the California Technology, Trade and Commerce Agency. This study uses 73 components for each of the 50 states, providing a look at each 'ecosystem of economic development and sustainability' (DEVOL, 2002, p. 8). Such an index approaches the goal to embody the degree to which a national or regional 'economy is able to adapt to structural change, or, in the more favourable case, to internally anticipate it' (DUNN, 1994, p. 307).

Rankings and analyses of data at the regional scale in the UK have only recently begun (HUGGINS, 2003). Huggins notes that the most striking feature of the 12-region *UK Index of Regional Competitiveness* is the continuance of a north-south divide in economic fortunes. Indeed, this can be seen as a signal that the *Index* is accurate. The index components that measure knowledge-based business growth exhibit the highest correlation with regional output growth from 1993 to 1999 ( $r=0.62$ ). It appears, however, that the UK Department of Trade and Industry has decided to combine the *Regional Competitiveness Indicators* with its 'State of the Regions' *Core Indicators* (WHITE *et al.*, 2003). Significantly, regional indicators related to the

knowledge economy appear to have been dropped from the new indicator set.

#### *Cooperation, competition and world cities*

Because places are not islands, cities and regions and their institutions should have an explicit local 'foreign policy' (CAPPELLIN, 1998). For some cities, to attain the status of a world city is itself an objective. Although world-city status reflects more than simply the concentration of foreign firms or an agglomeration of producer services, these are among the objects of competition, perhaps particularly in Asia (DOUGLASS, 2000; WU, 2000). A city's foreign policy is its various connections with other cities, based on the non-local or extra-local links within spatial innovation systems (OINAS and MALECKI, 2002). Such links are ever more necessary, as 'cities are no longer enclosed within relatively auto-centric national economies, but embedded ever more directly within trans-state urban hierarchies and inter-urban networks' (BRENNER, 1998, p. 18). In other words, world cities not only compete with one another, but also they must cooperate and coordinate (BEAVERSTOCK *et al.*, 2002).

Beaverstock *et al.* make the notion of a city's 'foreign policy' more explicit, suggesting that four sets of actors or 'attendants' – firms, sectors, cities, states – work to maintain flows through the network of world cities. Firms operate with the 'communities' of sectors; cities operate within the communities of states (including national and international bodies). World cities comprise a network more than (or as well as) a hierarchy, and the interaction between cities is differentiation rather than zero-sum competition (DOEL and HUBBARD, 2002). Similar thinking is seen in the four roles that CAMAGNI (2001) sees the city as playing: cluster, milieu, interconnection and symbol. While the first two are somewhat inward in orientation, a cluster and/or a milieu as a territorial production system must be outward looking, focused to a large degree on non-local links and knowledge. The latter two roles, as interconnection and as symbol, are more explicitly outward in orientation. Symbols alone are insufficient. 'No amount of local asset manipulation and window-dressing will guarantee world-cityness' (DOEL and HUBBARD, 2002, p. 361).

Seen as a network of places simultaneously competing and cooperating, the world city network is but one example of how networks 'evolve in response to, yet also shape, hierarchies and markets' (LEITNER *et al.*, 2002, p. 288). Viewed as part of a network, the prosperity of a world city is not determined by its 'competitive advantage' over its rivals. World cities work together to maintain flows through the network (BEAVERSTOCK *et al.*, 2002, p. 115). As urban economies become more specialized, they require horizontal links rather than, or in addition to, vertical links with larger cities (CAMAGNI and SALONE, 1993).

Policy-makers and politicians should 'replace their place-based way of thinking with a focus on connectivity, performance and flow', i.e. 'how they can extend city networks through time and space to attain (and perform) world-cityness' (DOEL and HUBBARD, 2002, p. 363). For example, an airport is not enough; also needed are flows of air traffic, meaning airlines and their flights, passengers, and international freight.

Airports are an acknowledged aspect of urban 'foreign policy'. 'For the last forty years, airports have determined the hierarchy of cities, by determining their accessibility from medium and long distances'. Intermediate cities have developed transversal or non-radial international and interregional connections with other intermediate cities. This has enlarged the action area of business and offered better access to distant markets (CAPPELLIN, 1998, p. 75). SMITH and TIMBERLAKE'S (2002) analysis suggests that although the air travel network has become more hierarchical, with one pre-eminently dominant city (London), a larger number of cities have become well linked.

Many other networks also operate across national borders, including political, social, cultural, criminal, and flows of money and of immigrants (LEITNER *et al.*, 2002; SASSEN, 2001). JESSOP and SUM (2000) describe the less structured diaspora network, the Hong Kong-Silicon Valley Association, set up to enhance global-local flows of knowledge, expertise and manpower. SAXENIAN and LI (2003) describe similar strong links, including co-investment, between Taiwanese in Silicon Valley and Taiwan.

#### **DRAWBACKS OF COMPETITION**

Not all competition is good. The most oft-noted drawback of inter-territorial competition is serial reproduction, the imitation and replication of the same ideas from place to place. Resources (financial and human) are diverted into advertising and marketing rather than into systemic change. The 'civic peacocking' associated with mega-events and monumental spaces may have little lasting value (DOEL and HUBBARD, 2002). The old-style competition, embodied in subsidies, incentives and low-road policies, led to low wages and low taxes as a basis for competition. Consequently, this had the effect of reduced revenue for public services, diminishing quality of life. A priority on competition also reduces the likelihood that places will cooperate toward common goals.

Indeed, even the simplest, and most common, form of competition, promotion and marketing, is fundamentally zero-sum in nature, responding primarily 'to the short-term demands of "global but leaderless" capitalism' (LOVERING, 1995, pp. 122–124). Even if there is widespread benefit from local efforts in territorial competition, many benefits will accrue only to some, such as 'rent earners' and firms entrenched in the local economy, rather than to others (CHESHIRE

and GORDON, 1996; COX, 1995; COX and MAIR, 1988).

Research on competitiveness is generally mixed with a concern for cohesion (a term hardly used in the USA) and inequality (e.g. BODDY, 2002; HALL *et al.*, 2001; JACQUEMIN and PENCH, 1997; POTTS, 2002). As but one example, the reconfiguration of Copenhagen, Denmark, as a creative city may well be 'business-as-usual urban redevelopment' (LUND HANSEN *et al.*, 2001). In other words, attracting talent and improving quality of place may be euphemisms for displacement and gentrification (ASHEIM and CLARK, 2001). MOULAERT and SEKIA (2003, p. 295) generalize further: 'There is no reference to improving the non-(market) economic dimensions of the quality of life in local communities or territories'.

While core-periphery contrasts remain within Europe, the core region has expanded to include a larger number of 'islands of innovation' than was the case in earlier configurations (LEVER, 1999). Even in a time of growing innovation and knowledge networks, peripheral locations are likely to become even more peripheral (CAMAGNI, 2002a; POLÈSE *et al.*, 2002). Weak or lagging territories – in terms of competitiveness, internal/external accessibility, quality of human and environmental factors, internal synergy, and learning capability – 'risk exclusion and decline to a larger extent than in the past'. The ingredients needed for development (knowledge, human capital, management and organization, co-operation and networking) 'are rare and not at all ubiquitous' (CAMAGNI, 2002a, p. 88).

Peripheral and smaller cities compete in very different ways from large cities, with a more restricted set of policies and no chance to match national capitals and world cities (LÖFGREN, 2000). The fact that places compete does not mean that they compete equally. Because the playing field is uneven, the dynamics of competition are fraught with negative rather than with positive connotations, particularly for disadvantaged places (LEITNER and SHEPPARD, 1998; SHEPPARD, 2000; LEIBOVITZ, 2003).

### BENEFITS OF COMPETITION

In the context of decisions of firms, of mobile skilled workers and of tourists, and given the constraints of a limited investment budget for plants, offices and other facilities, companies and people can choose only a small number of locations, and often only one in the short one. Hence, the benefit to those making location decisions of information found in the GCR and the WCY, as well as the results of TRANSPARENCY INTERNATIONAL (2003) on corruption.

Competition among places can also lead to strengthened technology, boosting the absorptive capacity of places for new technologies and enabling foresight concerning future technologies. Technology

foresight programmes and technology-scanning activities embody an ongoing absorptive capacity of a region (FOSS, 1996; MARTIN and JOHNSTON, 1999; VAN WYK, 1997). COOKE (1996b) identifies Emilia-Romagna as a rare region with capability in foresight.

Beyond media attention and infrastructural improvements that can be touted to the media, part of urban competition is the compilation and distribution of information and data about a place. Internet websites are now the standard mode of such information, typically providing links to complete reports and documents that a decade ago would have been difficult if not impossible to find and distributed in very limited quantities. Even now, such documents rarely find their way onto the shelves of traditional libraries.

The website of a city or region is an important means to form initial impressions – positive or negative – based in part on how informative and easy to navigate the site. Websites are important as a constantly available source of information. They may reduce but not entirely put an end to the disadvantages faced by small or poor regions and the information asymmetries created by smaller staff size and smaller advertising budgets that favour large, rich regions. However, there is little hard evidence on this to date. To compete, all places – large and small – must make the effort to prepare reports and other material to put on their websites; this is a relatively larger burden for small places. Some relation exists between country wealth and the size of city websites among 20 large cities, but there is no clear relation between city size and the structure or content of the website (URBAN, 2002). The website of a city or region is not for outsiders alone, and it communicates to local residents as well as to prospective residents and others, such as researchers. E-governments attempt to provide a '24/7' service, as citizens have come to expect in their role as consumers.

Network-enhancing policies, which incorporate soft as well as hard networks (MALECKI, 2002), can add to the more familiar growth-enhancing policies (Table 4). Territorial competitiveness, if it engages public administrations and local communities in the creation of a

Table 4. Some territorially competitive policies

Zero sum	Growth enhancing	Network enhancing
Pure promotion	Training	Internal networking
Capturing mobile investment	Fostering entrepreneurship	External (non-local) networks
Investment subsidies	Helping new firms	Benchmarking assessments
Subsidized premises	Business advice	Airline and air freight links
	Uncertainty reduction	Scanning globally for new knowledge
	Coordination	
	Infrastructure investment	

Source: Columns 1 and 2 are from CHESHIRE and GORDON (1998, p. 325); column 3 has been added.

widening spectrum of 'preconditions' – from hard to soft, from competitive to cooperative – need not mean a wasteful zero-sum game. Competitiveness reached through territorial quality and public service efficiency brings benefits to all local economic and social activities. Competitiveness attained by creating local synergies among local actors, or integrating external firms in the local relational web, exploits spillovers and increasing returns that are at the very base of economic development, in its positive-sum, 'generative' sense (CAMAGNI, 2002a, p. 89).

Attempts to create positive-sum strategies are now becoming commonplace at both the state and local levels in the USA. The assessments made of science and technology, with benchmarks and honest comparisons with other places, are realistic and produce more candid marketing efforts. Local leaders 'see themselves as others see them' as they search for local attributes to advertise, as they capture their economy's weaknesses as well as its strengths in regularly monitored indicators, and as websites make good as well as bad data far more accessible than in the past.

### CONCLUSION

Competition among places has evolved considerably from crass attempts to offer the lowest cost to prospective investors and migrants to, more recently, sophisticated self-assessments that reflect honest analysis and comparison. All places must content with being ranked by external bodies (governmental, media or research organizations). In part because the criteria used in each ranking are different, no place is objectively 'best' or first in each league table. When ranking with annual updates, on the other hand, rankings inevitably show change rather than stability over time.

As research has proliferated on regional and local innovation systems and other territorial innovation models, serial replication of the high road policies that lead to learning regions and knowledge economies is recommended but hardly anticipated (COOKE *et al.*, 2000; COOKE, 2002a). Internal conditions (R&D, strong but flexible institutions, a culture of trust and networking, etc.) and broad capabilities to capture and absorb external knowledge suggest that only a very small number of regions can attain the characteristics needed to be a 21st-century economy. A large number of the necessary ingredients (i.e. in particular, those that are not ubiquitous) cannot simply be imposed from the top down, but grow out of the region or community, and this can take a long time (COOKE and MORGAN, 1998; MASKELL *et al.*, 1998; MOULAERT and SEKIA, 2003).

What does competition mean for policy? Competition has pushed local and regional policy toward the easy solution: homogenization of the 'place product' because the market is the same (globalized) set of investors, tourists, consumers. Entrepreneurship in the

sense that the product is something new or innovative is much more rare and may be shrouded in conflicts between competing discourses. In Hong Kong, for example, a traditional place-based discourse competes against a vision of the city as a networked 'urban economic space that will manage ever-expanding global-regional-local flows of production and exchange' (JESSOP and SUM, 2000, p. 2302). Hong Kong is not alone in attempting to create such a vision, suggesting that serial replication of best practices is not likely to end.

To some degree, learning and external (even global) scanning are what 'intelligent' cities and regions are doing, adding to the list of tasks needed to keep up. Continual monitoring and periodic benchmarking of what 'the competition' is doing are demanded.

The growing divergence between strong and weak territories is largely a divergence in orientation toward innovation-prone and -averse regions (RODRÍGUEZ-POSE, 1999). In innovation-prone regions, infrastructure, innovation support for firms and innovation policy vision are present (COOKE *et al.*, 2000). Lack of innovativeness also is symptomatic of a lack of external orientation – the degree to which firms and public-sector organizations receive, learn, absorb and adapt experience, knowledge and expertise from elsewhere. In short, the challenge from competition is a daunting one, which can provide many opportunities for fruitless packaging and marketing of places as products. Although imitation of high-road development is much more difficult than was imitation of low-road policies, competition provides opportunities for places to learn how they might specialize and form new links with other places – to their mutual benefit.

**Acknowledgements** – Research was partially supported by a grant from the Mershon Center, The Ohio State University. The paper benefited from the helpful comments of Peter Maskell and of three anonymous referees.

### NOTES

1. Although not cited here, the title of each begins with *A Competitive Assessment of the . . . Industry or Competitive Assessment of the . . . Industry*.
2. The present paper does not deal with the large literature on competitiveness of firms, whether small or large, except to the degree that they contribute directly to a region's development. Nearly all research on firm competitiveness focuses on the dependence of firms, especially small- and medium-sized firms, on their local and regional environment (CONTI *et al.*, 1995; HITCHENS *et al.*, 1996; MASKELL *et al.*, 1998). National and regional economies are largely the assemblage of the firms that operate within their borders, along with other actors and institutions in the national or regional economic system (COX, 1995; PORTER, 1990).

3. Regional reports also have begun to appear on the Arab world (SCHWAB and CORNELIUS, 2003), on Europe (WARNER, 2002) and on Latin America (VIAL and CORNELIUS, 2002). Reports on Africa and on Asia have not been done recently (see <http://www.weforum.org/site/homepublic.nsf/Content/Global+Competitiveness+Programme%5Creports>).
4. Some dubious facts emerge from such reports. The 2001 NovaKnowledge report places Nova Scotia's R&D as 'lagging and stuck', the lowest of four categories of 'How are we doing?', whereas a year later, the 2002 report rates R&D as having jumped to 'leading', the highest category. This is a rapid turnaround by any measure.
5. The SSTI (2002, p. 1) suggests there are 'characteristics

of good indices' of innovation. According to the SSTI, a good index would contain some, if not all, of the following: (1) public involvement and wide ownership of the selection of the measures included and the weighting, if any, for the indicators; (2) a clear explanation of how factors are measured or calculated and any weighting that may be used; (3) an explanation of the goals of the index and why certain indicators are included (and possibly why others are not); (4) an examination of trends in the measures over time instead of one-time snapshots; (5) a public dissemination of results; (6) specific recommendations for action from the study, including identification of responsible parties; (7) follow-up assessment of improvement (every 2–3 years); and (8) a proper citation of sources.

## REFERENCES

- ABARCA F. (2002) Un imán llamado: Sao Paulo (Ranking de ciudades 2002). *AméricaEconomía* **16 May**, 20–24 (available at: <http://www.americaeconomia.com/FilesMC/CiuSP-02.pdf>).
- ASHEIM B. and CLARK E. (2001) Creativity and cost in urban and regional development in the 'new' economy, *European Planning Studies* **9**, 805–811.
- ASHEIM B. T. (1996) Industrial districts as 'learning regions': a condition for prosperity, *European Planning Studies* **4**, 379–400.
- ASHWORTH G. and GOODALL B. (Eds) (1990) *Marketing Tourism Places*. Routledge, London.
- ATKINSON R. D. (2002) *The 2002 State New Economy Index: Benchmarking Economic Transformation in the States*. Progressive Policy Institute, Washington, DC (available at: <http://www.neweconomyindex.org/states/>).
- ATKINSON R. D., COURT R. H. and WARD J. M. (1999) *The State New Economy Index: Benchmarking Economic Transformation in the States*. Progressive Policy Institute, Washington, DC (available at: <http://www.neweconomyindex.org/states/>).
- ATKINSON R. D. and GOTTLIEB P. D. (2001) *The Metropolitan New Economy Index: Benchmarking Economic Transformation in the Nation's Metropolitan Areas*. Progressive Policy Institute, Washington, DC (available at: <http://www.neweconomyindex.org/metro/>).
- AUSTRIAN Z. (2000) Cluster case studies: the marriage of quantitative and qualitative information for action, *Economic Development Quarterly* **14**, 97–110.
- BEAVERSTOCK J. V., DOEL M. A., HUBBARD P. J. and TAYLOR P. J. (2002) Attending to the world: competition, cooperation and connectivity in the world city network, *Global Networks* **2**, 111–132.
- BEGG I. (Ed.) (2002) *Urban Competitiveness: Policies for Dynamic Cities*. Policy Press, Bristol.
- BODDY M. (2002) Linking competitiveness and cohesion, in BEGG I. (Ed.) *Urban Competitiveness: Policies for Dynamic Cities*, pp. 33–53. Policy, Bristol.
- BRADFORD C. I. (1994) The new paradigm of systemic competitiveness: why it matters, what it means and implications for policy, in BRADFORD C. I. (Ed.) *The New Paradigm of Systemic Competitiveness: Toward More Integrated Policies in Latin America*, pp. 41–65. Organisation for Economic Co-operation and Development, Paris.
- BRADLEY A., HALL T. and HARRISON M. (2002) Selling cities: promoting new images for meetings tourism, *Cities* **19**, 61–70.
- BRENNER N. (1998) Global cities, global states: global city formation and state territorial restructuring in contemporary Europe, *Review of International Political Economy* **5**, 1–37.
- BUSINESS WEEK (1976) The second war between the states, *Business Week* **17 May**, 92–114.
- CAMAGNI R. (2001) The economic role and spatial contradictions of global city-regions: the functional, cognitive, and evolutionary context, in SCOTT A. J. (Ed.) *Global City-regions: Trends, Theory, Policy*, pp. 96–118. Oxford University Press, Oxford.
- CAMAGNI R. (2002a) Territorial competitiveness, globalisation and local milieux, *European Spatial Research and Policy* **9**, 63–90.
- CAMAGNI R. (2002b) On the concept of territorial competitiveness: sound or misleading?, *Urban Studies* **39**, 2395–2411.
- CAMAGNI R. P. and SALONE C. (1993) Network urban structures in Northern Italy – elements for a theoretical framework, *Urban Studies* **30**, 1053–1064.
- CAPPELLIN R. (1998) The transformation of local production systems: international networking and territorial competitiveness, in STEINER M. (Ed.) *Clusters and Regional Specialisation: On Geography, Technology and Networks*, pp. 57–80. Pion, London.
- CHESHIRE P. C. and GORDON I. R. (1996) Territorial competition and the predictability of collective (in)action, *International Journal of Urban and Regional Research* **20**, 383–399.
- CHESHIRE P. C. and GORDON I. R. (1998) Territorial competition: some lessons for policy, *Annals of Regional Science* **32**, 321–346.
- CHESNAIS F. (1986) Science, technology and competitiveness, *Science Technology Industry Review* **1**, 85–129.
- CLARKE S. E. and GAILE G. L. (1998) *The Work of Cities*. University of Minnesota Press, Minneapolis.
- CLINTON J., DORON S., JAMES K. and WARREN J. (2002) *Invented Here: The 2002 Southern Innovation Index*. Southern Growth Policies Board, Research Triangle Park, NC (available at: <http://www.southern.org/pubs/ih2002/invented%20here%202002.pdf>).



- COBB J. C. (1993) *The Selling of the South: The Southern Crusade for Industrial Development, 1936–1990*, 2nd Edn. University of Illinois Press, Urbana.
- CONNAUGHTON J. E. and MADSEN R. A. (2001) Assessment of economic impact studies: the cases of BMW and Mercedes-Benz, *Review of Regional Studies* **31**, 293–303.
- CONTI S., MALECKI E. J. and OINAS P. (Eds) (1995) *The Industrial Enterprise and its Environment: Spatial Perspectives*. Avebury, Aldershot.
- COOKE P. (1995) Keeping to the high road: learning, reflexivity and associative governance in regional economic development, in COOKE P. (Ed.) *The Rise of the Rustbelt*, pp. 231–245. UCL Press, London.
- COOKE P. (1996a) The new wave of regional innovation networks: analysis, characteristics and strategy, *Small Business Economics* **8**, 159–171.
- COOKE P. (1996b) Building a twenty-first century regional economy in Emilia-Romagna, *European Planning Studies* **4**, 53–62.
- COOKE P. (2002a) *Knowledge Economies: Clusters, Learning and Cooperative Advantage*. Routledge, London.
- COOKE P. (2002b) Biotechnology clusters as regional, sectoral innovation systems, *International Regional Science Review* **25**, 8–37.
- COOKE P., BOEKHOLT P. and TÖDTLING F. (2000) *The Governance of Innovation in Europe: Regional Perspectives on Global Competitiveness*. Pinter, London.
- COOKE P. and MORGAN K. (1998) *The Associational Economy*. Oxford University Press, Oxford.
- COOKE P., URANGA M. G. and ETXEBARRIA G. (1998) Regional systems of innovation: an evolutionary perspective, *Environment and Planning A* **30**, 1563–1584.
- CORNELIUS P. K. and SCHWAB C. (2003) *The Global Competitiveness Report 2002–2003*. Oxford University Press, Oxford.
- CORPORATION FOR ENTERPRISE DEVELOPMENT (1986) *Taken for Granted: How Grant Thornton's Business Climate Index Leads States Astray*. Corporation for Enterprise Development, Washington, DC.
- CORPORATION FOR ENTERPRISE DEVELOPMENT (1987) *Making the Grade: The Development Report Card for the States*. Corporation for Enterprise Development, Washington, DC.
- CORPORATION FOR ENTERPRISE DEVELOPMENT (2003a) *Development Report Card for the States*. Corporation for Enterprise Development, Washington, DC (available at: <http://drc.cfed.org/> and <http://www.cfed.org>).
- CORPORATION FOR ENTERPRISE DEVELOPMENT (2003b) *Development Report Card for the States: Measures*. Corporation for Enterprise Development, Washington, DC (available at: <http://drc.cfed.org/measures/>).
- COX K. R. (1995) Globalisation, competition and the politics of local economic development, *Urban Studies* **32**, 213–224.
- COX K. R. and MAIR A. (1988) Locality and community in the politics of local economic development, *Annals of the Association of American Geographers* **78**, 307–325.
- CUADRADO-ROURA J. R. and RUBALCABA-BERMEJO L. (1998) Specialization and competition amongst European cities: a new approach through fair and exhibition activities, *Regional Studies* **32**, 133–147.
- DEAS I. and GIORDANO B. (2001) Conceptualising and measuring urban competitiveness in major English cities: an exploratory approach, *Environment and Planning A* **33**, 1411–1429.
- DE WOOT P. (1990) *High Technology Europe: Strategic Issues for Global Competitiveness*. Basil Blackwell, Oxford.
- DEVOL R. (2002) *State Science and Technology Index: Comparing and Contrasting California*. Milken Institute, Santa Monica (available at: <http://www.milken-inst.org/nst/nst.pdf>).
- DICKEN P. (1990) Seducing foreign investors – the competitive bidding strategies of local and regional agencies in the United Kingdom, in HEBBERT M. and HANSEN J. C. (Eds) *Unfamiliar Territory: The Reshaping of European Geography*, pp. 162–186. Avebury, Aldershot.
- DOEL M. and HUBBARD P. (2002) Taking world cities literally: marketing the city in a global space of flows, *City* **6**, 351–368.
- DOHSE D. (2000) Technology policy and the regions – the case of the BioRegio contest, *Research Policy* **29**, 1111–1133.
- DOUGLASS M. (2000) Mega-urban regions and world city formation: globalisation, the economic crisis and urban policy issues in Pacific Asia, *Urban Studies* **37**, 2315–2335.
- DRAKE G. (2003) 'This place gives me space': place and creativity in the creative industries, *Geoforum* **34**, 511–524.
- DRENNAN M. P. (2002) *The Information Economy and American Cities*. Johns Hopkins University Press, Baltimore.
- DUNN M. H. (1994) Do nations compete economically? A critical comment on Prof. Krugman's essay 'Competitiveness: a dangerous obsession', *Intereconomics* **29**, 303–308.
- DUTTA S., LANVIN B. and PAUA F. (2003) *The Global Information Technology Report 2002–2003*. Oxford University Press, Oxford.
- EDQUIST C. (Ed.) (1997) *Systems of Innovation*. Pinter, London.
- EISINGER P. (2000) The politics of bread and circuses: building the city for the visitor class, *Urban Affairs Review* **35**, 316–333.
- EISINGER P. K. (1988) *The Rise of the Entrepreneurial State: State and Local Economic Development Policy in the United States*. University of Wisconsin Press, Madison.
- ENTREPRENEUR (2002) *Entrepreneur and Dun & Bradstreet's 9th Annual Best Cities for Entrepreneurs*. October (available at: <http://www.entrepreneur.com/bestcities/1,5271,00.html>).
- ESTY D. and CORNELIUS P. K. (2002) *Environmental Performance Measurement: The Global Report 2001–2002*. Oxford University Press, Oxford.
- ETTLINGER N. and PATTON W. (1996) Shared performance: the proactive diffusion of competitiveness and industrial and local development, *Annals of the Association of American Geographers* **86**, 286–305.
- FAGERBERG J. (1988) International competitiveness, *Economic Journal* **98**, 355–374.
- FLORIDA R. (2002) *The Rise of the Creative Class, and How It's Transforming Work, Leisure, Community and Everyday Life*. Basic Books, New York.

- FOCUS ST LOUIS (2002) *Preparing St. Louis for Leadership in the 21st Century*. Focus St Louis, St Louis (available at: <http://www.focus-stl.org/prio/pdf/econreport2002.pdf>).
- FOSLER R. S. (Ed.) (1988) *The New Economic Role of American States*. Oxford University Press, New York.
- FOSS N. J. (1996) Higher-order industrial capabilities and competitive advantage, *Journal of Industry Studies* **3**, 1–20.
- GABE T. M. and KRAYBILL D. S. (2001) The effect of state economic development incentives on employment growth of establishments, *Journal of Regional Science* **42**, 703–730.
- GILPIN R. (1975) *Technology, Economic Growth, and International Competitiveness*. US Government Printing Office, Washington, DC.
- GODIN B. (2003) The emergence of S&T indicators: why did governments supplement statistics with indicators?, *Research Policy* **32**, 679–691.
- GOLD J. R. and WARD S. V. (Eds) (1994) *Place Promotion: The Use of Publicity and Marketing to Sell Towns and Regions*. Wiley, Chichester.
- GORDON I. R. and MCCANN P. (2000) Industrial clusters: complexes, agglomeration and/or social networks?, *Urban Studies* **37**, 513–532.
- GRABHER G. (1993) The weakness of strong ties: the lock-in of regional development in the Ruhr area, in GRABHER G. (Ed.) *The Embedded Firm: On the Socioeconomics of Industrial Networks*, pp. 213–241. Routledge, London.
- HAIDER D. (1986) Economic development: changing practices in a changing US economy, *Environment and Planning C: Government and Policy* **4**, 451–469.
- HALL R., SMITH A. and TSOLAKIS L. (2001) *Competitiveness and Cohesion in EU Policies*. Oxford University Press, Oxford.
- HALL T. and HUBBARD P. (1996) The entrepreneurial city: new urban politics, new urban geographies?, *Progress in Human Geography* **20**, 153–174.
- HART J. A. (1992) *Rival Capitalists: International Competitiveness in the United States, Japan, and Western Europe*. Cornell University Press, Ithaca.
- HARVEY D. (1989) From managerialism to entrepreneurialism: the transformation of urban governance in late capitalism, *Geografiska Annaler* **71B**, 3–17.
- HEATH E. and WALL G. (1992) *Marketing Tourism Destinations: A Strategic Planning Approach*. Wiley, New York.
- HILLER H. H. (2000) Mega-events, urban boosterism and growth strategies: an analysis of the objectives and legitimations of the Cape Town 2004 Olympic bid, *International Journal of Urban and Regional Research* **24**, 439–458.
- HITCHENS D. M. W. N., O'FARRELL P. N. and CONWAY C. D. (1996) The competitiveness of business services in the Republic of Ireland, Northern Ireland, Wales, and the South East of England, *Environment and Planning A* **28**, 1299–1313.
- HOLCOMB B. (1994) City make-overs: marketing the post-industrial city, in GOLD J. R. and WARD S. V. (Eds) *Place Promotion: The Use of Publicity and Marketing to Sell Towns and Regions*, pp. 115–131. Wiley, Chichester.
- HOWELLS J. (2002) Tacit knowledge, innovation and economic geography, *Urban Studies* **39**, 871–884.
- HUGGINS R. (2003) Creating a UK competitiveness index: regional and local benchmarking, *Regional Studies* **37**, 89–96.
- INC. (2000) Best cities to start and grow a company in now. *Inc. Magazine* **1 December** (available at: <http://www.inc.com/magazine/20001201/21110.html>).
- INNOVATION PHILADELPHIA (2002) *Innovation and Entrepreneurial Index 2002: Is Our Glass Half Empty or Half Full?* Innovation Philadelphia, Philadelphia (available at: <http://www.ipphila.com/index.cfm/fuseaction/document.download/documentID/9/doc/Innovation%20%26%20Entrepreneurial%20Index.pdf>).
- INTERNATIONAL INSTITUTE FOR MANAGEMENT DEVELOPMENT (2002) *World Competitiveness Yearbook 2002*. IMD, Lausanne (available at: <http://www02.imd.ch/wcy/>).
- ISSERMAN A. M. (1994) State economic development policy and practice in the United States: a survey article, *International Regional Science Review* **16**, 49–100.
- JACQUEMIN A. and PENCH L. R. (1997) *Europe Competing in the Global Economy*. Edward Elgar, Cheltenham.
- JESSOP B. and SUM N.-L. (2000) An entrepreneurial city in action: Hong Kong's emerging strategies in and for (inter)urban competition, *Urban Studies* **37**, 2287–2313.
- JOHANNESSON J.-A., DOLVA J. O. and OLSEN B. (1997) Organizing innovation: integrating knowledge systems, *European Planning Studies* **5**, 331–349.
- JOINT VENTURE: SILICON VALLEY NETWORK (2003) *Joint Venture's 2003 Index of Silicon Valley: Measuring Progress Toward the Goals of Silicon Valley 2010*. Joint Venture: Silicon Valley Network, San Jose (available at: <http://www.jointventure.org/2003index/2003index.pdf>).
- JONAS A. E. G. and WARD K. (2002) A world of regionalisms? Towards a US–UK urban and regional policy framework comparison, *Journal of Urban Affairs* **24**, 377–401.
- JONES C. (2001) A level playing field? Sports stadium infrastructure and urban development in the United Kingdom, *Environment and Planning A* **33**, 845–861.
- JUDD D. R. (2003b) Building the tourist city: editor's introduction, in JUDD D. R. (Ed.) *The Infrastructure of Play: Building the Tourist City*, pp. 3–16. M. E. Sharpe, Armonk, NY.
- JUDD D. R. (Ed.) (2003a) *The Infrastructure of Play: Building the Tourist City*. M. E. Sharpe, Armonk, NY.
- JUDD D. R., WINTER W., BARNES W. R. and STERN E. (2003) Tourism and entertainment as local economic development: a national survey, in JUDD D. R. (Ed.) *The Infrastructure of Play: Building the Tourist City*, pp. 50–74. M. E. Sharpe, Armonk, NY.
- KHAN M. (2002) Bidding for economic development: the role of site location consultants, *Corporate Research E-Letter* **no. 22** (available at: <http://www.goodjobsfirst.org/crp/mar02.htm>).
- KOMNINOS P. (2002) *Intelligent Cities: Innovation, Knowledge Systems and Digital Spaces*. E & FN Spon, London.

- KOTLER P., HAIDER D. H. and REIN I. (1993) *Marketing Places: Attracting Investment, Industry, and Tourism to Cities, States, and Nations*. Free Press, New York.
- KRESL P. K. (1995) The determinants of urban competitiveness: a survey, in GAPPERT G. and KRESL P. K. (Eds) *North American Cities and the Global Economy*, pp. 45–68. Sage, Thousand Oaks.
- KRUGMAN P. (1994) Competitiveness: a dangerous obsession, *Foreign Affairs* **73**, 28–44; repr. KRUGMAN P. (1996) *Pop Internationalism*, pp. 3–24. MIT Press, Cambridge, MA.
- LALL S. (2001) Competitiveness indices and developing countries: an economic evaluation of the Global Competitiveness Report, *World Development* **29**, 1501–1525.
- LAW C. (2002) *Urban Tourism: The Visitor Economy and the Growth of Large Cities*, 2nd Edn. Continuum, London.
- LEIBOVITZ J. (2003) Interrogating 'Enterprise Europe': issues of coordination, governance and spatial development in the European Union's emerging enterprise policy, *International Journal of Urban and Regional Research* **27**, 713–722.
- LEICHT K. T. and JENKINS J. C. (1994) Three strategies of state economic development: entrepreneurial, industrial recruitment, and deregulation policies in the American states, *Economic Development Quarterly* **8**, 256–269.
- LEITNER H. and GARNER M. (1993) The limits of local initiatives: a reassessment of urban entrepreneurialism for urban development, *Urban Geography* **14**, 57–77.
- LEITNER H. and SHEPPARD E. (1998) Economic uncertainty, inter-urban competition and the efficacy of entrepreneurialism, in HALL T. and HUBBARD P. (Eds) *The Entrepreneurial City: Geographies of Politics, Regime and Representation*, pp. 285–307. Wiley, Chichester.
- LEITNER H., PAVLIK C. and SHEPPARD E. (2002) Networks, governance, and the politics of scale: inter-urban networks and the European Union, in HEROD A. and WRIGHT M. W. (Eds) *Geographies of Power*, pp. 274–303. Blackwell, Oxford.
- LEVER W. F. (1999) Competitive cities in Europe, *Urban Studies* **36**, 1029–1044.
- LEVER W. F. (2002) Correlating the knowledge-base of cities with economic growth, *Urban Studies* **39**, 859–870.
- LEVER W. F. and TUROK I. (1999) Competitive cities: introduction to the review, *Urban Studies* **36**, 791–793.
- LEVINE M. V. (1995) Globalization and wage polarization in U. S. and Canadian cities: does public policy make a difference?, in GAPPERT G. and KRESL P. K. (Eds) *North American Cities and the Global Economy*, pp. 89–111. Sage, Thousand Oaks.
- LÖFGREN A. (2000) A thousand years of loneliness? Globalization from the perspective of a city in a European periphery, *Geoforum* **31**, 501–511.
- LOVERIDGE S. (1996) On the continuing popularity of industrial recruitment, *Economic Development Quarterly* **10**, 151–158.
- LOVERING J. (1995) Creating discourses rather than jobs: the crisis in the cities and the transition fantasies of intellectuals and policy makers, in HEALEY, P., CAMERON, S., DAVOUDI, S., GRAHAM, S. and MADANI-POUR A. (Eds) *Managing Cities: The New Urban Context*, pp. 109–126. Wiley, Chichester.
- LOVERING J. (2001) The coming regional crisis (and how to avoid it), *Regional Studies* **35**, 349–354.
- LUND HANSEN A., ANDERSEN H. T. and CLARK E. (2001) Creative Copenhagen: globalization, urban governance and social change, *European Planning Studies* **9**, 851–869.
- LUNDVALL B.-Å. (Ed.) (1992) *National Systems of Innovation*. Pinter, London.
- MAILLAT D. (1995) Territorial dynamic, innovative milieus and regional development, *Entrepreneurship and Regional Development* **7**, 157–165.
- MAILLAT D. (1996) Regional productive systems and innovative milieux, in *Networks of Enterprises and Local Development: Competing and Co-operating in Local Productive Systems*, pp. 67–80. Organization for Economic Co-operation and Development, Paris.
- MALECKI E. J. (2002) Hard and soft networks for urban competitiveness, *Urban Studies* **39**, 929–945.
- MALECKI E. J. and BRADBURY S. L. (1992) R&D facilities and professional labour: labour force dynamics in high technology, *Regional Studies* **26**, 123–136.
- MARKUSEN A. (1996) Sticky places in slippery space: a typology of industrial districts, *Economic Geography* **72**, 293–313.
- MARTIN B. R. and JOHNSTON R. (1999) Technology foresight for wiring up the national innovation system: experiences in Britain, Australia, and New Zealand, *Technological Forecasting and Social Change* **60**, 37–54.
- MASKELL P., ESKELINEN H., HANNIBALSSON I., MALMBERG A. and VATNE E. (1998) *Competitiveness, Localised Learning and Regional Development: Specialisation and Prosperity in Small Open Economies*. Routledge, London.
- MATTHIESSEN C. W. and SCHWARZ A. W. (1999) Scientific centres in Europe: an analysis of research strength and patterns of specialisation based on bibliometric indicators, *Urban Studies* **36**, 453–477.
- MCCANN E. J. (2004) 'Best places': inter-urban competition, quality of life, and popular media discourse, *Urban Studies* **41**, 1909–1929.
- MCDOWELL G. R. (1995) Some communities are successful, others are not: toward an institutional framework for understanding the reasons why, in SEARS D. W. and REID J. N. (Eds) *Rural Development Strategies*, pp. 269–281. Nelson-Hall, Chicago.
- MEYER-STAMER J. (1997) New patterns of governance for industrial change: perspectives for Brazil, *Journal of Development Studies* **33**, 364–391.
- MICKLETHWAIT J. (1997) Future perfect? A survey of Silicon Valley, *Economist* **29 March**.
- MICKLETHWAIT J. and WOOLDRIDGE A. (2000) *A Future Perfect: The Challenge and Hidden Promise of Globalization*. Crown Business, New York.
- MILKEN INSTITUTE (2002) *Forbes–Milken Institute Best Places Ranking* (available at: <http://www.milkeninstitute.org/research/research.taf?cat=indexes&function=detail&ID=16&type=FMI>).
- MILLER R. and COTÉ M. (1987) *Growing the Next Silicon Valley*. Lexington Books, Lexington, MA.

- MORGAN K. and SAYER A. (1985) A 'modern' industry in a 'mature' region: the remaking of management–labour relations, *International Journal of Urban and Regional Research* **9**, 383–404.
- MOSS P. and TILLY C. (1996) 'Soft' skills and race: an investigation of black men's employment problems, *Work and Occupations* **23**, 252–276.
- MOULAERT F. and SEKIA F. (2003) Territorial innovation models: a critical survey, *Regional Studies* **37**, 289–302.
- NAM C. W., NERB G. and RUSS H. (1990) *An Empirical Assessment of Factors Shaping Regional Competitiveness in Problem Regions*. Main Report. Commission of the European Communities, Luxembourg.
- NATIONAL SCIENCE FOUNDATION (2002) *Science and Engineering State Profiles: 1999–2000*. NSF, Arlington (available at: <http://www.nsf.gov/sbe/srs/nsf02318/htmstart.htm>).
- NELSON R. R. (Ed.) (1993) *National Innovation Systems*. Oxford University Press, Oxford.
- NEVAREZ L. (2003) *New Money, Nice Town: How Capital Works in the New Urban Economy*. Routledge, London.
- NIJKAMP P. (1993) Towards a network of regions: the united states of Europe, *European Planning Studies* **1**, 149–168.
- NOVAKNOWLEDGE (2002) *Nova Scotia Knowledge Report Card 2002*. NovaKnowledge, Halifax (available at: [http://www.novaknowledge.ns.ca/media/documents/reportcard\\_2002.pdf](http://www.novaknowledge.ns.ca/media/documents/reportcard_2002.pdf)).
- OFFICE OF TECHNOLOGY ASSESSMENT (1991) *Competing Economies: America, Europe, and the Pacific Rim*. US Congress, OTA, Washington, DC.
- OHMAE K. (1995) *The End of the Nation State: The Rise of Regional Economies*. Free Press, New York.
- OINAS P. and MALECKI E. J. (2002) The evolution of technologies in time and space: from national and regional to spatial innovation systems, *International Regional Science Review* **25**, 102–131.
- ONTARIO SCIENCE AND INNOVATION COUNCIL (2002) *Ontario Innovation 2002 Index*. Ministry of Enterprise, Opportunity and Innovation, Toronto (available at: [http://www.ontariocanada.com/ontcan/en/downloads/reports/report\\_dec\\_2002\\_innovation\\_index.pdf](http://www.ontariocanada.com/ontcan/en/downloads/reports/report_dec_2002_innovation_index.pdf)).
- PACI R. and USAI S. (2000) Technological enclaves and industrial districts: an analysis of the regional distribution of innovative activity in Europe, *Regional Studies* **34**, 97–114.
- PAINTER J. (1998) Entrepreneurs are made, not born: learning and urban regimes in the production of entrepreneurial cities, in HALL T. and HUBBARD P. (Eds) *The Entrepreneurial City: Geographies of Politics, Regime and Representation*, pp. 259–273. Wiley, Chichester.
- PENEDER M. (2001) *Entrepreneurial Competition and Industrial Location: Investigating the Structural Patterns and Intangible Sources of Competitive Advantage*. Edward Elgar, Cheltenham.
- PERRY D. C. (2003) Urban tourism and the privatizing discourses of public infrastructure, in JUDD D. R. (Ed.) *The Infrastructure of Play: Building the Tourist City*, pp. 19–49. M. E. Sharpe, Armonk, NY.
- PETTY D. (2002) *Great North Opportunity Forecast 2002–2003*. Great North Alliance, Minneapolis (available at: [http://www.thegreatnorth.com/reports/2002\\_2003\\_Opportunity\\_Forecast\\_Appendix.pdf](http://www.thegreatnorth.com/reports/2002_2003_Opportunity_Forecast_Appendix.pdf)).
- POLÈSE M., SHEARMUR R., DESJARDINS P.-M. and JOHNSON M. L. (2002) *The Periphery in the Knowledge Economy: The Spatial Dynamics of the Canadian Economy and the Future of Non-Metropolitan Regions in Quebec and the Atlantic Provinces*. Institut National de la Recherche Scientifique – Urbanisation, Culture et Société and Canadian Institute for Research on Regional Development, Montreal.
- PORTER A. L., ROESSNER J. D., JIN X.-Y. and NEWMAN N. C. (2001) Changes in national technological competitiveness: 1990, 1993, 1996 and 1999, *Technology Analysis and Strategic Management* **13**, 477–496.
- PORTER M. E. (1990) *The Competitive Advantage of Nations*. Free Press, New York.
- PORTER M. E. (1998a) Clusters and competition: new agendas for companies, governments, and institutions, in PORTER M. E. *On Competition*, pp. 197–287. Harvard Business School Press, Boston.
- PORTER M. E. (1998b) Clusters and the new economics of competition, *Harvard Business Review* **76**, 77–90.
- PORTER M. E. (2001) Regions and the new economics of competition, in SCOTT A. J. (Ed.) *Global City-regions*, pp. 139–157. Oxford University Press, Oxford.
- POTTS G. (2002) Competitiveness and the social fabric: links and tensions in cities, in BEGG I. (Ed.) (2002) *Urban Competitiveness: Policies for Dynamic Cities*, pp. 55–80. Policy, Bristol.
- RACO M. (1998) Assessing 'institutional thickness' in the local context: a comparison of Cardiff and Sheffield, *Environment and Planning A* **30**, 975–996.
- RAINES P. (2000) Regions in competition: inward investment and regional variation in the use of incentives, *Regional Studies* **34**, 291–296.
- REICH R. B. (1991) *The Work of Nations*. Alfred A. Knopf, New York.
- RODRÍGUEZ-POSE A. (1999) Innovation prone and innovation averse societies: economic performance in Europe, *Growth and Change* **30**, 75–105.
- ROESSNER D., PORTER A. L., NEWMAN N. and JIN X.-Y. (2002) A comparison of recent assessments of the high-tech competitiveness of nations, *International Journal of Technology Management* **23**, 536–557.
- ROESSNER J. D., PORTER A. L., NEWMAN N. and CAUFFIELD D. (1996) Anticipating the future high-tech competitiveness of nations: indicators for twenty-eight countries, *Technological Forecasting and Social Change* **51**, 133–149.
- ROGERS E. M. and LARSEN J. (1984) *Silicon Valley Fever*. Basic Books, New York.
- ROSENBERG D. (2002) *Cloning Silicon Valley*. Reuters, London.
- RYANS J. K. and SHANKLIN W. L. (1986) *Guide to Marketing for Economic Development: Competing in America's Second Civil War*. Publishing Horizons, Columbus, OH.

- SASSEN S. (2001) Global cities and global city-regions: a comparison, in SCOTT A. J. (Ed.) *Global City-regions: Trends, Theory, Policy*, pp. 78–95. Oxford University Press, Oxford.
- SAXENIAN A. and LI C.-Y. (2003) Bay-to-bay strategic alliances: the network linkages between Taiwan and the US venture capital industries, *International Journal of Technology Management* **25**, 136–150.
- SCHMANDT J. and WILSON R. W. (Eds) (1990) *Growth Policy in the Age of High Technology: The Role of Regions and States*. Unwin Hyman, Boston.
- SCHWAB C. and CORNELIUS P. K. (2003) *The Arab World Competitiveness Report 2002–2003*. Oxford University Press, Oxford.
- SCOTT A. J. (1998) *Regions and the World Economy*. Oxford University Press, Oxford.
- SCOTT A. J. (2000) *The Cultural Economy of Cities: Essays On the Geography of Image-Producing Industries*. Sage, Thousand Oaks.
- SHEPPARD E. (2000) Competition in space and between places, in SHEPPARD E. and BARNES T. J. (Eds) *A Companion to Economic Geography*, pp. 169–186. Blackwell, Oxford.
- SHORT J. R. and KIM Y.-H. (1998) Urban crises/urban representations: selling the city in difficult times, in HALL T. and HUBBARD P. (Eds) *The Entrepreneurial City: Geographies of Politics, Regime and Representation*, pp. 55–75. Wiley, Chichester.
- SHOVAL N. (2002) A new phase in the competition for the Olympic gold: the London and New York bids for the 2012 games, *Journal of Urban Affairs* **24**, 583–599.
- SHIMMIE J. (Ed.) (2001) *Innovative Cities*. E & FN Spon, London.
- SMITH D. and TIMBERLAKE M. (2002) Hierarchies of dominance among world cities: a network approach, in SASSEN S. (Ed.) *Global Networks, Linked Cities*, pp. 117–141. Routledge, London.
- STATE SCIENCE AND TECHNOLOGY INSTITUTE (2002) Special Issue: A look at innovation indices & report cards. *SSTI Weekly Digest* **1 November** (available at: <http://www.ssti.org/Digest/2002/110102.htm>).
- STOPFORD J. and STRANGE S. (1991) *Rival States, Rival Firms*. Cambridge University Press, Cambridge.
- STORPER M. (1997) *The Regional World*. Guilford Press, New York.
- STORPER M. and VENABLES A. J. (2002) Buzz: the economic force of the city. Paper presented at the DRUID Summer Conference, 'Industrial Dynamics of the New and Old Economy – Who is Embracing Whom?', Copenhagen/Elsinore, Denmark, 6–8 June 2002 (available at: <http://www.druid.dk/conferences/summer2002/Papers/STORPER.pdf>).
- SWYNGEDOUW E. A. (1992) The mammon quest. 'Glocalisation', interspatial competition and the new monetary order: the construction of new scales, in DUNFORD M. and KAFLAKAS G. (Eds) *Cities and Regions in the New Europe*, pp. 39–67. Belhaven, London.
- TEWDWR-JONES M. and PHELPS N. A. (2000) Levelling the uneven playing field: inward investment, interregional rivalry and the planning system, *Regional Studies* **34**, 429–440.
- THOMAS K. (2003) Geographic scales and the competition for economic growth, *American Behavioral Scientist* **46**, 987–1001.
- TRANSPARENCY INTERNATIONAL (2003) *Global Corruption Report 2003*. TI, Berlin (available at: <http://www.globalcorruptionreport.org/index.shtml>).
- URBAN F. (2002) Small town, big website? Cities and their representation on the Internet, *Cities* **19**, 49–59.
- US DEPARTMENT OF COMMERCE (1983) *An Assessment of U. S. Competitiveness in High Technology Industries*. US Department of Commerce, International Trade Administration, Washington, DC.
- US DEPARTMENT OF COMMERCE, TECHNOLOGY ADMINISTRATION (2001) *State Science & Technology Indicators* (available at: <http://www.ta.doc.gov/reports/TechPolicy/StatesIndicators2.pdf>).
- VAN DEN BERG L. and BRAUN E. (1999) Urban competitiveness, marketing and the need for organizing capacity, *Urban Studies* **36**, 987–999.
- VAN DEN BERG L., VAN DEN BORG J. and RUSSO A. P. (2003) The infrastructure of urban tourism: a European model? A comparative analysis of mega-projects in four Eurocities, in JUDD D. R. (Ed.) *The Infrastructure of Play: Building the Tourist City*, pp. 296–319. M. E. Sharpe, Armonk, NY.
- VAN WYK R. J. (1997) Strategic technology scanning, *Technological Forecasting and Social Change* **55**, 21–38.
- VIAL J. and CORNELIUS P. K. (2002) *The Latin American Competitiveness Report 2001–2002*. Oxford University Press, Oxford.
- WAIIT G. (1999) Playing games with Sydney: marketing Sydney for the 2000 Olympics, *Urban Studies* **36**, 1055–1077.
- WARNER A. M. (2002) *The European Competitiveness and Transition Report 2001–2002: Ratings of Accession Progress, Competitiveness, and Economic Restructuring of European and Transition Economies*. Oxford University Press, Oxford.
- WHITE P., DOUGLAS A. and STILLWELL D. (2003) *Regional Competitiveness & State of the Regions*. Department of Trade and Industry, London (available at: [http://217.154.27.195/sd/rci/download\\_document.htm](http://217.154.27.195/sd/rci/download_document.htm)).
- WONG C. (1998) Determining factors for local economic development: the perception of practitioners in the North West and Eastern regions of the UK, *Regional Studies* **32**, 707–720.
- WORLD ECONOMIC FORUM (2003) *Global Competitiveness Report 2002–2003* (available at: <http://www.weforum.org/site/homepublic.nsf/Content/Global+Competitiveness+Programme%5CReports%5CGlobal+Competitiveness+Report+2002-2003>).
- WU F. (2000) The global and local dimensions of place-making: remaking Shanghai as a world city, *Urban Studies* **37**, 1359–1377.
- YGLESIAS E. (2003) Porter vs. Porter: modeling the technological competitiveness of nations, *Scientometrics* **57**, 281–293.