Developing Typologies of City-Regional Growth

A paper for the 45th ERSA Conference

23-27 August 2005

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Abstract

The economic performance of city-regions is closely linked to the performance of the national economy. However, the performance of the national economy can also depend on the performance of one or more city-regions that act as growth poles. Because of their sectoral structure and other characteristics, some cities are better equipped to become growth poles than others.

This paper studies 46 major city-regions across Europe. The sectoral structure and changes in the sectoral structure of city-regions are studied using data from Cambridge Econometrics' (CE) European Regional Database, itself based on Eurostat's Regio Database. The data analysis attempts to explain city-region performance by drawing parallels between sectoral structure and economic performance. The data analysis is supplemented by local evidence gathered for CE's annual report, *European Regional Prospects*.

The paper discusses the extent to which the sectoral structure can explain why some city-regions have economies that grow faster than others. This discussion leads to 'hard' typologies or groupings of cities according to sectoral specialisation. These sector-based typologies are then supplemented by local, 'softer', evidence related to trends, initiatives, particular conditions and, in general, the ways in which some cities try to take advantage of their sectoral specialisations or to develop new

specialisations. This discussion will draw out more subtle factors influencing city-region growth, and these will be used to group cities into 'soft' typologies.

1. Introduction

It is useful to group cities according to the presence in them of factors that tend to promote or hinder economic growth. The aim of this paper is to develop city typologies using, broadly, two types of information provided in *European Regional Prospects*, an annual publication of Cambridge Econometrics (CE), which covers 46 cities in the EU25, Norway, Switzerland and Russia. The first stage will be data analysis, which will concentrate on the sectoral structure of cities to see if cities with faster-growing economies have any common sectoral features. The second stage will examine softer and more local evidence provided in *European Regional Prospects* in search of explanatory features that may not be obvious from data analysis. The conclusion will draw together the 'hard' and 'soft' evidence and suggest possible city typologies according to the features that promote economic growth.

2. Data availability

The data analysis uses CE's European Regional Database. This is based on Eurostat's Regio Database, but it fills Regio extensively by using sophisticated data-filling methods that incorporate data from national sources. The database covers regions in the EU25 from NUTS0 through to NUTS3 level and Norway and Switzerland at Level 2. It also contains city-region data for 46 cities in the EU25, Norway, Switzerland and Russia.

The main database is on a NUTS2 regional level. At this level the data are available at a five-sector level (agriculture, energy & manufacturing, construction, market services and non-market services) for all of the countries. For CE's European Regional Database energy & manufacturing and market services have been disaggregated into further sub-sectors (see Appendix 1). In theory it should be possible to carry out this disaggregation by using only data from the Regio Database. In practice, the Regio Database allows energy & manufacturing to be separated into just three sub-sectors (mining & quarrying; manufacturing; and electricity, gas & water supply) and market services into five sub-sectors (wholesale & retail; hotels & restaurants; transport & communications; financial services; and other market services). Although the Regio data are sufficient to disaggregate market services,

more detail is needed for manufacturing. The manufacturing sub-sectors have been created on the basis of national shares from CE's E3ME (Energy-Environment-Economy Model of Europe) Database. Consequently, the market services sub-sectors are more reliable on a regional level than the manufacturing sub-sectors. No data exist for the energy & manufacturing sub-sectors in the New Members and no sub-sector data exist at all for Russia.

The European Regional Database also includes a NUTS3 regional database. At this regional level only three-sector data (agriculture, industry and services) are available. Gaps in the data have been filled using the same data-filling methods as for the NUTS2 data, with the difference that national sources are replaced by the filled NUTS2 database.

The city-region data are a mixture of NUTS2 and NUTS3 regional data, depending on the definition of the city-region (see Appendix 2). Because of the availability of sectoral data at different NUTS levels, the data for larger city-regions (in terms of their NUTS definitions) are more reliable. For city-regions that are NUTS3 regions, we make an estimate of the sub-sectors based on NUTS2 regional shares. Helsinki is an exception as, being a NUTS4 region, all the relevant data come from national sources. For most cities the data are available from 1980 to 2003, but in the case of cities in the former East Germany, cities in the New Members and Moscow, the data runs begin in 1991, 1990 and 1994 respectively.

3. Data analysis

The data analysis concentrates on the sectoral structure of cities to see if cities with faster-growing economies have any common sectoral features. At the five-sector level, it is clear that market services have contributed most to output growth in cities in the last two decades. Plotting the historical growth rate against the growth rate of the share of energy & manufacturing, and doing the same for market services, reinforces the common perception that market services have contributed more to city region growth (see the Energy & manufacturing and market Services charts below). This result is not surprising given that manufacturing has a tendency to move away from high-cost locations, leaving specialised, but smaller-scale production in cities.

However, not all cities have lost their manufacturing sectors entirely, and in some cities manufacturing continues to contribute to growth substantially, as can be seen from the chart 'GVA Growth Components' below.

GVA Growth Components, 1980/90/91/94-2003

Energy and Manufacturing

Market Services
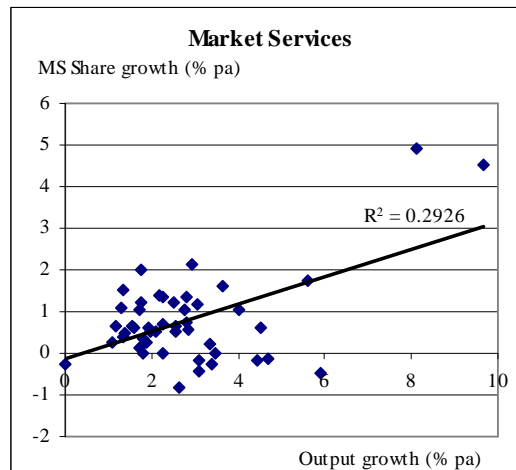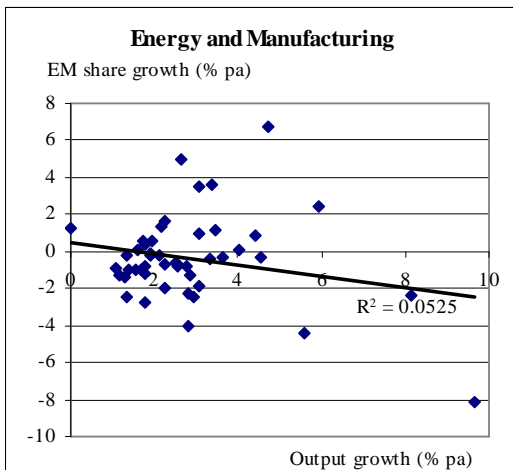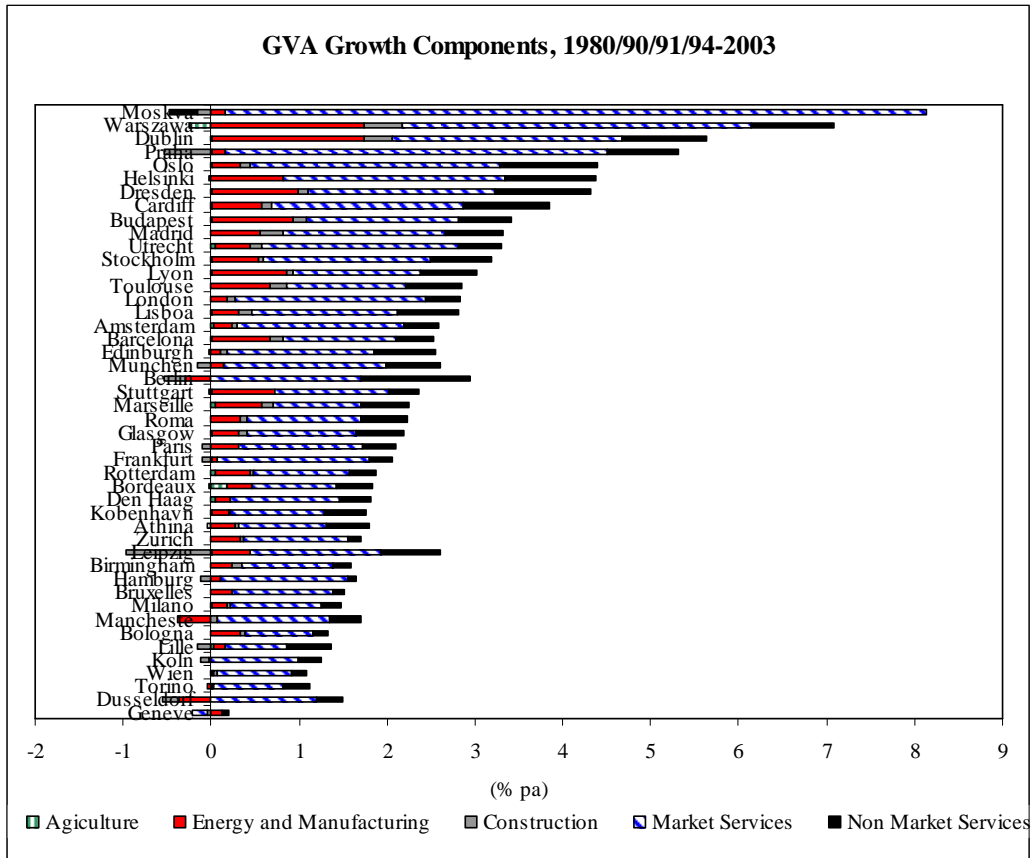
When examined in detail, the energy & manufacturing data reveal some specialisms as well as some growth areas in the manufacturing industries that depend on and

5

contribute to the 'knowledge based economy'. The industries most closely associated with the knowledge-based economy are electronics, chemicals (including pharmaceuticals and biotechnology) and the sector named 'other manufacturing', which contains many specialised and small-scale manufacturing activates related to the knowledge-based economy. These industries make in general a positive contribution to manufacturing output growth especially in cities where manufacturing is still an important component of the economy.

Energy and Manufacturing GVA Growth Components, 1980/91-2003
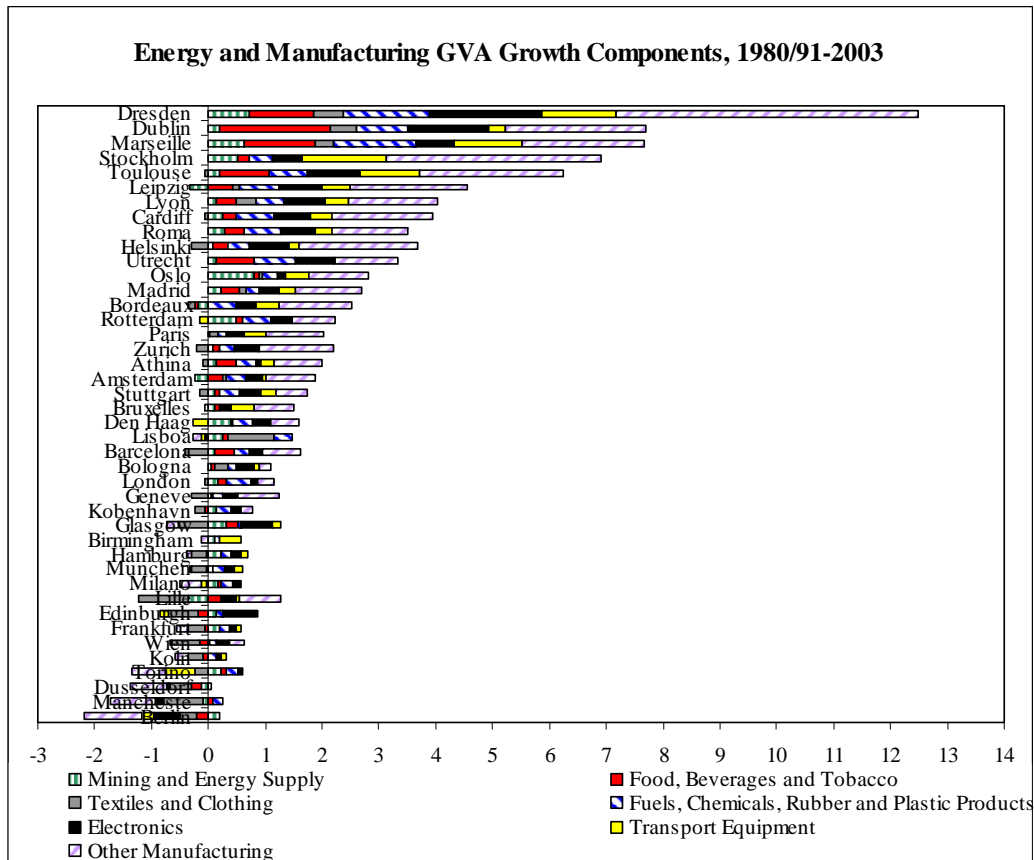
While most industries draw on the knowledge-based economy, some are important contributors in their own right to the growth of manufacturing output. Transport equipment is an important contributor to manufacturing growth in cities which have a particular strength in the sector. The cities with most growth in this sector are ones associated with high-value production such as aerospace or luxury cars, which, of course, are closely related to high-technology activities and such knowledge-based activities as design. Food & drink is also an important sector. Although it is more difficult to identify a common reason behind the location of successful food & drink industries, more 'peripheral' cities have seen the greatest growth in this sector,

6

perhaps reflecting improvements in distribution technology which have allowed the food & drink industry to locate production in lower-cost locations further from the main markets. Falling distribution costs have certainly affected textiles & clothing, which is the smallest contributor to growth in most cities, if it is not a negative contributor. The growth in energy output, on the other hand, reflects the growing energy-intensity of developed economies, and cities that specialise in the production of energy have therefore seen strong growth in the sector.

Market services display a similar orientation towards the knowledge based economy. Other market services and transport & communications include most of the service industries affected by the knowledge-based economy. Other market services is the biggest single contributor to market services growth as it includes many of the consulting services that have helped with the diffusion of new technology, including those concerned with communications, arguably the single most important contributor to output growth in the last two decades. Consulting services also support the increasing trend for businesses to outsource non-core activities.

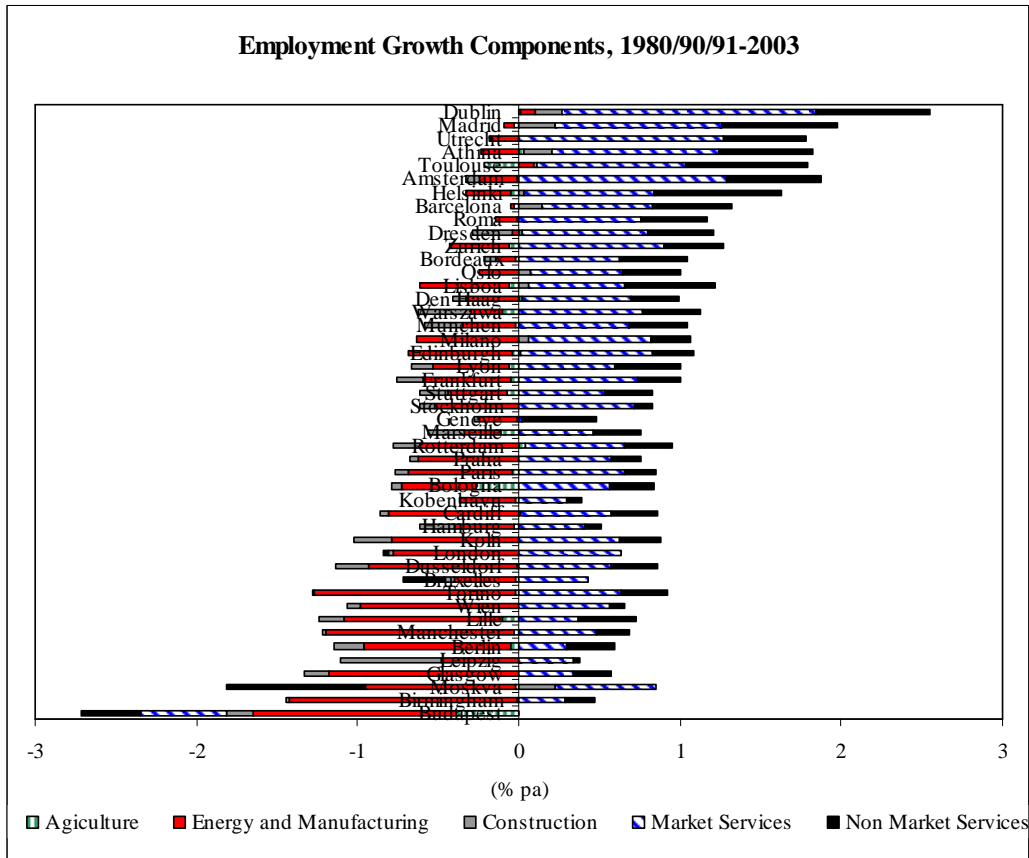**Market Services GVA Growth Components, 1980/90/91-2003**
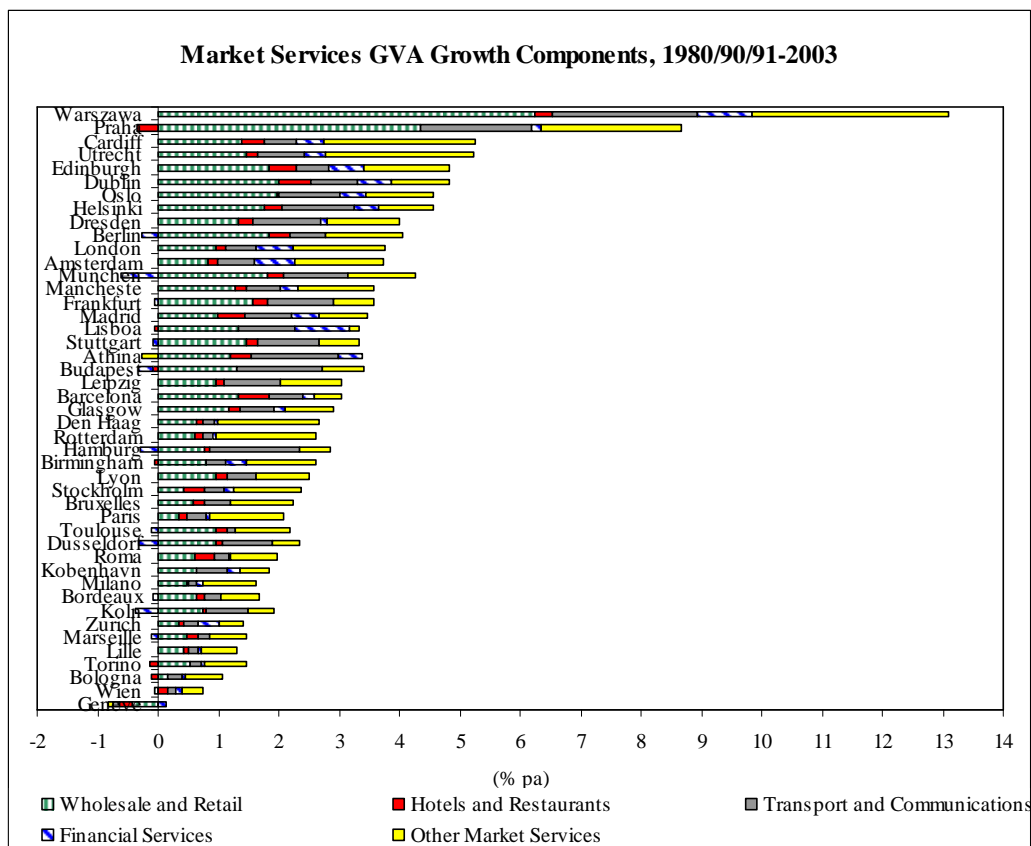
Transport & communications accounts for the improvements that have brought the cost of distribution down in the last two decades, and have thereby supported output growth in wholesale & retail, another major contributor to market services growth. The growth in wholesale & retail reflects the increase in people's disposable income. This increase has coincided with a reduction in the share of household spending devoted to food, and the combination of these two factors has thus contributed to consumer spending becoming an ever larger component of GDP growth. In countries where consumer confidence has suffered in recent years, the contribution to growth of this sector has lessened, but is still positive.

The relevance of financial services to overall economic growth is clear, both in cities that specialise in financial services and in cities where the sector is contracting. The crisis in the German financial services sector accounts for the sector's small contribution to growth in German cities. The dominance of Paris in the French financial sector and Milan in the Italian financial sector is also seen, while in the Nordic countries the increasing centralisation of financial services in Stockholm has contributed to the sector there. The UK cities reflect a trend of outsourcing back-office operations away from London, while London itself concentrates on higher-value, front-end services. The contribution of hotels and restaurants is smaller because of the narrowness of the definition. However, it has generally been a positive component of growth, especially in cities where tourism has become an important source of income in recent years.

The contributions of the components of employment growth are broadly in line with output growth (see chart Employment Growth Components, below). Because productivity growth is generally higher in manufacturing industries than in services, especially if labour costs are high, services are the main contributors to employment growth.

Differences in the industrial mix in city-regions are reflected in very different rates of productivity and employment growth. These different growth rates are not necessarily reduced by higher output growth in certain sectors. For example, city-regions that are more specialised in manufacturing typically see slower overall employment growth. The negative effects on employment of some manufacturing

Employment Growth Components, 1980/90/91-2003

(% pa)

☐ Agiculture   ■ Energy and Manufacturing   ☐ Construction   ☐ Market Services   ■ Non Market Services
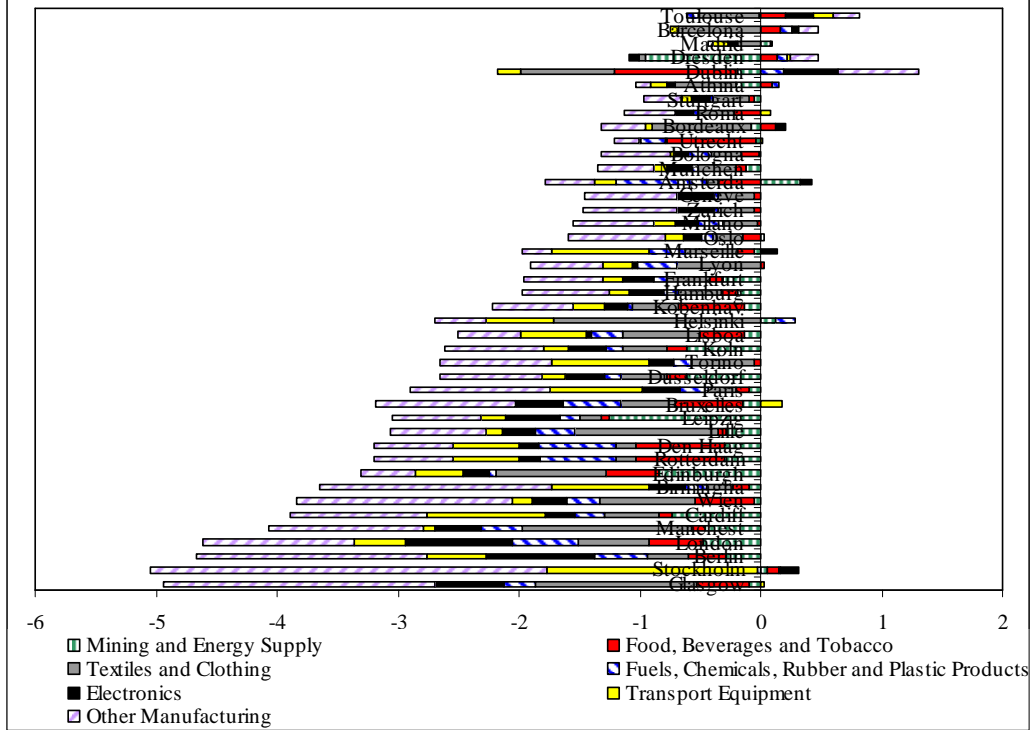
industries are illustrated in the chart, Energy and Manufacturing Employment Growth Components (see below). It is reasonable to assume that cities in the New Members could well see their employment position weaken as productivity levels catch up with western Europe; but this assumption cannot be backed up by hard data yet since we do not have disaggregated data for energy & manufacturing industries in the New Member cities or Moscow.

Market services employment growth follows a similar pattern to output growth. Other market services is a major component to employment growth in all cities. Wholesale & retail is a major contributor to employment growth as the sector is characterised by part-time employment. The strong employment growth in Spanish and Italian cities in this sector reflects the labour market liberalisation in these countries. Transport & communications has shed employment in German cities and cities in the New Members.

9

Energy and Manufacturing Employment Growth Components, 1980/91-2003

Legend:
- Mining and Energy Supply
- Food, Beverages and Tobacco
- Textiles and Clothing
- Fuels, Chemicals, Rubber and Plastic Products
- Electronics
- Transport Equipment
- Other Manufacturing

Market Services Employment Growth Components, 1980/90/91-2003

(% pa)

Legend:
- Wholesale and Retail
- Hotels and Restaurants
- Transport and Communications
- Financial Services
- Other Market Services

10
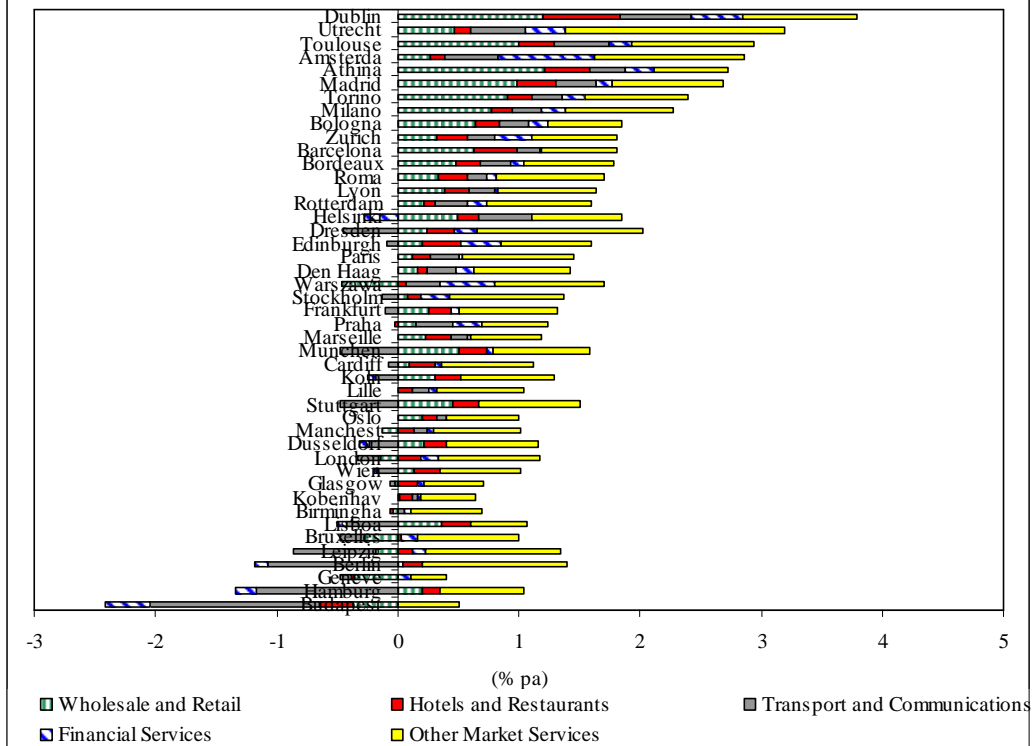
4. Local, 'softer' evidence

The local evidence has been gathered from CE's publication *European Regional Prospects*. The evidence points to some more subtle influences that have made some cities more successful than others. The information is presented under subheadings, some of which are overlapping.

Knowledge-based economies

Cities involved in production in the knowledge-based economy have had a faster growth rate than others. A key feature of the knowledge-based economy, compared to the 'physical' economy, is that innovation is now central to gaining a comparative advantage, rather than the cost of production. Innovation gives products and services increased value-added and shields against low-cost competition.

Very few major European cities are not undertaking initiatives to foster innovation and to forge closer links between scientific research and commercial enterprises. Many have set up science parks with formal and operational links to centres of knowledge creation such as universities, higher education institutes and research organisations, and with the role of encouraging and supporting innovation-led, high-growth, knowledge-based businesses.

Some cities have been far more successful in fostering and commercialising innovation than others. At least four broad conditions seem to be necessary, even if not sufficient. First there must be the right legal framework at a national level to protect intellectual property and to ensure a financial return to innovators (especially if they are academics). Second, fledgling businesses need access not only to set-up funding but also to 'mezzanine' funding to help them after they have started to grow. One reason advanced for the relative lack of success of the science parks established around Turin and Milan is that these first two conditions are not met in Italy; in particular there is a lack of venture capital. By contrast, the high-technology clusters in the south of England and around Munich can draw on venture capitalists and on the financial expertise of London and Munich. Third, the universities themselves must be of high standing in the international world of scientific research. This accounts again for the success of high-technology clusters centred on London, Oxford and

11

Cambridge, as well as the German clusters that can draw on prestigious research institutes or French clusters that can draw on Parisian universities, the universities of Lyons and Toulouse or research institutes elsewhere in the south of France. Fourth, the presence of a major global company often provides a core around which smaller companies can grow. Nokia's activities and standing account for the success of electronics companies not only in Helsinki but in the smaller Finnish university city of Oulu. Dresden was, before reunification, the electronics centre of East Germany, but in recent years the presence of Siemens has helped the city maintain its electronics industry. In Toulouse the presence of Airbus, allied to four universities and several publicly-funded research institutes, has helped in the development of a cluster concentrated on aerospace technology.

Specialism in an industry
Some cities have the advantage of traditional excellence in an industry. Here clusters have developed over time and grown 'organically', rather than being created by an initiative as such. Some of these relate to manufacturing, some to services. They allow the exchange of information and ideas, even between competitors

London, Paris, Zurich and Amsterdam are examples of clustering in the financial sector. London in particular has retained its position as a global player in global finance. Stuttgart and Bologna have a traditional excellence in luxury cars, while Paris and Milan are world-renowned for fashion, and Geneva for watches and private banking. Bordeaux is famous for and successful in wine production. Another specialism of Bologna is the manufacture of equipment for packaging.

The much-cited example of Bologna, however, also highlights a problem with some types of cluster. If, as is the case with many clusters in central and northern Italy, the firms in the cluster cover collectively all aspects of the industrial activity, the cluster can become inefficient in competition with companies in Asia that can produce key components at a lower cost. It then becomes a difficult matter to preserve the high-value elements of the cluster while shedding those of its activities that can be more efficiently carried out elsewhere.

Export orientation

Only a few European cities (one of them is Rome) have economies that are fairly independent of the level of activity in the euro-zone or the wider global economy. Cities that have often outperformed others have a wider market for their products and services and owe their relative position either to the scope, advanced level and geographical spread of their services, or to their role in world trade or to their position in niche markets.

London, Paris and Amsterdam belong in the first category. London stands apart from the other cities of Europe because of its central role in world financial markets and the range of legal and other services it offers across the globe. Amsterdam and Paris are in a similar position, but on a much smaller scale. Frankfurt, by contrast, although it is the central city in European finance and has a stock exchange that in many respects rivals the London exchange, has nothing like the global involvement of London or the range of foreign finance-houses established there.

Rotterdam and Hamburg are well placed to benefit from increased trade, partly because of their capacity, and partly because they can draw on networks of road, rail and water (rivers and canals) links across Europe.

Bologna and Dublin are, albeit in different ways, among the best examples of cities that have secured niche markets. Bologna and the surrounding cities of Emilia-Romagna have established a global reputation for specialist packaging machinery and their markets in other parts of the world have held up well at times when Europe has slowed down (but see the cautionary comments above about current difficulties of the Italian cluster model). Although Dublin was hit hard by the weakness of US investment when demand for semiconductors worldwide fell from 2001 onwards, it was among the first European cities to benefit from revival. The factors that attract US investment (the skills and education of the workforce, the shared language, membership of the euro-zone and many historical and temperamental affinities with Ireland) still guarantee the Republic a leading position in the global operations of US high-tech companies.

A common thread running through the experience of the cities mentioned is that their advantages give them strong positions in the international division of labour.

Urban networks

One set of factors that is having an increasing influence on the economic standing of European cities, and which is likely to be of greater importance in the future, is the type of urban network within which the city operates. This is not just a matter of the hinterland, which all large cities have, but it concerns networks of complementary activities. One clear example comes from the different patterns in which cities are related together for conducting and commercialising advanced research. London and Paris present two distinctive patterns.

London is the place from which three corridors of high-tech research and industry radiate, along motorways: the M40 Corridor between London and Oxford; the M11 Corridor between London and Cambridge; and the M4 Corridor between London and south-west England. The first two corridors run between London and two cities that are themselves the centres of important clusters in ICT, biosciences and advanced materials; the third is an example of high-tech activity expanding outwards from a major scientific and commercial centre. Along these corridors other, smaller specialist centres have grown up. Each corridor has subsidiary corridors spreading from it. No one centre on the M11 and M40 corridors is the centre to which R&D and industrial development is due. Paris, by contrast, is at the centre of a ring of new towns with important concentrations of high-tech and defence industries, including the country's most important scientific-industrial site, at Saclay. Paris has been the single source of growth of these industries, although the municipalities have now taken on their own scientific life.

A different pattern can be seen in the south of France. There public policy has encouraged the growth of scientific centres (technopôles) in relation to the major cities (particularly Lyons, Marseilles and Toulouse).

Apart from its relation to technopôles, much of the economic life of Lyons depends on and contributes to the economic life of a network of six cities that surround it, and its

role within the transport system of southern France is enhanced by the cooperation between the river port of Lyons and the sea port of Marseilles.

The importance of urban networks is seen also in the modernisation of traditional relationships in the Ruhrgebiet in Germany, and in Silesia in Poland. The major cities of the Ruhr (Düsseldorf and Cologne) have close economic relationships not only between themselves but also with nearby cities along the river Scheldt in the Benelux countries. Much of the effective economic area of Lille in northern France extends over the border into Flanders in Belgium.

One of the more interesting examples of a wider economic area growing along with a new urban system is the, so far successful, attempt to create an international region (Øresundsregionen) between Copenhagen in Denmark and Malmö in southern Sweden. This is not just a matter of taking advantage of the flows of traffic and people made possible by the Øresund fixed link but it also involves the deliberate effort to attract major pharmaceuticals and medical companies to the region in order to build a cluster of innovation in biosciences.

5. Conclusion

This section draws together the 'hard' and 'soft' evidence and suggests possible city typologies. The 'hard' evidence points strongly to the sectors that are associated with the knowledge based economy. This is not surprising given that manufacturing, and more recently also services, has the tendency to move away from high-cost locations, leaving higher value added activities in cities. The 'soft' evidence point towards the same, but also brings out the scope, advanced level and geographical spread of activities in different cities.

The 'hard' and 'soft' evidence have been drawn on to suggest typologies for the features that promote economic growth in cities. These are shown in the table below, along with the historical growth rates of the cities for two periods.

It is immediately obvious that cities cannot be put under one type of feature. This is especially true of larger cities, which are described in *European Regional Prospects*,

the source for this study. While some cities, such as London and Paris, have features

from all of the four typologies, others, such as Athens or Rome, do not really have any

of the features to an important degree.

City	Knowledge-based economy	Specialism in an industry	Export orientation	Urban networks	Growth 1980-2003 (% pa)	Growth 1991-2003 (% pa)
Bruxelles		X			1.6	1.7
København	X		X	X	1.8	2.5
Stuttgart	X	X	X	X	2.5	2.0
München	X	X	X		2.8	2.8
Berlin					…	2.8
Hamburg		X	X		1.8	1.7
Frankfurt		X	X		2.3	1.6
Düsseldorf				X	1.3	1.3
Köln				X	1.3	1.2
Dresden	X		X		…	4.7
Leipzig	X	X	X		…	2.2
Athina					1.8	2.7
Madrid	X				3.3	2.9
Barcelona	X		X		2.6	2.1
Paris	X	X	X	X	2.1	1.1
Lille	X			X	1.4	1.2
Bordeaux		X	X		1.9	1.5
Toulouse		X	X		3.1	2.5
Lyon	X			X	3.1	2.4
Marseille	X		X	X	2.6	1.8
Dublin	X		X		5.9	7.0
Torino					1.2	1.2
Milano		X	X		1.5	1.4
Bologna		X	X		1.3	1.5
Roma					2.3	1.4
Utrecht	X				3.7	3.4
Amsterdam		X	X		2.8	2.5
Den Haag					1.9	2.4
Rotterdam			X		2.0	1.5
Wien					1.1	1.3
Lisboa					2.9	2.3
Helsinki	X		X		4.5	4.6
Stockholm	X		X		3.4	3.1
Manchester					1.8	2.5
Birmingham					1.7	2.0
London	X	X	X	X	3.1	3.0
Cardiff					4.0	3.8
Edinburgh	X	X			2.9	3.4
Glasgow					2.2	2.4
Praha					…	6.2
Budapest	X				…	3.7
Warszawa					…	7.3
Oslo					4.4	3.5
Genève	X	X	X		0.0	-0.2
Zürich	X	X	X		1.7	2.8
Moskva					…	…

It is also clear that city growth is influenced by the general macroeconomic conditions in their countries. For example, London has grown much faster in both periods than Paris. Similarly, the west German and Italian cities have underperformed, especially since the mid-1990s, when compared to the average performance of cities. Macroeconomic conditions also feature in the transition cities. Economies that have transformed from a centrally planned to a market economy have usually experienced 'catch-up' growth as manufacturing productivity increases and services essential to a market economy develop. Cities in economies that have been receiving financial assistance from the EU, have also done better than other cities, typically because development has previously been held back by the lack of investment.

The differences in macroeconomic conditions complicate links between the typologies and economic performance of cities. The cities which have features from all four typologies (London, Stuttgart and Paris) have had very different growth rates in the last decade. The same is true of cities with combinations of the features. However, cities with none of the features have relied on good general macroeconomic conditions for growth.

Within countries the features do seem to matter, especially if several are present in one city. In west Germany Munich and Stuttgart, both of which have three or more of the features, have performed better than the rest of the west German cities, due to their involvement in knowledge-based industries and their specialism in industries that have wider export markets. East German cities have experienced a certain degree of catch-up growth, but there also, Dresden, with its electronics cluster dating to pre-unification times, has experienced faster growth than the other two cities. This also illustrates the timing of specialisms, as in the case of Leipzig the specialisms shown in the table are relatively recent: the reestablishment of an ancient tradition (publishing) and recent investments in motor vehicles.

Another example is France where Lyons, Toulouse and Marseilles have grown faster than other French cities. Again this is due to their involvement in knowledge-based industries, but also specialist transport equipment (Airbus in Toulouse and Eurocopter in Marseilles). Lyons and Marseilles also benefit from the urban networks in their regions. The reason why Paris has performed poorly could lie in the over-

concentration of company headquarters, of administration and of large industrial companies. Current efforts at decentralisation may eventually restore economic growth to Paris, but in the initial stages they relocate some economic activities without replacing them.

Similar patterns to Germany and France can be seen in other countries, such as the Netherlands and the UK. In smaller economies, such as Finland, Denmark and, to a lesser extent, Sweden, the capital city regions also tend to be the main hubs of economic activity. This is especially true of Finland where Helsinki's specialism in ICT drives the economy and within that Nokia accounts for the vast majority of R&D expenditure.

Although city typologies offer rules of thumb for identifying drivers of growth, factors such as general economic conditions can also drive growth in cities with no real expertise or specialisms. Furthermore balanced cities will have features from more than one group and there are difficulties in assigning success of a city to one type of feature alone. However, when looking at cities within a country, rather than across Europe, the kinds of feature discussed in this paper can be useful in identifying what drives growth.

Appendix 1:

ESA95 SECTOR	SECTOR DEFINITION
A+B	**Agriculture, hunting, forestry and fishing**
C + D + E	**Energy and Manufacturing**
C + E	Mining and quarrying + Electricity, gas and water supply
DA	Manufacture of food products, beverages and tobacco
DB + DC	Manufacture of textiles and textile products + Manufacture of leather and leather products
DF + DG + DH	Manufacture of coke, refined petroleum products and nuclear fuel + Manufacture of chemicals, chemical products and man-made fibres + Manufacture of rubber and plastic products
DL	Manufacture of electrical and optical equipment
DM	Manufacture of transport equipment
DD +DE + DN + DI + DJ + DK	Other Manufacturing (Manufacture of wood and wood products + Manufacture of pulp, paper and paper products; publishing and printing + Manufacture of other non-metallic mineral products + Manufacture of basic metals and fabricated metal products + Manufacture of machinery and equipment n.e.c. + Manufacturing n.e.c.)
F	**Construction**
G + H + I + J + K	**Market Services**
G	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods
H	Hotels and restaurants
I	Transport, storage and communication
J	Financial intermediation
K	Real estate, renting and business activities
L + M + N + O + P	**Non-Market Services**
L	Public administration and defence; compulsory social security
M	Education
N	Health and social work
O	Other community, social and personal service activities
P	Private households with employed persons
Q	Extra-territorial organizations and bodies

Appendix 2:

City Name	Corresponding Region(s)
Bruxelles	Bruxelles NUTS-1 region, Halle-Vilvoorde NUTS-3 region
København	NUTS-3 regions: København og Frederiksberg Kommuner, Københavns amt, Frederiksborg amt and Roskilde amt
Stuttgart	NUTS-3 regions: Stuttgart Stadtkreis, Böblingen, Esslingen, Ludwigsburg and Rems-Murr-Kreis
München	NUTS-3 regions: München Kreisfreie Stadt, Dachau and München Landkreis
Berlin	Berlin NUTS-1 region
Hamburg	Hamburg NUTS-1 region
Frankfurt	NUTS-3 regions: Frankfurt am Main Kreisfreie Stadt, Offenbach am Main Kreisfreie Stadt, Offenbach Landkreis, Groß-Gerau, Hochtaunuskreis and Main-Taunus-Kreis
Düsseldorf	NUTS-3 regions: Düsseldorf Kreisfreie Stadt, Duisburg Kreisfreie Stadt, Mettmann, Neuss and Wesel
Köln	NUTS-3 regions: Köln Kreisfreie Stadt, Leverkusen Kreisfreie Stadt and Erftkreis
Dresden	Dresden NUTS-3 region
Leipzig	Leipzig NUTS-3 region
Athina	Attiki NUTS-1 region
Madrid	Madrid NUTS-1 region
Barcelona	Barcelona NUTS-3 region
Paris	Île de France NUTS-1 region
Lille	Département du Nord NUTS-3 region
Bordeaux	Département de la Gironde NUTS-3 region
Toulouse	Département du Haute Garonne NUTS-3 region
Lyon	Département du Rhône NUTS-3 region
Marseille	Département des Bouches du Rhône NUTS-3 region
Dublin	Dublin NUTS-3 region
Torino	Torino NUTS-3 region
Milano	Milano NUTS-3 region
Bologna	Bologna NUTS-3 region
Roma	Roma NUTS-3 region
Utrecht	Utrecht NUTS-2 region
Amsterdam	Groot-Amsterdam NUTS-3 region
Den Haag	Agglomeratie 's-Gravenhage NUTS-3 region
Rotterdam	Groot-Rijnmond NUTS-3 region
Wien	Wien NUTS-2 region
Lisboa	Lisboa NUTS-2 region
Helsinki	Helsinki NUTS-4 region
Stockholm	Stockholm NUTS-2 region
Manchester	Greater Manchester NUTS-2 region
Birmingham	West Midlands County NUTS-2 region
London	Greater London NUTS-1 region
Cardiff	Cardiff and Vale of Glamorgan NUTS-3 region
Edinburgh	NUTS-3 regions: Edinburgh City, East Lothian and Midlothian and West Lothian
Glasgow	NUTS-3 regions: Glasgow City, East and West Dunbartonshire, Inverclyde, East Renfrewshire and Renfrewshire and North Lanarkshire
Praha	Praha NUTS-2 region
Budapest	Közép-Magyarország NUTS-2 region
Warszawa	NUTS-3 regions: Warszawski and Miasta Warszawa
Oslo	Oslo og Akershus Level-2 region
Genève	Genève Level-3 region
Zürich	Zürich Level-2 region
Moskva	Moskva city region