

Policy Review Section

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‘Investability’: The Key to Competitive Regions and Cities?

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This article proposes and develops a concept – investability – that can be used for analysing the competitive position of cities or regions, and formulating policy responses. It can be defined as conditions that are conducive to a higher level of investment and refers principally to the business environment in which economic agents operate. The paper discusses various influences on investment decisions and how they will impinge on different classes of potential investors. Policy implications are developed and the ways in which the concept might be used in policy making are examined.

Local economic development
Urban and regional policy Productive investment
Location decisions

Introduction

Urban and regional policy, like many other policy areas, are prone to fashions in which particular emphasis is given to certain instruments as the best way of achieving regeneration, economic development or related objectives. In the UK, for instance, property market initiatives were especially prominent in urban policy during the 1980s, whereas a belief in effective planning as the solution to urban problems was pervasive in the 1960s (AMIN *et al.*, 2000). Regional policy has focused at times on inward investment, but has also had phases where small firms or ‘clustering’ have been the flavour of the month. Attempts to promote science-based industry or to develop retailing, financial services or tourism have also featured prominently.

Often, however, such initiatives treat specific symptoms of problems or favour part of the local economy, rather than providing lasting solutions and a framework able to adapt to new circumstances. As a result, problems tend to recur and enduring transformations of cities or regions are the exception. This article puts forward and develops a concept – *investability* – that can serve as a basis for strategic development of a local

economy. In essence, it is very simple and may well be implicit in the approaches adopted by some authorities. Investability can be defined as conditions conducive to increasing the overall rate of investment in an area. The simplicity of this definition is, however, deceptive because the obstacles to investment will vary between areas, over time and in relation to different categories of potential investors.

Although the focus in this article is on cities and regions, the concept could, with some tweaking, be used for broader geographical entities, including countries. The next section expands on the definition. This is followed by a discussion of the different flows of investment and how they can be expected to respond to economic development initiatives. The article then looks at the components of investability and how to assess them. A concluding section explores policy implications and possible extensions of the approach.

The notion of investability

In recent years, the thrust of employment policy has shifted from attempts directly to create jobs to one in which the emphasis is on equipping individuals to compete more effectively in the labour market. The term ‘employability’ was coined to capture this policy orientation and is the inspiration for the concept of ‘investability’. In much the same way as for employment, rather than seeking to subsidize specific projects, a focus on making local economic conditions more attractive would be expected to increase the probability of prospective investors, generally, choosing to invest in an area. Economic development or employment creation would then be expected to follow as a result of decisions based on the (enhanced) attributes of an area, rather than attempts by the policy maker to pick winners from amongst potential investors.

The philosophy is, consequently, ‘upstream’ of individual investors and can also be distinguished from approaches which try to lever in private sector funding to specific regeneration projects. Investability is not about persuading private investors to pay for a proportion of a property development or a transport link. Instead, its emphasis is on how a locality can be made more attractive to *potential* investors, and on identifying

and dealing with those features of the local business environment that most detract from its appeal.¹ In this sense, the concept can be linked to that of competitiveness (see KRESL, 1995; BEGG, 1999) in that being competitive can be equated with being attractive to investors. From the perspective of the investor, a more attractive location is one which facilitates productivity gains, with the source of these incremental gains being largely external to the firm or agency making the investment.

Hence, the challenge is to make the area more competitive overall, rather than to pursue a particular cluster or specialization. Complementary gains might come from specializing in those activities that make best use of a locality's current mix of attributes, but it is the dynamics of changing competitive advantage that are, arguably more important in the contemporary economy. ROSENTRAU and PRZYBYLSKI, 1996, for example, suggest that attempts to boost the *comparative* advantage of an area are unlikely to bear fruit in an era of rapid technological advance, and policy should, instead, concentrate on boosting *competitive* advantage. Global competition will mean that however successful an economy is in lowering factor costs, it will always risk being undercut from elsewhere.

Investment decisions. For an investment project to be viable it has to meet the investor's rate of return criteria. The appropriate 'hurdle' rate will be derived from a combination of those factors under the immediate control of the business, such as the direct operating costs and price in relation to the cost of financing, and expectations of those factors affecting the business environment which, in various ways, indirectly affect operating costs. Once a viable business proposition is developed, a second level decision may, depending on the identity of the investor, be where to locate the project. This latter choice will be informed by assessments of the attractiveness of localities on a range of criteria.

At any time, many facets of the business environment external to the firm will bear on investment decisions. These include the availability and quality of commercial or industrial property, the characteristics of the local labour market, social factors (including crime and personal security), transport and accessibility, regulatory and planning considerations, and the quality of local services. Inevitably, some attributes of a locality will be superior to others. *Investability* will be high if a locality has a sufficiently attractive mix of such factors to make an investor choose it. The concept can also help in identifying what it is about a place that either deters investment or is insufficiently developed to attract it.

In some cases a particular factor may be an insuperable obstacle and, until it is sorted out, the city or region will not be thought of as a candidate for investment. Bad pollution or some form of civic unrest

might be examples. Usually, however, the degree to which a locality is investable will be a weighted function of a range of criteria. The key point is that the attributes of an area that inhibit (or promote) investment are largely outside the direct control of the investor and will, moreover, vary both over time and between localities. It follows that a strategy to induce a greater level of investment must first assess local strengths and weaknesses and identify the most pressing priorities for improvement, relating these to the needs and expectations of different categories of investors.

An important feature of investability as a basis for economic development, and one that distinguishes it from more familiar approaches that emphasize competition between areas for particular investment projects, is that it need not lead to a zero-sum game. Competition to attract potentially footloose investment by offering incentives that go directly to the investor, means that one area's gain is another's loss and the true winners are often the investors. Attracting an investor may trigger virtuous circle effects by inducing further investment in complementary activity, but the loss to the unsuccessful locality will also be subject to such dynamics. Under the investability approach, however, the aggregate impact of efforts by localities to improve their appeal should be to stimulate a higher overall level of investment.

In this regard, there are links to the notion of endogenous growth. The various contributors to the analysis of endogenous growth have stressed different influences, such as the rate of spending on R&D, investment in education or the advantages of scale (ROMER, 1986; LUCAS, 1988; AGHION and HOWITT, 1998). The common ground, however, is that there are factors external to the corporate sector that allow economies to grow relatively more rapidly. While there may be inconclusive arguments about which influences matter most, a common characteristic of poorly performing economies is a low rate of investment relative to GDP, although there are much rarer examples of economies investing too much.² Just as there is a 'lump of labour' fallacy in relation to employment creation, the quantity of viable investment projects is not fixed and many economies could, and probably should, aim for a higher rate of investment. If investability can be improved, the rate could be raised with positive effects on GDP growth and, though less directly, on employment.

Sources of investment

There are multiple streams of investment that impinge on any economy, and these will be subject to differing influences. The composition of such investment, over time, will shape the structure of the economy and determine its productive capacity. Conceptually, five categories of investment can be distinguished, although the boundaries between them will not be rigid and,

within each group, there will be differences according to the sector of activity or the stage of production of the project:

- Inward private investment by a multi-site company, where the decisions are taken outside the economy in question.³ This can either be greenfield investment in new capacity or an addition to an existing facility, but key considerations are that the project in question will often be in competition with others for funding from the enterprise or, once the project is approved, that it could be located in many places. Variations in location-specific costs might tip the balance in either case.
- Expansion of indigenous private sector firms which entails the creation of new capital and in which the decision to invest is taken by local agents. In principle, a decision not to close or to renew existing capital could have much the same effect.
- New starts that increase the stock of productive firms and bring new entrepreneurial talent into the local economy. Most such entrepreneurs will tend to be indigenous, but in a thriving economy, inward migration of entrepreneurs is likely. The underlying question for this category is whether local conditions motivate a greater willingness to take the risk.
- Inward public investment for which a higher tier of government is the arbiter of the decision. Some such public investment will be based on equity principles in so far as the higher tier has a political commitment to provide equivalent public services across locations. However, there are public investment projects where the higher tier has to choose a location for an activity which serves the whole territory. In this case the public investment is more likely to be determined by efficiency criteria, even if spatial development criteria come into play in public decision making. A public research laboratory, or a major infrastructure project such as a new international airport or rail terminal are possible examples.
- Locally determined public investment where the decision will depend on assessments of the priorities for new capital projects.

Of these possible flows, the last is unlikely to be affected by the investability of the locality, since a decision to build the likes of a new school or a waste incineration facility will be based on local priorities. The other four flows are, by contrast, susceptible to the attributes of the local economy and changes in these attributes could have a marked impact on aggregate investment.

Assessing investability

Any assessment of how 'investable' an area is – be it a city, a region or a country – will depend on the strategic aims for economic development. A city which aims to reinvent itself as a centre for business services will need to pay relatively more attention to communications

infrastructure and high quality office accommodation, whereas a country trying to entice multinational manufacturers to open branch plants will have to ensure the availability of appropriate sites, good transport links and efficient freight services. In principle, a matrix can be drawn up relating attributes offered to investor demands and assigning weights to these. By assigning a score to each attribute, the locality can then work out how attractive it is to each category of investor, using much the same approach as the 'SW' in a SWOT (Strengths, Weaknesses, Opportunities, Costs) analysis.

Such an audit would then allow the policy makers to ascertain: first, the viability of a development or regeneration strategy; and second, the policy initiatives or changes needed to achieve the aims. Although there are inevitable risks either of over-simplification or of conferring too much credibility on a mechanistic formula, it can be argued that an initial calibration exercise can be fruitful in ordering policy priorities. The calculation of the investability I of an area x at any time can be shown formally as:

$$I_x = \sum (W_{va} * S_{ax}) \quad (1)$$

where w is the weight assigned by each class of investor v to an attribute a of the location; and s is the vector of sources for these attributes for the area.

To carry out an assessment, the most significant attributes have to be identified and values assigned to each element of the equation. Some will be capable of quantification, such as the availability and price of property, whereas others can only be judged qualitatively, examples being the desirability of the area as a residential location or the attitude of the planning authorities. The degree to which the weights attached by different classes of investors vary will depend on the factor under consideration. Inward investors are more likely to emphasize the availability of sites or of suitably qualified labour but not local finance; new start-ups highlight incubator premises and opportunities to obtain working capital (ACS *et al.*, 1999).

The calculation also requires some form of standardization of the variables to allow them to be amalgamated into the same equation. For this purpose, turning variables into indices or using some measure of deviation from a reference value would be possible techniques. It would also be important to avoid a scoring system that generates extreme values that might unduly distort the overall value of I . This could, for instance, be achieved by constraining the score within certain limits. These, however, are practical details that could be fleshed out by any public agency that tries to use the concept.

Location attributes

There is a vast theoretical and empirical literature on location decisions and local economy characteristics (see, for example, the special issue of *Urban Studies*

introduced by PARR and REYNOLDS-FEIGHAN, 2000; and, for a survey of the salience of specialization and diversity, DURANTON and PUGA, 2000) Policy-orientated work has focused especially on inward investment, the determinants of the location of key sectors of activity and the influences on local economic development, but has had less to say about indigenous investment. WONG, 1998, has reviewed this literature and identified a range of location factors that bear on economic development prospects, distinguishing between what she labels 'traditional economic development factors' (such as physical factors or human resources) and 'intangible factors' (which encompass institutions, quality of life and business culture). She reports that the rankings of location factors according to her respondents 'might vary for different types of project, different investors and different locations' (*ibid.*, p. 711). For Wong, this observation is a caveat to her findings, but it is precisely these differences that are the focus of the investability approach.

The determinants of the attractiveness of a location fall under a number of headings, some beyond the immediate control of local policy makers (though often capable of being influenced) while others are amenable to policy action. The remainder of this section discusses the main influences on investability, but is intended to be illustrative rather than an exhaustive overview.

Public capital. Following the important contribution of ASCHAUER, 1989, the role of publicly funded infrastructure in improving the productivity of firms has been extensively studied. MIKELBANK and JACKSON, 2000, argue forcefully that there are very different spatial impacts of infrastructure and their analysis points to an important area for empirical investigation of the determinants of investability (see also CRIHFIELD and MCGUIRE, 1997). The implication of much of this research is that public capital is often under supplied and thus that many areas would obtain sizeable increases in investability by devoting resources to enhancing infrastructure.

The alleviation of congestion in transport systems would have obvious benefits for the cost and timeliness of deliveries and for the travel-to-work time of employees, although work by LAWLESS and GORE, 1998, suggests that the effects of transport investment on regeneration may not be that great. Airport access is increasingly important for many forms of activity, especially where the putative investor employs a high proportion of professional staff, and it is argued by some that inadequate access to frequent air services may be a major deterrent. GOETZ, 1992, found that urban growth is correlated with per capita air traffic, suggesting that there may be an advantage in having adequate access to, especially, hub airports. More specialized forms of infrastructure, notably advanced telecommunications, are especially relevant to high-

tech industries or to advanced services, and can vary greatly in quality between locations.

Processes such as privatization or the segmentation of the market for services by major providers will shape the forms of investment that are drawn to an area. In the past, most basic services that use infrastructure networks were publicly-owned and operated on a public service ethos, but the combination of privatization and resort to market principles in the delivery of services amounts to a sea-change. Such developments could have ramifications for the business environment if, for instance, universal service provision were compromised or service providers engaged in discriminatory pricing. Similarly, network expansion or quality enhancements might be concentrated on areas perceived as affording the best profit opportunities. Thus, if telecommunications providers favour major corporate clients, the provision of services to smaller businesses may be lesser or the cost higher. This plainly has implications for the design and implementation of regulatory measures affecting networked utilities. The regulatory framework for utilities and the stance of planning authorities could, consequently, make a significant difference to investability.

Factor markets. The nature and development of markets for factors of production (labour, capital, land and premises) will affect the attractiveness of an area in diverse ways. Familiar aspects of the labour market that prospective investors tend to focus on include the availability of crucial skills, the character of the workforce and prevailing wage rates. However, these are attributes of the local workforce that may be transitory or susceptible to changing economic circumstances. From an investability perspective, therefore, flows into the labour market, the provision of training and the adaptability of the institutional structure to shifting skill demands will also matter. Among key determinants of flows will be the demographic make-up of the area and the scope for reinforcing the indigenous labour force either by drawing-in commuters or by inward migration. Commuting, plainly, relies on an efficient transport system and the presence of adjacent labour supply, while the opportunities for migrants will be affected by housing availability and social conditions, hence housing market decisions affect the supply of skills. Many of these dynamic elements of the labour market are amenable to policy actions.

Property rents or purchase costs, site availability and the quality of premises are obvious considerations. Here too, however, the dynamics are important; if developers regard an area as promising, it is more likely to have the sort of renewal in the supply of property that will meet emerging investor demands. Moreover, there is evidence that major property developers are prepared only to look at a limited subset of localities as contenders for speculative development (GUY *et al.*, 2000).

Planning and tax policies, together with local attitudes towards development will bear on this and policy choices can, again, make a difference provided that sufficient account is taken of the specific requirements of the prospective investor (KEAN *et al.*, 1998).

Plainly, access to capital markets differs between classes of investors while the impact on prospective investors of variations in the character of national or sub-national financial intermediaries will depend on how easy it is to tap alternative sources of funding. Small firms typically face much more limited options, making them more dependent on local conditions than a multinational which can draw on international markets. The availability and terms of loans and start-up capital vary between localities, not just because of differing institutions but also because of the disposition of practitioners. Venture capitalists, for example, often follow property developers by excluding entire classes of investment from consideration. The upshot may well be that the localities that rate poorly in the eyes of such decision markets are significantly less investable. The marked regional variations in new firm birth rates in the UK suggest that this is the case.

Social factors. The links between social cohesion and competitiveness are widely believed to be crucial, yet are poorly understood. Social cohesion is one of those amorphous terms that embraces disparate phenomena (BODDY, 2002; POTTS, 2002). In the *milieux innovateurs* literature (see the special issue of *Regional Studies* introduced by KEEBLE and WILKINSON, 1999; also, GORDON and MCCANN, 2000), cohesion in the sense of the 'togetherness' of a community helps to foster innovation and institutions which underpin competitiveness. Crime (or the threat of it) is viewed as a deterrent to investment, in so far as it increases the costs of security and insurance, and has an adverse impact on staff.

Cultural attributes are increasingly being seen as important 'assets' that contribute to the ability of an area (especially true of cities) to pull in tourists and day trippers, and to the broader appeal of the locality for residents and/or employees. STROM, 1999, for example, shows that the development of a performing arts centre in Newark had a galvanizing effect on the local economy, while PLAZA, 1999, presents evidence that the new Guggenheim museum Bilbao has induced complementary investment. At the same time, 'cultural industries' themselves are a growing proportion of economic activity as HALL, 2000, shows. He points to examples of two US cities – Memphis and Hollywood – where a coming together of creative and other forces led to an upsurge in innovation.

MASKELL and MALMBERG, 1999, argue that the costs of many of the factors that affect firms' location choices have tended to converge as a result of globalization, although they also stress the importance of learn-

ing and generating (and preserving) new knowledge in retaining competitive advantage. The creation of knowledge, in turn, is affected by social and cultural factors. Equally, ROGERSON, 1999, makes the case that in an era of mobile capital there is a link between quality of life and the capacity of a city to attract capital.

Governance factors. Regulatory factors impinge on the investor in several different ways. Some – notably planning decisions – set explicit limits on what an investor is allowed to produce or the processes that can be used. Noise restrictions, curbs on working hours or controls on emissions are good examples. Such controls would be expected to add to operating costs because of the need to adopt more costly technologies or the loss of flexibility in operations. More subtly, regulatory signals, such as the stance of land-use planning offices regarding possible uses of sites, can be expected to percolate into perceptions of how suitable an area is for different sorts of investment projects. Similarly, decisions that discriminate for or against particular transport modes will alter the balance of feasible projects.

In addition to the regulatory framework, there are likely to be several other forms of interaction between governance and investment decisions. How rapidly the planning system functions, the responsiveness of government agencies in dealing with prospective investors and the fiscal arrangements in an area are just some of the relevant aspects of governance. Incoherence in governance may also be a problem. Recent literature has focused on the degree to which different agencies with a remit in a territory combine to promote economic development or inward investment.

TEWDWR-JONES and PHELPS, 2000, for example, investigate the institutional differences between Wales and Scotland, on the one hand, and the English regions, on the other, in relation to inward investors. They find that the former two are much better able to bring together the different strands of assistance that potential investors look for. The capacity to assemble a package of support measures (which goes beyond site assembly and direct subsidies to include such 'extras' as the reconfiguration of training or mediation between the inward investor and potential sub-contractors) is seen as important. They also highlight as central the speed and ease with which planning authorization for major sites was granted and suggest that this may have tipped the balance on certain high-profile location decisions. It is, however, much less obvious how governance impinges on other classes of investors, pointing to an area for further research. However, GARTNER and BHAT, 2000, found that 'business owners were less interested in targeted help from governmental agencies (government loans for specific small businesses or management assistance, for example) than in governmental

actions that improved public security and appearance' (p. 24).

Low rates of taxation might be expected to draw investors and there are examples (Ireland is one) of corporate tax regimes that have attracted mobile projects. It would be wrong, however, to look only at the tax side of the equation. If local taxes contribute to improvements in local conditions, the tax-payer may conclude that the effects are favourable, rather than automatically adverse. Marketing of the city or region, plainly, can also make a difference and is highlighted by VAN DEN BERG and BRAUN, 1999, as an important tool in attracting capital.

Policy implications and possible development of the concept

The challenge for economic development policy is to find cost effective ways of boosting economic activity. Although employment and income are the variables that policy makers will ultimately want to see improved, investment is the key to securing the long term viability of an economy. The approach put forward in this article is one aimed at assessing and then enhancing local conditions to make them more conducive to investment. This section explores how the concept of investability could be used in economic development policy.

Any area is bound to have strengths and weaknesses, and will experience shifts that affect the 'scores' of particular location attributes (see the contributions to BEGG, 2002). What policy can do to affect economic development is to alter the scores for different location attributes, affecting both the overall investability of an area and the balance between different categories of investors. In principle, the benefits and costs of policy actions could be compared to give an ordering of cost effectiveness, although the data requirements to do this systematically would be daunting. More pragmatically, the approach can help to assess the relative merits of different initiatives. If a particular policy action has the same resource costs as another yet has an impact on investability several times as great, the choice is evident.

Plainly, the approach does not assure immediate results in terms of new jobs and may, consequently, be more difficult to sell politically. Instead, the focus is on the opportunity to 'do better' in the medium to long term. Moreover, some of the benefits from policy initiatives may well be hard to identify using conventional evaluation techniques. Cyclical trends in the economy might, for instance, postpone any benefits. The key is to look at the location factors in their entirety so that the most pressing are dealt with first, while ensuring that the contribution of others is not neglected.

The influences on different classes of potential investors have to be researched if the probability of attracting them is to be enhanced. In this respect the determinants of inward investment have, arguably, been

more fully investigated than other investment streams. This is understandable given that 'capturing' a high profile branch plant is headline news, whereas changes that increase the rate of new firm formation or result in a greater willingness to invest by locally established firms are barely visible. Yet, empirically, a higher share of investment and, more so, of employment in a city tends to be indigenous.

Much effort by regional and urban policy makers has gone into trying to promote clusters of activity, although as GORDON and MCCANN, 2000, show, the term cluster is used in differing ways that give rise to differing types of externalities. To the extent that the investability approach is about elucidating how policies affecting the business environment can promote the development of clusters, it can be argued that there may be merit in looking at clusters from the other end of the telescope. This could be an interesting direction for further research.

There can be concern about how the quest to attract capital (usually equated with inward investment) is allowed to override other policy aims such as sustainability. Under the investability approach, there is scope for a broadening of aims by considering both the requirements and consequences of different forms of investment. In setting strategic priorities for economic development, for example, the feasibility of a medium to long term structural change in an economy would have to be confronted with the reality of where the economy starts from, and the range of trade-offs made clear.

This article has suggested how a strategy to boost investment can be developed along these lines, but it is important, in concluding, to draw attention to the long time-scales needed. Creating and sustaining improvements is a drawn-out process (JONES and WATKINS, 1996), especially for those aspects of investability that rely on enhancing the supply-side of the economy external to the firm. The approach stresses the creation of conditions conducive to higher investment, rather than direct intervention to secure it, but does not address the demand side of the economy. Adverse demand-side conditions would, plainly, limit the supply of potential investment, but if the argument advanced here is correct, improved investability should induce greater investment for given demand conditions. Endogeneity is, therefore, a crucial element of the approach.

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Notes

1. As ADAIR *et al.*, 1999, show, securing private investment has long been an important policy objective in urban regeneration and it can be argued that the involvement of private finance does enhance the quality of development initiatives. It may, moreover, be a signal to other investors that a locality is 'investable'.

2. It can be argued that there was 'over'-investment in many East Asian countries prior to the crises that struck in the late 1990s, caused by inadequate appraisal of proposals by private investors.
3. The discussion here is of direct rather than portfolio investment. The former represents net new creation of capital, whereas the latter is a transfer of ownership. Portfolio investment can, however, have complementary effects on the host economy, e.g. by opening a channel for technology transfer (a positive effect) or by rationalization of head offices or R&D functions to favoured locations elsewhere (adverse).

References

- ACS Z., CARLSSON B. and KARLSSON C. (Eds) (1999) *Entrepreneurship, SMEs and the Macro Economy*. Cambridge University Press, Cambridge.
- ADAIR A., BERRY J., MCGREAL S., DEDDIS B. and HIRST S. (1999) Evaluation of investor behaviour in urban regeneration, *Urban Studies* **36**, 2,031–45.
- AGHION P. and HOWITT P. (1998) *Endogenous Growth Theory*. MIT Press, Cambridge, MA/London.
- AMIN A., MASSEY D. and THRIFT N. (2000) *Cities for the Many, Not the Few*. Policy Press, Bristol.
- ASCHAUER D. (1989) Is public expenditure productive?, *J. Monetary Econ.* **23**, 177–200.
- BEGG I. (1999) Cities and competitiveness, *Urban Studies* **33**, 795–809.
- BEGG I. (Ed) (2002) *Urban Competitiveness*. Policy Press, Bristol.
- BODDY M. (2002) Linking competitiveness and cohesion, in BEGG I. (Ed) *Urban Competitiveness*. Policy Press, Bristol.
- CRIFIELD J. B. and MCGUIRE T. J. (1997) Infrastructure, economic development, and public policy, *Reg. Sci. & Urban Econ.* **27**, 113–16.
- DURANTON G. and PUGA D. (2000) Diversity and specialisation in cities: why, where and when does it matter?, *Urban Studies* **37**, 533–55.
- GARTNER W. B. and BHAT S. (2000) Environmental and ownership characteristics of small businesses and their impact on development, *J. Small Bus. Mgt.* **38**, 14–26.
- GOETZ A. R. (1992) Air passenger transportation and growth in the United States urban system, 1950–1987, *Growth & Change* **23**, 217–38.
- GORDON I. R. and MCCANN P. (2000) Industrial clusters: complexes, agglomeration and/or social networks?, *Urban Studies* **37**, 513–32.
- GUY S., HENNEBERRY J. and ROWLEY S. (2000) Property and urban regeneration: competing cultures of development, paper presented to the RICS Cutting Edge conference, September.
- HALL P. (2000) Creative cities and economic development, *Urban Studies* **37**, 639–49.
- JONES C. and WATKINS C. (1996) Urban regeneration and sustainable markets, *Urban Studies* **33**, 1,129–40.
- KEEBLE D. and WILKINSON S. F. (1999) Collective learning and knowledge development in the evolution of regional clusters of high technology SMEs in Europe, *Reg. Studies* **33**, 295–303.
- KRESL P. (1995) The determinants of urban competitiveness, in KRESL P. and GAPPERT G. (Eds) *North American Cities and the Global Economy: Challenges and Opportunities*, Urban Affairs Annual Review No. 44. Sage, London.
- KEAN R., GASKILL L., LEISTRITZ L., JASPER C., BASTOW-SHOOP H., JOLLY L. and STERNQUIST B. (1998) Effects of community characteristics, business environment, and competitive strategies on rural retail business performance, *J. Small Bus. Mgt.* **36**(2) 45–57.
- LAWLESS P. and GORE T. (1999) Urban regeneration and transport investment: a case study of Sheffield 1992–96, *Urban Studies* **36**, 527–45.
- LUCAS R. E. (1988) On the mechanics of economic development, *J. Monetary Econ.* **22**, 3–42.
- MASKELL P. and MALMBERG A. (1999) The competitiveness of firms and regions – 'ubiquitification' and the importance of localized learning, *Europ. Urban & Reg. Studies* **6**, 9–25.
- MIKELBANK B. A. and JACKSON R. W. (2000) The role of space in public capital research, *Int. Reg. Sci. Rev.* **23**, 235–58.
- PARR J. B. and REYNOLDS-FEIGHAN A. (2000) Location theory: analysis and applications, guest editors' introduction, *Urban Studies* **37**, 439–42.
- PLAZA B. (1999) The Guggenheim-Bilbao Museum effect: a reply to María V. Gómez 'Reflective images: the case of urban regeneration in Glasgow and Bilbao', *Int. J. Urban & Reg. Res.* **23**, 589–92.
- POTTS G. R. (2002) Competitiveness and the social fabric: links and tensions in cities, in BEGG I. (Ed) *Urban Competitiveness*. Policy Press, Bristol.
- ROGERSON R. J. (1999) Quality of life and city competitiveness, *Urban Studies* **33**, 969–85.
- ROMER P. M. (1986) Increasing returns and long-run growth, *J. Pol. Econ.* **94**(5), 1,002–37.
- ROSENTRAU M. S. and PRZYBYLSKI M. (1996) Competitive advantage, economic development, and the effective use of local public dollars, *Econ. Develop. Quart.* **10**, 315–30.
- STROM E. (1999) Let's put on a show!: performing arts and urban revitalization in Newark, New Jersey, *J. Urban Affairs* **21**, 000–000.
- TEWDWR-JONES M. and PHELPS N. A. (2000) Levelling the uneven playing field: inward investment, interregional rivalry and the planning system, *Reg. Studies* **34**, 429–40.
- VAN DEN BERG L. and BRAUN E. (1999) Urban competitiveness: marketing and the need for organising capacity, *Urban Studies* **33**, 987–99.
- WONG C. (1998) Determining factors for local economic development: the perception of practitioners in the North West and Eastern regions of the UK, *Reg. Studies* **32**, 707–20.