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To cite this article: Leslie Budd & Amer Hirmis (2004) Conceptual Framework for Regional Competitiveness, *Regional Studies*, 38:9, 1015-1028, DOI: [10.1080/0034340042000292610](https://doi.org/10.1080/0034340042000292610)

To link to this article: <http://dx.doi.org/10.1080/0034340042000292610>



Published online: 18 Aug 2010.



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Conceptual Framework for Regional Competitiveness

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(Received May 2003; in revised form July 2004)

BUDD L. and HIRMIS A. K. (2004) Conceptual framework for regional competitiveness, *Regional Studies* **38**, 1007–1020. The concept of territorial competitiveness has gained ground in academic, policy and practitioner circles. In particular, urban competitiveness has generated a large literature. However, there is a danger that competitiveness at a territorial level becomes a conceptual chimera. The essential problem is that territorially based actors and agencies seek to position and maintain the utility of their regions and subregions by reference to a set of measures and indicators that are conceptually suspect and often empirically weak. The degree to which regions compete depends on a manifold set of factors. The paper proposes a conceptual framework for regional competitiveness based on combining the competitive advantage of firms and the comparative advantage of a regional economy. The conceptual transmission mechanism to regional competitiveness combines Liebenstein's theory of 'X-inefficiency' and agglomeration economies. The paper begins with a review of competitiveness and its literature. It then investigates the regional balance of payment constraint in the absence of a real regional exchange rate. In conclusion, it asks whether the conceptual approach was appropriate for a study of benchmarking indicators for the London region in comparison with other metropolises.

Competitiveness Competitive and comparative advantage X-inefficiency Agglomeration economies
Regional competitiveness

BUDD L. et HIRMIS A. K. (2004) La compétitivité régionale: un cadre conceptuel, *Regional Studies* **38**, 1007–1020. Dans les milieux intellectuels, de politique générale et professionnels, la notion de compétitivité territoriale a gagné du terrain. En particulier, la compétitivité urbaine a suscité une documentation importante. Cependant, il y a un risque que la compétitivité devienne une chimère conceptuelle sur le plan géographique. Le problème primordial c'est que les acteurs et les organismes territoriaux cherchent à positionner et à maintenir l'utilité des régions et des sous-régions par rapport à un ensemble de mesures et d'indicateurs conceptuellement douteux et souvent empiriquement faibles. La compétitivité des régions dépend de nombreux facteurs. Cet article cherche à proposer un cadre conceptuel de la compétitivité régionale fondé sur une combinaison de l'avantage compétitif des entreprises et de l'avantage comparatif d'une économie régionale. Le mécanisme de transmission conceptuel de la compétitivité régionale combine la théorie de l'inefficience X d'après Liebenstein et les économies d'agglomération. Primo, l'article fait la critique de la compétitivité et de la documentation correspondante. Il s'ensuit une étude de la contrainte régionale en l'absence d'un taux de change régional réel. Pour conclure, l'article pose la question suivante: l'approche conceptuelle, est-elle appropriée à l'étude des points de repère relatifs à Londres et ses environs par rapport à d'autres métropoles?

Compétitivité Avantages compétitif et comparatif Inefficience X Economies d'agglomération
Compétitif régionales

BUDD L. und HIRMIS A. K. (2004) Ein begrifflicher Rahmen für regionalen Wettbewerb, *Regional Studies* **38**, 1007–1020. Der Begriff eines regional geprägten Konkurrenzgeistes hat in akademischen, politischen und Praktikerkreisen an Boden gewonnen. Besonders der städtische Konkurrenzgeist hat eine umfangreiche Literatur erzeugt. Es besteht jedoch Gefahr, daß Konkurrenzgeist auf Gebietsebene zur begrifflichen Schimäre wird. Das Grundproblem ist, daß gebietsgebundene Spieler und Agenturen bestrebt sind, die Nützlichkeit ihrer Regionen und Teilregionen durch Hinweis auf eine Reihe von Maßnahmen und Meßblättern zu positionieren und zu erhalten, die begrifflich verdächtig sind und empirisch auf unsicheren Füßen stehen. Das Ausmaß der Konkurrenz unter Regionen hängt von einem Bündel vielfältiger Faktoren ab. Dieser Aufsatz schlägt einen begrifflichen Rahmen für regionale Konkurrenz vor, der sich auf ein Durchkämmen der Wettbewerbsvorteile von Firmen und auch die vergleichbaren Vorteile eine Regionalwirtschaft stützt. Der begriffliche Mechanismus der Übertragung auf einen regionalen Konkurrenzgeist verbindet Liebensteins Theorie der 'X-Unwirksamkeit' mit Ballungswirtschaften. Der Aufsatz bringt zuerst einen Überblick über Konkurrenz und ihre Literatur. Dann untersucht er die regionalen Bilanzbeschränkungen im Lichte des Fehlens eines echten regionalen Wechselkurses. Abschließend wird die Frage aufgeworfen, ob der begriffliche

Ansatz der Autoren für eine Untersuchung der Maßstabsindikatoren der Region London im Vergleich zu anderen Metropolen geeignet war.

Konkurrenzgeist Wettbewerbs- und vergleichbarer Vorteil X-Unwirksamkeit Ballungswirtschaften regionale Kompetenzen

BUDD L. y HIRMIS A. K. (2004) Un marco conceptual para la competitividad regional, *Regional Studies* **38**, 1007–1020. El concepto de competitividad territorial ha ganado terreno en círculos académicos, de política y practicantes. En particular, el concepto de competitividad urbana ha generado una extensa literatura. Sin embargo, existe el riesgo de que la competitividad a nivel territorial se convierta en una quimera conceptual. El principal problema radica en que los actores y los órganos territoriales aspiran a posicionar y a mantener la polivalencia de sus regiones y sub-regiones tomando como referencia un conjunto de medidas e indicadores que son conceptualmente dudosos y sin mucho fundamento empírico. El grado hasta el cual las regiones compiten depende de múltiples factores. Este artículo propone un marco conceptual para la competitividad regional basado en la combinación de la ventaja competitiva de las empresas y la ventaja comparativa de una economía regional. El mecanismo de transmisión conceptual a la competitividad regional combina la teoría de 'ineficiencia-X' de Liebenstein y las economías de aglomeración. El artículo comienza con una revisión del concepto de competitividad y la literatura existente en torno a dicho concepto. A continuación investiga la restricción de balance regional en la ausencia de un tasa de cambio regional real. Por último, el artículo plantea la cuestión de si nuestro enfoque conceptual fue el apropiado para un estudio de indicadores comparativos para la región de Londres en comparación a otras metrópolis.

Competitividad Ventaja competitiva y comparativa Ineficiencia-X Economías de aglomeración Competencias regionales

JEL classifications: D24, F10, R0, R12

INTRODUCTION

The notion of competitiveness is one that informs every economic policy document at every level of government and governance. Rather like globalization, the repetition of the term 'competitiveness' sheds much heat but little light. Competitiveness has become a generic term that is applied widely to a variety of business and economic circumstances. Consequently, it means different things to different people. In public fora, many policy-makers tend to conflate the terms of trade performance with the productivity of firms and industries into a single entity of competitiveness.

The purpose of this paper is to make a contribution to the debate surrounding regional competitiveness. It also aims to further the research agenda, that to date has been conceptually wanting.

Definitions

The paper starts by setting out some definitional problems.

In the UK, the DEPARTMENT OF TRADE AND INDUSTRY (1998) defines competitiveness as:

the ability to produce the right goods and services of the right quality, at the right price, at the right time. It means meeting customer needs more efficiently and more effectively than other firms.

For the ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (1996), a working definition of national competitiveness is:

The degree to which it can, under free and fair market conditions, produce goods and services which meet the

test of inter-national markets, while simultaneously maintaining and expanding the real incomes of its people over the long term.

DUNNING *et al.* (1998) argue that:

Competitiveness is a way of discussing the relative performance of economies in a benchmarking sense. It can help identify areas of the economy that are lagging behind but not the reasons for those lags.

They found it difficult to define competitiveness beyond identifying the level and growth of Gross Domestic Product (GDP) per head the most frequently cited and used measure. There are a number of studies of competitiveness, particularly national competitiveness, that start from the same conceptual point (GUDGIN, 1996; DEPARTMENT OF TRADE AND INDUSTRY, 1998; BROOKSBANK and PICKERNELL, 1999; HEALEY & BAKER, 1999; INTERVIEW, 1999). The present starting point is PORTER's (1998) 'diamond' framework, which consists of the following:

- Factor conditions.
- Demand conditions.
- Related and supporting industries.
- Firm strategy, structure and rivalry.

According to Porter, strong national diamond is essential to the competitive advantage of a national economy. The use of this framework is useful in that it takes the measurement of competitiveness at national and regional levels beyond the limitations of GDP per head and unemployment rates. It opens up the possibility of including manifold factors in the measurement of regional competitiveness. The problems with many of the measurement studies are that they tend to accept,

fairly uncritically, Porter's diamond as the conceptual framework of territorial competitiveness.

The present paper seeks critically to build on and interrogate this approach in order to create a conceptual framework for regional competitiveness. It does so by investigating the role of agglomeration economies as the indirect transmission mechanism of regional competitiveness from combining competitive advantage at the firm level with comparative advantage at the regional economy level. It integrates the theory of 'X-inefficiency' to provide a conceptual datum against which the performance of the regional economy can be measured. In providing this conceptualization, the authors hope to contribute to an important research agenda.

CHALLENGE OF TERRITORIAL COMPETITIVENESS AT THE REGIONAL SCALE

Territorial competition appears to cause the most theoretical and conceptual difficulty. Business commentators and policy-makers tend to swallow wholeheartedly such generalized nostrums as competitiveness at national and subnational levels. By not being clear about what is and is not competitiveness, it can end up as a chimera.

Many of the problems associated with defining territorial competitiveness are that the definition of territory itself is narrowly geographical. If one conceives of industrial *filieres*, many of their activities are distributed over industrial space. Similar arguments can be made for supply chains in certain industries. These territories are geographically constrained because of access to market reasons, but the dominance of Euclidean space in national and regional policy often renders policy-makers' objectives redundant because of spillover effects not being contained within administrative boundaries.

One needs to establish a first-principles approach to investigate competitiveness if it is to have any analytical purchase and resonance. Much of the literature on competitiveness, at different territorial levels, is rooted within the discourses of strategy, strategic management, industrial economics and trade theory. The trajectory of firm competition to industry competitiveness to national competitiveness has been accompanied by a burgeoning literature, as well as concomitant confusion, as a number of disciplinary approaches have entered the debate and collided. These approaches include the following:

- Microeconomics and industrial organization.
- 'New competition'.
- Institutional economists.
- Economic retardation debate.
- Excellence and turnaround.

Their associated literature is set out in Fig. 1 (PETTIGREW and WHIP, 1993). Within an industry context,

interfirm competition is central to the industrial organization tradition (SCHUMPETER, 1950; BAIN, 1956). For industrial organization theorists, returns to the firm are correlated with industry structure, not only firm size, but also barriers to entry into the market. The Schumpeterian approach concerns revolutionary technological, market and product disruption, expressed by Schumpeter as 'creative destruction'. In the field of strategy, the industrial organization approach to competition has been extended by CAVES (1980) and PORTER (1981) to include a number of contingent factors.

The new competition literature arose out of a stringent critique of the competitive performance of US industry in the 1980s (HAYES and ABERNATHY 1980; ABERNATHY *et al.*, 1981). These commentators and their disciplinary base focussed on management issues and the scope for action in addressing the competitive performance of US industry compared with the developing Asian economies

Schumpeter, the Austrian School (HAYEK, 1956) and the Transaction Cost Economics approach (WILLIAMSON, 1985), have influenced institutional economics. Institutionalists do not assume that economic agents are rational as do neo-classical economists. Instead, they focus on the relationship between market opportunism and bounded rationality: rationality that is limited by the nature of the organizational environment. Competition is not explained by the process of allocating resources through a price-discovery process, but by the interaction of a set of social institutions.

The economic retardation debate has focussed primarily on the long run economic decline of the UK. The reasons for this decline include a poor entrepreneurial culture (WIENER, 1981), the lack of US-style mass production techniques and forms of corporate managerial coordination (ELBAUM and LAZONICK, 1986). This literature looks at the scale and scope, costs and benefits of government intervention in addressing institutional factors of retardation. Its weakness is its over-concentration on national competitive performance.

The excellence and turnaround approaches developed from the 1980s shock to US industry of overseas competitors rapidly penetrating their markets. Successful companies are given as examples whose experience forms a set of generic rules to be applied to declining firms and industries (PETERS and WATERMAN, 1982). This literature is heavily influenced by studies of the apparently outstanding record of Japanese management in the post-Second World War period (PASCALE and ATHOS, 1981). Company turnaround is closely related to the excellence approach. A checklist of requirements to rescue a failing company is the basis of turnaround, in this view. The problem with these two allied approaches is that they focus exclusively on the management of companies rather than on the competitive environment.

One of the foremost proponents of competitiveness,

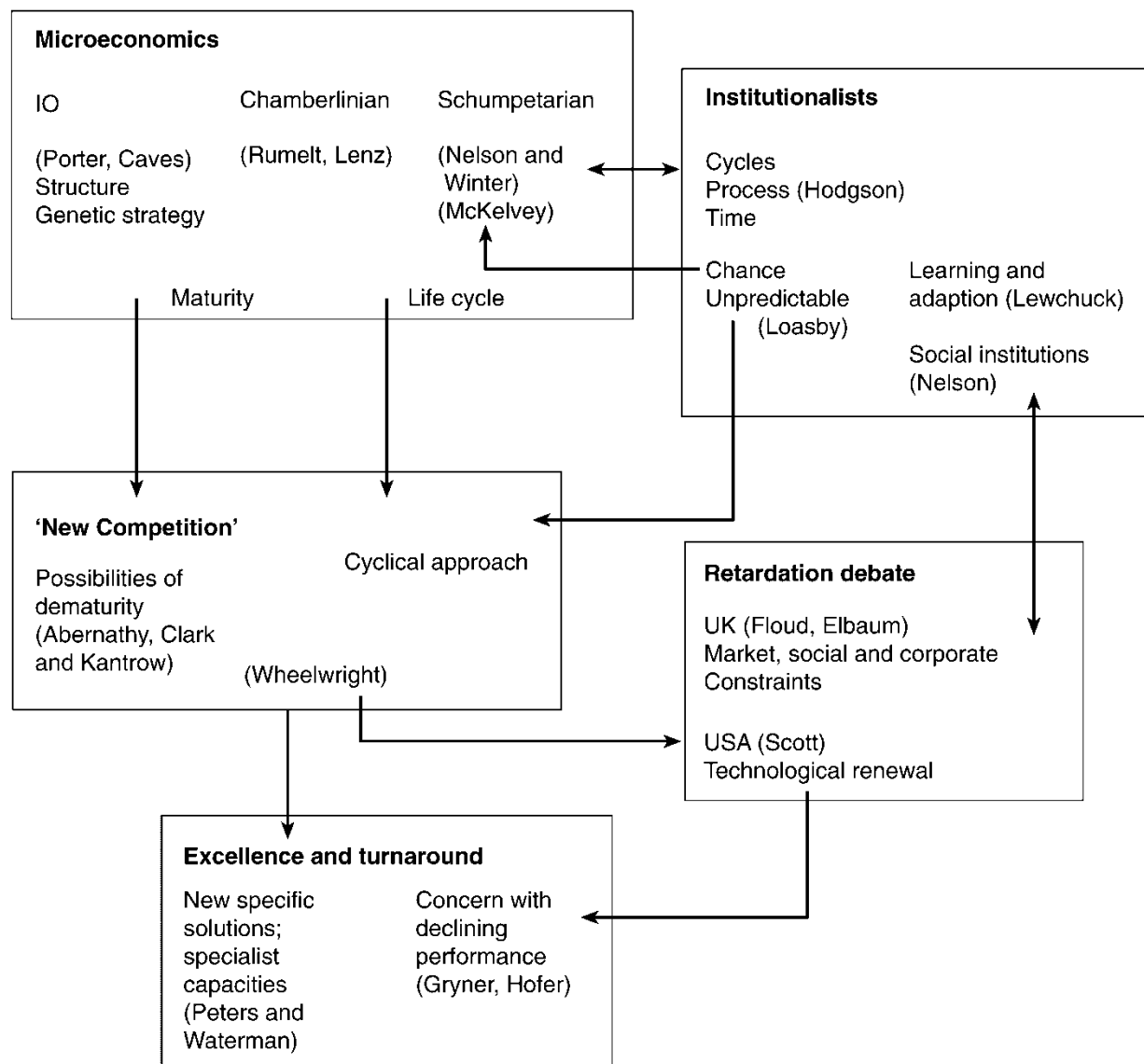


Fig. 1. Strategy and competition literature

on a national and regional scale, is Porter. In his influential *The Competitive Advantage of Nations* (1998), Porter has adapted his concept of the strategic competitive advantage¹ of firms and industries to the analysis of the competitive position of nations. He claims that the new paradigm of competitive advantage has replaced Ricardian theory of comparative advantage in trade.² Both supporters and critics of Porter's analysis have tended to talk past each other, leading to a confusion over the precise nature of concept and terms. This lack of definitional clarity has in itself set up a debate over the validity of Porter's work at different territorial levels. This issue will be returned to below.

There are essentially two parts to achieving competitive advantage. First, the ways in which firms organize and undertake distinct activities is the basis for the growth of competitive advantage. Second, by a process of discovering novel and enhanced ways of competing

in a market. This constitutes innovation that includes not only technical progress, but also improved working and managerial methods.

This duality at the firm level is extended by Porter into the national sphere. He asks what are the circumstances in which firms and industries achieve international success in discrete sectors and industries? The search for these national circumstances constitutes the competitive advantage of nations. Second, nations will generate improved competitive advantage when a proper national strategy is pursued where circumstances are created that support the competitive advantage of these internationally exposed sectors and industries (PORTER, 1998, p. 10):

Our central task, then, is to explain why firms based in a nation are able to compete successfully against foreign rivals in particular segments and industries. Competing internationally may involve exports and/or locating some

company activities abroad. We are particularly concerned with the determinants of international success in relatively sophisticated industries and segments of industries involving complex technology and highly skilled human resources, which offer the potential for high levels of productivity as well as productivity growth.

PORTER (2000) states that the only basis of national competitiveness is productivity, namely: 'The only meaningful concept of competitiveness is productivity' and that 'productivity is the prime determinant in the long run of a nation's standard of living. For it is the root cause of per capita income'. Productivity is defined as output per unit of input, including both capital and labour inputs. For some economists, productivity and competitiveness become the same thing at the full-employment level of national income (BEGG, 1999). In Porter's account, it is productivity in the internationally traded goods and services sector that determines national competitiveness. Porter, however, tends to shift his ground between 'competitiveness as the productivity of a nation' (DAVIES and ELLIS, 2000) and competitiveness as the ability of some firms and industries to acquire global markets share. Despite Porter's assertion that competitive advantage represents a new and superior paradigm to comparative advantage there is elision between the two concepts in his work on national competitiveness. Furthermore, by arguing that national competitiveness is determined by comparative productivity, Porter is confusing comparative advantage with absolute advantage (DAVIES and ELLIS, 1999). Porter ascribes the trade deficit of motor vehicles in the USA to the higher levels of productivity in the Germany and Japanese motor vehicle industries. To meet German and Japanese competition, US firms must meet the absolute productivity standards of these countries (PORTER, 1998, p. 8). This represents the Adam Smith theory of absolute advantage of trade.

Porter appears to take the theory of comparative advantage in trade and the Heckscher–Ohlin³ thesis of comparative factor endowment (labour and capital) and at the same time mould it for the 'global' era, whilst stressing international competition. By not being explicit about the relationship between the concept of competitive advantage and the theory of comparative advantage, confusion is sown for both proponents and opponents of Porter's position on national competitiveness.

Porter rightly points out the weakness of comparative advantage in explaining intra-industry trade, but trade theory has moved on since Heckscher–Ohlin (HELPMAN and KRUGMAN, 1985). The assertion that exchange rates and wages are unimportant in the determination of national competitiveness is refuted if national competitiveness is defined as the ability to secure global export market share. As competitiveness is also defined as comparative productivity, for which exchange rates are not directly important, it is impossible to refute or deny the role of exchange rates

when the two definitions are conflated. However, real exchange rate considerations become important in meeting the challenge of conceptualizing, defining and measuring regional competitiveness, as the present paper seeks to demonstrate below.

Porter's work on competitiveness is heavily determined by his role as a strategist with mercantilist tendencies and not as an economist (KRUGMAN, 1996). Porter's colleagues at the Harvard Business School took a similar view and represented the school's 75th anniversary colloquium 'US Competitiveness in the World Economy':

National competitiveness refers to a nation state's ability to produce, distribute, and service goods in the international economy in competition with goods and services produced in other countries, and to do so in a way that earns a rising standard of living. The ultimate measure is not a 'favorable' balance of trade, a positive current account, or an increase in foreign exchange reserves: it is an increase in the standard of living. To be competitive as a country means to be able to employ national resources, notably the nation's workforce, in such a way as to earn a rising level of real income through specialization and trade in the world economy.

(SCOTT and LODGE, 1985, p. 15)

Despite the cavils about trade competitiveness, this measure of national competitiveness is essentially derived from labour productivity in the internationally traded goods and service part of the economy. It is therefore not really a measure of *national* competitiveness. Furthermore, the Scott and Lodge position puts them in the economic retardation camp.

The weakness in the Porter position relates to the balance of payments constraint in international trade and the perspective that economists take on competitiveness. The role of macroeconomic policy is usually to achieve internal and external balance in the economy in the short run. Internal balance is ensured if there is the lowest level of unemployment being reached that is consistent with a reasonable level of inflation. External balance should be consistent with current-account equilibrium. In the long run, the role of macroeconomic policy is the best achievable rate of economic growth. In this context, international competitiveness is:

The desirable degree of international competitiveness in this context could be defined as the level of the real exchange rate which, in conjunction with appropriate domestic policies, ensured internal and (broadly defined) external balance.

(BOLTHO, 1996, p. 2)

Boltho goes on to argue that domestic forces drive higher incomes, through labour productivity growth, adjusted for the terms of trade. Consequently, concerns with international competitiveness, per se, are irrelevant in this context. The only potential link is if productivity growth is associated with unfavourable trends in the income elasticities of demand for the nation's exports

and imports. Boltho, however, assumes that changes in the real exchange rate can overcome the balance-of-payments constraint. The role of this constraint in limiting economic growth has been identified in a significant body of literature (KRUGMAN, 1989; THIRLWELL, 1991; MCCOMBIE and THIRLWELL, 2003). Its importance at a regional level has also been recognized (MCCOMBIE and THIRLWELL, 2003), although there has been little discussion of this issue in the regional economics literature.⁴ The essential point, in contradiction to Boltho's, is that changes in the real exchange rate have little impact on the growth of import and exports:

income elasticities determine the balance-of-payments constrained growth rate, but the supply characteristics of goods (such as their technical sophistication, quality etc.) determine the relative income elasticities. In this important respect, there can be a marrying of demand- and supply-side explanation of the growth performance of nations.

(THIRLWELL, 1991, p. 27)

The choice of exchange rate is constrained by maintaining external balance. In the context of the balance-of-payments growth constraint, a concept of competitiveness determined by relative productive growth in the internationally traded goods and services sector cannot be sustained unless it explicitly incorporates balance-of-payments constraint considerations in the context of a sustainable real exchange rate.

A virulent critic of national competitiveness is Paul Krugman:

But what does national competitiveness mean? For the great majority of those who use the term, it means exactly what it seems to mean; it is the view that nations compete for world markets in the same way that corporations do, that a nation which fails to match other nations in productivity or technology will face the same kind of crisis as a company that cannot match the costs or products of its rivals.

(KRUGMAN, 1996, p. 17)

As in the new competition, excellence and turnaround literature reviewed above, Krugman points to the strategic trade perspective that informs the demand that the competitive position of firms and industries of an economy in global markets should be sustained through policy intervention. Yet Porter himself is constantly opposed to government intervention, in the form of public expenditure, administrative fiat or protection to shift resources to more internationally competitive industries or industry mixes. Paradoxically, governments have espoused Porter's approach in advancing strategies of global positioning. Wittingly or unwittingly, Krugman points to the strategic roots that inform the position of Porter and those holding similar views (REICH, 1990, THURLOW, 1992):

Strategists want the government to stand behind domestic firms wherever there seems to be winner-take-all competition for future monopoly profits; they want promotion of industries that pay exceptionally high wages, or seem likely to generate strong spill-overs.

(KRUGMAN, 1996)

The creation and distribution of strong spillovers are clearly important for regional economic development. The creation and ability of indigenously regional firms to avail themselves of the benefits spillovers generate does not of itself illustrate or indicate regional competitiveness. Krugman concludes his damning critique by stating:

Economists, in general, do not use the word 'competitiveness'. Not one of the textbooks in international economics, I have on my shelves contains the word in its index. So why are there so many councils on competitiveness, White Papers on competitiveness and so on? . . . It seems too cynical to suggest that the debate over competitiveness is simply a matter of time-honoured fallacies about international trade being dressed up in new and pretentious rhetoric.

(KRUGMAN, 1996)

Krugman's original critique was published in *Foreign Affairs* (1994). In a later edition of the same year, the targets of Krugman's opprobrium retorted under the title 'The fight over competitiveness: a zero-sum debate?' (DORNBUSCH, 1994). Their retort centres on the following:

- In some cases, trade may be a zero-sum game, unlike Krugman's assertion.
- Although trade only accounts for 11% of Gross National Product, it accounts for half of US manufacturing output, so that consideration of domestic competitiveness is important.
- Status and power of nations relate to their economic performance because loss of competitiveness lends itself to political vulnerability.
- Nations do have a bottom line in the form of the living standards of its citizens.

A detailed analysis of the critique of Krugman is not central to the purpose of the present paper. The main weakness of the attack on his position is that his critics are talking about comparative productivity levels between nations and not competitiveness in the sense used by economists, an issue returned to below when discussing regional competitiveness. The crucial issue is that competition and competitiveness are used interchangeably, muddying the analytical waters further. The irony of the 'zero-sum debate' presumably has not passed by Krugman. These debates and the discourse that Porter's *The Competitive Advantage of Nations* has engendered, however, have focused critical minds on the question of competitiveness and its territorial variants. For this contribution, Porter's role should be more generously noted.

It is when one moves into the subnational levels that analytical, conceptual, and operational difficulty and some confusion increase. Regional competitiveness appears squeezed between the rock of the national competitiveness debate and the hard place of the plethora of the volume of work on territorial competitiveness at an urban scale.

There is a large and growing literature of urban or city competitiveness (KRESL, 1995; CHESHIRE and GORDON 1995; LEVER, 1993, CIAMPI, 1996; BUDD, 1998, BEGG, 1999, 2002, GORDON, 1999). The notion of city competitiveness appears able to withstand the Krugman critique rather better than can national or regional competitiveness. This is primarily because of the combination of functional specialization and agglomeration benefits of urbanization. The combination of both can be described as cities competing over locational assets. GORDON and CHESHIRE (1998) suggest that:

territorial competition may be conceived of as involving attempts by agencies representing particular areas to enhance their locational advantage by manipulating some of the attributes which contribute to their area's value as a location for various activities.

Firms compete on the price and non-price characteristics of their output, so that competitiveness at the firm level is pretty well understood. Both price and non-price factors are influenced by firm location, particularly with regard to input costs. These costs are direct and indirect. Direct locational costs include rent, labour and cost of capital. The greater the degree of city specialization, the larger these costs are likely to be, e.g. the City of London. Indirect costs are usually external to the firm but are influenced by: 'miliuex – external, unmarketed influences on the productivity innovativeness and dynamism of local businesses' (BEGG, 1999).

External economies of scale and scope and the degree to which firms can exploit them in a location will also determine firm competitiveness in a particular location. The aggregation of firm-level competitiveness and non-price and indirect cost advantages can be said to constitute urban competitiveness. One of the few authors who have attempted to pin down urban competitiveness is Peter Kresl. In identifying a competitive urban economy, he sets out six attributes (KRESL, 1995, p. 51):

- High-skill, high-income job creation.
- Goods and services produced should be environmentally orientated.
- Goods and services with high-income elasticity of demand and similar characteristics should be the basis of production.
- Full-employment considerations should determine the suitable rate of growth, without overheating markets.

- Specialization of activities should be based on future potential of the city, not on acceptance of present configurations.
- Potential of the city to move up the urban hierarchy.

Kresl organizes the determinants of competitiveness into two categories:

- Quantitative: 'economic' determinants (factors of production, infrastructure, etc.).
- Qualitative: 'strategic' determinants (policy factors, design of institutions, etc.).

This approach suggests that a balance sheet of city assets and liabilities can be generated. For example, on the asset side, the benefits of agglomeration are more easily gained in a city than in a region. Whether these characteristics can be transferred to the regional scale is open to question.

Conceiving of competitiveness and using a balance sheet-type measure at the regional scale presents a challenge. The next section reviews the attempt to take up this challenge.

POSSIBILITIES FOR REGIONAL COMPETITIVENESS?

This section attempts to negotiate around some of the cross-cutting issues. It also discusses the possibilities of conceptualizing regional competitiveness in a regional economy. In what sense do regions compete? MARTIN and TYLER (2003) cite three instances on which regions compete:

- For investment through regions' ability to attract foreign, private and public capital.
- For labour by being able to attract skilled employees, entrepreneurs and creative workers, thereby enabling innovation environments within local labour markets.
- For technology through regions' ability to attract knowledge and innovation activity.

Martin and Tyler also conceive of regions as sites of comparative advantage through export specialization; as sources of increasing returns enabled by agglomeration economies; and as hubs of knowledge and innovation developed and sustained by local innovations milieu. This threefold conception can also be read from three theoretical perspectives: neo-classical theory; increasing returns theories; and endogenous growth theory. This reinforces their conclusion that 'there is no theoretical perspective that captures the full complexity of "regional competitiveness"' (MARTIN and TYLER, 2003).

Regional competitiveness appears to be neither the simple aggregation of firms nor a weighted disaggregation of the national economy. The 6th Periodic Report on the Social and Economic Situation and Development of the Regions in the Community

(EUROPEAN COMMISSION, 1996) defines regional competitiveness as follows:

the ability to produce goods and services which meet the test of international markets, whilst at the same time maintaining high and sustainable levels of income, or more generally, the ability of (regions) to generate, while being exposed to external competition, relatively high incomes and employments levels. In other words, for a region to be competitive it is important to ensure both quality and quantity of jobs.

Although clearly complex, regional competitiveness can be seen as the cumulative outcome of a number of factors. These include the traditional factors of labour market conditions and transport costs (VICKERMAN, 1989), as well as company size, research and intensity, innovative capacity, and export orientation as important locational endowments (STEINLE, 1992).⁵ Studies of Wales and of Baden-Wurtemberg, Germany, as a 'learning regions' in the international economy argued that future economic success was expected to come from firms that were active exporters, had competitive products and processes, and were innovators through research and development (COOKE, 1997). The competitiveness of these 'learning regions' rests on 'untraded inter-dependencies' (STORPER, 1995). These include formal and informal collaborative and information networks, shared labour market intelligence, and shared conventions and rules for developing communications and interpreting knowledge.

As noted above, one of the issues at the heart of the debate over national competitiveness is the role of exchange rates and the balance of payments constraint. The balance of payments constraint at the regional level is also important to any conception and ultimately to the measurement of regional competitiveness. The regional implications of the argument advanced above are that non-price competition is important in understanding trade flows. Changes in relative regional prices will be ineffective if pricing policies of firms are nationally determined or a function of imperfect competition where price leadership is a primary objective.⁶ Therefore, attempting to change relative regional prices to make declining regions more competitive will be ineffective. Consequently, increased competitiveness will be determined by locational advantage, which depends on non-price and non-trade factors like the degree of institutional embeddedness, governance structures and demonstration effects that can be assessed as part of the external economies that a place may derive. These form part of the agglomeration economies that are central to locational advantage and can thus be said to be integral to the potential competitiveness of a city or region. PORTER (2003) points to the importance of traded clusters and their spillover effects in regional economic performance. Furthermore, Porter suggests that economic policy needs to be decentralized at the regional level, with development

policies being used to encourage traded clusters and the upgrading of their productivity.

What this means is that in effect, the comparative productivity of industries as a measure of national competitiveness is being devolved to the comparative productivity of traded clusters as a measure of regional competitiveness, including institutional and governmental externalities.

In developing a regional perspective, the present paper focuses on the role of comparative factor endowments, including location, in interregional trade. Intra-regional transactions are also important. The argument is summarized in Fig. 2, and proceeds as follows:

- The relative prices of goods produced in a region will determine the level of interregional trade.
- The competitiveness of firms' output in terms of relative productivity will determine income and employment.
- The regional terms of trade are, therefore, determined by relative costs expressed as regional deflators in the absence of a regional exchange rate.

However, the countervailing role of an exchange rate in equilibrating regional trade imbalances is missing. Therefore, what proxies as the balance of payments constraint where there is no real exchange rate is the level of factor endowments including locational factor advantages, notwithstanding the degree to which inter-regional transfers partly compensate for trade imbalances.⁷ In the first instance, it is the mobility of capital and labour. In the second, it is agglomeration economies, including external economies of scale and scope. The extent to which the latter are availed of by local firms will determine the degree to which they translate into regional prices. In doing so, the regional balance of trade constraint is exerted, but through secondary transmission mechanisms.

As MARTIN and TYLER (2003) correctly point out, productivity is not necessarily a good measure or indicator of regional competitive advantage. The relationship is complex and proceeds via indirect effects. Increasing returns, external economies and endogenous growth effects have greater influence on regional success. Furthermore, competitive advantage at the firm level relates to superior performance (MA, 2000). Equally, competitive advantage at the regional level does not directly lead to superior performance.

It is apparent that locational factors are crucial to a conceptualization of regional competitiveness. Despite the present criticism of the conceptual and methodological aspects of the Porter position, the paper attempts to construct a conceptual framework that includes competitive advantage and comparative advantage. This is done in the context of the transmission mechanism of agglomeration economies, in particular localization, urbanization and activity-complex economies, in combination with the theory of X-inefficiency providing the conceptual benchmark.

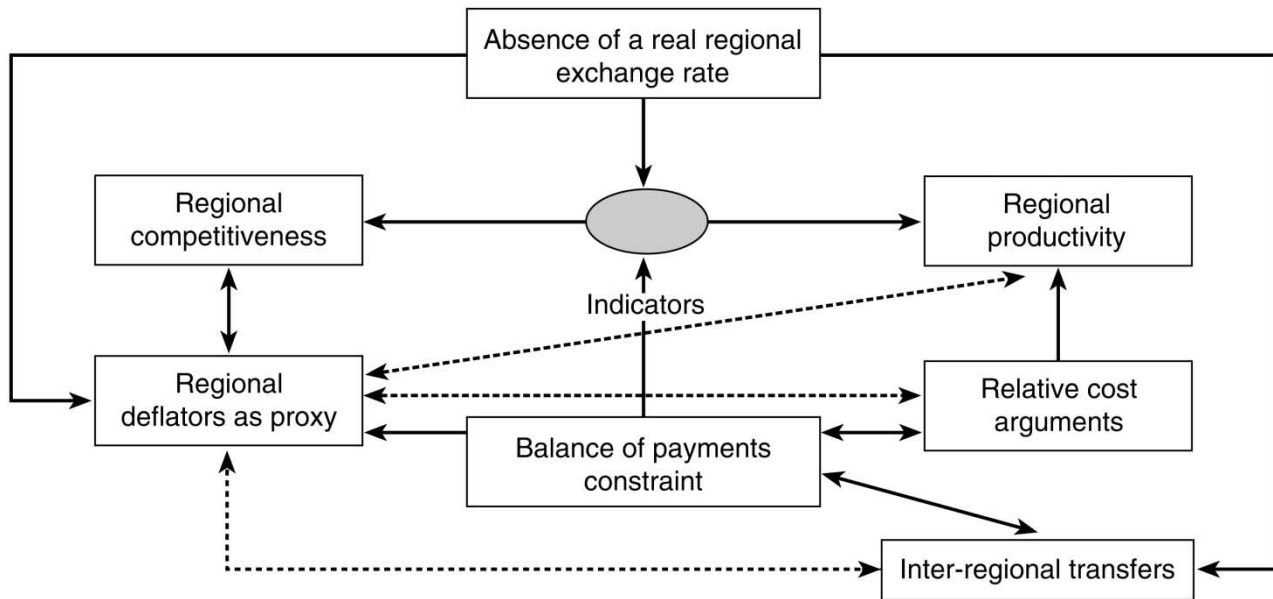


Fig. 2. Regional competitiveness possibilities within a balance of payments constraint

REGIONAL COMPETITIVENESS CAPACITY AS A CONCEPTUAL FRAMEWORK

It is apparent that regional competitiveness invites difficulty and confusion at the conceptual level. There is the possibility of regional competitiveness via indirect transmission mechanisms, through agglomeration economies bestowing locational advantage. This is recognized in some studies of measuring regional competitiveness that go beyond GDP per head and employment levels. HUGGINS (2003) uses a three-factor model of regional competitiveness, which includes the following:

- Inputs business density (firms per capita); knowledge-based business (as a percentage of all businesses) and economic participation (activity rates).
- Outputs productivity (measured as GDP per capita).
- Outcomes: earnings (full-time wages); unemployment (International Labour Organization measure).

In contrast the present conceptual framework is built upon regional competitiveness capacity (RCC). It is a regional variant of the concept of urban competitiveness capacity the authors introduced in the Global Cities Benchmarking feasibility study for the London Skills Forecasting Unit in 2000.⁸ RCC is formulated by combining the theory of comparative advantage, Porter's concept of competitive advantage and LIEBENSTEIN's (1966) theory of X-inefficiency in the context of the three types of agglomeration economy into a single framework. The starting point is as follows:

- Comparative advantage is the classical theory of comparative costs that provides the underlying logic

of gains from international trade. Differences in the opportunity costs of producing, say, two commodities in two countries forms the basis of gains in trade for both countries. Underlying the comparative advantages of each nation, region or city are factors such as the initial endowments of resources, the environment and technical knowledge. Conventionally, comparative advantage operates at the level of the national economy.

- Competitive advantage is created in the act of generating novel and improved ways of competing in an industry and bringing these ways to market. For Porter, this is an act of innovation. However, competitive advantage is 'created and sustained through a highly localised process' (LIEBENSTEIN, 1966) in which externalities are the determining factor at subnational levels. The basis of a locality's competitive success – whether national, regional or urban in this view – rests on the manner in which the combination of differences in opportunity costs and the endowment of externalities are combined to generate improvements in productivity. The Porter view of competitive advantage, at the firm level, comes from the industrial organization tradition, with its stress on cost leadership and differentiation. The resource-based view (RBV) of competitive advantage is used. The RBV perspective suggests unique resources are the source of sustained competitive advantage of a firm (BARNEY, 1991). But heterogeneity in resource endowments provides competitive advantage (PETERAF, 1993). In the context of the competitive advantage of firms and industries in a region, non-price and non-traded locations factors are part of these heterogeneous resources. Taking an RBV perspective allows one to relate

competitive advantage more directly to performance in the firms in a region being able to sustain economic rents than a cost leadership and differentiation approach.

- X-efficiency arises out of imperfectly competitive markets, characteristic of the modern economy, where absolute cost efficiency of the firm cannot be substantiated. In the language of economic theory, the combination of factors of production – capital and labour – do not push the firm to operate at the edge of its production possibility frontier.⁹ In essence, a firm is said to be X-efficient if it maximizes its outputs whilst minimizing its inputs. Improvements in the productivity of factor inputs will reduce X-inefficiencies. The correlation is introducing ‘novel and improved ways of competing in an industry and bring those to market’ to maximize outputs. An important source of X-inefficiency is ‘managerial slack’, whereby management and workers pursue their own objectives rather than those of external shareholders who seek profit maximization as an efficiency objectives. For LIEBENSTEIN (1966), production costs rise as markets become more imperfectly competitive. Raising total factor productivity (TFP) is then an important component in reducing X-inefficiency and increasing competitive advantage. Where increases in X-efficiency are generalized across an economy, the potential to increase comparative advantage for traded commodities is also enhanced. In imperfect markets, non-price competition increases so that the ability to absorb the benefits bestowed by externalities is an important source of sustaining firms’ competitive advantage. In a regional economy, the degree to which externalities are distributed among all sectors and activities reduces the degree to which dominant activities appropriate externalities and therefore sustain their X-inefficiency.

The three types of external economies are set out below. Their importance to place cannot be underestimated because, first, the localization of industry provides support for specialized local providers of inputs to production. Second, the diffusion of information is speedier where there is localized concentration of industry, thereby generating technological spillovers. Third, the pooling of specialized labour in a locality creates important local demand (MARSHALL, 1920).

One can organize these economies into three distinct but related types of agglomeration economies: localization, urbanization and activity-complex, otherwise known as complexity economies:

- Localization economies are internal to an industry or sector in an area but external to the firm:

Localization economies refer to the advantages accruing to the firm in the same activity which result from their joint location. On the revenues side... are the

possibilities for the cross-referral of business among firms and the emergence of particular specialisations within the activity; while on the cost side, advantages include the existence of a pool of skilled labour, the availability of specialised business services specific to the activity under consideration and access to high quality information, often on an informal basis.

(PARR and BUDD, 2000, p. 603)

- Urbanization economies are internal to the area but external to the sector or industry or firm.

Urbanisation economies ... are concerned with the range of advantages to the individual firms which result from the joint location of firms in different and unrelated activities ... the availability of transport and communications facilities and municipal services may provide important savings. Also important is the availability of a specialised business service not specific to a particular activity, as well as the advantage of an urban amenity and the derived or indirect advantage of a pool of qualified labour.

(PARR and BUDD, 2000, p. 603)

- Activity-complex economies: sometimes known as complexity economies.

These refer to economies that emerge from the joint location of unlike activities which have substantial trading links with one another. In the case of manufacturing, such economies typically occur within industrial complexes, involving structure of a vertical or convergent nature.

(PARR and BUDD, 2000, p. 603)

For example, in the garments industry, there is a degree of vertical integration that is distributed across local space.

Localization economies tend to be associated with external economies of scale, whilst urbanization economies tend to be associated with external economies of scope. Economies of scope result from a variation of products being made from the same or shared inputs.

In a regional economy, shared inputs are supplied by both the public and private sectors, so that most urbanization economies can be seen as predominantly external economies of scope. Activity-complex economies reduce coordination and transaction costs for firms within industrial complexes or other agglomerations, and as such could be thought of important external economies in contributing to greater competitiveness of a region. Once these external economies are availed of at the firm level, the challenge is to understand how they can be reproduced within a region to sustain its supposedly regional competitiveness.

The present paper attempts to bring these elements together in its RCC framework (Fig. 3).

Starting at the economy level, a Heckscher–Ohlin approach is taken in the context of comparative locational factor endowments whilst loosening the assumptions of their neo-classical model.¹⁰ The comparative

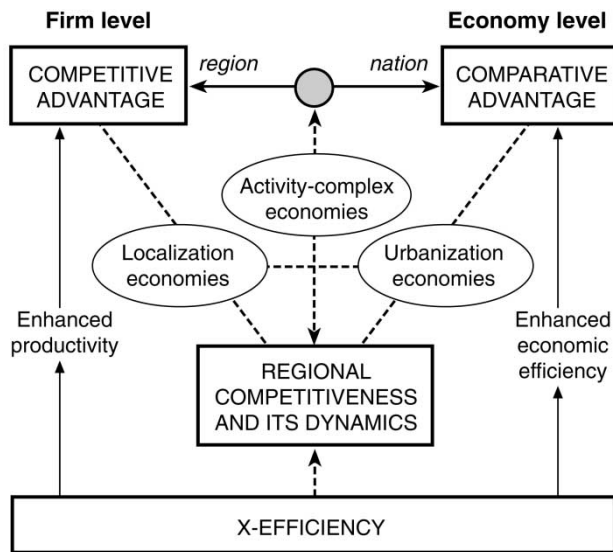


Fig. 3. Framework for assessing regional competitiveness capacity

advantage of regions derives from their capacity to use and sustain factors of production and, consequently, to generate output and trade. The more these factor endowments generate productivity gains, the larger will be the region's share of employment and income gains. In addition, the larger the share of capital-intensive industries in a region, the larger will be the region's share of interregional trade, as demonstrated by the Heckscher–Ohlin theorem (SÖDERSTEN, 1980). In an era of globalization or internationalization, factors are more mobile. To sustain factors endowments that make a region competitive in terms of relative prices, extra-firm and industry factors, including non-price and non-trade ones, are crucial. They help to enhance the region's capacity to absorb further growth. The total internal economies and the scale of agglomeration economies and the ability of trading firms to avail themselves of the latter and gain price benefits make up the locational endowments (or regional assets). The relative scale and scope of locational endowments is crucial to maintaining comparative advantage and competitiveness at the level of the regional economy.

At the firm level, the competitive advantage of firms in a region will be enhanced by the degree to which productivity gains in the production of goods result from and further create innovative means of production. From the RBV perspective, the unique and heterogeneous resources that create competitive advantage for a firm will include its ability to exploit external economies as well as non-price and non-traded factors.

The present paper uses the theory of X-inefficiency as a conceptual datum to integrate the competitive advantage at the firm level with comparative advantage at the economy level of the region. The promotion of external economies is important in enhancing the productivity potential of a region by increasing TFP.

X-inefficiency conventionally works at the level of the firm and industry where pricing regulation is important. The relationship between X-inefficiency and the competitive advantage at the firm level seems straightforward. The scale and degree to which 'managerial slack' can be overcome, in the form of better production and managerial practices, the greater the scope for productivity improvements and thus gains in X-inefficiency for the firm and industry. For firms and industries engaged in interregional trade, these X-inefficiency gains are translated into more competitive prices and the welfare gains in the form of income and employment in the host region, thereby enhancing comparative advantage. Despite this apparently straightforward link, the application of the theory of X-inefficiency at the regional economy level poses more difficulties, particularly measurement ones, but these are beyond the scope of the paper.

A more X-efficient region is one in which total locational endowments, including agglomeration economies, are exploited optimally by indigenous firms and industries.

Therefore, the size and scope of comparative locational factor endowments can be related to comparative X-inefficiency at the regional economy level. The three types of agglomeration economy provide the indirect transmission mechanism that brings together the competitive advantage at the firm level and the comparative advantage at the economy level of a region. Localization economies are relevant at the firm level and urbanization economies at economy level, whilst activity-complex economies are relevant to both.

The relationship between productivity, external economies, price, traded, and non-price and non-traded factors is complex. Growth in TFP is a function of market and non-markets factors, in particular the formation of skills and the sharing of tacit knowledge. Work done by the National Institute for Economic and Social Research (NIESR) on productivity, however, has demonstrated the role played by externalities in increasing TFP. In particular, TFP growth has been associated with the following:

- Advances in scientific and technical knowledge.
- Learning by doing and learning from others.
- Organizational changes.
- Legislation and regulatory changes.

None of the above factors is compensated by the market mechanism (OULTON, 1997). The first factor arises from spillovers from non-commercial organizations or from commercial research and development activities. For the second factor, skills formation from educational attainment generates increased productivity, as individual learning becomes generalized as sector-specific and tacit knowledge. The third factor includes corporate restructuring, just-in-time inventory systems and total quality management. The fourth factor includes enhancing labour flexibility legislation

and lowering transaction costs for firms. One can identify these four elements with the three types of agglomeration economy detailed above.

The role of a region's spatial structure is often overlooked in discussions of regional competitiveness, particularly as a regional asset. Growth occurs in activities that are 'place orientated' in real places and real time. The sources of growth are associated with agglomeration activities and the appropriation of localization and urbanization economies rather than with the input of resources subject to competition, as argued above. That is, it is spatial efficiency rather than additional inputs of factors of production that is the greater determinant of regional growth and thus the basis of competitiveness. The importance of the spatial structure to regional competitiveness cannot be underestimated. It determines regional capacity to absorb, or constrain, further growth. There are circumstances under which the spatial structure can retard or enhance regional development, particularly in the short run, where the spatial structure affects the regional supply function of the significant factors of production. The spatial structure can therefore be considered as part of the regional production function, in addition to the conventional inputs of labour, capital and land. The analogy is with the physical layout of an industrial plant: the more efficient the use of space, the higher the output (PARR, 1979).

In other words, two regions with the same factor endowments and apparent competitiveness will differ in output, income and employment if they have different spatial structures. The greater the scale of urban and metropolitan areas in a region, the greater the degree to which agglomeration economies can be realized in regional externalities and economic welfare in the form of income and employment. This would suggest that city regions are more competitive than non-city regions. However, the clustering of economic activities in non-urban areas might compensate less urbanized regions by generating agglomeration economies. A similar argument applies to the regions with more efficient spatial structures.

The concept of RCC, therefore, rests on combining the theory of comparative advantage and the concept of competitive advantage into a single framework. The three types of agglomeration economies act as an indirect transmission mechanism between the comparative advantage of the regional economy and the competitive advantage of its firms. The theory of X-inefficiency provides a conceptual benchmark against which to assess efficiency at the firm and economy level. The interaction of X-efficiency and the realization of benefits derived from agglomeration economies then provides a concept of regional competitiveness and its dynamics. In the study of the London region's competitiveness, RCC was found to be a feasible framework on which to build indicators. The London Skills Forecasting Unit shared this conclusion. Further

work and iterations will test the practical challenges of RCC.

CONCLUSION

The present paper has attempted to conceptualize regional competitiveness by combining competitive advantage *at the firm level* and the balance of payments constraint, implicit in comparative advantage, *at the regional level* into a single framework. In developing the concept of RCC, it stresses that regional competitiveness is an outcome of economic performance, based on manifold factors in a particular locale, not a basis for economic performance, *sui generis*. One cannot say that regions as economic entities are engaged in a process of comprehensive and direct competition. Regions can be said to compete for economic activities at various levels, but the mediation processes are complex and often incomplete. By not being clear about the limits of regional competitiveness as a concept, it may fall into the 'intellectual play zone' because of the proliferation of meaning in concept and practice.

There are lessons to be learnt from the debates and range and depth of the literature produced on urban and city competitiveness that apply at the regional level:

To propose cities or regions competing with each other presuppose a unity of purpose between the constituent economic and social interests and that city governance has an autonomy and freedom of manoeuvre. If one were speaking of city-states or Hayek's 'catallaxies' this might be a possibility (HAYEK, 1961). Instead we are faced with a cross-cutting form of regulation between the international division of labour, national political interests and the way these factors are played out in urban territories.

(BUDD, 1998)

The present paper has attempted critically to interrogate the debates and literature about territorial competition in a regional context in order to propose a conceptual framework of regional competitiveness. It might have actually created a concept of capacity for competitiveness or competition between regional competences and not regional competitiveness *per se*.¹¹ Three future directions suggest themselves that might take the debate further over the concept of regional competitiveness. First, attempting to construct comparative regional balance sheets of assets and liabilities. These can then be translated into indicators of regional competitiveness, on the one hand, and constraints to growth, on the other. Second, using a Transactions Cost Economics framework to investigate the relationship between opportunism and bounded rationality within and between regions, in the context of theorizing the region as an informal organization. Finally, constructing a set of criteria with which to measure the capacity of a region to absorb further investment and growth, thus taking the spatial structure of a region to a new level.

If nothing else, the authors hope that the questions and issues raised herein contribute to a research agenda of growing importance.

Acknowledgements – The authors are grateful for comments made by anonymous referees, and for comments made by John Parr, John McCombie and Ron Martin. Amer Hirmis works for DTZ Pieda Consulting, and he is writing in a personal capacity, and the views expressed may not necessarily reflect that of DTZ Pieda.

NOTES

1. Competitive advantage is the concept most notably associated with Porter. Sometimes used interchangeably with competitiveness, it usually refers to the ability of domestic firms and industries to gain and retain share in contested global markets.
2. David Ricardo's theory of international trade is familiar to all students of economics. In the simplest model, if two countries, X and Y, produce two goods A and B, then if country X has an absolute advantage in the production of both goods, it will still benefit both countries to trade if the opportunity cost of producing good A (in terms of foregone production) is lower in country X than in country Y. Country X then has a comparative advantage in the production of good A, and vice versa. In other words, a country has a comparative advantage in producing a good if the opportunity cost is lower at home than producing in the other country.
3. The Heckscher–Ohlin model assumes two factors of production: labour and capital. What accounts for international trade in this model is the factor endowments of the trading countries. Countries rich in capital will export capital-intensive goods, whilst those with an

abundance of labour will export labour-intensive goods. Four assumptions underlie the Heckscher–Ohlin theory that restrict the model. It differs from Ricardo's model in respect of being a two-factor model in which trade is determined by factor prices. In Ricardo, labour is the only factor of production and trade is determined by production conditions alone. Factor prices cannot be inferred from production conditions per se.

4. The authors are grateful to John McCombie for bringing these points and the associated literature to their attention. They trust they do his insights justice.
5. Some benchmarking studies ignore the issue of export performance (e.g. Boston Consulting Group, 1998, quoted in GORDON, 1999).
6. Again, the authors are grateful to John McCombie for this point.
7. The authors are grateful to John Parr for making this point, which was absent from earlier drafts of the paper.
8. The study was undertaken on behalf of the London Skills Forecasting Unit of the Learning and Skills Council.
9. The analogy for an urban economy, like London's, is that improvement in the competitiveness and thus productivity of its firms and sectors will push the whole economy towards its production possibility curve in any one period. Increases in total factor productivity in the next period will extend the productive potential of the urban economy by pushing the frontier further out.
10. There are five assumptions: (1) there are no transport costs or other impediments to trade; (2) there is perfect competition in both factor and commodity markets; (3) all production functions are homogeneous to the first degree; (4) the production functions are such that the two commodities show different factor intensities; and (5) the production functions differ between commodities but not between countries.
11. The authors are grateful to Ron Martin for pointing out this possibility.

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