Theorising regional economic performance and the changing territorial division of labour

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Abstract

After identifying the general mechanisms underling the centripetal and centrifugal forces whose interplay shapes the relative performance of regional economies, a case is made for seeking to disaggregate macroeconomic indicators and examine the sectoral and occupational changes that they conceal. Once regional performance is seen as reflecting underling changes in the profiles of regional economies it is clear that research should examine the forces that determine the changing territorial division of labour. To explain the latter attention is then paid to a framework that combines value chain approaches to the strategies of individual enterprises and analyses of the impact on the performance of enterprises of their wider social environment. Explicit links are established between this framework and some of the insights of the new economic geography.

Keywords

regional economic performance; cumulative causation, new economic geography; value chains; inter-firm relations; institutional performance

Introduction

The aim of this paper is contribute to the development of a conceptual framework for analysing trends in the relative performance of regional economies. After establishing a connection between quantitative assessments of comparative regional economic performance and the changing territorial division of labour, the essential contribution of the 'new economic geography' to the study of location is outlined. In the next part of the paper the abstract insights of this approach are integrated into a framework that also synthesises analyses of the profit and, from the value chain tradition, upgrading strategies of individual enterprises, the nature of inter-firm and firm-market networks and the role of wider institutional factors and growth models on the restructuring and relocation of economic activities.

Regional economic performance: convergence or divergence

Studies of regional economic performance tend to fall into two groups. On the one hand there is the quantitative research conducted by economists and economic geographers which seeks to measure regional performance. On the other there are a host of qualitative studies of regional economies deemed successful to different degrees. To the latter one can add the more
quantitatively-oriented research of some political scientists interested in the impact of institutional performance and the character of civil society on the performance of regional economies (see, for example, Putnam et al, 1993).

Clearly, insofar as is possible, studies of regional performance should involve measurement, although measuring regional performance is not unproblematic, as it involves identifying sensible territorial units, and requires the existence of accurate estimates of meaningful aggregate and structural data. At the same time, however, it is important to recognise that questions about regional performance also imply a concern with the qualitative characteristics of places, and an interest in whether places, and the ways of work and life of the people who live in them, are getting more similar, or whether differences are reproduced, or whether new differences are created. In this case the major difficulty lies in deciding what does and does not matter in the face of the impossibility of systematically enumerating every facet of every regional economy. An aim of this paper is to present a framework which offers some prospect of combining quantitative data with analytically-related qualitative information. Another related aim is to present a framework that permits the establishment of connections between aggregate data and underlying micro-level information.

The starting point is certain summary measures frequently employed in quantitative research on regional economic performance. The most common indicators are, of course, measures of the new wealth that is created in a particular territory in a particular period or the living standards of its inhabitants. The former is measured by Gross Domestic Product (GDP) per head and depends on the geography of the production of goods and services. The latter depends on the way in which that additional wealth/income and therefore claims over the goods and services produced is distributed? It depends therefore on: the distribution of additional wealth and income, in the shape of property incomes, such as profits, interest and rent, and wages; the net transfer of earned income to the inhabitants of a particular locality; and the redistribution of income and wealth through government taxation and expenditure. Together these mechanisms determine the distribution of household income.

GDP can be measured in three ways. From the perspective of production it is equal to the value added in all productive activities. From the perspective of distribution, GDP at factor cost is equal to the sum of the compensation of employees and the gross operating surplus, itself made up of profits and the income, including profits, of the self-employed. GDP at factor cost is equal to GDP at market prices less indirect taxes net of subsidies. From the perspective of demand GDP is equal to the sum of consumer expenditure, investment, government purchases of goods and services and net exports.

The distributional perspective offers a new way of looking at disparities in GDP and their causes (Dunford, 2001). To explore this approach, it suffices to recognise that the GDP produced, or the aggregate value added, in a particular locality is divided into profits (comprising the income of businesses, interest paid to businesses and rents paid to property
owners plus depreciation) and wages:

\[
\text{Gross Domestic Product} \equiv \sum_{i=1}^{n} \text{Value added}_i
\]

\[
\equiv \text{Gross operating surplus} + \text{Compensation of employees}
\]

\[
\equiv \text{Gross operating surplus} + \sum_{i=1}^{n} \sum_{j=1}^{m} \text{Employment}_{ij} \times \text{Average wage}_{ij}
\]

(4)

where there are \( i = 1,2, ..., n \) sectors and \( j = 1,2, ..., m \) occupations. Of these wages and profits a part accrues to local residents and a part to non-residents. What is significant however is the fact that regional GDP and its evolution is seen as depending on three elements: the (changing) distribution of income between wages and profits; the (changing) regional profiles of employment by industry and occupation; and the associated (changing) distribution of wages by industry and occupation. A central aim of this paper is to develop a framework for explaining that part of regional GDP represented by the compensation of employees or by the changing regional profiles of wealth-creating employment.

Analyses of regional performance address not just the levels of new wealth and income produced in a particular period but also their evolution. In the case the question is whether some regional economies grow faster than others, whether differential rates of growth cause differences in income per head to increase or decrease over time, and what the relation is with the changing territorial division of labour. Also important is the way in which the nature of work in particular industries in particular areas is changing and whether differences in organisational models are disappearing or not.

Theoretical models of relative regional economic performance produce conflicting answers. In recent years, in a period of hegemony of neo-liberal economic ideas and strategies, models that predict catch-up have predominated. Neo-liberal ideas have been particularly influential in discussions of the effects of globalization, where convergence is anticipated as a result of the adoption by companies of similar technologies, a closer alignment of consumption patterns and life-styles and an alignment of government policies which itself is a consequence of the discipline exercised by global financial markets and dominant economic and political interests.

The theoretical rationale for these expectations is provided by a range of neoclassical growth, regional development and trade models. Early growth models suggest that regional economic performance depends on the growth of the volume of the inputs of capital and labour and the increase in productivity. If similar conditions prevail in the economies under consideration, convergence is expected, as economies that are less developed will grow faster than economies that are more developed. Two factors explain this trend. The first is diminishing returns to capital. The second is the way in which the diffusion of technology and knowledge close technology and productivity gaps. Neoclassical models of regional economic development suggest that, in a world of constant returns to scale, the flow of capital to low income areas and
labour to high income areas will lead to an equalisation of income per head (Borts and Stein, 1964). Similarly neoclassical factor proportions explanations of trade suggest that regional specialisation and trade will induce an equalisation of factor prices in this case independently of factor mobility (see, for example, Armstrong and Taylor, 2000: 122-31).

More recent models of endogenous growth lead to rather different conclusions. Theories of endogenous growth were developed in the belief that cumulative historical increases in output per head are due to cumulative improvements in human knowledge and technology, on the one hand, and cumulative increases in human skill and knowhow, on the other. Investments that increase human knowledge yield increasing returns for two reasons. First, the fixed costs of the development of new products and technologies can be spread over a large volume of sales, yielding strong decreases in average costs as output increases. Second, investments that increase knowledge generate strong externalities as knowledge cannot be perfectly patented or kept secret (and is therefore only a partially excludable good): once it is known that something can be done, others can seek to duplicate it, so that new knowledge has a positive effect on the production possibilities of other enterprises. Third, knowledge is a non-rival good that can be used simultaneously by different people, and over and over again by the same people at close to zero marginal cost.

This conception of technology implies a move away from constant returns to scale and perfect competition to a world of increasing returns and also of imperfect competition. Applied to the study of comparative development, the models that result predict cumulative causation and divergence rather than convergence, as new investments in places and enterprises that are already advanced create new development gaps (see Dunford, 2002, for a fuller account).

A particularly striking application of these ideas is found in the work of Quah (1996; see also the discussion in Perrons, 2001b). Quah predicts the emergence of twin peaks in the distribution of regional income and in the distribution of household income in what he calls weightless (superstar) economies in which value is embodied in immaterial things (see Figure 1 which portrays the transition from an economy in which there are a lot of people with middle incomes and few rich and few poor people to a twin peak model). One cause of the twin peak model lies in the supply side effects identified in the last paragraph.2 The second cause lies in two features of demand side dynamics. The first feature is the fact that the market for many immaterial goods is extremely large. The second is the fact that consumers often prefer the goods and services superstars offer. The combination of very high levels of demand for the goods and services provided by superstars with the very low costs of reproduction of these goods and services creates very high incomes in a world of winners and losers and wide inequalities. These mechanisms clearly have an impact on territorial development as immaterial goods and services are produced somewhere, just as the people whose incomes are derived from them must live and work somewhere.
As is clear, these competing models lead to the identification of two sets of mechanisms. On the one hand, there is a set of centrifugal forces of which one of the most important is the transfer to less developed areas or less advanced enterprises of technological and organisational knowledge that can contribute to a reduction in development gaps. On the other, there are a set of centripetal forces as enterprises and areas that are developed create new sources of competitive advantage thorough, in particular, further investments in knowledge and skills. At any point in time the relative performance of different regional economies depends on the relative weight of these two sets of forces.

Similar conclusions stem from new economic geography models that seek to explain the causes of the location of people and economic activities. As Krugman (1998) has pointed out, much of this latter work rests on the idea that the evident spatial concentration of some economic activities is a result of increasing returns to scale at the level of the plant. Increasing returns imply that goods and services can be produced more cheaply if production takes place on a large scale and is therefore concentrated in a relatively small number of places. In a world of increasing returns, there are therefore strong centripetal tendencies which may, depending on the impact of countervailing forces, increase development gaps (for a fuller discussion, see Dunford and Smith, 2001).

**Territorial divisions of labour**

The changing map of GDP per head is a reflection of the changing geography of the production of goods and services (see Figure 2), and the changing distribution of additional wealth. As
indicated earlier, the changing distribution of GDP reflects: (1) the changing distribution of income between wages and profits; (2) the changing regional profiles of employment by industry and occupation; and (3) the associated changing wage distribution. The fundamental aim of this paper is to suggest ways of explaining the changing geographical profiles of production, employment and distribution and, in this way, of explaining the changing map of relative development. The aim is, in other words, to present a framework for explaining what economic geographers often call the territorial division of labour which identifies who does what, where and when, what rewards they receive and in what relationships they stand to other people and economic activities in other places.

Figure 2 Territorial divisions of labour

In the geographical literature analyses of the territorial division of labour have tended to
concentrate either on conceptually informed classifications (Hymer, 1975; Lipietz, 1977; Massey, 1979) or on more abstract locational models. The merit of the former lies in the elaboration of historically-specific generalisations, whereas the advantage of the second approach is that it seeks to identify the factors that explain the character of economic landscapes.

The second approach has enjoyed a recent renaissance with the development of the new economic geography of the economists which seeks to explain the geographical concentration of economic activities and the impact of integration on the territorial distribution of economic activities. In what follows I shall dwell first on the latter. In doing so, I shall use the words concentration and agglomeration to refer to the shares of aggregate economic activity in certain localities, and specialisation to refer to the fact that within certain localities some activities are relatively strongly represented. In the next section I shall argue that the analytical ideas present in this literature can figure in a more comprehensive framework that also seeks to synthesise literature dealing with (1) corporate strategies and value chains (see Smith et al., 2002), (2) customer-supplier relations, production networks and clusters, and (3) and the regulation and governance of economic change. These three elements are represented by the three main boxes in the lower part of Figure 2, which are themselves derived from the distinction between the internal resources and strategy of an individual enterprise (what takes place within the boundaries of the firm which themselves shift as a result of mergers, acquisitions and alliances) and the external environment of the firm (the external resources and constraints embodied in the relation of the firm with other firms and with non-corporate governance systems).

In new economic geography models, the spatial organisation of production depends once again on the interplay of centripetal and centrifugal forces. Centripetal tendencies depend first on the interaction between scale economies, transport costs and the size and location of output and input markets (see Figure 3, in which the dots denote the distribution of the population, there are three goods and services denoted by the shaded triangles, squares and hexagons, and the scale of production is represented by the size of the shape). Essentially firms want to concentrate production in a few locations because of the scale economies at the plant level even if the distribution of population is relatively even (see Figure 3A). At the same time firms locate these plants near customers and suppliers because of transport costs. Access to customers and suppliers is best where other firms locate because of market-size/home market effects, though the strength of this centripetal force will vary with the significance and density of forward and backward linkages with other firms and industries (see Figure 3C). Concentration is however not simply a result of scale economies. If plant size is held constant, concentration can occur through changes in the number of plants. An increase in the number of plants will occur if there are a number of varieties of a particular good or service and if, in this situation, two conditions prevail. The first is that all varieties of differentiated goods and services are demanded. The second is that there are substitution effects as consumers choose between domestically-produced varieties and more expensive imported varieties, encouraging local production. In
large markets the share of imported varieties is smaller and so there is greater substitution in favour of domestically produced varieties.

A Scale economies lead to few production sites: how few depends on trade-off between scale economies and transport (iceberg effect) costs

![Diagram A]

B External economies lead to proximity

![Diagram B]

C Mobility reinforces agglomeration as does market access

![Diagram C]

D Endogenous growth/accumulation and competition differentially increase/decrease size of economic activities

![Diagram D]

Figure 3 Explaining economic landscapes
A second set of factors that encourages agglomeration is the development of a wide range of non-pecuniary (technological) external economies (non-market size effects) found in existing agglomerations (see Figure 3B). These technological externalities include: the existence of scientific, technological and knowledge spillovers, often as a result of personal interaction; the development of dense and sophisticated labour markets; and the fact that the presence of one producer has the effect of directly reducing the costs of other producers, for example, because of the ability of producers to share infrastructures and specialized providers of inputs.

A third factor that intervenes to shape and determine the process of agglomeration is the mobility of labour (see Figure 3C). As agglomerations emerge and as the geography of job opportunities is differentiated, people move to established agglomerations, adding further to the size of the market.

All of these factors (the interaction between scale economies, transport costs and the size and location of output and input markets; non-pecuniary external economies; and the mobility of labour) are connected with the ways in which concentration stems from the location of factors of production. To them should be added the dynamic effects of their interaction and the ways in which accumulation and growth reinforce the cumulative process (see Figure 3D). Countries, regions and cities with large markets invest more, further enlarging those markets, while investment in research and development and in people augment the assets and resources that underpin spatial concentration. Spatial concentration is in other words also a consequence of mechanisms of endogenous growth (Krugman, 1998).

The strength of this circular and cumulative agglomeration process will depend on the relative strength of these centripetal forces and a set of countervailing centrifugal forces. The latter stem from two sets of factors. The first is the relative immobility of agricultural activities and the agriculturally-dependent population which offer an offsetting incentive to locate establishments in agricultural areas where there are few local competitors. The second is the ordinary operation of factor markets: wages and rents are higher in the neighbourhood of existing centres of economic activity; high costs can encourage activities to locate in areas where costs are lower.

The importance of these models of cumulative regional economic development lies in their explanation of the geographical concentration of industries and of the impact of globalization and integration on industrial specialisation and location (see Figure 4). Most important are four sets of factors: scale economies measured perhaps by average firm size; the size and relative location of the market which depends in part on differences in expenditure structures; and the strength, intensity and geography of vertical linkages between firms which depend on the share of intermediate goods in production; and external economies. To these factors one can add the more traditional explanations in terms of factor intensities, reflecting the Heckscher-Ohlin view that places specialise in those activities that use intensively resources that are relatively abundant in that place and Ricardian views concerning the role of technologically-induced differences in productivity, although it is important to emphasise that an aim of the cumulative
causation models is precisely to explain the HISTORICAL CREATION of resource endowments.

(1) scale economies measured perhaps by average firm size

(2) the size and relative location of the market which depends in part on differences in expenditure structures

(3) the strength, intensity and geography of vertical linkages between firms which depend on the share of intermediate goods in production

(4) external economies

(5) factor intensities, reflecting the Heckscher-Ohlin view that places specialise in those activities that use intensively resources that are relatively abundant and Ricardian views concerning the role of differences in productivity

Figure 4 New economic geography

Together these factors suggest that market-led development may strengthen core-periphery relationships. On the one hand factor proportions views suggest that peripheral areas will specialise in agricultural production, raw material exports and relatively unskilled manufacturing, while core areas concentrate on activities associated with higher value-added per head. On the other scale economies, market size effects, externalities and mobility will reinforce the economic position of capital cities and established agglomerations. This second conclusion is a conclusion of initial investigations of the impact of economic integration on the relative strength of centrifugal and centripetal forces and on the degree of geographical concentration of industries. In the simplest of models, if transport costs are very high, economic activity will tend to be dispersed, because producers locate near their markets. If, conversely, transport costs are very low, economic activity will be dispersed, as distance is almost irrelevant to cost, so centripetal forces are absent. At intermediate levels of transport costs, however, centripetal forces outweigh centrifugal forces, and there is agglomeration. The implication is that there is U-shaped relationship between integration and agglomeration. Initial reductions in high trade and transport costs cause agglomeration and reinforce core-periphery structures. Once trade and transport costs are fairly low, further reductions cause dispersion. To put the point another way, reducing the costs of transactions between core and periphery regions gives peripheral producers better access to markets in the core, but also gives core producers better access to peripheral markets, and the net effect for peripheral producers may be positive or negative.

To this mechanism can be added several others. First, in weakly developed countries the fact
that manufacturing serves a small market leads to strong forward and backward linkages creating a polarised urban system as establishments concentrate in the few places with good access to domestically produced inputs and domestic markets. Greater economic integration may weaken local input-output linkages, permitting dispersion nationally by reducing the need for proximity to local suppliers for surviving industries.

Second, the mobility of labour will reinforce centripetal tendencies for the simple reason that, if workers can move from a poorer periphery to a richer core, the core grows and the periphery becomes more peripheral. Conversely, strong barriers to labour mobility limit migration as a centripetal force and restrict agglomeration, although, if migration does not operate to reduce wage differentials, the latter may act as a dispersion force in favour of convergence. Again the implications for, say, the transition economies in Europe are clear. A large scale movement of workers from the east to the more developed European economies may raise the full employment ceiling in the more developed parts of Europe, put downward pressure on wages in the current EU and diminish the wage advantage associated with direct investment in the transition economies. Aware of the social tensions that large-scale immigration might generate, however, the current EU states are anxious to restrict migration even after integration of the first group of ECE economies into the EU. Through reinforcing wage differentials, such measures may encourage a greater flow of wage-sensitive foreign direct investment to the transition economies.

An interesting further outcome of the development of the new models of location and development is the recognition that the geography of economic space is a result of a dialectical, historical process in which causes are consequences and consequences are causes (Dunford and Smith, 2000) and in which resource endowments are in many cases an endogenous consequence of an area's development path. As Krugman (1999) recognises ‘explanations of economic location are almost always historical, while history tends to have a “one damn thing after another” character. If you try to explain why a particular region is home to a particular industry, you usually end up explaining it largely by describing the sequence of events that caused the industry to be there’, as what happens at each stage is in part a result of what happened earlier. And yet, as Krugman concludes in relation to the New England case, ‘the one overwhelming lesson of New England's economic history is that, while each successive stage reflects forces that are obvious in retrospect, attempts at prediction nearly always get it completely wrong’.

To these somewhat abstract arguments it is important to add two further points. The first is that the models considered so far are all essentially concerned with the allocation of resources or with the long-run supply side determinants of growth and development. What these models assume is a smooth and automatic process of adjustment to economic shocks in which resources released as a result of structural change are quickly re-employed. The demand for labour depends, however, on the demand for the output workers produce and the real wage, while the demand for output depends on aggregate demand. A decline in aggregate demand can have a
powerful negative impact on output and therefore on employment, contributing to recessions which impede the re-employment of resources in new spheres of economic life.

**Basic and Non-Basic industries**

To examine the relationships between regional performance and the territorial division of labour it is helpful to draw on a long-established distinction between basic and non-basic industries. Basic industries are economic activities found in a locality that predominantly serve non-local markets and accordingly generate net exports, a net transfer of wages and, if the industry is locally controlled, profits to their home area. Non-basic industries are economic activities that predominantly serve local markets. Included amongst the latter are a large range of locally-provided or neighbourhood services financed either through government transfers or through the recycling of incomes in the local area. While there are no systematic recent studies that draw on this distinction, it does seem sensible to hypothesize that a large share of recent employment growth is of the non-basic kind (Perrons, 2002), and that this predominance of non-basic jobs is one of the reasons why there is such a strong correlation between the geography of recent employment growth and the distribution of the population.

Clearly the regional location of non-basic employment is closely related to the location of the markets or users that these economic activities serve. In the case of basic activities on the other hand location depends on the interaction of scale economies, market size and location, the strength, intensity and geography of vertical linkages; external economies; and the interaction of factor intensities and resource endowments.

**Explaining the dynamics of activities serving wider markets**

The trajectories of regional economies depend not just on the location of economic activities but also on their in situ evolution and the consequent changes in output, employment and income. To explain these trajectories it is therefore essential to examine the strategies of firms and the conditions that explain them.

The starting point of such an analysis is the profit strategies of firms and the productive strategies they put in place to implement their profit goals (see Figure 5). Enterprises develop strategies to deal, first, with the imperative that capital invested earn at least the average rate of profit and, second, with two uncertainties. The first is the uncertainty as to whether the goods and services produced will be sold (see Boyer and Freyssenet, 2000: 6-25) and in particular whether the costs an enterprise incurs will be recovered. There are several ways of dealing with this situation. The first is to identify goods and services for which there is effective demand and to acquire a competitive advantage in satisfying the desires of consumers through the price, quality, diversity, novelty and availability of their products. This type of competitive advantage can derive from the products themselves, the means of production used, the organisation of work or the wages paid to the workforce, though it can also derive from collective conditions of production (infrastructural conditions, taxation regimes, the quality of training systems,
innovation support, etc.) established in a particular area perhaps though public action, or through strategies that transfer the risk to others (which I shall consider later). The second is through the establishment of a mode of growth that makes the evolution of demand more predictable and to limit inter-firm or inter-worker competition. As this second path involving the creation of a more organised model of capitalism indicates, the evolution of enterprises depends not just on internal relationships within an enterprise but also on its external relationships with its wider environment (see Figure 1). These environmental aspects of change will be considered in the next two sections.

Figure 5 The productive model and its context Source: elaborated from Boyer and Freyssenet, 2001: 24

The second uncertainty is the uncertainty as to whether the workforce will produce goods and services of the right quality, in the right quantity and at the right time. Also in this case there are
two broad paths. The first is to establish relations of trust with wage earners exchanging autonomy and career progress for improvements in the performance of the enterprise. The second is to design machine systems and the organisation of work to channel and discipline the activity of the workforce in ways considered compatible with the profit strategy of the enterprise. Historically, it is this second path that has prevailed.

This profit strategy involving as it does a quest for satisfactory returns and a quest to keep abreast of the competition may also be construed as attempts to upgrade. Construing it in this way enables a connection to be established with the value chain literature, which itself is a development of the literature on commodity chains and input-output structures. Similarly categories applied in the new economic geography literature can be recast in this framework which has the advantage of examining ‘what’ questions concerning profit strategies of firms as well as ‘where’ and ‘when’ questions. Also there are close relationships with other traditions including Schumpeterian notions of innovation which are far wider in scope than recent emphases on process and product innovation suggest.5

Attempts to upgrade involve attempts to exploit specific sources of profit and can be classified into four types (identified as 1A and B, 2A and B, 3 and 4 in Figure 2).

The first is improvements in productive organisation, new technologies and new methods for handling material and information flows that reduce costs relative to prices and increase market share. One way of achieving such an advantage is through the realisation of ECONOMIES OF SCALE involving the spreading of fixed costs over a larger volume of output to reduce unit costs. (In this way a link is established with the new economic geography models discussed in an earlier section). Another is productive FLEXIBILITY which permits a rapid adjustment of costs to changes in demand. Yet another is through programmes of continuous improvement and PERMANENT COST REDUCTION perhaps including the transfer of certain operations to areas where wage costs are lower or to search out new cheaper sources of energy, materials and components. (Again this consideration is related to the factor cost arguments embodied in the Heckscher-Ohlin models of trade and location).

The second is the introduction of NEW COMMERCIALLY RELEVANT PRODUCTS, increases in the VARIETY of products to capture new segments of market demand, improvements in the QUALITY or design of existing products, and entering new markets which permit short- or long-term increases in the prices the products command and/or sales expansion, increases market share and increases in utilisation of existing capacity.5 (New economic geography models highlight the impact of the size, diversity and location of these markets for the location of the activities that provide them).

The third is changes in the relative weight of different functional roles within the sector or value added chain to increase the share of functions commanding higher returns (Schmitz and Humphrey, 2002). Examples include concentrating on knowledge intensive activities or on marketing and distribution in the same value chain. or concentrating on what are conceived as
core competences and working with specialist suppliers of functions considered non-core.

To these adaptations can be added a fourth involving disinvestment and a transfer of resources to new lines of activity which should result in increased output per head for the economic system as a whole. This fourth method involves a switch of resources from one value chain to another. (NOKIA which from 1865 until 1960 was a manufacturer of paper, rubber and cables is an example).

An increase in all these cases implies a movement of resources into activities that are associated with higher value added per unit of capital invested (equal to value added per person employed divided by the capital invested per person employed). And in each case the change may occur in situ or may also involve locational shifts as operations are opened, closed, expanded or contracted. Market-seeking investments of the type made by western companies in Eastern and Central Europe (ECE) were driven for example by a desire to expand sales by acquiring distribution and production capabilities in ECE but were also driven by a desire to increase the utilization of existing capacity.

These profit and upgrading strategies can be connected to the literature on convergence and the new economic geography. For example, strategies of technology transfer that raise relative productivity in less developed areas contribute to catch-up, though profits repatriation will affect the territorial distribution of income from inward investment. Conversely the relative upgrading of core economies has centripetal effects, as can measures that put in place transport improvements or widen market access and permit the realisation of scale economies from fewer production locations.

In devising a profit strategy no firm ignores any of these sources of profit or paths to upgrading. At any point in time, however, not all and not all combinations are not equally feasible. Choices depend on market and wider social conditions, and vary over the course of time. To take just the case of the motor vehicle sector at least six different historical combinations can be identified: a quality strategy; diversity and flexibility; volume and diversity; permanent cost reduction; and innovation and flexibility (Boyer and Freyssenet, 2000: 18).

After identifying profit strategies and their implications for in situ and locational change, connections can be made with regional performance. At a regional scale, for example, one could define upgrading as an increase in the wealth and employment created in a particular part of Europe, or perhaps in the wealth appropriated by the inhabitants of a certain area relative to others. Nonetheless there remains an important distinction between the two approaches as the upgrading of an individual establishment may have important direct and indirect effects on other parts of the regional economy. Examples include displacement effects, increased/decreased orders for local suppliers and competition for workers.

The implementation of a profit or upgrading strategy implies the existence of appropriate and coherent means (a productive model). To take the motor vehicle sector as an example, a volume
and diversity strategy requires multi-purpose machines and multi-skilled workers, while a volume strategy requires standardised processes of production and unskilled workers. In practice the means at an enterprise's disposition are frequently a result of the specific demands of successive choices and may not prove mutually coherent.

Boyer and Freyssenet (2000) suggest that a productive model involves three elements. The first is a product strategy concerning the identification of markets and market segments, target sales volumes, the range and design of products, the quality of products and planned margins. The second is the productive strategy which deals with the means and methods chosen to achieve the product strategy. The productive strategy includes decisions about the organisation of product design, manufacturing and marketing, the choices of production techniques, the spatial organisation of activities, sourcing strategies and management criteria. The third is the human relations strategy covering systems of recruitment, job classifications, wage determination, and modes of representation of worker interests.

Assembling the material and intellectual means also entails the establishment of a compromise (a governance strategy) with all of the major actors. Of these actors some are internal (owners, managers, workers and unions plus new staff recruited from outside to support changes of direction) while others are external (suppliers, joint venture partners, companies acquired, etc.).

**Firms and production networks**

In the last section I argued that changes in the territorial division of labour can be understood in part in the light of (1) the profit and upgrading strategies of individual enterprises, and (2) the appropriateness and coherence of the resources the enterprise can mobilise and the governance compromise it seeks to put in place in order to implement its chosen profit strategy. Conversely, of course, enterprises can founder if the profit strategy is misjudged, or if the means are not appropriate and coherent, or if a suitable governance strategy proves elusive.

Attention was concentrated on the internal determinants of the growth of firm. Growth was seen to depend on the capacity of a firm to earn profits and compete for market share. This capacity was itself seen to depend on its internal resources (its inventiveness, material resources, economies of scale and scope, accumulated knowledge, skill, competences and experience) and on its organizational capacity and collective effort which shape its ability to see and take advantage of its product development and marketing, production and human resource possibilities.

As indicated in the last section, companies are never self-sufficient. Chandler's (1997) 'modern corporation' realized economies of scale and scope by controlling value chains through the vertical integration of suppliers into the multidivisional enterprise. The viability of a high degree of internalisation and vertical integration depended however on the size and stability of markets. In other words it depended upon general conditions relating to the model of growth or regime of accumulation. Accumulation and growth depended therefore not just on the internal
structures of these corporations but also on interactions with the macroeconomic environment. In addition they depended on interactions with other enterprises that influenced and augmented the resources and capabilities of the firm. Of these external relations and interactions, the externalities of the new economic geography models are a subset. In the contemporary industrial order the acquisition and internal absorption of external resources and knowledge, the cost-reducing external economies and the risk reduction derived from sharing and networking are perhaps especially important due to the tendency for enterprises to concentrate on core competences and give greater weight to external economies derived from inter-firm divisions of labour and network relations with other actors. (These relations include of course relations with other domestic and/or foreign suppliers or customers in their value chain, and with market organisations, universities, political institutions, research institutes and market research and consultancy groups).

At the end of the day this external environment is made up of other actors seeking to mobilise their constantly evolving resource endowments to pursue their own development strategies. As suggested in the last paragraph, these actors and relationships can be divided into two groups: the set of inter-firm and customer-supplier relations on the one hand, to be considered in this section, and relations with the wider social environment and growth model on the other, to be considered in the next.

Analyses of inter-firm relations are often couched in terms of market relations. Aglietta and Brender (1984: 31-53) have argued that standard economic representations of market exchange are questionable for several reasons. In the first place markets are characterised by relatively stable relations of exchange, communication and distribution amongst active economic agents and in particular amongst functionally distinct financiers, producers, distributors and workers (with different sources of income: interest, profits, dealers' margins and wages). Second, markets are generally characterised by a relative stability of prices. Third, market exchanges of money for goods and services and goods and services for money are relations of complementarity as when a retailer is able to offer a producer an outlet for his/her products. Fourth, market exchange is also a relation of conflict over the distribution of value added. Indeed, the prices at which market transactions take place are not so much a vehicle for the communication of information as an expression of power relations (and of related information asymmetries) and a determinant of the distribution of value added between a buyer and a seller.

The importance of this approach is that it replaces the idea that prices are simply a means of communicating information about relative scarcities and a device for ensuring an efficient allocation of resources with an emphasis on relative economic power in buyer-seller relationships and the social determination of the worth of different activities (in a market system what someone is worth is what they are paid) and of command over social wealth (what someone is paid determines their command over the results of the work of others).

Inter-firm relations are also shaped (due to its impact on profit strategies) by the management of
has emphasised how in response to increased uncertainty enterprises are rationalizing capacities
and hedging for variability of demand through the use of shared suppliers in networks.
Networks comprised of links between specialised suppliers (providing non-standardised
intermediate goods) and several manufacturers allow a pooling of demand uncertainty
(associated with idiosyncratic shocks) and generate economies of sharing costly productive
capacity. In this situation the presence of absence of network externalities (depending on
innovation, link structures and link costs) will influence cost positions and the relative
competitiveness of locations.

Inter-firm production and buyer-supplier networks exist at a range of scales, from industrial
districts, to national economies, to continental trade blocs and the global system, involve a
range of different relationships, and assume a range of forms. Humphrey and Schmitz (2002)
argue that one can distinguish market (arm's length), network and quasi-hierarchical
relationships. Berger, Kurz, Sturgeon, Voskamp and Wittke (2001) identify three models. The
first model is of relational production networks. Associated with 'industrial districts' and the
flexible specialisation model, these networks are characterised by dense networks of specialised
small and medium sized enterprises, close social and spatial proximity and long-term inter-firm
contractual relationships. In these industrial districts inter-firm relations are governed by modes
of social interaction involving family relations, trust, reciprocity, reputation and peer pressure.
These social relationships reduce the threat of opportunistic behaviour and offer an alternative
the internal hierarchy of the integrated firm and simple arms-length trade relations. The
existence of a dense mosaic of small firms permits the manufacture of small volumes, short lead
times, rapid delivery and fast adaptations to market conditions. In a world of small firms
however there are limits to the realisation of scale economies, sales may be insufficient to
warrant sizeable research and development initiatives and the security of supplies may be
jeopardised by the high turnover of firms (Dunford et al, 1993). Other research shows that the
survival chances of firms located in clusters increases for firms operating in complementary
industries but decreases for firms in the same industry (Staber, 2001).

The second model is of captive production networks (associated with lean production systems)
where a dominant lead firm co-ordinates tiers of largely captive suppliers. These systems are
characterised by near-vertical integration. In them the lead firms may have a financial stake in
their suppliers, may play an active part in upgrading the suppliers technologies and quality
control systems, and may operate 'just-in-time' deliveries. The disadvantages are ones of
dependence and rigidity due to the the cost and difficulty of breaking buyer-supplier
relationships on the one hand and the weakness of external information flows and linkages on
the other.

The third model comprises turn-key production networks (Sturgeon, 2000) associated with the
'virtual corporation' model. This model arises when manufacturers acquire specialised inputs
from specialised suppliers who sell to several manufacturers or design products that are made by contract manufacturers. Turn-key networks are an alternative to vertical integration where Original Equipment Manufacturers (OEMs) make their own specialised inputs, and are distinguished from captive networks by the merchant character of turn-key suppliers. The word merchant denotes the market (cost-sensitive, short-term, and fluid) character of customer-supplier relations made possible by the existence of a large and diverse pool of customers. Turn-key suppliers provide a wide range of services including component and module design, the purchase or manufacture of components, the manufacture and assembly of subassemblies or final products, packaging, distribution and after-sales service. Often they specialise in processes, components and services that have applications in a range of sectors, products and services (across different end-markets, end-products and end-users). An advantage for OEMs is that they can switch partners and can rapidly connect and disconnect from suppliers in different places. Through the use of what are in effect shared facilities the OEMs do not own, investment in own production capacities is reduced. This type of development of shared facilities is an aspect of a hedging strategy for dealing with the variability of demand. Another advantage is that the sharing of suppliers enables higher levels of capacity utilisation and greater efficiency. What are advantages for OEMs are potential disadvantages for contract manufacturers. If market conditions deteriorate contract manufacturers may find themselves with excess capacities, stock whose ownership is a subject of disagreement and limited visibility. The disadvantages for the OEMs are different. The first is the risk that if suppliers gain in financial strength, and increase their competence in product and process development, and if OEMs become over-reliant on them, suppliers may find themselves able to alter the terms of trade and division of value added in their favour or may even start to offer competing end-products. The second lies in the risk of a leakage of market-sensitive information to rivals.

The identification of these models of inter-firm production networks along with distinctions in the commodity chain literature between supplier-driven and buyer-driven chains are indicative of changes in the characteristics of the actors and of the ways in which these actors compete for shares in, and control of, value chains. These changes are closely related to contemporary features of the wider economic environment. Market volatility, short innovation cycles and high R&D costs are, for example an important shaper of changes in production networks, as are the changing technological and organisational capabilities of companies. Computer simulation and digital codification of design specifications make it possible, for example, to outsource increasingly complex functions once performed in-house (Berger, Kurz, Sturgeon, Voskamp and Wittke, 2001). At the same time the emergence of global suppliers can permit companies to produce in new parts of the world without having to rely solely on their own internal capabilities or on the existing capabilities of the areas into which they move. Instead they can rely on specialised suppliers.
Modes of growth

The evolution of enterprises and of the territorial division of labour depends finally on a range of social and cultural resources that enterprises do not create, and on the overall model of growth.

The question of the role of social and cultural conditions connects up with the idea that there are national variants of capitalism. A recent example of literature in this genre is 'Capitalism against capitalism' (Albert, 1993) in which the author distinguished 'neo-American' and 'Rhine' models of capitalism, sought to show that the social foundations of capitalism played a major part in determining comparative economic performance and argued in favour of the economic and social superiority of the Rhine model. More generally, the specialisation and the specific trajectories of different national economies are frequently seen as depending on nationally-distinct institutional configurations, with distinctive sets of rules and institutions regulating the industrial relations system, the educational and training system, the relations between companies, the credit and financial system and state-industry relations embracing macroeconomic, industrial, competition, innovation and spatial policies (Streeck, 1989; Dunford, 1989; ). These institutional systems are seen as falling into a range of types, of which some are identified in the varieties of capitalism literature.

An important question that arises is whether integration and globalization are leading to a convergence in institutional structures and organisational models towards common market-driven models. At present there are different answers. On the one side there are two views. The first points to the increase in the degree of interdependence and interaction of national economies, and argues that there is a movement of regulation from the national to the international level that is dissolving the differences between national and regional systems. The second suggests that models of industrial organization are transferable from one political and cultural context to another and that there is a single set of 'best practices' dictated the global market. On the other side it is argued that the adaptation of imported models to specific national contexts results in the emergence of new syntheses, that there is still space for areas to specialise in activities that reflect their institutional advantages and that complementary resources not provided by their own institutional settings internationally. The 'German model' might survive for example if those parts of the value chain involving low-skilled and low-paid manufacturing jobs were integrated into the extra-German part of integrated production networks, while industrial activities suited to German institutional conditions would survive in Germany itself (Berger, Kurz, Sturgeon, Voskamp and Wittke, 2001).

The specific pathways to development will also depend in important ways on the wider institutional context and in particular on the framework of rules regulating trade and competition. New trade rules, economic liberalization and the collapse of the Communism have altered the conditions of access to foreign markets and investment in overseas economies. The creation of regional entities like the European Union have transformed access to markets.
Institutional configurations also have an impact at the local level, as do the nature of local cultures, political systems and institutional performance (see Figure 5).

Figure 5 Explaining development (adapted from Hayami, 1997:11)

Also relevant, finally, are modes of growth themselves characterised by the relative importance of different sources of income and the ways in which income is distributed (Boyer and Freyssenet, 2000: 10-17). As the mode of growth varies, so do the risks associated with the evolution of the markets for goods and for labour differ, altering the conditions in which profit strategies unfold. Growth can depend to different extents, for example, on investment, exports or domestic consumption. In the first case a large share of income is invested in infrastructures or in capital goods. The dominance of domestic demand implies the distribution of a large share of national income in ways that increase the purchasing power of consumers. A leading role for exports implies that economic performance depends on the dynamism of international markets and the competitiveness on global markets of domestic output. Similarly income distribution plays an important role. Boyer and Freyssenet (2000: 10-17) distinguish: competitive distribution which depends on power relations and the scope for financial, commercial and real estate gains; rationed distribution characteristic of wartime economies, years of reconstruction or Soviet-type economies with high rates of investment; moderately hierarchical co-ordinated/managed distribution; and unequal distribution in societies in which small oligarchies
appropriate a large share of national income. The combination of sources of income and income
distribution give rise to modes of growth which determine the volume and structure of the
demand for goods and labour and the underlying contradictions.

Conclusions

Contemporary trends towards greater economic integration on the one hand and globalization
are leading towards a reshaping of the social and territorial division of labour. The theoretical
literature suggests that the outcome will depend on the relative weight of centripetal forces
related to scale economies and market access on the one hand and and centrifugal forces related
to the relocation of factor-cost sensitive activities in low cost peripheral areas on the other.

After outlining some of these theoretical ideas, in this paper I have developed several further
arguments that involve a synthesis and development of a number of different perspectives (see
also Perrons, 2001a). The first is that the evolution of the territorial division of labour depends
however not just on where activities are located but also on the answers to what and when
questions which implies that analyses of location should be integrated into a more general
explanation of the evolution of capitalist enterprises. Second, these more general explanations
should involve an approach which starts with the profit and upgrading strategies of individual
enterprises yet integrates this approach with analyses of their changing relations with their
external environment. Third, the conditions in which development strategies unfold are, as
cumulative causation approaches make clear, the result of previous phases of development.

This framework offers ways of interpreting some of the major changes that characterise the
contemporary evolution of the social and territorial division of labour. To reduce their exposure
to risk, for example, it has been argued that formerly vertically integrated corporations are
concentrating on core competences and acquiring goods and services they no longer produce
from specialist suppliers. Some OEMs concentrate on research, design and distribution and
entrust manufacturing operations to specialised operations. Often of course these specialised
suppliers assume a disproportionate share of risk and are subject to strong downward pressure
on costs. At the same time there are processes of relocation driven by a range of factors. On the
one hand management, research, development, design, marketing and advanced producer
services requiring highly skilled white collar workers are concentrated in core countries, while
less skilled manufacturing is located in less developed areas and countries where wage costs in
particular are small. In the cores alongside these export oriented activities there emerges a raft
of personal services associated with low incomes and contributing to strong intra-regional
inequality. The delocalisation of unskilled jobs sometimes creates parallel structures that enable
companies to secure concessions from employees and governments in high cost areas and to
erode existing social compromises. Most often it results in the replacement of operations in
cores by similar work in peripheries, creating new complementarities between core and
peripheral locations. Sometimes there are also movements of technology and skill intensive
manufacturing operations to peripheral areas not just to supply local markets but also to serve
the cores suggesting that there may be a more wholesale relocation of manufacturing to peripheral areas. What results is the location of different parts of value chains in different places in accordance with variations in costs (including transport and logistic costs), skills, the research environment and services different locations, while the consequent weaving of different places into transnational production systems linked by global communications, transport and logistic systems creates new sets of pressure for change on, for example, relative wages as the relocation of jobs shifts the map of demand and supply for labour of different kinds.

At a regional scale these dual processes of reorganization and relocation of economic activities are leading to radical shifts in the types of enterprise and areas of activity found in different places and to different regional occupational and employment structures, skill mixes and wage profiles, which themselves are helping reshape the map of relative regional economic development. At the same time every enterprise and every regional economy is constantly evolving. Not all are however at different stages of the same development path, as is implied for example in some of the simple upgrading literature. To give an example from clothing manufacturers can lose their core design functions as well as evolve in the direction of producing their own brands. For this reason the more developed parts of Europe do not afford a picture of the future of the less developed parts of the continent.

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Kranton and Minehart (2000b) Networks versus vertical integration


Notes

1 More specifically, this paper arises out of a research project funded by the UK Economic and Social Research Council under its ‘One Europe or Several?’ research programme (award number L213 25 2028) whose aim is to examine trends in regional economic performance in a new Europe created as a result of the collapse of Communism, the transition of a series of economies in Eastern and Central Europe (ECE) towards capitalism, the deepening of European Union (EU) integration and the steps taken to enlarge further the EU to embrace a series of Mediterranean and ECE countries.

2 For Quah at the centre of the new age is the valorisation of ideas and concepts. Ideas are exclusive only for as long as those who develop them keep them to themselves. Once ideas are divulged, anyone can use them. Citing Jefferson, Quah argues that ideas are not in their nature a subject of property, although in practice the originators of ideas seek to establish intellectual property rights over them. Of course ideas have always underpinned human progress. What is distinct about the new age is the extent to which ideas do not simply underlie technical progress but are themselves commodities. An example is a computer operating system. In this new world it is the nature of goods that has changed. Immaterial goods are distinct in that they do not have to be transferred from one person to another but are simply replicated. Trade therefore involves the replication or copying of goods. In some cases equipment is required to use these goods but the upfront costs are small. There are also strong network externalities. And the marginal cost is often close to zero. The cost of broadcasting to 20,000 is the same as the cost of a broadcast to a handful of people. It is this fact that the marginal costs of supplying immaterial goods is close to zero that is one part of the explanation of the rise of superstar economies. Alongside this supply side factor there is a...
second demand-side factor. On the one hand the market for many immaterial goods is extremely large and often global in character (lifting the constraints on the division of labour posed by the extent of the market). On the other consumers often prefer the famous to those who are less famous but whose talents, skills and abilities may differ only marginally from the most famous. In this situation there is a very high level of demand for the goods and services superstars offer, creating very high incomes, a world of winners and losers and wide inequalities. What is more, adds Quah, in many cases winners are made and not born, hence permitting the trajectories identified in the chart. These mechanisms clearly have an impact on territorial development as immaterial goods and services are produced somewhere just as the people whose incomes are derived from them must live and work somewhere.

3 In capitalist economies there is freedom to buy and sell not just goods and services but also the resources required to produce them. As a result, the activities involved in producing goods and services are transformed into wage labour, while the means to produce them are transformed into capital.

4 A second imperative confronts wage earners: the requirement that they acquire the skills and qualities required to make them employable and must accept occupational and geographical mobility.

5 As Galvão (1998) showed, Schumpeter employed two concepts of innovation. In *Capitalism, Socialism and Democracy* published in 1942 Schumpeter was concerned with social evolution and emphasised the importance of technology itself and of technical change. In *Economic Development Theory* written in 1912, however, Schumpeter had developed a wider microeconomic concept of innovation which included the five following cases: (1) the introduction of a new good or a new quality of a known good; (2) the introduction of a method of production or a mode of commercial management new to the sector; (3) the opening up of a new market whether or not it previously existed; (4) the conquest of a new source of raw materials or semi-manufactured goods; (5) the establishment of a new organizational model in any industry, including the creation or dismantling of a monopoly position. All of these cases are included in the concept of upgrading used in this paper.

6 Acquisition of the capacity of potential competitors in new market areas is another aspect of strategies that fall under this general heading. Examples include the participation of core country enterprises in training programmes in Eastern and Central Europe to evaluate potential competitors and their markets and decide whether to acquire potential rivals.

7 Consider the inability of ENICHEM to meet the multiple demands placed on it in the 1980s and 1990s (Dunford and Greco, 2002).

8 As investment in capacity and the creation of links are costly, there are trade-offs between investing in supply capacity, constructing links and pooling risk. Sellers only invest in assets if they expect sufficient demand to cover investment costs. Buyers only establish links if they expect sellers to invest. There is therefore a possibility that some sellers will not invest because they do not have links to a sufficiently large number of buyers, and that buyers will not create links to these sellers because they do not invest. Kranton and Minehart (2000a: 24)
suggest that empirical evidence suggests that buyers and sellers can in practice establish efficient network structures, citing, for example, a 1989 study by Lorenz of French engineering enterprises which showed that buyers restrict their orders to 10 to 15 per cent of a supplier’s sales on the grounds that anything less than 10 per cent would be 'too insignificant a position in the subcontractor’s order book to warrant the desired consideration' and anything more than 15 per cent would lead to the risk that uncertainty in the buyer’s market will have a 'damaging effect on the subcontractor’s financial position'.