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Gert-Jan Hospers\*

# Beyond the Blue Banana?

## Structural Change in Europe's Geo-Economy

*For centuries, the "Blue Banana" – a banana-shaped metropolitan axis running from London to Milan – has been Europe's breeding place for innovation and growth. Recently, however, the "Sunbelt" from Milan to Valencia and the "Yellow Banana" from Paris to Warsaw have been identified as future European growth poles beside or even beyond the Blue Banana. How likely it is that the structure of Europe's economic-geographical system will change in the next decades?*

In order to explore the likelihood of changes in the structure of Europe's geo-economy we shall develop a tentative framework ("vision") of spatial structural change arguing that areas with sectoral and institutional diversity provide the flexibility needed to absorb new techno-economic developments and to develop "new combinations". Applied to the European context, the framework suggests that despite its industrial tradition the Blue Banana still faces the most favourable future in Europe's service economy. Due to its diversified structure this area rather than the Sunbelt and the Yellow Banana may have the best starting-position to grow in the next decades. We therefore believe that a localised European policy of "regional realism" ultimately may help the most in bringing about a less unbalanced growth of Europe's geo-economy.

Paradoxically, the recent introduction of the euro as a single European currency might be more interesting for regional rather than monetary economists. The fact is that member states of the EMU have lost their traditional monetary sovereignty; thus, they can no longer use exchange rates to influence international competitiveness. Instead, nations and regions are increasingly thrown upon the particularities of their geo-economic structure to make a difference in the single market.<sup>1</sup> Studying the long-term consequenc-

es of the euro therefore requires a closer inspection of Europe's economic landscape. What, then, does a recent map tell us about the economic geography of this continent? Although Europe seems to be unified only by its diversity, we can still detect a more or less homogeneous economic zone, running from London over the Benelux and the Rhine area towards Milan. This axis, usually called the "Blue Banana", has often been identified as the area that traditionally has shown the greatest development potential in Europe's geo-economy.<sup>2</sup> Recently, however, commentators have suggested that this long-established "stylised fact" of European development might be subject to structural change<sup>3</sup> Some suppose that the Blue Banana eventually must give way to the "Sunbelt" an arch-shaped axis in the southern part of Europe along the Mediterranean coast from Milan to Valencia. Others expect the rise of a "Yellow Banana" stretching from Paris to Warsaw or even further into eastern Europe. Such reflections on alleged European growth areas are fascinating, but they are not theory-based. In any case, these speculations do not

<sup>1</sup> Cf. P. Cooke (ed.): *The Rise of the Rustbelt*, London 1995, UCL Press; M. Storper, A.J. Scott: *The wealth of regions: market forces and policy imperatives in local and global context*, in: *Futures*, Vol. 27, 1995, pp. 505-526.

<sup>2</sup> See for example RECLUS: *Les Villes Européennes: Rapport pour la DATAR*, Montpellier 1989, RECLUS; L. Schätzl (ed.): *Wirtschaftsgeographie der Europäischen Gemeinschaft*, Stuttgart 1993, Uni-TB; D. Delamaide: *The New Super Regions of Europe*, New York 1994, Dutton.

<sup>3</sup> Consider for instance P. Kooij, P. Pellenbarg (eds.): *Regional Capitals: Past, Present, Prospects*, Assen 1994, Van Gorcum; P. Dicken: *Global Shift: Transforming the World Economy*, London 1998, Chapman; F. Erzner (ed.): *Wirtschaftsgeographie*, Cornelsen 1999, Berlin.

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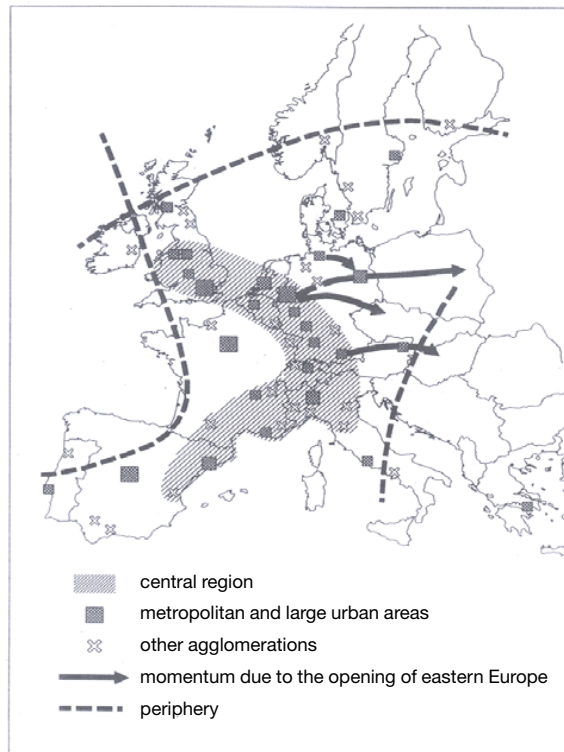
indicate what theoretical mechanisms might cause the stability and dynamics of Europe's geo-economy.

Against this background, the present paper is a first step in the exploration of structural change in Europe's economic geography. How likely is it that the contemporary structure of Europe's geographical system will change in the next decades? What are the main factors behind the long-term evolution of the European economy and what is the possible impact of these factors on Europe's economic future? Obviously, these Grand Questions, as Schumpeter would call them, cannot be answered in a paper like this one – if at all. As a matter of fact, it is impossible to give firm answers here, since tomorrow's geo-economic developments are always surrounded by uncertainty. Therefore, we intend only to search for the main mechanisms at stake, thus hoping to contribute modestly to the development of a Schumpeterian "vision" of Europe's changing economic geography.<sup>4</sup> For that purpose, the remainder of the paper is organised as follows. To start with, the "Bananas" that have been identified as core areas in the European economy are discussed. After that, we deal briefly with insights from Schumpeterian economics, structural change theory and agglomeration theory that might be useful to explore spatial structural change. Subsequently, these theoretical insights are integrated into a preliminary framework that is used to assess the development potentials of Europe's Bananas. We end the paper with some implications of our analysis for European regional policy.

### Beyond the Blue Banana?

In 1989 RECLUS, a group of French geographers managed by Roger Brunet, presented a study on the development chances of urban areas in the European economy.<sup>5</sup> The study was meant as a warning signal to the French government: since France was not connected to the central growth axis from London to Milan, the country might fail to grasp the benefits from the European single market (Figure 1). It was the press that termed this core zone in Europe the "Blue Banana", thus referring to its shape and the colouring that was used by the RECLUS mapmakers. Before, historians such as Braudel, Rokan and Tilly had already identified this area as the backbone of European economic development.<sup>6</sup> According to them, the Blue Banana dated back to medieval or even Roman times: it reflected centuries-old trade routes (the Alpine-Rhine axis) and the borders of Roman-Catholic and German-Protestant Europe. Moreover, it was along this belt that the Industrial Revolution spread all over

**Figure 1**  
**The Blue Banana and Beyond**



Source: L. Schätzl (ed.): *Wirtschaftsgeographie der Europäischen Gemeinschaft*, Stuttgart 1993; Uni-TB.

Europe after 1800. If anything, the Blue Banana shows how long-term structures may continue to be important to the present day.

The Blue Banana still differs from other European locations in both demographic, economic, infrastructural and cultural-educational aspects.<sup>7</sup> First of all, the Blue Banana is densely populated and highly urbanised. The area comprises many large or medium-sized cities (e.g. London, Amsterdam, Brussels, Dortmund, Frankfurt, Basle, Zurich and Milan), in which more than 40 % of the EU population (1996) lives.<sup>8</sup> Thus, it has been described as the "city belt", the "central

<sup>4</sup> According to Schumpeter the formulation of such a vision before developing a theory still makes sense as it is "... a preanalytical cognitive act that supplies the raw material for the analytical effort" (p. 54). See J. A. Schumpeter: *History of Economic Analysis*, London 1954, Oxford University Press.

<sup>5</sup> RECLUS, op.cit.; D. Delamaide, op.cit.

<sup>6</sup> M. Heidenreich: *The changing system of European cities and regions*, in: *European Planning Studies*, Vol. 6, 1998, pp. 315-332.

<sup>7</sup> Cf. L. Schätzl (ed.), op.cit.; F. Erzner (ed.), op.cit.; J.H.J. van Dinteren, J.A.M. Meuwissen: *Business services in the core-area of the European Union*, in: *Tijdschrift voor Economische en Sociale Geografie*, Vol. 85, 1994, pp. 366-370.

<sup>8</sup> Cf. F. Erzner (ed.), op.cit.

European urban region" or even the "central megapolis". Moreover, statistics show that the regions within the Blue Banana have higher per capita incomes and lower employment rates than the rest of Europe.<sup>9</sup> Besides, this zone contains large industrial concentrations (for example the West Midlands and the Ruhr area) as well as strongly developed service centres, particularly in the fields of business services, banking and public administration. Next, the Blue Banana has a well-developed physical and telecommunications infrastructure as well as dense traffic networks. Finally, within Europe this area attracts attention because of its relatively large supply of cultural and educational facilities. Nowhere in Europe can one visit as many exhibitions, museums and conferences as in the Blue Banana, and most European universities and colleges are also located there.

Since the nineties more and more analysts and consultants have argued that the Blue Banana might gradually lose its dominant position in Europe. In their view, there are other growth areas in the making (see Figure 1). In particular two zones have been identified as future growth poles in the European economy: the Sunbelt in the southern part of Europe and the Yellow Banana in the East.<sup>10</sup> The "Sunbelt", running along the Mediterranean coast from Milan to Valencia, even has been labelled the "Nord du Sud", i.e. the North of the South. This arch-shaped belt with cities such as Nice, Marseille and Barcelona is said to be emerging on the basis of high-tech and service activities combined with a qualified work force and a pleasant working and living climate. Alternatively, the reunification of west and east Germany and the rapidly coming enlargement of the European Union with countries from central and eastern Europe have provoked some authors to expect the rise of a so-called "Yellow Banana" from Paris via Cologne and Berlin to Warsaw. According to Kooij and Pellenbarg, the Yellow Banana may even stretch further eastward to include the Baltic region and result in a revival of the former Hanseatic cities such as Rostock and Riga.<sup>11</sup> If anything, these speculations suggest that we should look beyond the Blue Banana in studying Europe's development potentials. Paradoxically, then, just when Europe seems to be uniting, its long-established economic map might start falling apart.

#### **Building Blocks of Regional Structural Change**

Regional economics today does not yet offer a comprehensive theory that could explain spatial structural change in Europe. Obviously, the neoclassical approach has shortcomings regarding this issue. In

orthodox models structural change in time and space is seen as a temporary out-of-equilibrium process that only prevents the market from reaching an optimal allocation of factors and commodities in the long run. Having reviewed alternative economic theories we think that in particular three of them might help us to trace the main mechanisms behind the dynamics in the economic-geographical system: Schumpeterian economics, structural change theory and agglomeration theory. Of course, we cannot discuss these theories at length. Instead, the focus is on those very insights that constitute the building blocks of our tentative framework of regional structural change.

#### **Schumpeterian Economics**

Since Veblen and Marx we know that technological change and institutions are the main drivers of capitalist evolution. It was the Austrian-American economist Joseph Schumpeter, however, who developed a theory on technology, institutions and economic development that really succeeded in rivalling neoclassical equilibrium theory.<sup>12</sup> Schumpeter's thinking evolved over his lifetime. In his early work "The Theory of Economic Development" Schumpeter considers the entrepreneur developing innovations ("new combinations") as the engine that keeps the capitalist system running (Schumpeter Mark I). Innovations bring about a "perennial gale of creative destruction" through which the old economic structure is destroyed and a new one is created. In his later work "Capitalism, Socialism and Democracy" Schumpeter integrates this entrepreneurial innovation theory with institutional elements (Schumpeter Mark II). Here, he argues that in the long term capitalism cannot survive for institutional rather than economic reasons. Due to growing welfare in society the need for capitalist institutions like entrepreneurship will gradually disappear. Furthermore, the rise of big business ("monopolisation") and an increasingly hostile intellectual attitude towards capitalist society will undermine the economic system's fundamentals more and more. As a result of this institutional change, Schumpeter expects only a few huge corporations to remain that jointly run the economy in an efficient but mechanical manner ("routinisation

<sup>9</sup> Cf. M. Heidenreich, op.cit.

<sup>10</sup> See P. Kooij, P. Pellenbarg (eds.), op.cit.; P. Dicken, op.cit.; F. Erzner (ed.), op.cit.

<sup>11</sup> See P. Kooij, P. Pellenbarg (eds.), op.cit.

<sup>12</sup> For Schumpeter Mark I see J.A. Schumpeter: *The Theory of Economic Development*, London 1934 [1980], Oxford University Press. In J.A. Schumpeter: *Capitalism, Socialism and Democracy*, New York 1942 [1976], George Allen and Unwin we meet Schumpeter Mark II.

of innovation"). Thus, for Schumpeter, it is the very success of capitalism that ultimately will lead to its demise.

In the eighties, when scientific interest in long-term economic evolution was growing, Schumpeterian economics experienced a revival.<sup>13</sup> Disappointed by the lack of explanatory power of neoclassical economic convergence theory Romer, for example, called for models that would internalise technological change. Before, Nelson and Winter had already taken up Schumpeter's view. They contributed to the development of "evolutionary economics" that explicitly attempts to account for the dynamic and institutional aspects of economic reality. Among other things, the evolutionary approach has led to the notion of "national innovation systems" that stresses the importance of interactions between economic actors and national institutions for the sake of economic development. Economic historians also played a part in breathing new life into Schumpeterian economics. North, for instance, focused on the relationship between institutional change and technological progress in economic history. In his view, technological development is linked to the rate at which a society's institutions are able to change ("adaptive efficiency"). According to North, the past shows that only a few countries had flexible institutions conducive for growth; most societies, however, got stuck in an institutional setting that hindered them from fully benefiting from technological-economic challenges.

### Structural Change Theory

Structural change theorists construct ideal types of long-run tendencies to explore changes in the economic structure. Building on the work of Clark and Fisher the French economist Jean Fourastié advanced the first structural change theory from a sectoral perspective.<sup>14</sup> Like Schumpeter Fourastié sees entrepreneurial technological change as the engine that keeps the economy running: company-led innovations result both in new commodities and in higher labour productivity. In Fourastié's "three sector hypothesis", however, these productivity improvements do not take place uniformly in the economy. The fact is that the primary, secondary and tertiary sector differ in their capacity to absorb technological change. According to Fourastié productivity increases can only be high in the secondary sector (manufacturing). In the primary sector (agriculture), however, technological development is at best medium, while in the tertiary sector (services), such as personal services, education and administra-

tion, productivity improvements are only low or nil. Although total production rises in due time, these intersectoral differences in technological progress result in a supply bias to manufacturing: other things being equal, the supply of secondary and also primary products grows much faster than that of services.

The point is, however, that households, firms and the government show a demand bias for services. The richer households become due to technological progress, the more they demand services (e.g. leisure) compared to food and goods. This variant of Engel's law also holds for firms and the government: the growing importance of technological progress in society brings about an increasing need for intellectual, administrative and organisational activities. Thus, when considered separately, the demand and supply side of the economy evolve in opposite directions. It is this imbalance between the growth of production and consumption, Fourastié claims, that explains structural change. In trying to match demand and supply, the system has to move from a mainly food and goods-producing economy to a services economy. In Fourastié's view, this transition is associated with big adjustment problems, since society has to shift from the existing institutional structure to a new one. Thus, structural change will lead to a "suffering by transition generations" that find themselves placed between the old and the new structure.

Empirically, the transformation from an industrial towards a service economy can indeed be observed. "Tertiarisation" represents one of the stylised facts of post-war economic growth in the Western world.<sup>15</sup> In some typical tertiary countries, like the USA, the UK, Scandinavian countries and the Netherlands, the share of services in total employment amounts to around 70 per cent. Several authors have built upon Fourastié's original ideas.<sup>16</sup> Baumol used structural change theory to argue that the low productivity in services would

<sup>13</sup> Important contributions in this respect are P. Romer: Increasing returns and long-run growth, in: *Journal of Political Economy*, Vol. 94, 1986, pp. 1002-1037; R.R. Nelson, S.G. Winter: *An Evolutionary Theory of Economic Change*, London 1982, Belknap Press; R.R. Nelson (ed.): *National Innovation Systems: A Comparative Analysis*, Oxford 1993, Oxford University Press; D.C. North: *Institutions, Institutional Change and Economic Performance*, Cambridge 1990, Cambridge University Press.

<sup>14</sup> J. Fourastié: *Le Grand Espoir du XXe Siècle: Progrès Technique, Progrès Économique, Progrès Social*, Paris 1949, Presses Universitaires de France; J. Fourastié: *Machinisme et bien-être*, Paris 1951, Édition de Minuit.

<sup>15</sup> Cf. C. Feinstein: Structural change in the developed countries during the twentieth century, in: *Oxford Review of Economic Policy*, Vol. 15, 1999, pp. 35-55; OECD: *The Service Economy*, Paris 2000, OECD.

lead to a “cost disease of services”, especially in arts, police and health care. Bell and his followers focused on the institutional dimension of the service economy, that is dubbed by them as a “post-industrial”, “knowledge” or “information society”.<sup>17</sup> They contend that service activities require skills, knowledge and information; hence, they expect the replacement of the factory system and blue-collar work by the education system and white-collar work, with all the associated social consequences. Each study on services, however, has to cope with sectoral classification problems, as some economic activities contain both goods and service elements (e.g. mass media and catering). To avoid difficulties in drawing borders between sectors, Pasinetti removed the sectoral element from structural change theory. The result is a framework in which the interaction between technological progress, production and consumption induces structural change. To be sure, Pasinetti’s theory indicates that the economy changes, but it does not say in what direction. Thus, much of the theory’s power of expression is lost. Despite the classification problems, we therefore prefer the Fourastian approach towards structural change that accounts for intersectoral differences in technological development.

#### Agglomeration Theory

Regional science traditionally focuses on the spatial concentration of economic activities and the dynamics of regional growth. Agglomeration theory is useful in explaining both issues. One of the forerunners of agglomeration theory was the French economist François Perroux, who extended Schumpeter’s view with the notion that innovation-induced change is unevenly distributed among economic “units” – be it individuals, firms, industries, regions or nations.<sup>18</sup> Economists have mainly studied a variant of this general domination theory, namely “growth pole analysis”. A growth pole is “a propulsive unit in a determined environment”. Examples of “propulsive units” are leading firms, key industries or other “active units” (e.g. universities) that are able to dominate their surroundings. The foundation for a growth pole in a particular place is a profitable action by a propulsive unit (say, an innovation). Due to high income elasticities of demand and high profits, Perroux argues, the unit starts generating externalities (“propulsive effects”) in its environment that cumulate and lead to polarisation. The externalities coming from the propulsive unit may be both upstream (forward linkages) or downstream (backward linkages) and positive (spread effects) or negative (backwash effects). Perroux mostly discuss-

es the spread effects, which may bring about a pattern in which the growth pole (core) dominates the rest of the economy (periphery). These effects may become “backwash effects” when a growth pole reaches a mature stage of development. Ultimately, they may result in polarisation in reverse, and turn a growth pole to a “shrink pole”.

In economic science Perrouxian agglomeration theory has inspired several authors.<sup>19</sup> Myrdal is one of them and advanced a theory of “cumulative causation”, stressing that a local industry’s spread effects work like a magnet and attract other firms and industries to the region. Thus, a self-reinforcing and irreversible process is set in motion that leads to the “Matthew effect”: the rich (core) become richer, while the poor (periphery) become poorer. Other authors have specified the nature of externalities in agglomerations. Applying the QWERTY-principle in a regional context, Krugman discussed the possibility that regions become locked-in into rigid and suboptimal trajectories. To be sure, areas that are specialised in only one industry or some related industries may profit from strong increasing returns (“localisation economies”). Due to their monostructure, however, they are more vulnerable to economic and institutional lock-in situations than regions with a more diversified structure. Here, we meet Jacobs, who sees local diversity of economic activity as the most fruitful seedbed for technological progress. She suggests that areas with sectoral variety provide the flexibility needed to absorb new techno-economic developments and “to add new work to old”. Recently, the importance of such “Jacobs’ externalities” or “urbanisation economies” for innovation has been emphasised in new

<sup>16</sup> For an overview of the economics of services see S. Illeris: *The Service Economy: A Geographical Approach*, Chichester 1996, Wiley. Well-known contributions include W.J. Baumol: *Macro-economics of unbalanced growth: the anatomy of urban crisis*, in: *American Economic Review*, Vol. 57, 1967, pp. 415-426; D. Bell: *The Coming of Post-Industrial Society: A Venture in Social Forecasting*, London 1974, Heinemann; L.L. Pasinetti: *Structural Change and Economic Growth: A Theoretical Essay on the Dynamics of the Wealth of Nations*, Cambridge 1981, Cambridge University Press.

<sup>17</sup> Cf. Illeris, op.cit.

<sup>18</sup> F. Perroux: *Note sur la notion de “pôle de croissance”*, in: *Économie Appliquée*, Vol. 8, 1955, pp. 307-320; F. Perroux: *L’Économie au XXe Siècle*, Paris 1961, Presses Universitaires de France.

<sup>19</sup> See R.A. Boschma, J.G. Lambooy: *Evolutionary economics and economic geography*, in: *Journal of Evolutionary Economics*, Vol. 9, 1999, pp. 411-429 for a review of agglomeration theory. G. Myrdal: *Economic Development and Underdeveloped Regions*, London 1957, Duckworth, deals with cumulative causation theory. In J. Jacobs: *The Economy of Cities*, New York 1969, Random House, and P.R. Krugman: *Geography and Trade*, Cambridge (Massachusetts) 1991, MIT Press, the focus is on the nature of externalities in agglomerations.

**Table 1**  
**Elements of Regional Structural Change**

Spatial/Regional structural change	Schumpeterian economics	Structural change theory	Agglomeration theory
Contributors	Schumpeter, Romer, Nelson, North	Fourastié, Baumol, Bell, Pasinetti	Perroux, Myrdal, Krugman, Jacobs
Driving force	New combinations (innovations)	Technological change (innovations)	Innovations
Relevant actors	Entrepreneurs	Producers and consumers	Propulsive units
Nature of change	Perennial gale of creative destruction	Unbalanced sectoral growth in time	Emergence of growth poles in space
Long-term effects	Demise of capitalism: - monopolisation - routinisation of innovation	Intersectoral shifts: - tertiarisation - institutional transition problems	Polarisation: - spread or backwash effects - lock-in or diversity effects

concepts, e.g. “clusters”, “innovative milieux” and “innovation systems”.<sup>20</sup> Although these terms are popular now, we still prefer the Perrouxian “growth pole”, since this very concept suggests the continuous association between temporal (growth) and spatial (pole) aspects of economic activity.

### A Framework of Regional Structural Change

We shall now make a first attempt to put the theoretical blocks together to build a framework of regional structural change. Perhaps our aim of combining Schumpeterian economics with structural change theory and agglomeration theory is too ambitious. Separately, each of the approaches is complex enough. At the same time, the theories show striking similarities (see Table 1). For a start, they all are Schumpeterian approaches in that they view technological change in its institutional context as the main engine behind economic development. Moreover, contrary to mainstream economics, the emphasis is on unbalanced technological change. Finally, the theories are “meso-economic” rather than micro-economic perspectives, as they focus on structures and developments that can be found beyond the individual but below the aggregate level (sectors and regions).

### Structural Change in Time and Space

The starting-point for our framework is Schumpeter’s view on economic development: innovative activities by entrepreneurs generate structural change in that they destroy the existing economic structure and simultaneously create a new one. In exploring this process of “creative destruction”, however, Schumpeter does not specify what structures are likely to be destroyed and where and when this will take place. We think that the other two theoretical perspectives

may help us in concretising the Schumpeterian vision: if anything, structural change theory offers a view on the time-dimension of structural change, whereas agglomeration theory clarifies the spatial implications of this process. Consequently, a combination of Schumpeterian economics, structural change theory and agglomeration analysis might explain why and how economic development varies in time and across space. In our framework the process of structural change is understood as an interaction of supply, demand and institutional factors. Let us start with the supply factors. According to all three theories, it is the technology-driven supply side of the economy that determines the economic structure of an area. What is important here is a sufficient supply of profit-seeking entrepreneurs who are able to create a new structure out of the old one. Without this entrepreneurial function (Schumpeter Mark I) technological developments would not be commercialised, even if consumers wanted this; the economic structure would stay in a status quo. Thus, in the short term entrepreneurs – attracted by new technological opportunities or by high market demands – can set into motion a structural change process. In due time, the organisations these entrepreneurs found (propulsive units) make profits and may grow into Perrouxian growth poles. This economic concentration in space might be seen as the spatial image of Schumpeter’s monopolisation process, i.e. “the rise of big business” (Schumpeter Mark II).

Where and when do such sectoral growth poles emerge? In the end, the location of spatially concentrated clusters can be traced back to location decisions by entrepreneurs in the past. They may have been attracted to a certain location by the availability of production factors, by the existence of a final demand or simply by chance events. To the extent that these factors are a function of and an influence on geographical space, some locations are more likely to be

<sup>20</sup> See for example P. Cooke: Regional innovation systems, clusters and the knowledge economy, in: *Industrial and Corporate Change*, Vol. 10, 2001, pp. 945-974.

chosen than others. Given the entrepreneurial choice for a particular location, there are opportunities for the start of a polarisation process. Because of the spread effects from the growth pole to its surroundings, the area where it is located grows faster than the rest of the economy. Moreover, the growth pole works like a magnet for producers and consumers from other areas and exhibits Myrdal's process of cumulative causation. In other words, success breeds success. Like its location, the moment the pole starts growing also ultimately depends on entrepreneurial decisions to innovate. Following structural change theory, however, we believe that the economy's demand side plays an important role here. In response to changes in demand an existing growth pole may shrink in favour of new growth poles and, therefore, new locations. Thus, falling demand can present a growth pole with problems through backwash effects moving upstream and downstream. In the short run, such demand biases are not necessarily serious as they may be responded to by new innovations within the growth pole's sectoral specialisation. More significant than these short-term product cycles, however, are developments in the demand pattern over the long run. The fact is that during the process of technological change the demand bias for services which Fourastié and Baumol point out gradually takes effect. In the long term, technological progress leads to increasing incomes for consumers and to more complexity for firms and government. As a result, society tends to demand more services at the cost of food and goods. Taking into account this regularity, we can deduce which growth poles are likely to dominate the economy in a certain point in time and which are not. Not surprisingly, then, most agricultural growth poles are to be found in primary civilisations, most industrial areas in secondary societies and most service centres in tertiary civilisations. This is the conclusion that follows from linking concepts from Schumpeterian economics, structural change theory and agglomeration economics.

### **The Adaptability of Growth Poles**

The interaction between supply and demand factors in time and space determines how the process of spatial structural change passes off. This process can be seen as a moving landscape of various growth poles that under influence of entrepreneurial innovation as well as demand factors expand or contract over time. What used to be a core growth area at one stage of economic development may become a less-favoured peripheral location at another stage. This does not imply that former growth poles lack development

chances when the geo-economic system enters a new era of growth. On the contrary: the theories we dealt with also point to two types of factors that determine the ease with which growth poles can adapt to novel circumstances.

The first category of these determinants has to do with economics and refers to the degree of diversification of economic activities in the growth pole. Highly specialised areas can profit from strong Perrouxian spread effects during the stage of high demand for the commodities they produce. Due to their mono-structure, however, such growth poles may fall into the techno-economic lock-in situations Krugman warns about. Besides, whenever the demand for these areas' output decreases their initial success may turn out to be the very failure factor: because of strong inter-firm relationships, backwash effects can easily spill over from one organisation to another, both upstream and downstream. As such, areas with a mono-structure are vulnerable to the inevitable continuation of the economy-wide process of structural change. Conversely, growth poles possessing a rather diversified economic structure are likely to experience less serious adjustment problems. In this Jacobian view, it is the variety of these locations that protects them from getting locked into rigid and sub-optimal trajectories. The idea is that settings with sectoral diversity offer room for unexpected knowledge exchange, creativity and thus innovation. We believe that such generic growth poles have more opportunities than specialised environments to absorb new techno-economic developments and have more chance to develop Schumpeterian "new combinations".

The second category of factors that affects the adaptability of growth poles is of an institutional nature. The institutions associated with the growth pole may act as constraints to or incentives for structural change. Authors such as Fourastié, Bell and North remind us that institutions tend to lag behind structural change. The reason for this "institutional inertia" is the past-binding resistance of a community's values, norms and traditions. Close inter-firm relationships, vested interests, conservatism and sectoral lobbies may paralyse entrepreneurship and limit the ability of growth poles to react to new circumstances. This institutional argument, being similar to Schumpeter's vision that capitalism will evoke a "routinisation of innovation", complements the economic factors mentioned above. Together, they explain why the initial success of growth poles ultimately might contribute to their decline. We expect, therefore, that the economic



need for institutional change may result in Fourastian transition problems for growth poles. Obviously, there is a close connection between an area's institutional structure and its degree of economic diversification: highly diversified locations are more likely to show institutional flexibility than areas that are dependent upon specific activities. In short, we assume that diversity rather than specialisation facilitates the adaptability of growth poles to the requirements that are dictated by the technology and demand-driven process of structural change.

### Regional Structural Change in Europe

We now return to the initial question of how likely it is that the contemporary structure of Europe's geographical system will change in the next decades. On the basis of our framework it is possible to reflect upon this question from a theoretical perspective. The framework indicates that service centres are likely to comprise Europe's modern core area with the most opportunities for future growth. The assumption is that these service conglomerations have overtaken the former central positions of industrial or agricultural zones in earlier phases of European history. In today's post-industrial society, we expect those two past growth poles to be the less favourable locations in Europe. According to this line of reasoning, we can divide Europe's economic-geographic system into three broad "ideal types" of territories:

- core service areas
- intermediate industrial areas
- peripheral agricultural areas.<sup>21</sup>

### A Typology of European Territories

The category of core service areas contains large and wealthy urban conglomerations with high shares of employment in the service sector. These locations have passed successfully through the transition period from an industrial to a service society and now profit from spread effects in the tertiary domain. Generally, these areas have a diversified economic and institutional structure and advanced educational and infrastructure facilities. Such "innovation-prone" locations have been denoted as "new growth spaces" and "creative cities".<sup>22</sup> Representative examples are London, East Anglia, the Randstad, Berlin, Frankfurt,

<sup>21</sup> Cf. M. Heidenreich, *op.cit.*; A. Rodríguez-Pose: Social conditions and economic performance: the bond between social structure and regional growth in Western Europe, in: *International Journal of Urban and Regional Research*, Vol. 22, 1998, pp. 443-459; N. Vanhove: *Regional Policy: A European Approach*, Aldershot 1999, Ashgate.

Milan, Paris and Barcelona. Compared with these contemporary growth poles, intermediate industrial areas are less dynamic: they often have to cope with adaptation problems. Here, overspecialisation in manufacturing together with a rigid institutional structure have created lock-in situations that hamper the restructuring towards a service economy. Moreover, due to a bad public image, these regions – also known as "old industrial areas" or the "rustbelt" – often go through a polarisation process in reverse.<sup>23</sup> This group comprises previous industrial heartlands like the Ruhr area, the West Midlands, Yorkshire, Nord-Pas-de-Calais, Lorraine and Basque Country. Finally, peripheral agricultural regions are the least advantageous type of territories in Europe. These so-called "rural areas" are regularly stuck into a centuries-old agricultural tradition; thus, they have experienced major difficulties in making the switch-over to an industrial or services economy.<sup>24</sup> This economic backwardness is often caused by an isolated location, an "innovation-averse" context and insufficient infrastructural facilities. Among the areas in Europe that have been condemned to this "development without autonomy" we find many Mediterranean regions, like the Mezzogiorno, Andalusia, Centro and the Greek islands.<sup>25</sup>

Our classification of geo-economic areas makes clear that the pattern of economic activity in Europe is unevenly distributed. Both in economic and geographical terms, a borderline has grown between the wealthy economic base of core service areas and the poorly developed structure of peripheral agricultural areas. Theoretically, this core-periphery pattern may be subject to change thanks to a further "tertiarisation" of the economy. Then, the growth poles of the future are likely to be found in those locations that best succeed in taking advantage of new opportunities in the service economy. In this respect, it is hard to predict which areas will be the winners and which the losers. Based on our framework, however, we expect that the Blue Banana from London to Milan will be the European growth axis in the next decades

<sup>22</sup> Cf. A. Rodríguez-Pose, *op.cit.*; B. Asheim, E. Clark: Creativity and cost in urban and regional development in the "New Economy", in: *European Planning Studies*, Vol. 9, 2001, pp. 805-811.

<sup>23</sup> Cf. M. Steiner: Old industrial areas: a theoretical approach, in: *Urban Studies*, Vol. 22, 1985, pp. 387-398; P. Cooke (ed.), *op.cit.*

<sup>24</sup> Cf. A. Errington: The peri-urban fringe: Europe's forgotten rural areas, in: *Journal of Rural Studies*, Vol. 10, 1994, pp. 367-375; K. Hoggart, H. Buller, R. Black: *Rural Europe: Identity and Change*, London 1995, Arnold.

<sup>25</sup> See for the "development without autonomy" in Italy's lagging South C. Trigilia: *Sviluppo senza Autonomia: Effetti Perversi delle Politiche nel Mezzogiorno*, Bologna 1992, Il Mulino.

– even despite its original industrial base. To be sure, some of Europe's intermediate industrial areas, such as the West Midlands and the Ruhr area, are located in this city belt. These regions have had problems in finding a new place in the post-industrial order, as they are locked-in into rigid economic and institutional trajectories.<sup>26</sup> At the same time, most other locations in the Blue Banana are typical core service locations. Metaphorically, therefore, one could speak here of the emergence of a ripe banana with only a few brown spots.

#### The Importance of Diversity

The main reason why we believe that the Blue Banana will continue to play a dominant role in Europe's economy is its economic and institutional diversity. Especially large and densely populated cities such as London, Amsterdam, Frankfurt and Milan show the variety that may have helped them to reduce the Fourastian transition problems from industrial centres to service centres. The variety in sectors, cultures and people that can be found in these urban environments provides the flexibility needed to absorb techno-economic developments that may result in new Perrouxian growth poles. Due to the large absorptive capacity of the Blue Banana, entrepreneurs can profit from the dynamic externalities Jacobs had in mind. Subsequently, "new combinations" can easily be discovered – in both the literal and the Schumpeterian sense of the word.<sup>27</sup> Variety of producers and consumers adds to input and output: it increases the chance that existing economic activities (e.g. manufacturing) combined with structural, economy-wide developments (say, tertiarisation) result in innovation. Examples of such "new combinations" of old and new activities are specialised business services (management/financial/logistics consulting), transportation, communications and all kinds of repair and leisure services. Thus, thanks to its generic economic and institutional legacy we are of the opinion that the Blue Banana will probably keep the lead in Europe's future development.

This is not to say that there are no chances for other regions in the European service economy. In addition to the Blue Banana new growth poles might emerge in Europe. The future prospects of these new areas depend upon their capacity to solve transition problems and to make use of the rising demand for services. From this perspective, the "Sunbelt" from Milan to Valencia may indeed have growth potential. The pleasant climate and attractive environment of this area along the Mediterranean coast offers opportunities to expand tourist, cultural and leisure services. It is ques-

tionable, however, whether the same scenario holds for the "Yellow Banana" that some analysts expect to emerge from Paris to Warsaw or even further eastwards, thus including former Hanseatic cities such as Rostock and Riga. In our view, among other things the lack of a service-orientation in the former communist societies may seriously hamper the smooth transition from the industrial era to the postindustrial era.<sup>28</sup> Like peripheral agricultural areas in the Mediterranean, most regions in Central and Eastern Europe still have to cope with economic and institutional inertia effects resulting from the past. Without public support directed at accompanying local communities in the structural change process, these less-favoured areas probably cannot adapt to the advanced Western European service economy. It is beyond the scope of this paper to elaborate on this issue. For now, we confine ourselves to the following general point resulting from our framework: where Europe's areas are going, certainly depends upon where they are coming from.

#### Conclusions and Implications for European Regional Policy

In this paper we have dared to ask a Grand Question: to search for the major mechanisms behind structural change in Europe's geo-economy. We modestly hoped thus to contribute to a tentative assessment of the future development potentials of the Blue Banana, i.e. Europe's traditional growth axis from London to Milan. At this point, we may conclude that regional structural change is a complex process in which technological change, inter-sectoral differences, agglomeration effects and institutions interact. The framework in which we tried to combine these elements is still very preliminary; it is nothing more than a "vision" in a Schumpeterian vein, that may provide some starting-points for further analysis. Obviously, our framework of regional structural change needs more theoretical depth and empirical support before any firm conclusions can be drawn. A first application of the framework to the European context suggests, however, that the Blue Banana – despite its industrial tradition – still has the most favourable perspectives in the European service economy. Due to its diversified structure we expect that this area rather than the Sunbelt or the

<sup>26</sup> Cf. P. Cooke (ed.), *op.cit.*

<sup>27</sup> Cf. J.A. Schumpeter, 1934, *op.cit.*; J. Jacobs, *op.cit.*

<sup>28</sup> Cf. S. Illeris, *op.cit.*; G. Hutschenreiter, M. Knell, S. Radošević: *Restructuring Systems of Innovation in Countries of Central and Eastern Europe*, Cheltenham 1999, Edward Elgar; W. Meske, K.M. Weber: *European Union enlargement: economic restructuring in candidate countries and the role of technological change and education*, in: *Science and Public Policy*, Vol. 28, 2001, pp. 154-168.

**Table 2**  
**Examples of “Trend through Tradition”**  
**in European Regions**

Region (Country)	Tradition + Trend	New combination
Jura d’Arc (Switzerland)	Watchmaking + Micro-electronics	Swatch
Uusimaa (Finland)	Forestry + Bio-technology	Bio-forestry
Jutland (Denmark)	Furniture + Information technology	High-tech design
Nord-Pas-de-Calais (France)	Textiles + Consumer services	Mail order business
Ruhr Area (Germany)	Coal and steel + Leisure services	Industrial culture
Sardinia (Italy)	Agriculture + Tourism	Agri-tourism
Baden-Württemberg (Germany)	Machine tools + Information technology	Multi-media
Landskrona (Sweden)	Shipbuilding + Repair services	Machine spare parts

Yellow Banana has the best starting-position for economic growth in the next decades. This “vision” sheds another light on European regional policy: perhaps the authorities in Brussels should allow more for the strength of the Blue Banana in devising policies for Europe’s regions. It might be more feasible, then, to strive for optimal differences between less-developed areas and the Blue Banana than to aim for maximal regional balance in Europe. In the end, such a “regional realism” approach will be in the best interest of Europe as a whole.

On a more concrete level, a European policy of “regional realism” might require more decentralisation and localisation than the current EU policy of just dividing Structural and Cohesion Funds among Europe’s regions.<sup>29</sup> If anything, our research on spatial structural change points to the importance of an area’s past in assessing its perspectives for the future. Oddly enough, this inheritance aspect of the future is often neglected in policy discussions. Public authorities frequently ignore the question whether the preconditions for new economic activities are present in a local economy. Inspired by success stories such as Silicon Valley, Bavaria (Germany), Cambridge (UK) and Sophia Antipolis (France) many policymakers currently try to create growth poles from scratch, especially in the fields of information and communication technology (ICT) and biotechnology. With our framework in mind,

<sup>29</sup> On the structure and working of current European regional policy see N. Van h o v e, op.cit.

<sup>30</sup> Cf. G.J. Hospers, S. Beugelsdijk: Regional cluster policies: learning by comparing?, in: KYKLOS, Vol. 55, 2002, pp. 381-401.

we cast doubts on the usefulness of such regional policies of copying “best practices”.<sup>30</sup> Governments wishing to accommodate structural change would do better to take an area’s economic and institutional context as the starting-point for policy. Within this structure, they can assist market parties in searching for interesting “new combinations” that connect an area’s particularities with overall trends of structural change (e.g. the emergence of a knowledge-based services economy). Obviously, devising localised policies of “trend through tradition” is not an easy task. At first sight, for example, it might be quite difficult to imagine how a region specialised in, say, shipbuilding can revive in a highly competitive world market characterised by an oversupply of ships.

On closer inspection, however, history shows that there is room for policy learning in this field. Throughout Europe examples can be found of regions where public and private parties have cooperated successfully and succeeded in combining local traditions with global trends (see Table 2). Some areas, for example, have benefited from the integration of modern technologies in such artisan sectors as watchmaking (Swatch in the Swiss Jura d’Arc), forest industry (bio-forestry in Finnish regions) and furniture (Danish high-tech design). In other regions traditional resources have been re-used to take advantage of rising consumer demand for (leisure) services, which may explain the successful development of mail order business in the former textile area Nord-Pas-de-Calais (Northern France), industrial culture in the German Ruhr area and agri-tourism in the Italian island of Sardinia. Finally, there are regions in Europe showing how the experience of local firms in working with specialised materials can be applied for new purposes such as multi-media applications (Baden-Württemberg) and the production of spare parts for the machinery industry (Landskrona in Sweden). Although these examples are best practices that cannot simply be copied, they may be inspiration sources for policymakers – at local, national and European levels – that try to accompany regions in the process of structural change. If anything, the case studies point to the importance of the existing regional-economic structure as a sound and realistic basis to build upon for the future. At the same time, it is this notion of “regional uniqueness” that really might do justice to the diversity of Europe’s geo-economy. Only by bearing this diversity in mind, we believe, will Europe as a whole be able to profit from further economic integration. Ultimately, then, there even might be opportunities for a Europe beyond the Blue Banana.