

ESPON 2013 PROGRAMME

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“The Case for Agglomeration Economies in Europe / CAEE”

Contract 024/2009

Draft final report

Prepared by the **Lead Partner** (Institute for Political and Economic Governance, University of Manchester, UK), with assistance from the **Project Partners** (Universitat Politècnica de Catalunya, Barcelona, Spain, Ecole Normale Supérieure Lettres Sciences Humaines, Lyon, France, and the National Institute for Regional and Spatial Analysis, National University of Ireland, Maynooth, Republic of Ireland)

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Executive summary

The CAEE study

1. This draft final report sets out the emerging findings from the CAEE study, whose primary purpose has been to examine the relationship between agglomeration economies and city-regional/metropolitan governance. As noted in the study team's inception and mid-term reports, any attempt to examine this relationship has to address significant conceptual as well as empirical challenges. However these challenges are worth facing because of the importance of linking together two vigorous debates that have taken place, in academia and policy-making circles, largely independently, in recent years. The first focuses on the importance of 'new' agglomeration economies to patterns of European spatial economic change and especially the apparent 'stretching' of national and international urban hierarchies (i.e. growing differences in the economic performance of urban areas). The second concerns claims that are made for the emerging importance of governance arrangements for 'natural economic areas' in facilitating effective adaptation to economic change.
2. In bringing these two debates together, the CAEE study has attempted to go beyond a 'black box' approach to the relationship between agglomeration economies and city-regional/metropolitan governance, which has identified an association between superior economic performance and the existence of a city-regional/metropolitan unit or tier of governance *of any sort*. Instead, it has focused on assessing which characteristics of city-regional/metropolitan governance, if any, enable and shape agglomeration economies and with what effect. It was only by attempting to understand *what* city-regional/metropolitan governance comprises, *how* it matters and *to whom* that the study could improve upon existing knowledge and fulfil its aspiration to inform debates about policy choices and institutional design. In adopting this focus, the research team has been careful not to assume that the field of metropolitan/city-regional *governance* is defined entirely by metropolitan/city-regional *institutions*. Whilst institutions at this scale are important to varying

extents, their competencies and capacities differ widely across, and even within, national contexts and their scope and influence depends, in all cases, on relationships with other levels of government and governance (local, regional, national, international) and between public agencies and non-statutory interests and organisations.

3. The project has consisted of five main work packages, all of which are now completed barring some final analytical tasks and cross-checking of results. The last significant step in the research that will be completed in May, through a final meeting between the research team and the Steering Group in Lyon, is the co-production of a set of implications for policy and institutional design, the results of which will be fed into the final report.
4. In broad terms, the study was divided into two main sets of tasks; one which enabled a 'wide and shallow' analysis of the importance of agglomeration economies to changes in the European hierarchy, and another focused upon the case study metropolitan areas/city-regions around Barcelona, Dublin, Lyon and Manchester which examined the impact of the 'new agglomeration' on the internal geography of activity, assessed the evolution of metropolitan/city-regional governance over time, and attempted to gauge the extent to which these governance arrangements had contributed, as part of a broader set of public sector interventions, to reshaping the environment in which agglomeration economies are realised.

The 'new agglomeration' and spatial economic change

5. The study has identified a close correlation between metropolitan areas/city-regions in Europe (or rather the best proxies that are available from standard data sources) which are characterised by intense concentrations of employment and Gross Value Added and those that have experienced highest net wealth creation in recent years. It has also confirmed that the case study areas, centred upon Barcelona, Dublin, Lyon and Manchester, and especially the core areas that contain the central cities, experienced economic growth rates, during the decade that preceded the current global recession, that were high by European standards and stood out within their particular national

contexts. The case study areas were therefore not simply beneficiaries of a sustained period of national economic growth, they were important drivers of that growth. As a result, they have further strengthened their positions within their respective national urban hierarchies.

6. The study has also found evidence of a positive relationship between employment density and labour productivity over time which has strengthened over the last decade. Whilst it is difficult to test 'localisation' and 'urbanisation' economies – the two principal forms of agglomeration identified in the conceptual literature – directly, the results are also consistent with the commonsense claim that localisation economies were more important in the earliest period covered by the econometric study (the 1980s) but that urbanisation economies, which are often argued to be more relevant to service sector activities, have become more important in the later period.
7. The shifting balance between urbanisation and localisation economies is broadly reflected in the changing geography of economic activity in each of the case study areas. The highest rates of economic growth, as measured by employment change, tend to be found in relatively high value service sector activities at the core of each of the conurbations whilst older manufacturing industries tend to survive in pockets in smaller urban centres at the metropolitan periphery. Higher value manufacturing activity and some of the more routine service sector activities – particularly those requiring extensive land – tend to cluster around key transportation infrastructures, often on the fringe of the core urban area.

The evolution of metropolitan/city-regional governance

8. Each of the case studies is characterised by different experiences with the development of metropolitan/city-regional governance which varies according to: the national institutional context within which they operate; the degree to which they are institutionalised; the powers, competencies, capacities and resources that any such institutions or group of institutions possess; the extent to which governance at the metropolitan/city-regional scale focuses on policy

co-ordination between different levels of government as opposed to service delivery, and; the degree to which the primary responsibilities of governance arrangements at the metropolitan/city-regional scale is seen to revolve around the management of economic change and its social, environmental and spatial consequences.

9. The one constant, across each of the case study areas, is the gradual development of stronger metropolitan/city-regional governance arrangements over the long term, stretching back over a 20-40 year period. This has been driven partly by the greater complexities brought about by suburban sprawl and the decentralisation of economic activity, partly by the demands created by the transition to a knowledge-based economy and partly by growing awareness of the interconnected fortunes and different potentials of areas within the metropolitan areas/city regions. In other respects, though, the case study areas occupy different positions on a variety of continuums, e.g. centralised/decentralised (with Ireland at one end and Spain at the other), simple/complex institutional framework (where the Irish and UK division of labour between different tiers of government are less complex than those between the multiple levels found in France and Spain).

How has metropolitan/city-regional governance made a difference?

10. Were we to rank our various case study areas according to the longevity, consistency, capacity and influence of the institutions that have been created at the inter-municipal scale at something approximating the metropolitan area or city-region over the last 30-40 years, Lyon would appear at the top, followed by Manchester, Barcelona and Dublin. This stark summary, however, simplifies a complex picture within which the direction of travel – towards greater integration and coherence – is similar but the routes through which it has been approached vary widely, as do the factors that encourage or discourage success in this respect.
11. Irrespective of the levels of autonomy and influence possessed by metropolitan or city-regional institutions, two things are clear. First, and most obviously, none of the institutions have a very direct influence over patterns of

spatial economic change and agglomeration, not least because decisions within the public sector as a whole can only ever shape the context in which choices by firms and households are made. The patterns produced by the locational preferences of different sorts of economic activity are the largely unintended consequences of myriad firm-level choices, not the designs or preferences of public policy-makers.

12. Second, in relation to the key contributions that interviewees identified as having shaped the business environment, in the widest sense, most powerfully - critical communication infrastructures, the availability of skilled or high potential labour (including the presence of research intensive higher education institutions), international connectivity through a globally connected hub airport, the clarity, decisiveness and speed of public planning processes, and so on – even the strongest metropolitan/city-regional institutions are ‘bit part players’ that can only influence public sector choices within these areas at the margin.

13. In one sense, the line of causality that it is implied when we ask the question ‘what impact have metropolitan/city-regional institutions had upon agglomeration economies?’ also works in the opposite direction, and the forms of governance we have described in this report can be interpreted as partial, and always incomplete, attempts to assemble the capacity, autonomy and forms of influence that make it possible to deal more effectively with the challenges that new patterns of economic change throw up. This is not to argue that there are not elements of the processes of institutional development and policy integration that are more effective and provide valuable lessons. Following the last stage of the research process, these will be identified in the final report.

1. Introduction and purpose of the study

The CAEE study forms part of the ESPON 20013 programme that is devoted to ‘targeted analyses’ and falls under category (2), ‘targeted analyses based on user demand’. The ‘users’, in this instance, are four key policy-making and delivery bodies based in Manchester (UK), Barcelona (Spain), Dublin (Republic of Ireland) and Lyon (France) which, under the leadership of the Commission for the New Economy in Greater Manchester (formerly Manchester Enterprises), developed the CAEE framework as a way of further exploring their interests in the impact of agglomeration economies within and beyond the territories they cover and the extent to which the beneficial impacts of recent patterns of agglomeration have been shaped, and might be managed more effectively, by public policies and programmes and particularly by institutions and partnership arrangements operating at, or for, metropolitan areas or city-regions.

As noted in the study’s earlier inception and mid-term reports, neither ‘agglomeration’ nor ‘metropolitan/city-regional governance’ are straightforward concepts. The value of looking at them in relationship to one another, however, merits the conceptual and methodological effort involved in that it potentially links together two vigorous debates that have taken place, in academia and policy-making circles, largely independently, in recent years. The first focuses on the importance of ‘new’ agglomeration economies to patterns of European spatial economic change and especially the apparent ‘stretching’ of national and international urban hierarchies (i.e. growing differences in the economic performance of urban areas). The second concerns claims that are made for the emerging importance of governance arrangements for ‘natural economic areas’, as opposed to more arbitrarily-defined administrative ‘units’, in facilitating effective adaptation to economic change. These claims are supported, but by no means proven, by a limited economics literature that identifies positive correlations between superior economic performance and the presence or absence of a tier or unit of governance that is organised at the metropolitan/city-regional scale.

In bringing these two debates together, the CAEE study has attempted to go beyond a ‘black box’ approach to this positive correlation which tends to assume that beneficial economic effects are generated by city-regional/metropolitan tiers or units of governance *of any sort*. Instead, it has attempted to assess which characteristics of city-regional/metropolitan governance, if any, enable and shape agglomeration economies and with what effect by examining the experiences of the metropolitan areas/city-regions focused on our case study cities, each of which is characterised by very different forms of cross-jurisdictional governance, comprising various institutions, elected and non-elected, and different sorts of relationship between agencies and tiers of government. It was only by attempting to understand *what* city-regional/metropolitan governance comprises, *how* it matters and *to whom* that the study could hope to improve upon existing knowledge and fulfil its aspiration to inform debates about policy choices and institutional design.

The Steering Group for the study, in co-operation with ESPON, established a challenging brief for the study that was restated, in modified form, in our inception report as a series of objectives that drove the work programme. Some of these objectives dealt with the conceptual and methodological challenges that needed to be addressed in research design and do not require restating in a ‘findings’ report such as this. Others focused upon the substantive ambitions of the study and these provide the focus of this report. In essence, the core substantive concerns can be captured in a small number of key questions that the study was designed to address, which are:

- Can it be shown that differential agglomeration economies have reshaped national and European urban hierarchies and to what extent have they privileged the larger, more dense, economically diverse and highly connected cities and metropolitan areas such as our case study areas?
- How have agglomeration economies shaped the geography of economic activity *within* our selected metropolitan areas and city-regions?

- What institutional capacity and levels of autonomy are present within the case study areas at the metropolitan/city-regional scale and how have these changed over time?
- Is there evidence to suggest that public policies and public expenditure have played a key role in the promoting and shaping the pattern of agglomeration economies?
- To what extent have metropolitan/city-regional institutions and forms of governance contributed to the total public sector effort?, and
- What lessons can be learned from the experience of metropolitan or city-regional governance arrangements in the case study areas, how transferable are they, and how might their capacity to understand, promote and manage the benefits of agglomeration economies develop in future?

This draft final report provides an overview of study findings on the first five of these questions. Although it is a long report, it does not present all the details of the research that has been completed for the five work packages set out in the inception report. These are captured in individual working papers and case study reports. Nor does it arrive at firm conclusions on the final question. This is due to be addressed, iteratively, in a meeting of the research team and Steering Group members in Lyon in May. The results of those discussions, along with observations from the ESPON CU, will be incorporated into the concluding section of a shorter, final report.

The remainder of the report is organised into four main sections. Section 2 reviews the evidence, at European and national scales, that new agglomeration economies have resulted in a ‘stretching’ of urban hierarchies, whereby the larger, denser, most economically diverse and well-connected metropolitan areas/city-regions have experienced stronger economic performance. It also examines the impact of these more generalised changes at the individual metropolitan/city-regional scale by examining the way in which the geography of sector-specific economic activity

has changed. Section 3 then reviews the evolution of metropolitan/city-regional governance arrangements in each of the four case study areas, paying particular attention to the degree of autonomy and capacity that has been created at (or for) these scales through successive institutional and policy reforms. Section 4 attempts to link the two preceding sections together, with reference to the case study work, by assessing the extent to which public policies and the activity of public agencies *in general* can feasibly claim to have shaped agglomeration economies before describing the way in which the institutions and governance arrangements described in Section 3 have contributed to this process. At present, the case findings set out in Sections 2, 3 and 4 are presented on a case by case basis. For the final version of the report, these sections will be shortened and organised thematically in order to draw comparisons more directly. Section 5 describes the remaining tasks and timetable for the study.

2. The ‘new’ agglomeration and spatial economic change

In our conceptual and methodological review of the academic literature on agglomeration, we identified two alternative traditions which are associated with rather different assessments of the in-principle ways in which the co-location of economic activity brings benefits to firms and households. The two broad traditions of agglomeration analysis speak, on one hand, of ‘localisation economies’, whereby firms are argued to benefit from localised supply chains, technological and knowledge ‘spill-over’ effects and the creation of pools of specialised labour skills whose attributes are well matched to the needs of a particular industry or set of related industries. On the other, they refer to ‘urbanisation economies’ and make claims about the advantages gained by households as well as firms, regardless of sector, from intense concentrations of economic activity. Urbanisation economies are partially based on economies of scope which offer agents located in densely populated markets the opportunity to take advantage of positive externalities, such as those associated with knowledge spillovers across firms between as well as within industries, the presence of a more extensive division of labour or increasing returns owing to firm-level economies of scale and improved firm-worker matching. The variety of employment opportunities available within dense labour markets also maximise the possibility of job-switching and career acceleration and provide workers with insurance against under- and unemployment.

In principle, we might expect to find examples of localisation and urbanisation economies across all types of economic activity (and even in non-market sectors given that the attractiveness of places to public sector labour migrants is influenced by the density, range and level of public employment available). Broadly, however, localisation economies have generally been associated with manufacturing sectors whilst urbanisation economies have been thought of as more relevant to service sector activity. The corollary of this, in a period in which there has been a substantial shift, in Europe, from an industrial to a knowledge-based economy, at least in terms of employment numbers, is the assumption that urbanisation economies have become more important over time.

The study's econometric analysis attempted to assess the importance of both forms of agglomeration economies by looking at the relationship between employment density and labour productivity. The broad context for this analysis, however, is one in which it is apparent, from crude standard indicators, that recent trends in wealth generation have been dominated by key metropolitan areas and city-regions. This is demonstrated in a series of maps, below. The first two maps show the concentrations of Gross Value Added (GVA) in NUTS 3 areas (typically bigger than the administrative areas covered by cities but smaller than regions) across Europe as at the last recorded data point, 2006, and the increase in GVA over the previous decade for the same areas.

Figures 1 and 2 show that the study's case study areas appear within the top 8% of European NUTS 3 areas on both measures and the high degree of co-incidence, amongst and beyond the case study areas, between areas that are characterised by high concentrations of GVA and high net increases in GVA provides one indication of the importance of key metropolitan areas and city-regions to patterns of economic growth in the period leading up to the global financial crisis. The effect of high net GVA increases in already GVA-rich areas, of course, widens the performance gap between these and other areas. The maps also illustrate continued disparities between Europe's western and Scandinavian 'core' and its southern and eastern peripheries and the continued importance of national economic performance to sub-national growth (as illustrated, for example, by high levels of net GVA growth across Ireland and low levels of growth across Portugal and much of eastern Europe during the period). The variegated pattern of net GVA growth in other countries (e.g. Germany, Italy), which appear because national economic performance was neither strong enough to place the majority of NUTS 3 areas in the highest band by European standards nor sufficiently weak to place them in the lowest band, reminds us, however, that sub-national variations remain strong. This is more readily apparent if the focus shifts to variations within individual countries.

Figures 3-10 present similar pairs of maps for each of the countries within which our case study areas sit. Because the range of values in each case is narrower than is the case at the pan-European scale, they present a higher resolution picture of the 'weight' and growth performance of our case study areas relative to national comparators.

Figure 1

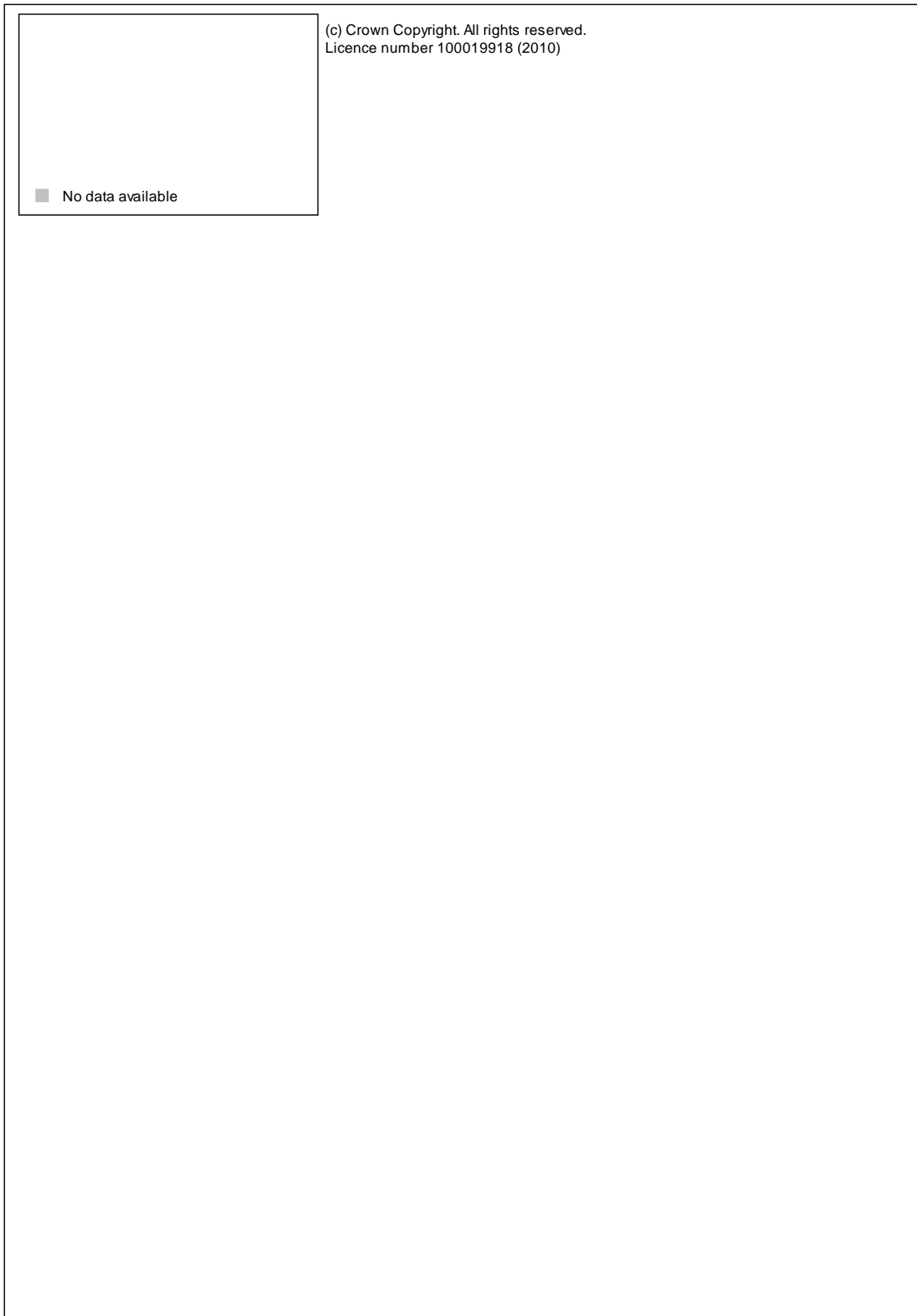
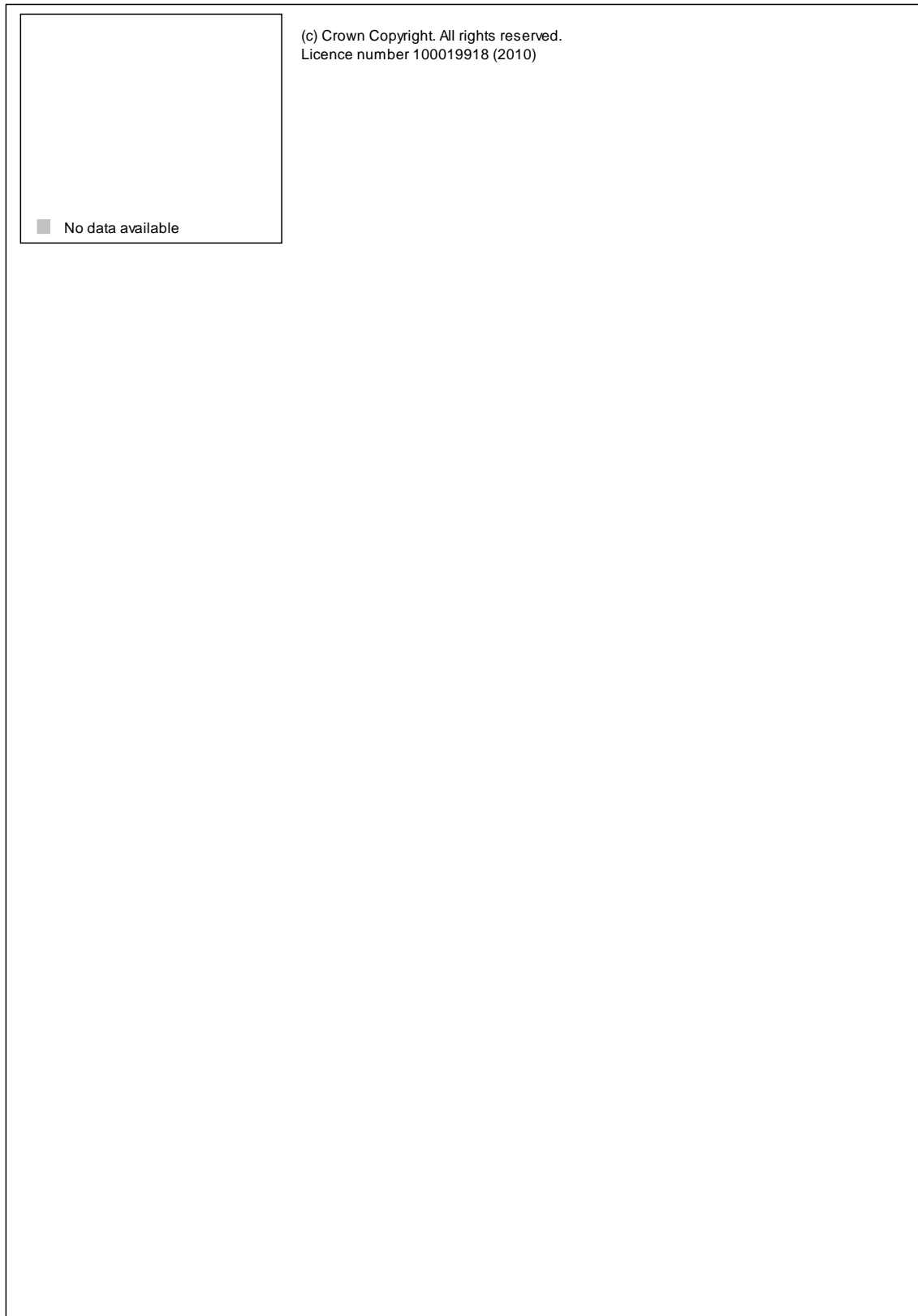


Figure 2



Whilst the effect of grouping NUTS 3 areas together in various ‘bands’ is to downplay the differences between ‘primate’ cities (Paris, Dublin, Madrid and Barcelona, London) plus their hinterlands and other high performing areas, the maps nonetheless demonstrate that a combination of high GVA concentration and high net levels of recent GVA growth have enhanced the positions of our case study areas within their respective national urban hierarchies. The effect has been to strengthen Dublin’s role as the dominant metropolitan area within Ireland (Figures 5 and 6), to confirm Barcelona’s place alongside Madrid as the key metropolitan growth area in Spain (Figures 7 and 8) and to reinforce Lyon’s position (and, to a lesser extent, those of Aix-Marseille and Lille) within the ‘second tier’ of the French urban hierarchy, beyond Paris (Figures 3 and 4).

Manchester stands in relation to London and the ‘super region’ that surrounds it in much the same way as Lyon does to Paris. Greater Manchester, comprising two NUTS 3 areas, is unique amongst the case studies, however, in the contrasting fortunes that are found between its northern and southern ‘wings’. Figure 9 confirms that Greater Manchester South, which contains the administrative city of Manchester, has the highest concentration of GVA in the UK outside London and the extensive group of high GVA areas that surround the capital. It also confirms that Greater Manchester North and, even more so, Cheshire, immediately south of Manchester, have comparatively high levels of GVA. As Figure 10 shows, however, whilst net GVA growth in Greater Manchester South between 1996 and 2006 was at a level comparable to that found in the more extensive high growth area surrounding London and that of Cheshire was comfortably above the national average, Greater Manchester North was one of only seven NUTS 3 areas in the UK that saw net GVA decline during the period. The seemingly positive relationship between very high GVA growth in Greater Manchester South and high growth in Cheshire, which suggests (but does not demonstrate) significant spill-over effects, is the norm in the other case study areas, where peak level GVA growth in the NUTS 3 area containing the principal city is shadowed by higher than average growth in neighbouring NUTS 3 areas.

Figure 3

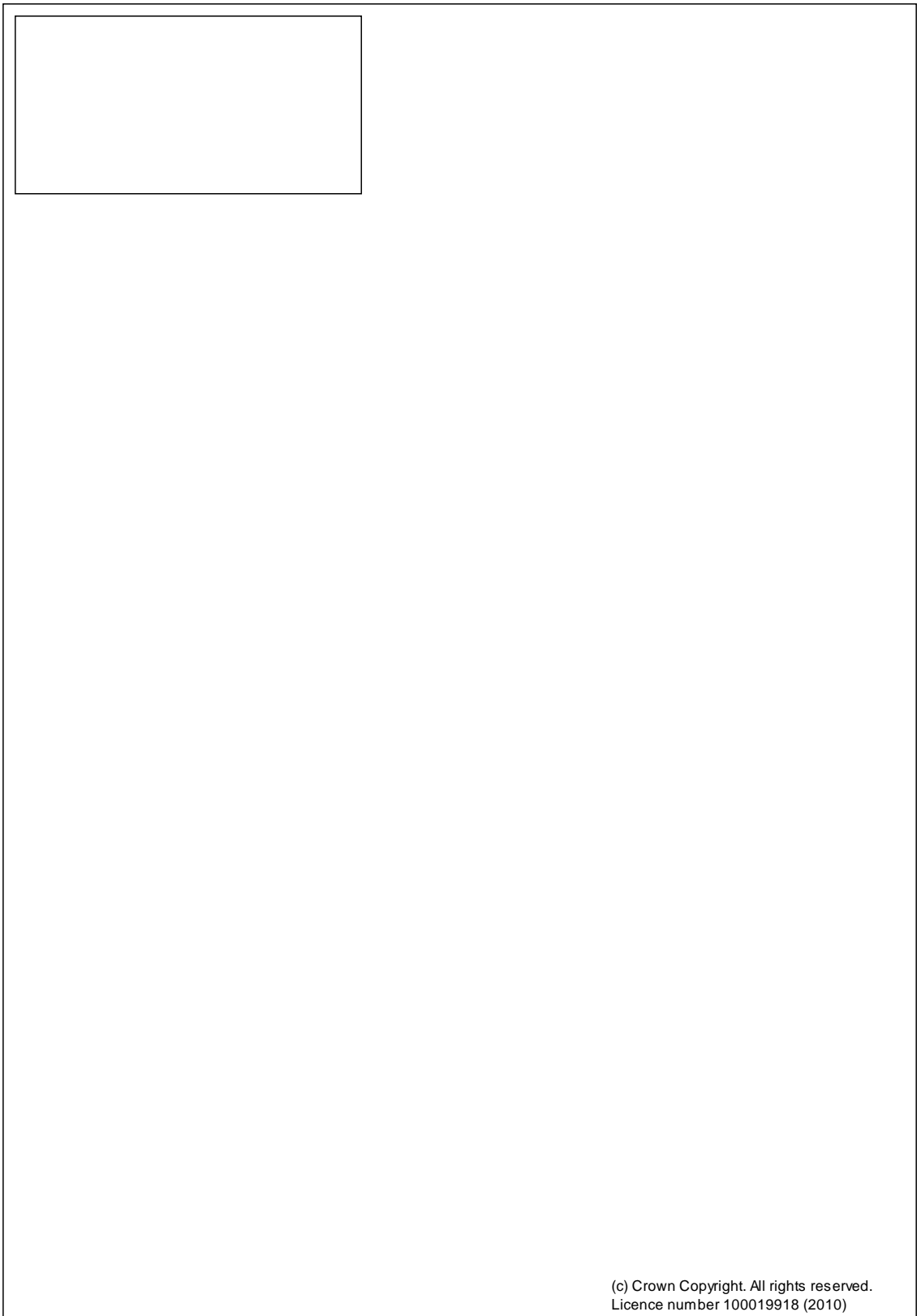


Figure 4

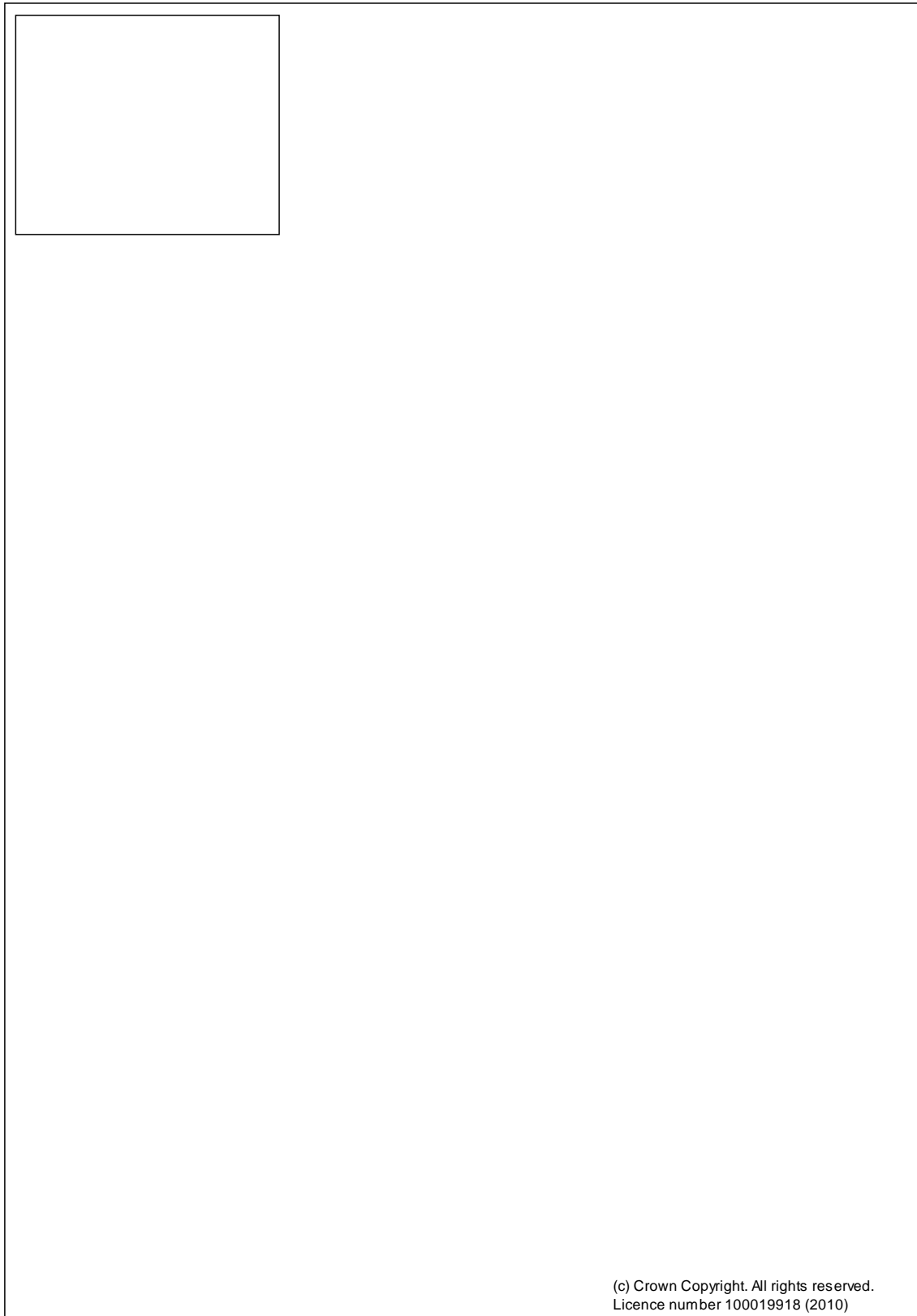


Figure 5

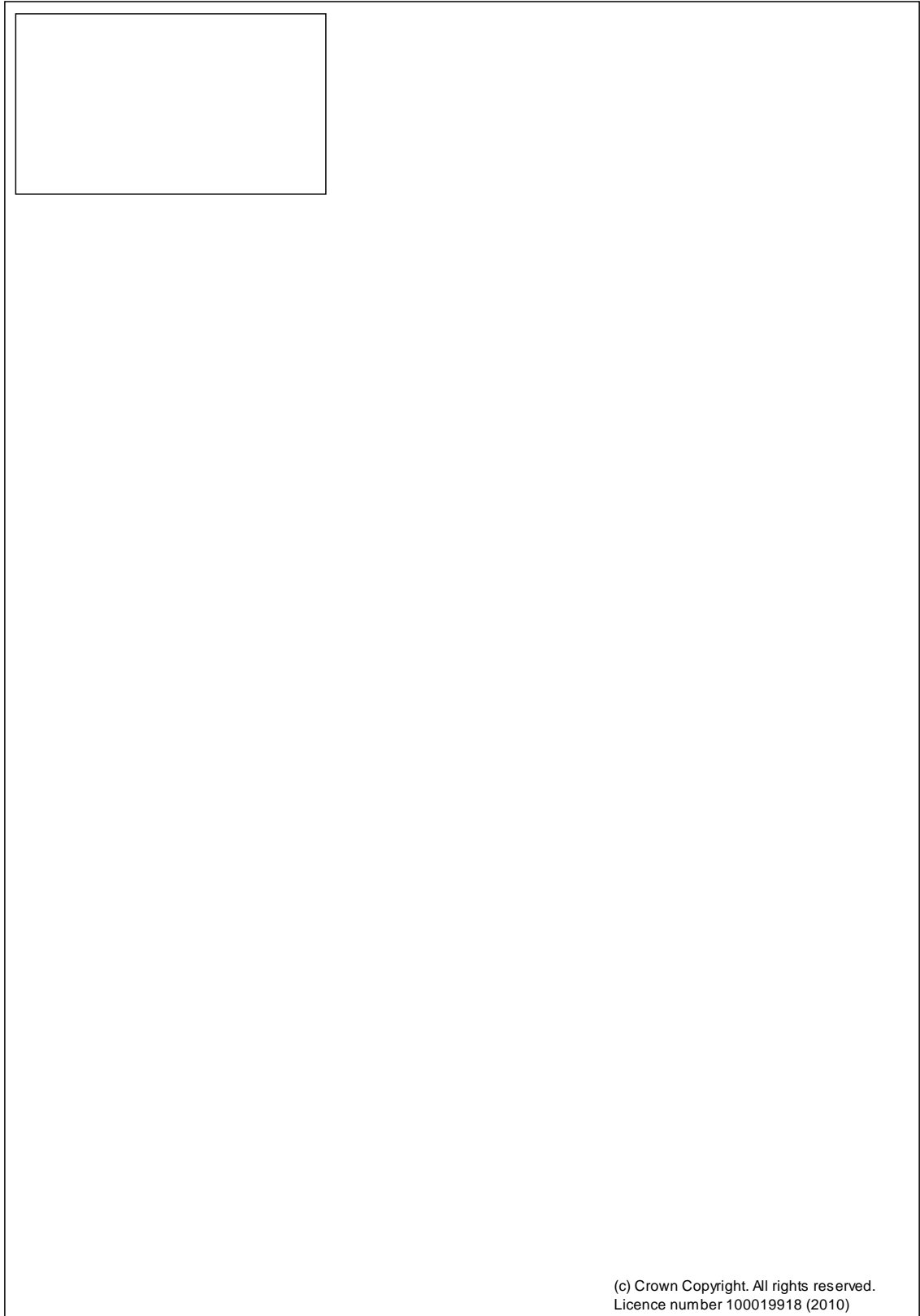


Figure 6

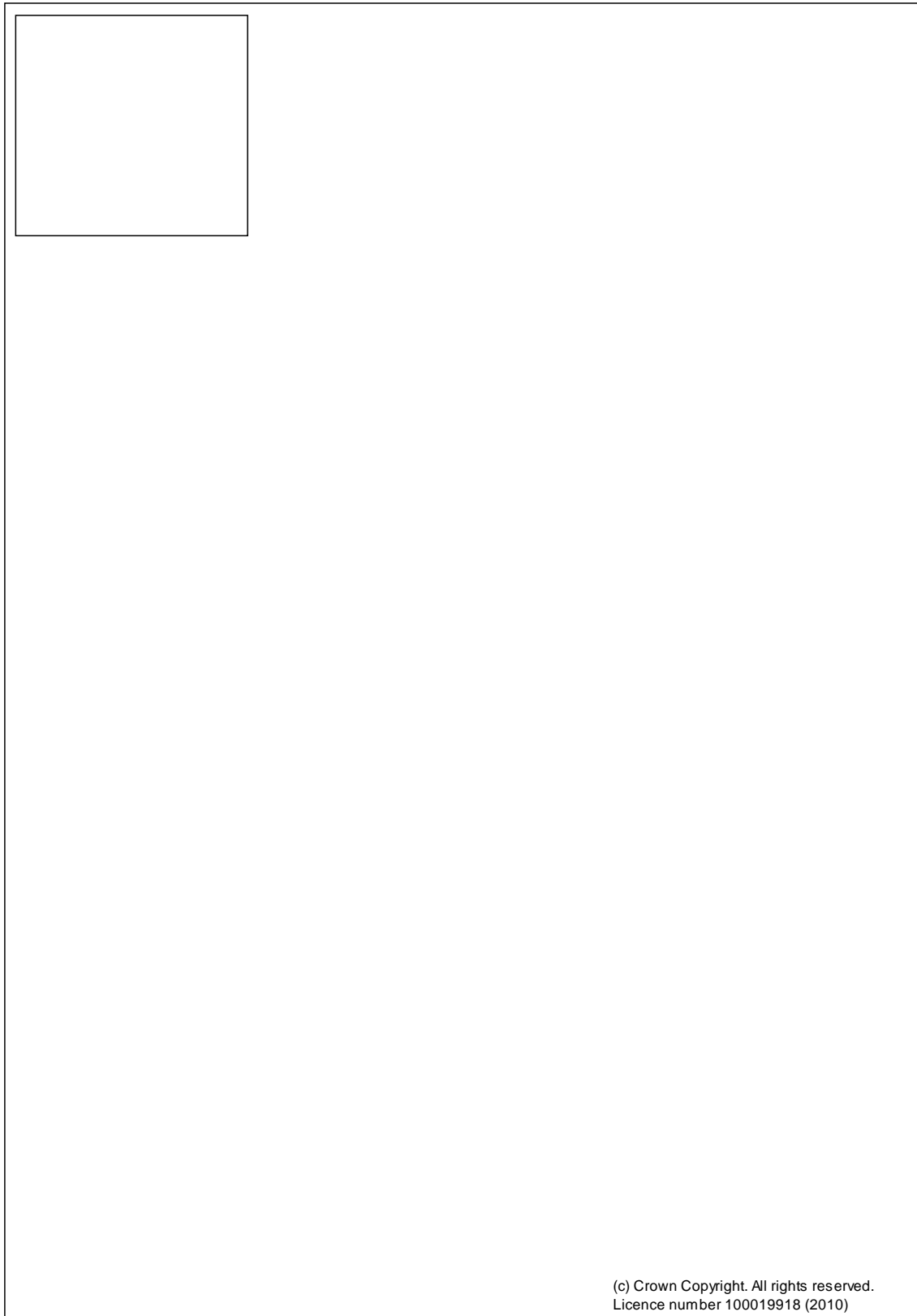
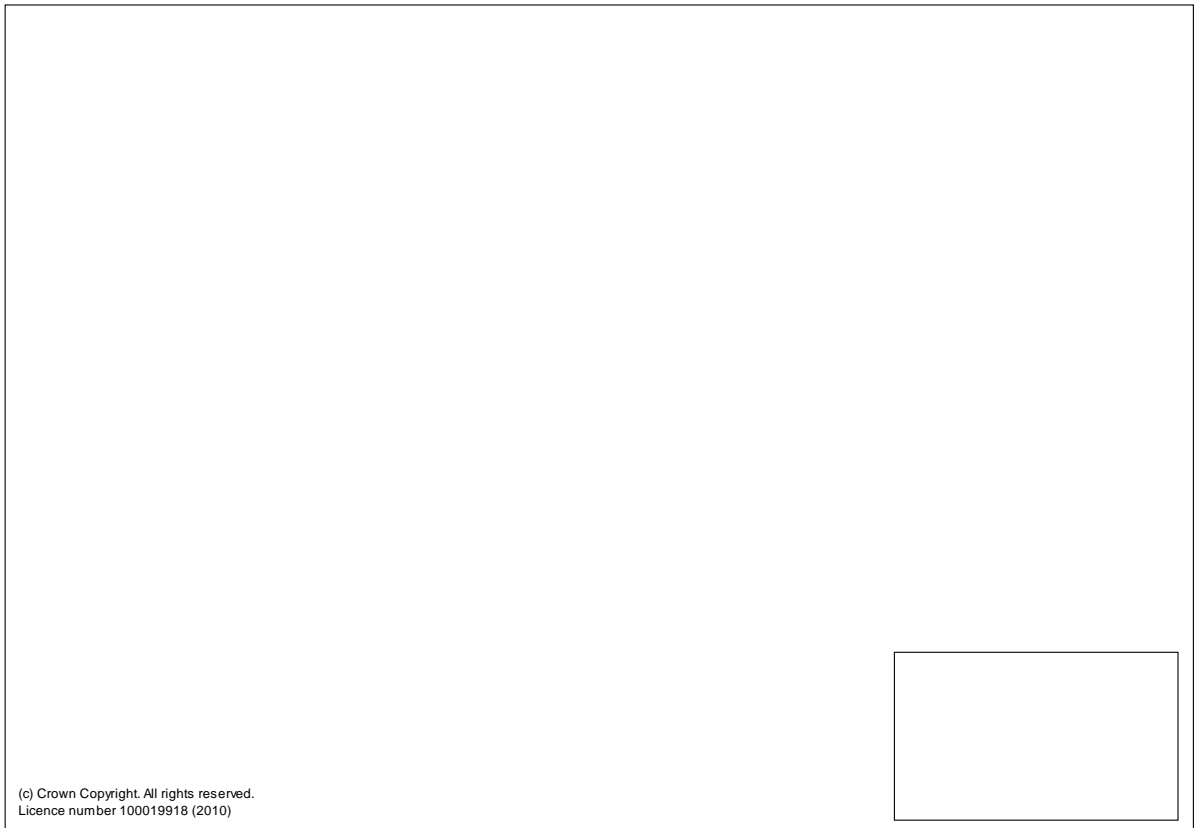


Figure 7



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Figure 8

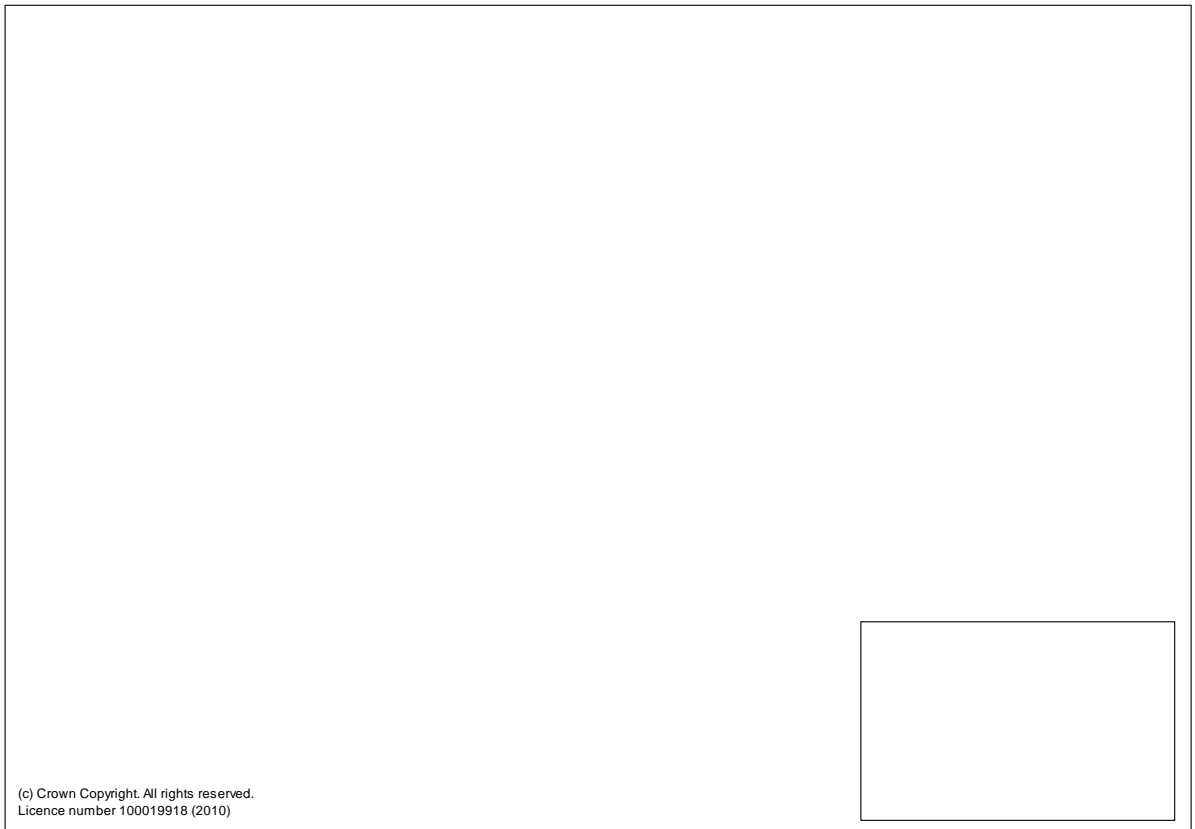


Figure 9

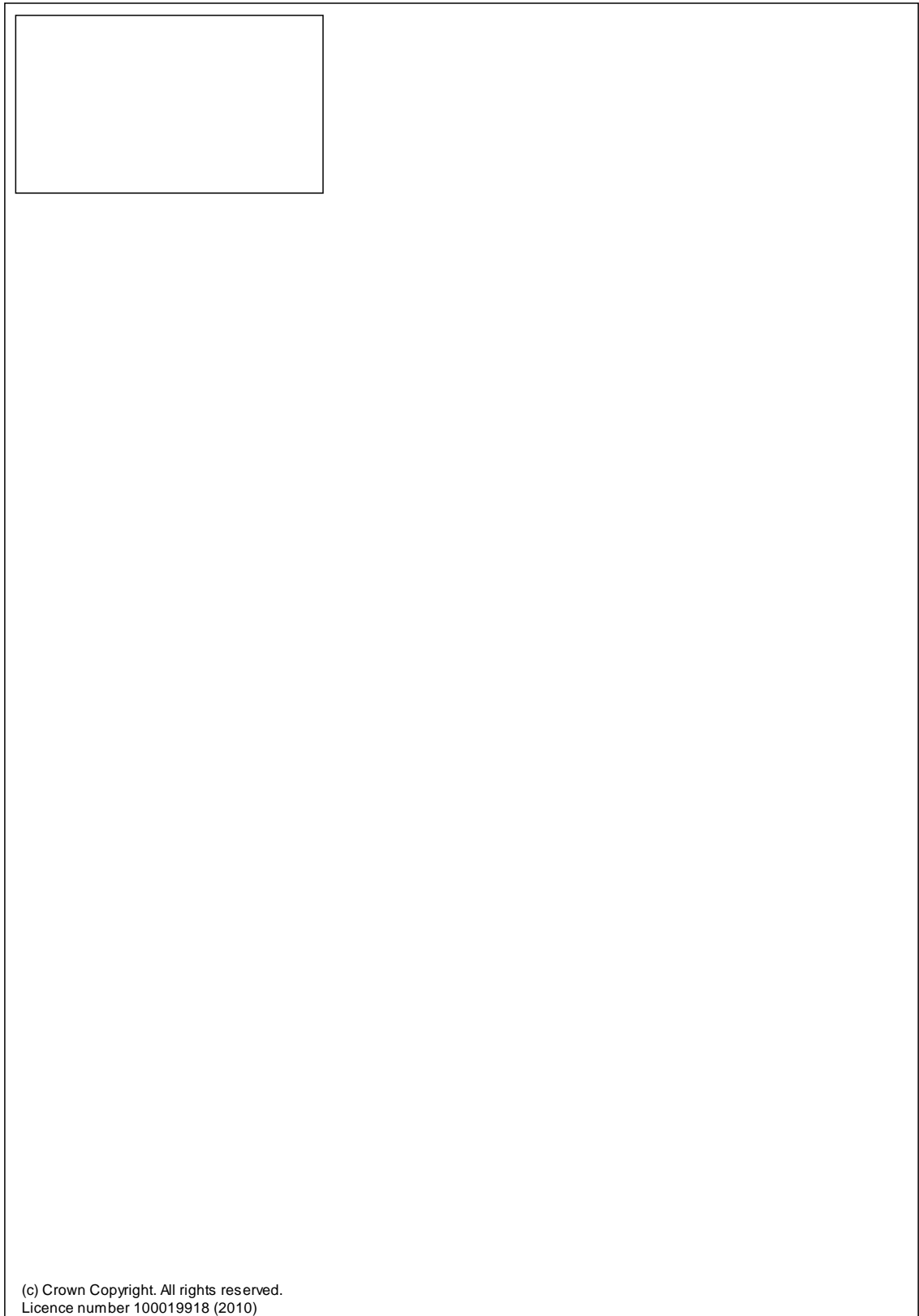
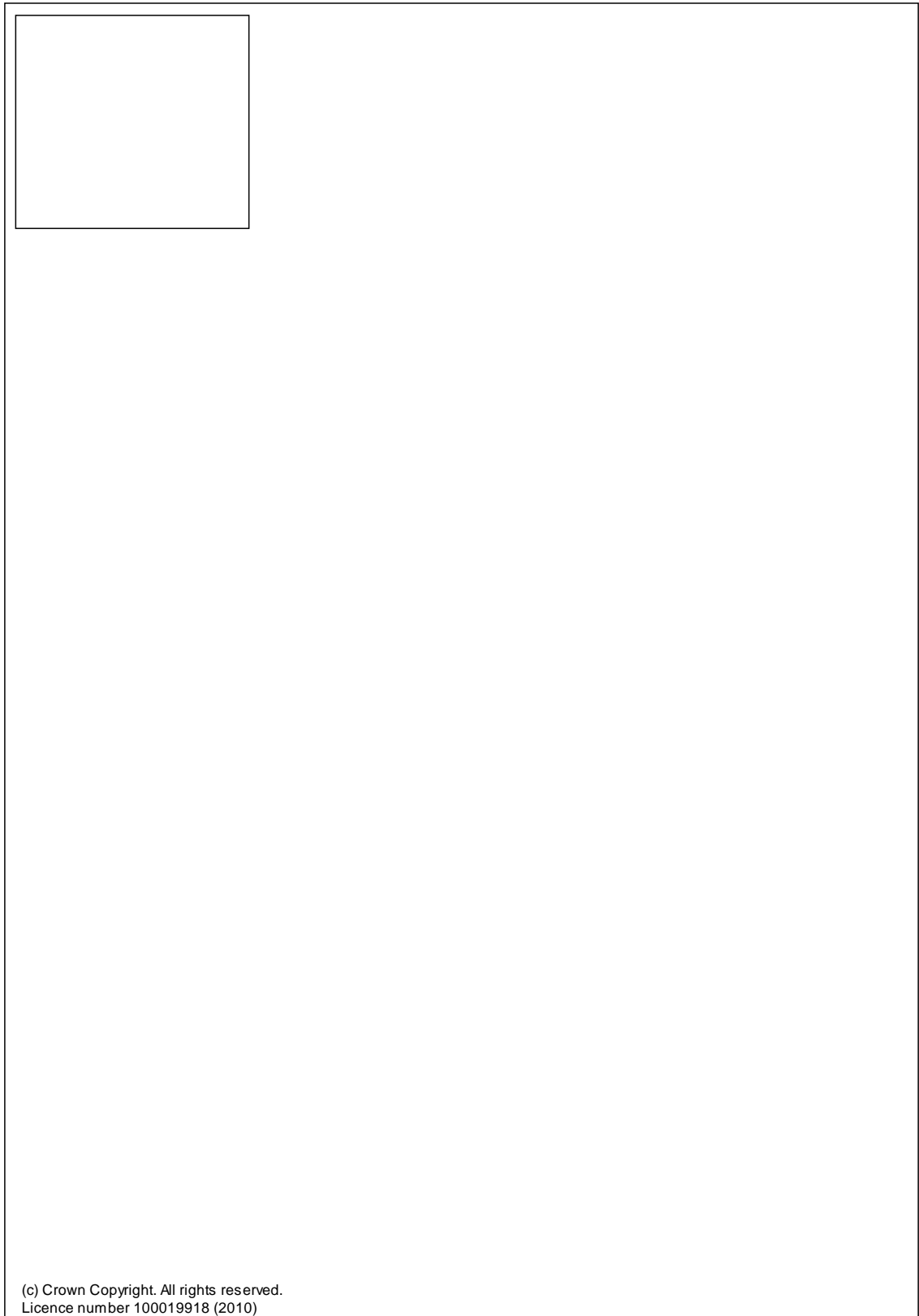


Figure 10



The patterns of growth shown by these maps are indicative of a strong relationship between high GVA growth and areas of GVA concentration. In and of themselves, however, they do not demonstrate high productivity, a key driver of agglomeration economies, in such areas. In principle, the patterns they describe could simply be the result of differential concentrations of employment, irrespective of labour productivity. It is therefore necessary to look more closely at the relationship between density of employment and productivity (defined as GVA per job). The econometric element of the study has attempted to do this. Given that the reliability of econometric models depends upon the availability of a large number of observations, there are limits to their utility in comparing individual cases. We have therefore focused upon examining the relationship between employment density and productivity in a general sense, and trying to understand how it has changed over time and varies between different forms of economic activity, principally manufacturing as opposed to services.

The additional challenge that has to be faced in such an analysis, given that the geography of data units has a vital bearing on the way employment densities are calculated, is the fact that standard data units rarely correspond with relatively continuous built up areas (metropolitan areas) or to those areas that have the strongest economic inter-relationship with one or more core employment areas (city-regions). In our cases, for example, the NUTS 3 areas centred upon Barcelona and Lyon are reasonable proxies for their respective city-regions areas whereas the comparable area around Dublin would comprise two NUTS 3 areas – Dublin, centred upon the city, and the surrounding Mid East – and the Manchester equivalent would ideally contain the Greater Manchester South NUTS 3 area plus parts of Cheshire and rather less of Greater Manchester North than is contained within the existing Greater Manchester NUTS 2 area. Constructing more logically comparable units for a large enough sample of European metropolitan areas and city-regions would, however, be a complex research undertaking in its own right. Our econometric analysis therefore adopts a three-pronged approach which applies the same methodology, separately, to NUTS 2 and NUTS 3 areas and to a bespoke set of units constructed from collections of NUTS 3 areas that was developed for the Urban Audit. Here, we concentrate on the

NUTS 2 analysis. For the final report, the results will be cross-checked against those produced by the other two.

The study's econometric analysis has aimed to establish the presence of agglomeration economies across Europe by estimating the strength of observed agglomeration effects and the way they have developed over time. Empirical research estimating the extent to which agglomeration economies influence the development of (urban) regions has tended to focus on how positive externalities manifest themselves in a given area's labour productivity. Such studies then construct an "agglomeration" variable by using a measure of economic density, such as employment density, as a proxy for the concentration of economic activity. In previous empirical studies, labour productivity has generally exhibited a positive relationship with measures of employment density, though the estimates tend to vary in magnitude. The relationship is usually expressed in terms of how much a doubling of employment density would increase labour productivity (i.e. an estimate of elasticity). While US and EU estimates of this relationship have varied, most estimates have fallen within a range of 4% to 14%.

The wide range of agglomeration-productivity elasticity estimates has been influenced by the estimation techniques employed and how they tackle the potential sources of reverse causality (or endogeneity) in empirical studies of agglomeration effects. Simply put, it is not always easy to determine, unambiguously, whether employment density has enhanced labour productivity or whether labour productivity has brought about an increase in employment density. The general empirical approach to dealing with this issue is to replace the agglomeration variable (employment density) with an instrumental variable that is correlated with the agglomeration variable but not correlated with labour productivity. Implementing this type of instrumental variable approach requires statistical finesse and the econometric models utilized (such as the SYS-GMM panel model used here) tend to become quite complex. In keeping with existing empirical literature, we would expect to find: a negative significant short run employment density variable (due to the impact of congestion); a positive significant long-run employment density variable, as overall agglomeration benefits outweigh

any initial congestion, and; positive agglomeration benefits accruing after a time lag. Other issues, such as the influence of neighbouring regions on each other (spatial autocorrelation) and trends within a given region's data over time are also tested for and dealt with as they arise

The summary presented here is for a total of 156 NUTS 2 areas, comprising 2 from Ireland, 15 from Spain, 21 from France, 37 from the UK, 11 from Belgium, 39 from Germany (including 9 former East German regions), 19 from Italy and 12 from the Netherlands. The core data used for the analysis is presented in a series of tables in Appendix A which detail average productivity (calculated as total GVA/employment) and average employment density (calculated as total employment/land area) for each of the NUTS 2 areas over the full sample period (1980-2006) and for three sub-sample periods (1981-1989, 1990-1998 and 1999-2006) which analyse the series "by decade" and are again returned to for the panel data estimates. As is usual in such work, a small number of 'outlier' areas whose experiences were particularly erratic or unusual or for which data were incomplete – for example Dutch and UK areas in which GVA performance was heavily influenced by localised flows from oil and gas fields or areas in eastern Germany whose experiences were heavily affected by the economic shocks triggered by unification – are excluded from some aspects of the analysis in order to derive more 'representative' results.

Table 1 presents NUTS 2 area results for total productivity and employment density over the full sample from 1981 to 2006. Across all the specifications we find that density has significant short and long-run effects on regional productivity. We uncover significant agglomeration effects with estimated long-run elasticity ranging from 9% (when including all regions) to 21% (when outlier regions and East Germany are excluded). Initially when removing the four outlier regions the long-run effect increases from 9% to 12% so these regions do have a detrimental effect on our sample. When we exclude the outliers and East Germany our long-run elasticity increases to 21%. When we remove the capital city for each country (along with the outliers and East Germany) and our estimate falls from 21% to 19%. When we analyse the sub-set of NUTS 2 areas in Ireland, Spain, France and the UK where our

secondary cities of interest are located we find that the long-run elasticity for this group is 15%.

More illuminating results are apparent in Table 2 where long-run elasticities are compared for three non-overlapping “decades” with the 1980s covering the years 1981-1989, the 1990s from 1990-1998 and the last decade from 1999-2006. Here we find for all regions (excluding the outliers and East Germany) that the long-run elasticity is highest for the 1980s at 12%, then falls to 3% in the 1990s and recovers over the last decade to 8%. Although none of these elasticities are significant we find that the diagnostics for the model are acceptable (the AR2 test indicates no residual autocorrelation and there is no evidence of cross-sectional dependence) and the short-run coefficients are significant. In this table we also look at the case for our four countries of interest and find that for the full sample our long-run elasticity is 15%, this is 11% in the 1980s, 6% in 1990s and rises to 12% over the last decade – greater than the 8% found for the larger group.

Table 3 details the results of the manufacturing sector data, again for the full sample and the 3 non-overlapping decades. For all regions (excluding the outliers and East Germany) we find that the long-run elasticities are negative and not significant when only own-sector density is in the model (Brülhart and Mathys, 2008 suggest that negative elasticities indicates congestion effects dominate over own-sector agglomeration economies). When other-sector effects are added they are positive and significant, indicating positive net urbanisation effects. When breaking down the results by decade long-run elasticities are nearly significant for the 1980s but short-run coefficients are significant. Focussing on our four countries of interest we find more significant long-run elasticities and strong results for the 1980s which indicate positive net urbanisation effects. Due to high correlation of the own and other sector density variables we get collinearity in our results as shown by the changing signs. When we present the same regression for own sector density and with models that just have other sector density results, for the full group of countries other sector density is still positive and significant for the full sample but falls to 18%. When breaking the results up by decade we find the long-run elasticity of other sector density to be almost significant in the 1980s and high at 42%, falling to 24% in the 1990s and then becoming insignificant and negative over the last decade.

Table 4 details parallel results for the financial intermediation sector, again for the full sample and the three non-overlapping decades. For all regions (excluding the outliers and East Germany) we find that the long-run elasticity at 13% is positive and significant when only own-sector density is included in the model, this then rises to 22% over the last decade. This supports what earlier research found for a larger set of regions at 26% suggesting the finance sector benefits from substantial localisation economies. However our results differ when we include other-sector density in the model and the own-sector long-run elasticity becomes negative and other-sector density is positive. When the same regression is performed for own sector density and with models that just contain other sector density results, o. What we find for the full group of countries is that the other sector density is positive but not significant for the full sample. Over the decades the long-run elasticity becomes negative but switches back to being positive and significant over the last decade at 30% suggesting strong urbanisation economies. We find strong positive long-run elasticity for own sector for our four countries at 13% for the full sample and 23% over the last decade. We find strong positive long-run elasticity for other sector density for our 4 countries at 9% for the full sample and 26% over the last decade. So financial intermediation in these countries is benefiting from localisation and urbanisation economies which have become particularly strong over the last decade.

These results are consistent with claims that the last thirty years has seen a significant shift from the late industrial period, in which manufacturing industries benefited from localisation economies, to a period in which knowledge based economic activities, dominated by service industries in terms of employment, have benefited more from urbanisation economies.

Table 1: Agglomeration estimates for NUTS 2 areas, full sample, full period

Sample Period for annual data	1981-2006						
Dependent variable = Log labour productivity(t)	(a) country- year means	(b) CYM exclude outliers	(c) CYM exclude East Germany	(d) CYM exclude EG and outliers	(e) CYM exclude capitals	(f) CYM exclude capitals and outliers	(g) CYM exclude EG, capitals and outliers
Log labour productivity($t-1$)	0.8048*** (0.0184)	0.7999*** (0.0201)	0.9135*** (0.0183)	0.9413*** (0.0159)	0.8035*** (0.0186)	0.7976*** (0.0203)	0.930*** (0.0179)
Log employment density(t)	-0.559*** (0.0524)	-0.5803*** (0.0522)	-0.5960*** (0.0622)	-0.6409*** (0.0562)	-0.5698*** (0.0512)	-0.5912*** (0.0510)	-0.6403*** (0.0563)
Log employment density($t-1$)	0.5770*** (0.0532)	0.6048*** (0.0527)	0.6050*** (0.0633)	0.6530*** (0.0575)	0.5849*** (0.0521)	0.6148*** (0.0517)	0.6539*** (0.0587)
Constant	0.8091*** (0.0764)	0.6501*** (0.0608)	0.3631*** (0.0762)	0.2352*** (0.0665)	0.6507*** (0.0623)	0.7876*** (0.0771)	0.2761*** (0.0739)
Cross-section Dependence test	0.0030	0.0006	0.0063	0.0010	0.0025	0.0005	0.0013
AR2	0.4717	0.9796	0.4879	0.9391	0.5033	0.9053	0.9128
LR employment density $(\beta_0 + \beta_1)/(1 - \alpha)$	0.0926*** (0.0267)	0.1220*** (0.0193)	0.1042** (0.0482)	0.2063*** (0.0734)	0.0771** (0.0339)	0.1166*** (0.0215)	0.1946** (0.0833)
$\beta_0 + \beta_1$	0.0181*** (0.0060)	0.0244*** (0.0048)	0.0090** (0.0039)	0.0121*** (0.0035)	0.0151** (0.0074)	0.0236*** (0.0053)	0.0136*** (0.0046)
Number of Regions	156	152	147	143	147	143	135
Observations	3969	3871	3816	3718	3744	3646	3510

Capital cities removed: Dublin, Madrid, Paris, Inner London, Brussels, Bonn (but Berlin for second part of sample), Rome and Amsterdam.

Table 2: Agglomeration estimates for NUTS 2 areas, full sample, 3 sub-periods

	Full Sample (26 obs)	80s (9 obs)	90s (9 obs)	00s (8 obs)
Sample Period for annual data	1981-2006	1981-1989	1990-1998	1999-2006
All Countries Agglomeration (excluding outliers and East Germany) $(\beta_0 + \beta_1)/(1 - \alpha)$	0.2063*** (0.0734)	0.1247 (0.0789)	0.0311 (0.0458)	0.0772 (0.0488)
$\beta_0 + \beta_1$	0.0121*** (0.0035)	0.0305* (0.0158)	0.0034 (0.0055)	0.0158 (0.0098)
Cross-section Dependence test	0.0010	0.0779	0.0644	0.0949
AR2	0.9391	0.6897	0.4791	0.4738
Number of Regions	143	143	143	143
Observations	3718	1287	1287	1144
Ireland, Spain Agglomeration France and UK (excluding Aberdeen) $(\beta_0 + \beta_1)/(1 - \alpha)$	0.1533*** (0.0409)	0.1076*** (0.0209)	0.0603** (0.0308)	0.1206*** (0.0459)
$\beta_0 + \beta_1$	0.0137*** (0.0032)	0.0381*** (0.0106)	0.0129** (0.0065)	0.0138* (0.0082)
Cross-section Dependence test	0.0006	0.0464	0.0461	0.0909
AR2	0.4032	0.4904	0.9730	0.9013
Number of Regions	74	74	74	74
Observations	1924	666	666	592
Ireland, Spain Agglomeration France and UK (excluding Lyon Db, Mc & Bar) $(\beta_0 + \beta_1)/(1 - \alpha)$	0.1528*** (0.0402)	0.1144*** (0.0243)	0.0549* (0.0316)	0.1216** (0.0476)
AR2	0.3910	0.5002	0.9645	0.9918
Number of Regions	70	70	70	70
Observations	1820	630	630	560

Table 3: Agglomeration estimates for manufacturing sector in NUTS 2 areas

	Full Sample (26 obs)		80s (9 obs)		90s (9 obs)		00s (8 obs)	
Sample Period for annual data	1981-2006		1981-1989		1990-1998		1999-2006	
All Countries Agglomeration Own Sector $(\beta_0 + \beta_1)/(1 - \alpha)$	-0.0230 (0.0578)		0.0523 (0.0881)		0.0125 (0.0955)		-0.0114 (0.0998)	
$\beta_0 + \beta_1$	-0.0028 (0.0070)		0.0054 (0.0097)		0.0023 (0.0181)		-0.0034 (0.0293)	
All Countries Agglomeration Other Sector $(\beta_0 + \beta_1)/(1 - \alpha)$		0.1800** (0.0703)		0.4298 (0.2810)		0.2398* (0.1429)		-0.0344 (0.1748)
$\beta_0 + \beta_1$		0.0338** (0.0161)		0.0529* (0.0293)		0.0797* (0.0473)		-0.0108 (0.0550)
Cross-section Dependence test	0.0034	0.0063	0.1198	0.1419	0.0753	0.1142	0.1939	0.2674
AR2	0.1768	0.1102	0.0439	0.0605	0.5509	0.6314	0.6062	0.5849
Number of Regions	143	143	143	143	143	143	143	143
Observations	3718	3718	1287	1287	1287	1287	1144	1144
IE, ES, FR &UK Agglomeration Own Sector $(\beta_0 + \beta_1)/(1 - \alpha)$	0.0415 (0.0349)		0.0325 (0.0690)		0.0700 (0.0497)		0.0165 (0.0307)	
$\beta_0 + \beta_1$	0.0058 (0.0049)		0.0053 (0.0115)		0.0122 (0.0097)		0.0040 (0.0075)	
IE, ES, FR &UK Agglomeration Other Sector $(\beta_0 + \beta_1)/(1 - \alpha)$		0.0483 (0.0407)		0.0979 (0.1010)		0.0002 (0.0505)		0.0105 (0.0713)
$\beta_0 + \beta_1$		0.0101 (0.0081)		0.0212 (0.0228)		0.0001 (0.0241)		0.0024 (0.0166)
Cross-section Dependence test	0.0020	0.0039	0.2274	0.3141	0.0484	0.0933	0.0905	0.1185
AR2	0.0576	0.0417	0.0283	0.0450	0.3250	0.2897	0.4318	0.2177
Number of Regions	74	74	74	74	74	74	74	74
Observations	1924	1924	666	666	666	666	592	592

Table 4: Agglomeration estimates for financial intermediation in NUTS 2 areas

	Full Sample (26 obs)		80s (9 obs)		90s (9 obs)		00s (8 obs)	
Sample Period for annual data	1981-2006		1981-1989		1990-1998		1999-2006	
All Countries Agglomeration Own Sector $(\beta_0 + \beta_1)/(1 - \alpha)$	0.1283* (0.0689)		- 0.0149 (0.0800)		0.4671 (0.4305)		0.2196** * (0.0665)	
$\beta_0 + \beta_1$	0.0122* (0.0065)		- 0.0022 (0.0116)		0.0224* * (0.0109)		0.0920** * (0.0292)	
All Countries Agglomeration Other Sector $(\beta_0 + \beta_1)/(1 - \alpha)$		0.0066 (0.0600)		- 0.0474 (0.0686)		- 0.1306 (0.1249)		0.2954** * (0.0899)
$\beta_0 + \beta_1$		0.0008 (0.0077)		- 0.0073 (0.0096)		- 0.0197 (0.0169)		0.1785** * (0.0609)
Cross-section Dependence test	0.0041	0.0095	0.0698	0.0911	0.2825	0.4850	0.1215	0.1136
AR2	0.9877	0.4213	0.3574	0.1834	0.6906	0.6318	0.1034	0.0416
Number of Regions	143	143	143	143	143	143	143	143
Observations	3718	3718	1287	1287	1287	1287	1144	1144
IE, ES, FR & UK Agglomeration Own Sector $(\beta_0 + \beta_1)/(1 - \alpha)$	0.1305** * (0.0429)		0.0263 (0.0268)		0.0429 (0.0398)		0.2258** * (0.0651)	
$\beta_0 + \beta_1$	0.0195** * (0.0065)		0.0080 (0.0090)		0.0067 (0.0082)		0.0984** * (0.0296)	
IE, ES, FR & UK Agglomeration Other Sector $(\beta_0 + \beta_1)/(1 - \alpha)$		0.0909* * (0.0426)		- 0.0185 (0.0525)		- 0.0107 (0.0653)		0.2556** * (0.0682)
$\beta_0 + \beta_1$		0.0162 (0.0085)		- 0.0053 (0.0143)		- 0.0022 (0.0128)		0.1537** * (0.0500)
Cross-section Dependence test	0.0015	0.0020	0.0575	0.0697	0.0589	0.0575	0.2136	0.1559
AR2	0.5299	0.1991	0.0204	0.0192	0.6904	0.2852	0.0936	0.0226
Number of	74	74	74	74	74	74	74	74

Regions								
Observations	1924	1924	666	666	666	666	592	592

These observations, taken together with the evidence on the ‘weight’ and growth of GVA within key metropolitan areas, suggest we should expect to find evidence of agglomeration economies being particularly significant within service sectors in our case study areas. What we should be able to observe, specifically, is a tendency for employment in key, high growth and high value sectors, to cluster and expand in those locations that offer the best environment for them. Depending upon the scale of growth and the capacity of the areas in which they are located to absorb further activity, we might also expect, over time, to see evidence of the decentralisation or peripheral growth of lower value activities that are pushed or priced out of ‘hotter’ locations and/or are unwilling to pay the price of agglomeration diseconomies (congestion, high land, property or labour costs).

Greater Manchester

This is quite clearly the case in Greater Manchester when we analyse more recent employment change patterns at a scale below the metropolitan area/city-region. Table 5 shows overall trends in employment in each of the local authority areas that make up the two Greater Manchester NUTS 3 areas between 1998 and 2008. What emerges very clearly is that those local authority areas that cover the traditional employment core of the conurbation – the so-called ‘regional centre’ which straddles the Manchester, Salford and Trafford local authority areas – has clearly witnessed the highest net addition of employment during the period and, together with Stockport, the fourth of the five local authority areas in Greater Manchester South, experienced the highest average annual growth rates. It also shows that these areas proved more resilient than their neighbours once the national economic boom that commenced in the early 1990s began to unwind and the national economy tipped into recession, thereby contradicting initial expectations that it would be those areas which had grown quickly on the basis of service sector job creation – and particularly financial services – which would be hit hardest by the downturn. These trends confirm that the Greater Manchester economy has become increasingly ‘south-facing’ in recent years and that vulnerability to economic shocks and

the effect of ongoing structural change is concentrated in Greater Manchester North. In the rest of Greater Manchester, employment growth was modest or negligible over the full period and four of the other six local authority areas, in which manufacturing industry remains more important, lost employment in the early phase of the economic downturn.

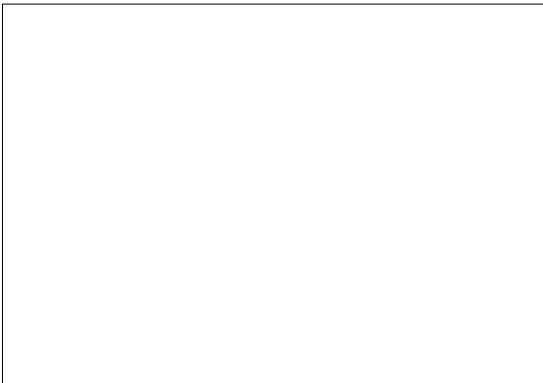
Table 5: Employment change in Greater Manchester local authority areas, 1998-2008

Area	1998	2006	2008	1998-2006		2006-2008		1998-2008	
	No.	No.	No.	Change	% per year	Change	% per year	Change	% per year
Manchester	267,841	305,586	306,685	37,745	1.7%	1,099	0.2%	38,844	1.4%
Salford	101,279	114,312	117,539	13,033	1.5%	3,227	1.4%	16,260	1.5%
Trafford	113,728	124,547	122,419	10,819	1.1%	-2,128	-0.9%	8,691	0.7%
Wigan	92,755	102,127	98,524	9,372	1.2%	-3,603	-1.8%	5,769	0.6%
Stockport	112,994	121,855	127,030	8,861	0.9%	5,175	2.1%	14,036	1.2%
Rochdale	71,491	76,562	73,931	5,071	0.9%	-2,631	-1.7%	2,440	0.3%
Bury	58,481	62,031	62,192	3,550	0.7%	161	0.1%	3,711	0.6%
Tameside	68,220	71,740	68,495	3,520	0.6%	-3,245	-2.3%	275	0.0%
Oldham	77,463	76,600	77,211	-863	-0.1%	611	0.4%	-252	0.0%
Bolton	106,734	104,702	107,106	-2,032	-0.2%	2,404	1.1%	372	0.0%
Grtr Manchester	1,070,986	1,160,062	1,161,132	89,076	1.0%	1,070	0.0%	90,146	0.8%
North West	2,772,389	3,004,012	2,991,606	231,623	1.0%	-12,406	-0.2%	219,217	0.8%
Great Britain	24,144,261	26,174,234	26,493,605	2,029,973	1.0%	319,371	0.6%	2,349,344	0.9%

The picture is even starker once employment trends at a finer spatial scale – so-called ‘super output areas’ – are examined. Because consistent data at this level of aggregation are only available from 2003, the following figures examine employment change between 2003 and 2008, which inevitably understates the scale of change that has occurred over a longer period. They nonetheless make it clear that an analysis of employment trends by local authority area overlooks the degree to which key employment ‘hot spots’ dominate the metropolitan economy. Figure 11 presents data on employment growth by super output area in the relevant period. It offers a powerful visual representation of the extent to which the ‘regional centre’, covering Manchester city centre and the inner areas of neighbouring Salford (especially Salford Quays) and Trafford (especially Trafford Park) have benefited most from recent employment growth. The clustering of high employment growth around Manchester’s international airport at the southern tip of the conurbation is the other key feature which helps explain both why the Greater

Manchester South local authority areas perform well in terms of employment change compared to their northern neighbours and, to some extent, why the NUTS 3 area of Cheshire, further south, has achieved substantial GVA growth over the last decade. The other high employment growth areas within this figure tend to be focused upon the conurbation's smaller town centres, where the expansion of public employment has played a significant role, and a small number of business parks and successful industrial/commercial development areas.

Figure 11



Figures 12-17 illustrate how these overall trends have unfolded within three illustrative commercial and industrial sectors. Two maps are presented for financial and professional services, creative, new media and digital industries and engineering, respectively; the first a 'snapshot' of employment distribution as at 2008 to show areas of employment concentration, and a second showing how employment change between 2003 and 2008 was distributed. The picture for the two service sector samples (Figures 12-15) is similar in that the snapshot figure highlights the key role of the regional centre as a dominant location and the change figure demonstrates the extent to which the largest sectoral

employment gains have been concentrated within the same broad area. In the case of financial and professional services, the regional centre's leading role has been accentuated by recent employment change whereas the smaller town centres in the north and east of the conurbation which still retain relatively high levels of employment have seen job numbers shrink in the most recent period. Whilst agglomeration advantages appear to accrue to service sector firms operating within the core of the conurbation and, to a lesser extent, near the airport, there is less evidence that the clustering of high value activity in these locations has resulted in the decentralisation or independent growth of lower value activity in more peripheral locations. The presence of a small number of high employment growth areas in financial and professional services, particular but not exclusively in the south of the conurbation, supports a number of interview-base observations that skilled workers in these fields who have worked in the regional centre during the early part of their careers have a tendency to found or join related businesses nearer to their homes if they wish to remain part of the Greater Manchester labour market. Again, the south of the conurbation has advantages in this respect as the southern suburbs (and beyond) provide the choice of housing, environmental quality, schooling and accessibility that such workers tend to prefer.

Figure 12

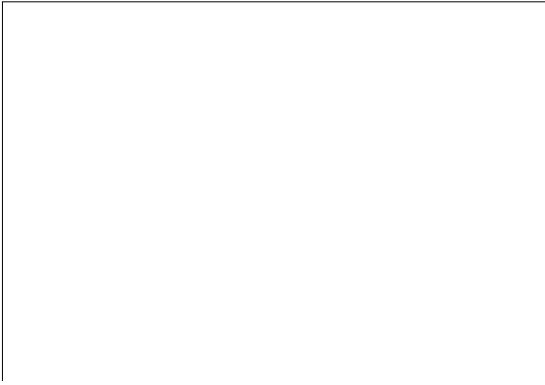


Figure 13

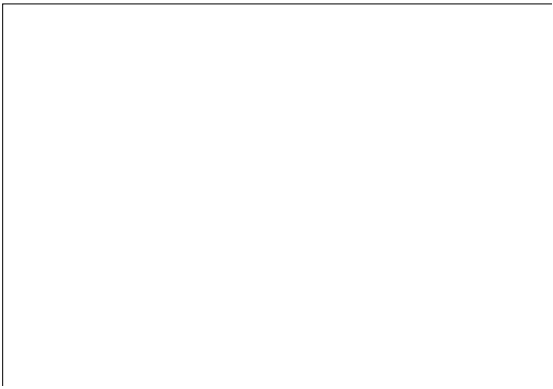


Figure 14

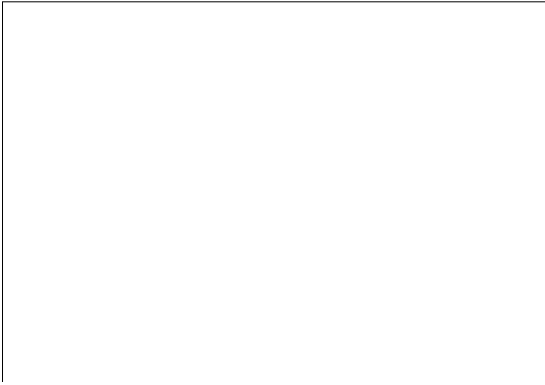
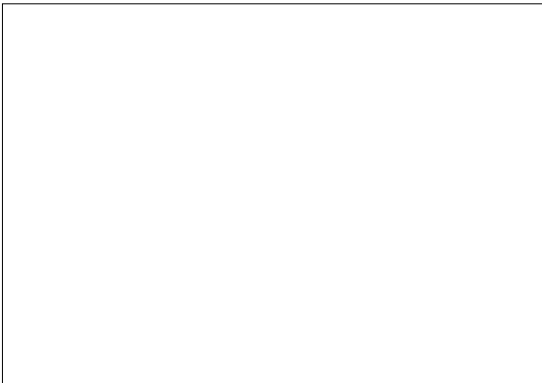


Figure 15



The picture for the engineering sector is quite different. Whilst the regional centre and, especially, the airport, remain important locations for engineering activity, employment in this sector is distributed more evenly across the conurbation (Figure 16) and the pattern of recent employment change (Figure 17) suggests that growth – of a much lower order than is the case for key service sector activities – has occurred mainly in peripheral areas, close to key road infrastructures. Taken together, the evidence suggests that the Greater Manchester economy has been through profound change, particularly at the core of the conurbation, but that this area has largely been able to adapt to and absorb new commercial activity.

Figure 16

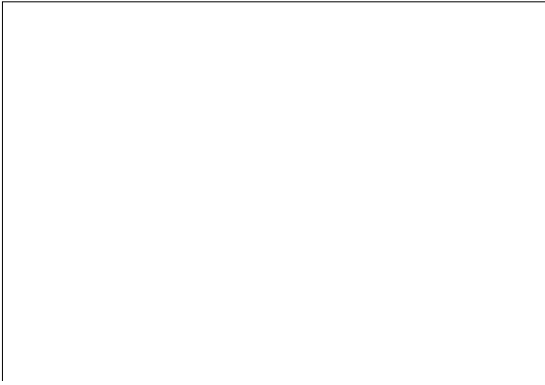
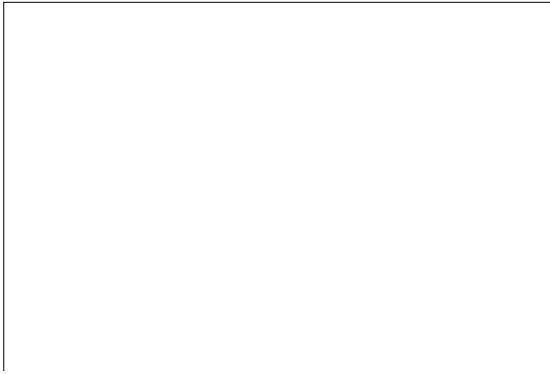


Figure 17



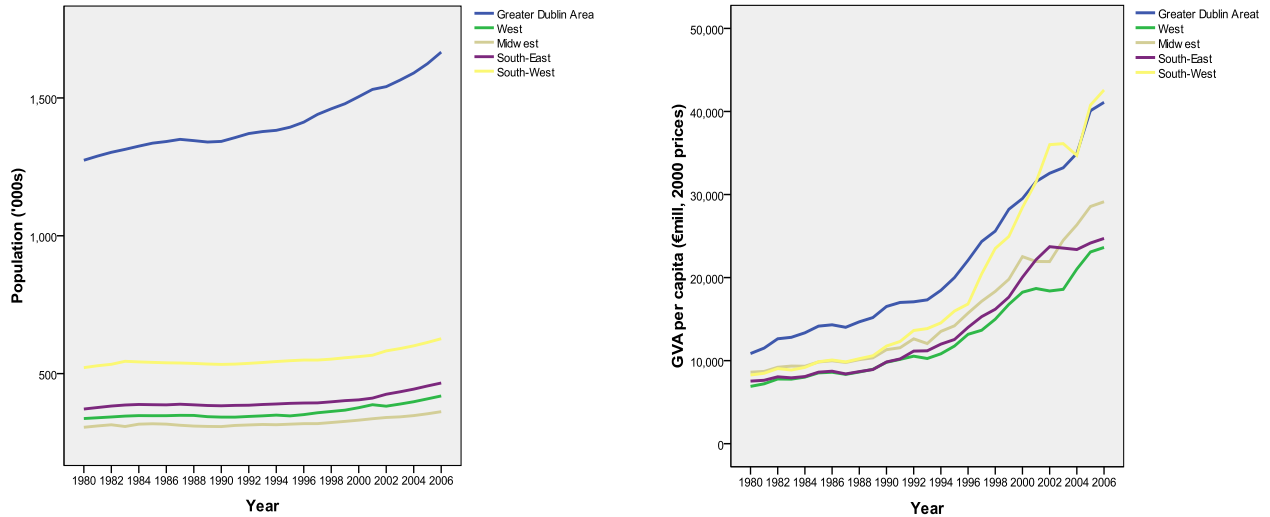
Greater Dublin

The parallel picture for the metropolitan area centred on Dublin is different, not least because the national economic boom was driven, in part, by unprecedented industrialisation (led by foreign investment following the creation of the Single European Market& and rapid extension of the urbanised area surrounding the city (rather than the ‘infilling’ of the conurbation core with new economic activity as was the case in Greater Manchester). Differences in the physical form of the city-region notwithstanding, though, we find similar patterns in relation to the locational behaviour of firms in key sectors.

The Greater Dublin Area population far exceeds that of the other Irish city regions, and has experienced a noticeable take-off in growth since the early 1990s, bringing it over the 1.7 million mark by 2009. All Irish regions have enjoyed strong GVA per capita growth

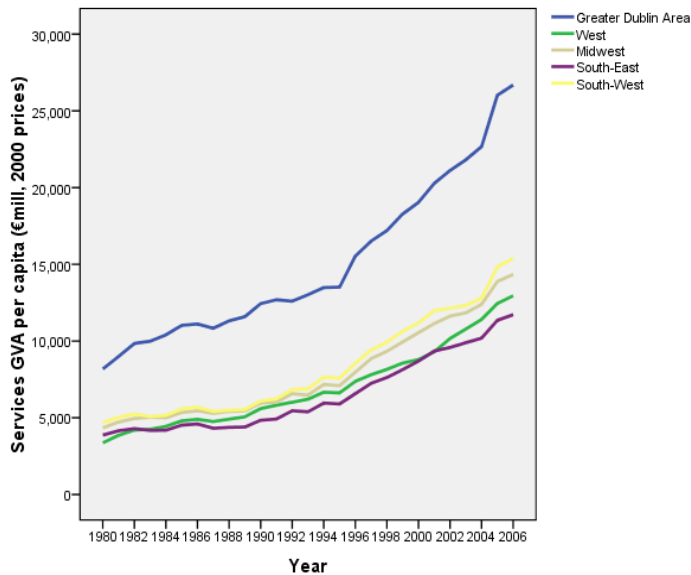
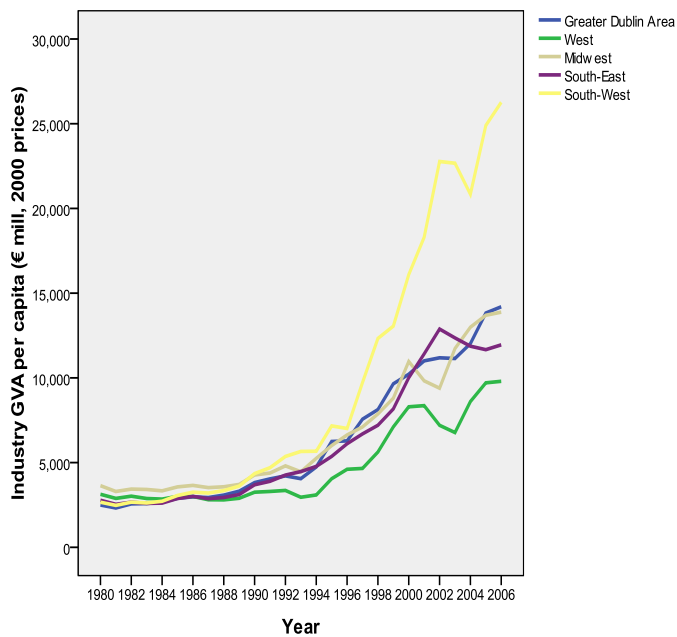
throughout the 1990s and up until 2006. As illustrated in Figure 18, South-West GVA per capita appears to have caught up with that of the Greater Dublin Area over the period 2000-2006. This catch-up enjoyed by the South-West is strongly driven by secondary industry, rather than services (Figure 19).

Figure 18: Population and GVA per capita, Irish City Regions 1980-2006



Source: Cambridge Econometrics

Figure 19: Secondary Industry, and Services GVA per capita, Irish City Regions 1980-2006

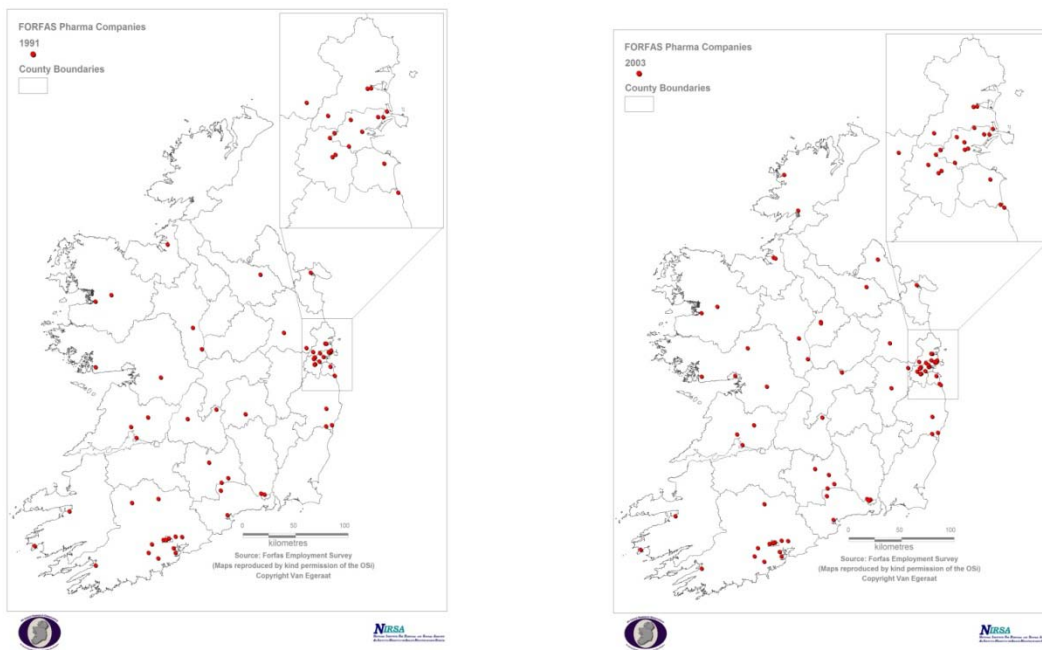


Source: Cambridge Econometrics

Given the strong Irish economic performance of the 1990s and early 2000s, it is not surprising that Ireland as a whole and particularly the Greater Dublin Area experienced a clear increase in employment density over this period. Labour productivity also shows a strong positive trend over this period, though it noticeably falters around 2004-2006.

Within our illustrative sectors, the pharmaceutical industry is of great importance to the Irish Economy, and has been since the early 1970's. In 2006, Irish pharmaceutical exports were worth around \$17 billion, which accounted for almost 16% of Irish industrial exports. The Irish pharmaceutical industry accounts for over 6% of world pharmaceutical exports and Forfás employment survey data shows that, by 2003, the sector employed 19,500 workers.

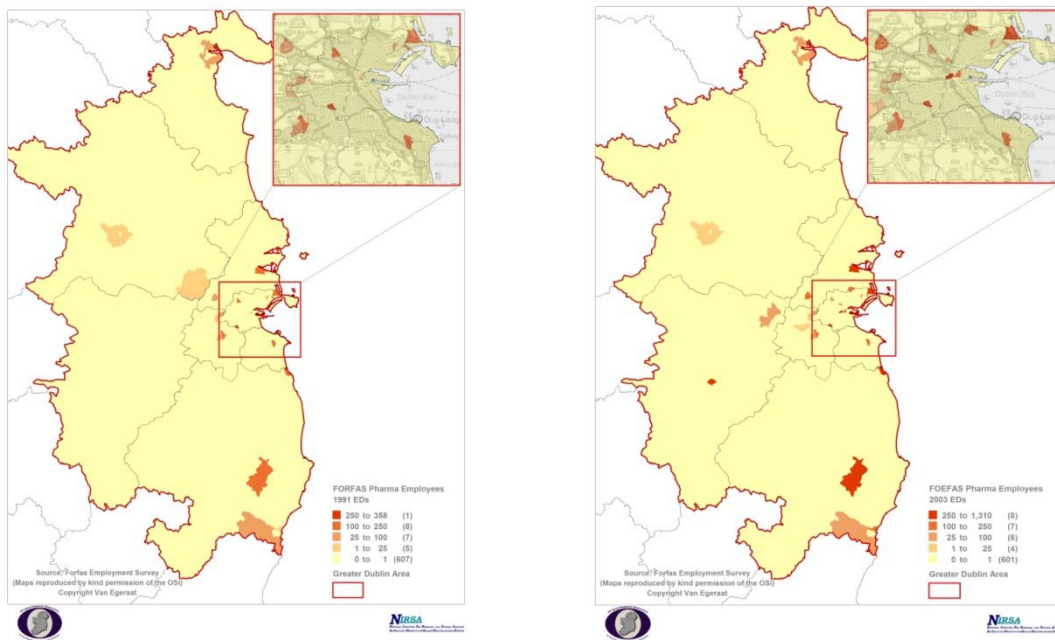
Figure 20: Spatial Dispersion of Irish Pharmaceutical Firms, 1991 and 2003



Although pharmaceutical plants can be found in many locations in Ireland, Figure 20, above, shows that the industry is concentrated in counties Cork and Dublin. In 2003, Cork and Dublin accounted for 45% of all employment in the industry. Van Egeraet (2006) provides a rigorous account of the pharmaceutical sector spatial development through a case-study of the drug substance sub-sector. The drug substance sub-sector in Ireland has been spatially concentrated since its inception in the early 1960s. During the 1970s and the first half of the 1980s, Cork Harbour established itself as by far the single most important centre of drug substance production in Ireland. The period since the mid-1980s has been characterised by a relative shift to Dublin, although the drug substance sub-sector in Cork has continued to expand. Today, the sub-sector is heavily concentrated

in these two locations. As illustrated in Figure 21, the location pattern of the pharmaceutical industry within the Greater Dublin Area appears to be quite stable over the period 1991-2003, due to the provision of well-serviced industrial sites and infrastructure. Greater Dublin Area pharmaceutical plants are located in peri-urban locations, which offer both close access to a highly educated labour market, located in the urban centre, and relatively cheap land for their sizeable facilities. The location of the plants also puts them in the vicinity of the major road arteries that connect the industrial parks to Dublin's urban core.

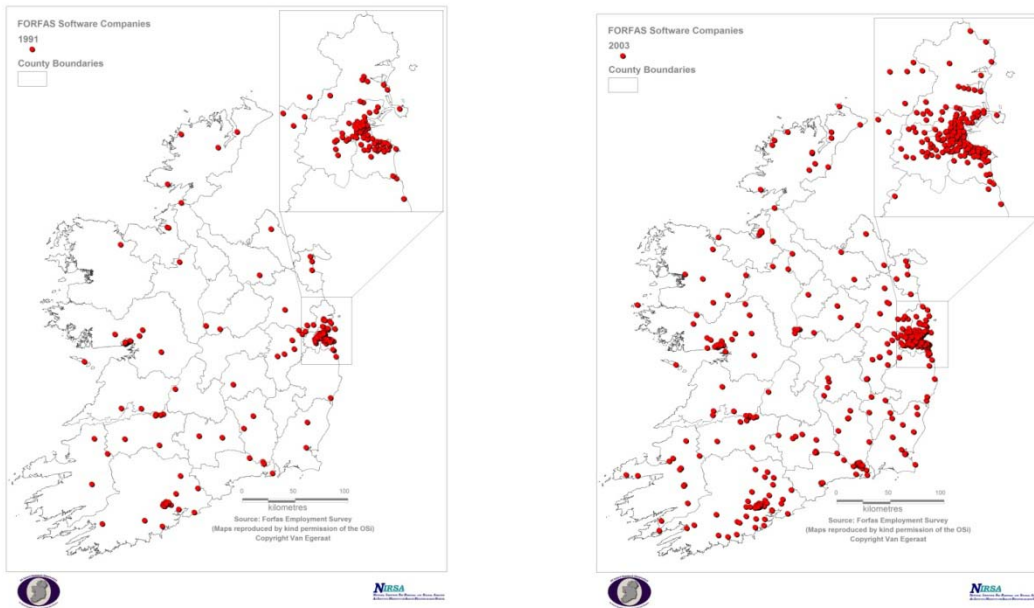
Figure 21: Pharmaceutical Employment in Greater Dublin, 1991 and 2003

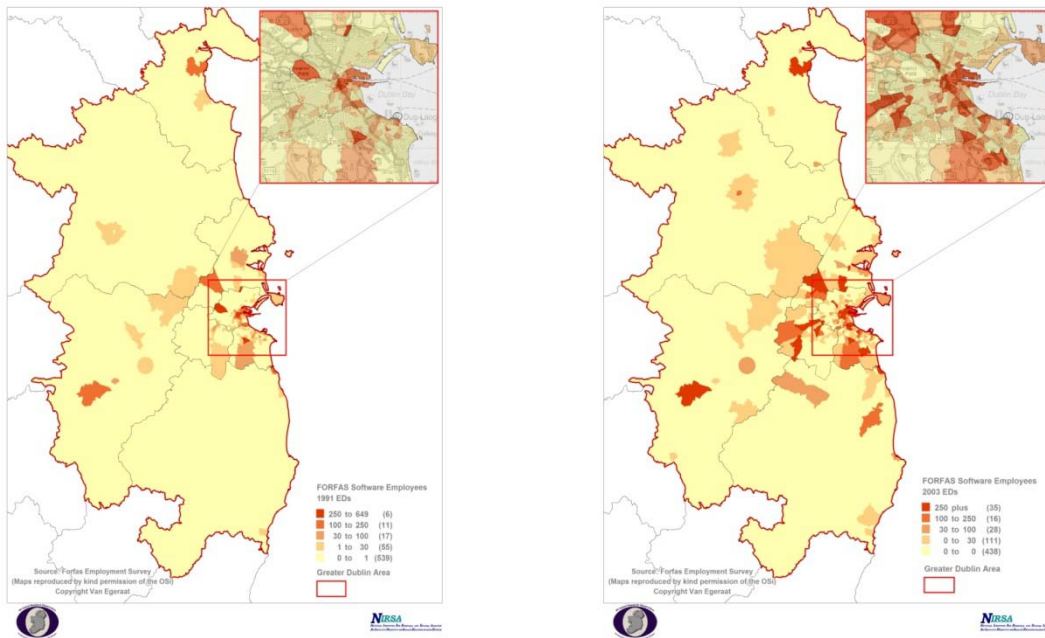


The development of the Irish software industry, which emerged in the early 1990 and experienced rapid growth since then, owed much to inward investment, and especially the attraction of high-tech electronics manufacturing firms in the 1980s (e.g. IBM in 1983, Lotus in 1984, Microsoft in 1985 and Intel in 1989). The National Software Directorate estimates that at the end of 2005 the Irish software industry consisted of more than 900 companies, 140 of them foreign, employing 24,000 people and exporting over €23 billion worth of products and services, with much of this activity is concentrated in and around Dublin with the city-region containing more than two-thirds of overseas and indigenous

software companies (www.nsd.ie). In the Greater Dublin Area, software services are not confined to peri-urban locations in the way that pharmaceutical plants are. Rather they are predominantly located in the urban core. This urban concentration appears to have become more pronounced over the 1991-2003 period (see Figure 22). At a national level, software services spatial dispersion follows the location pattern of Irish urban centres.

Figure 22: National (top) and Greater Dublin Area (bottom) dispersion of Software Employment, 1991 and 2003





Within financial services, the establishment of the International Financial Services Centre (IFSC) in 1987 is generally regarded as the starting point of the international financial services (IFS) sector in Ireland. By 2004 there were approximately 450 international institutions directly operating from Ireland including over 50% of the top 50 global financial institutions (IDA 2004). These institutions provide a broad range of services including banking, asset financing/leasing, corporate treasury management, asset management, custody and administration, securities trading and international insurance and assurance activities. With the introduction of a universal corporation tax rate of 12.5% in December 2000, financial companies no longer needed to set-up within the IFSC itself to avail themselves of the favourable tax rate that was previously only available within the IFSC area. Regarding employment in the Irish financial sector, the Forfas employment survey indicates that over 10,000 employees worked in the sector in 2003, while IDA (2004) estimated the figure to be as high as 16,000 in 2004, with a further 4,000 involved in certain support activities, such as software development, customer contact centres and back office processing. As illustrated in Figure 23, below, Dublin's financial services sector (by virtue of the IFSC) is highly concentrated in the city centre.

The creative industries have come to be regarded as a significant contributor to the Irish economy. Recent estimates place the total number employed in Ireland's creative industries at 60,855 in 2006, generating a total Gross Value Added (GVA) of nearly €5.5bn in 2006 – approximately 3% of total Irish employment and 3.5% of total Irish GVA. However, the creative industries have been hampered by multiple definitions and a lack of consistent treatment on what is classified as creative activity.

One definition of the creative industries has been provided by the UK Department for Culture, Media, and Sport which characterizes “creativity” as a central input to the production process, with intellectual property (and not only copyright) being the identifying characteristic of creative industries’ output. The methodology developed by DCMS involves a measure of creative industries that comprises 13 different industrial sectors: advertising; architecture; the arts and antique market; crafts; design; designer fashion; film and video; interactive leisure software; music; performing arts; publishing; software and computer services; and radio and television. The Greater Dublin Area spatial concentration of one of the creative industries included in the DCMS definition, the advertising industry, is presented in Figure 24, below.

Figure 23: National (top) and Greater Dublin Area (bottom) Financial Services Employment, 1991 and 2003



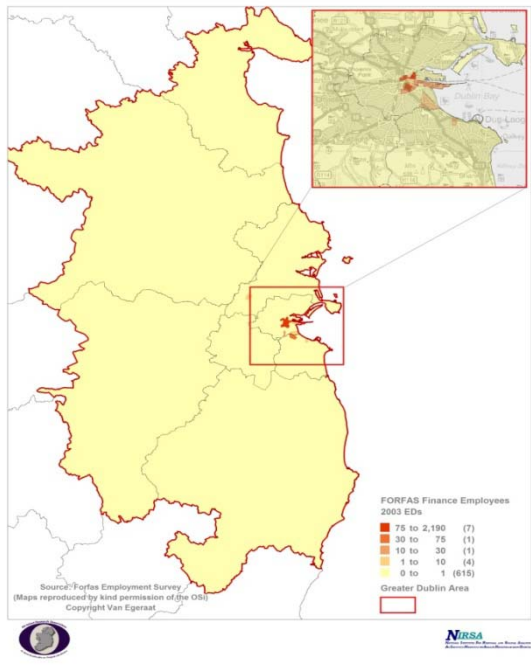
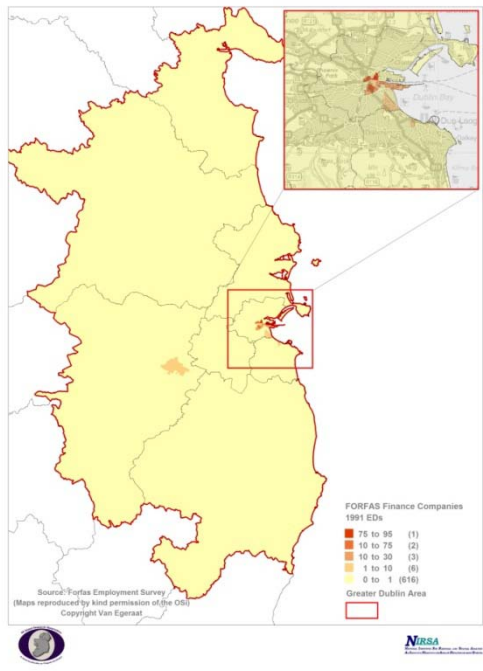
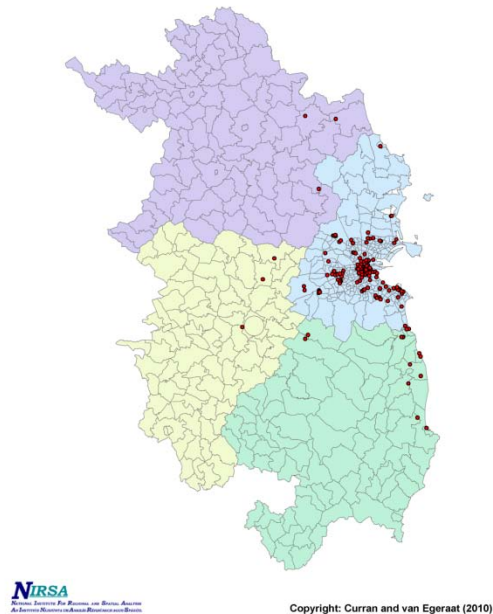


Figure 24: Spatial Concentration of Advertising firms in Greater Dublin, 2009



The Province of Barcelona

Previous research has indicated that the metropolitan urban region of Barcelona is the most economically diverse of the seven principal Spanish metropolitan urban regions. That said a number of sectors have been identified through a process of considering levels of technology and knowledge and the emergence of foci of specialisation across the spatial extent of the city region, taken for these purposes to be the spatial extent of the Province of Barcelona, as well as the importance of their share of employment within the city region.

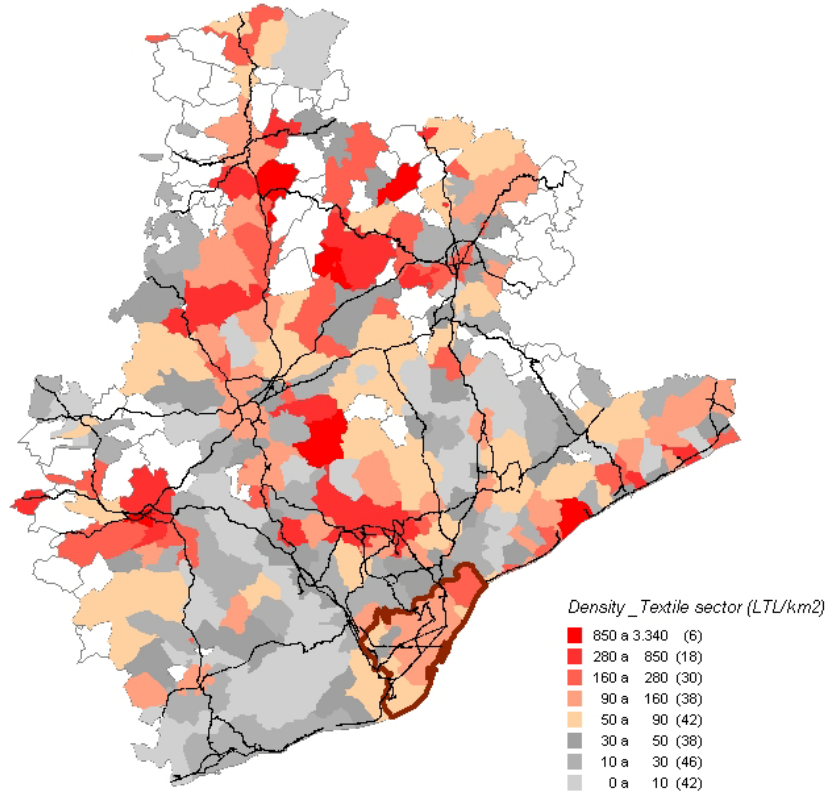
The five sectors that broadly defined, experienced agglomeration in the period between 1991 and 2001, or are reflective of a critical mass within the local economy, include:

- Textile industries
- Creative industries
- Financial and business related services
- Medium-high technological industries and medical machinery

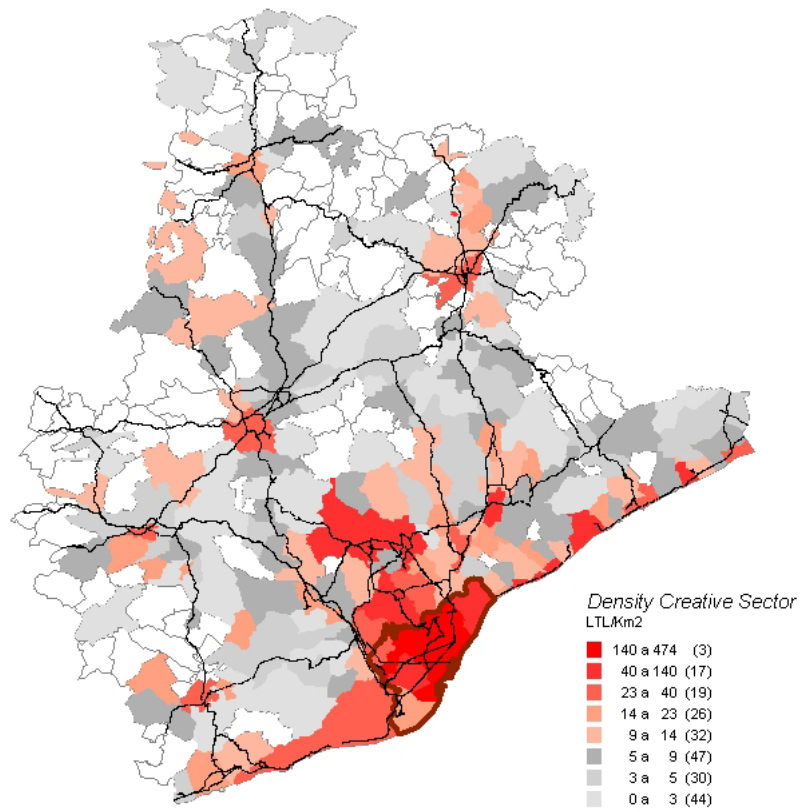
- Education, and research and development

These five sectors account for 18% (499,512) of jobs within the larger city-region, The sector with the largest number of jobs is financial and business related services (239,106); followed by education, and research and development (125,989); textile industries (87,370); creative industries (13,277) and medium-high technological industries and medical machinery (13,277 jobs). The following series of maps (Figures 25-29) indicates the density and distribution of jobs for each of these five key sectors. As was the case for Greater Manchester, they illustrate a widely dispersed pattern with concentrations on the fringe of the city-region for older manufacturing industries (textiles), significant concentrations of higher value added service sector activity within the city of Barcelona (financial and business services, creative and cultural industries) but signs of the diffusion of activity in medium-to-high tech industry and medical instruments, and education/research and development to municipalities such as Granollers, Manresa, Sabadell and Sant Cugat on the fringe of the dense urbanised area around the city.

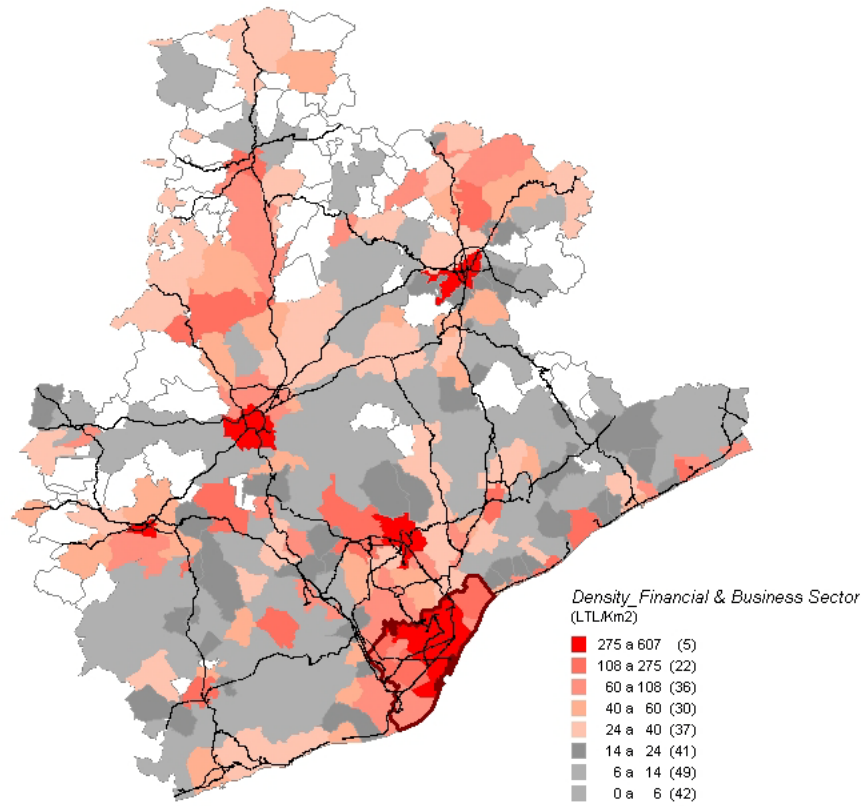
Textile industries



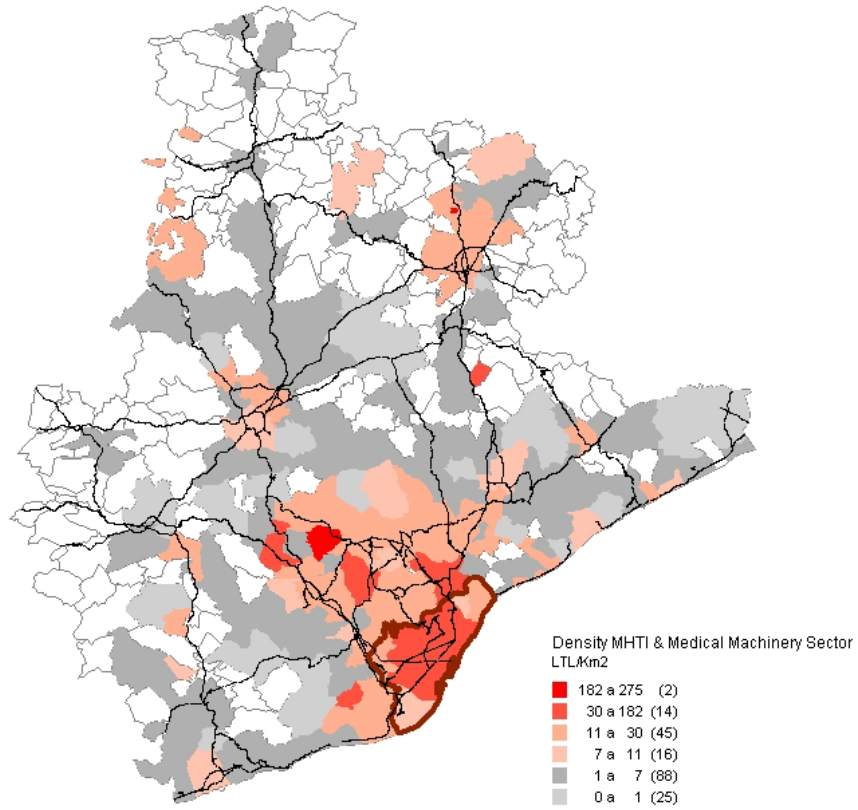
Creative industries



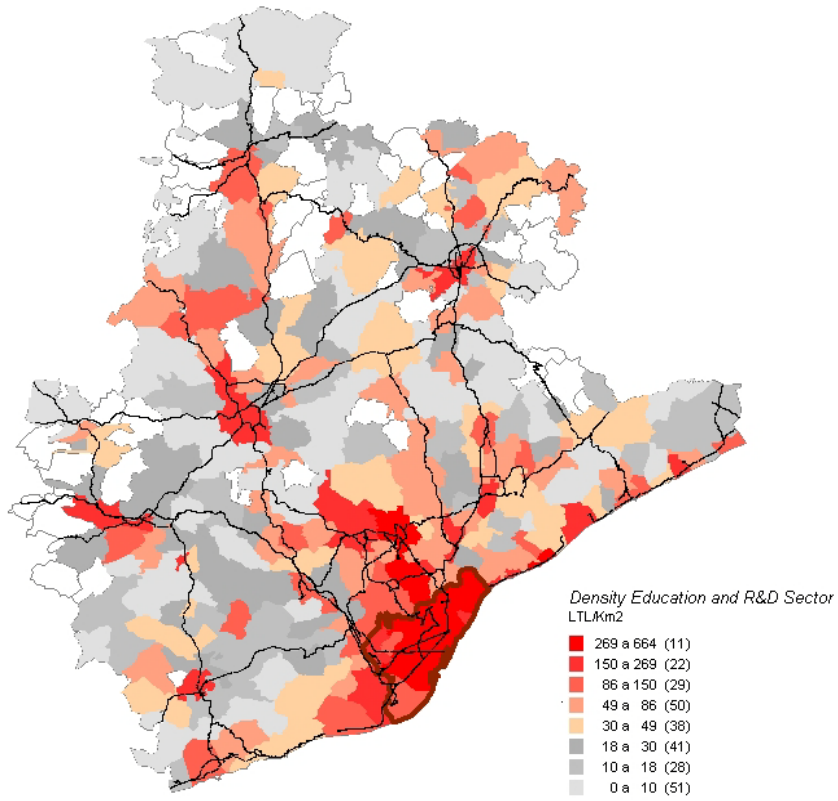
Financial and business related services



Medium-high technological industries and medical machinery



Education, and research and development



Grand Lyon

Lyon stands at the centre of an extended metropolitan network whose dense and diverse economy plays an important role within regional and national economic systems. The metropolitan area is characterized by urban sprawl of its activities, strong service sector growth and intensive use of subcontracting. Its leading sectors are biotechnology, chemicals/pharmaceuticals, clean technologies and transport-related industries (trucks and buses). Other key sectors include textiles, audiovisual industries and metallurgy.

The metropolitan economy dominates the Region Rhone-Alps which includes a network of smaller settlements, between 50 and 100 km from the city (Bourg en Bresse, Bourgoin-Isle d'Abeau, Vienne, St Chamond- St Etienne, Roanne and Villefranche), each of which have particular economic specialisms. Since the 1980s, Lyon, like many French and other European cities, has been characterised by urban sprawl and the decentralisation of population and jobs, driven by the availability and cheaper price of land outside the core of the conurbation. Within the metropolitan area, employment has steadily increased since the 1980s from 532 000 to 637 000 jobs in Greater Lyon between 1982 and 2006. Lyon appears as the first employment development area in France after Paris and as the eighth European cities in terms of economic weight.

Like most European cities, Lyon has experienced substantial growth in service sectors. Simple statistics, however, give a misleading impression of the extent to which service sector jobs support productive activities. It should be noted that Lyon is historically an industrial and innovative area, particularly in the sectors of chemistry, textiles and health. The agglomeration is and always has been diversified in its activities without specializations in one or two particular sectors like Toulouse and aeronautics for example. Lyon has managed to make its diversity an asset to the extent that the agglomeration got through the economic crisis relatively unscathed. At last, Lyon uses very strongly the subcontracting particularly in its industrial activities. Consequently, the agglomeration contains a high proportion of SMEs.

Lyon, multisectoral agglomeration, tries to highlight specialities of excellence and economically efficient. Three sectors can easily be identified: biotechnologies, chemicals and clean technologies, and transport (truck and bus) industries. These sectors have been pushed in 2005 thanks to the national policy of cluster (“pole de compétitivité”). This policy aims to support research and development (R&D) and to network all companies of a sector. The focus of the policy is largely upon large companies and innovation systems rather than the network of SMEs. Through the clusters system, firms benefit from a financial support from the French State and public authorities at the regional and metropolitan (urban community) levels. Besides, these sectors contain many different sub-sectors, trades and professions. Some of them have a greater influence in terms of market rather than in terms of sector. For example, an innovation produced in chemistry can be used for different market (textile, health, environment, etc) and not only for chemistry sector.

Biotechnologies are represented through the cluster called Lyon Biopole. This cluster contains infectious diseases, cancer research, neurosciences, micro and nanotechnologies, functional genomics and clinical trials and bioservices. Beyond these sub-sectors of excellence, the activities of the cluster touch a lot of other markets such as pharmacy and food processing. Spatially, the activities of this cluster are present in several sites around Lyon. An effort of polarization is implemented thanks to an incentive land policy. Gerland (Lyon 7th) contains an important part of the activities of the sector and a technopôle linked with the University Lyon 1 and the Ecole Normale Supérieure. The sector is located in the site of La Doua in Villeurbanne too near to the scientific campus. Other sites in Lyon are concerned such as the Bioparc near to the East hospital.

Chemistry sector is historically well established in Lyon because the city was already innovative and precursor about this subject in the 19th century. Currently, chemistry in Lyon suffers from a negative image linked with the industrial risks and the lack of aestheticism. The sector tries to convert to clean technologies and the “green” chemistry. This significant change is asserted through the cluster Axelera. Spatially, the sector is

located in the “Chemistry valley” in the south of Lyon along the Rhone River, in the Campus of La Doua and in some business parks in the first belt/ ring of the agglomeration. The historic “Chemistry” contains an important refinery and an oil research centre (IFP). The site tries a conversion towards the clean technologies and innovation and wants to change its nickname for ‘the molecule valley’.

The last key sector is constituted around the cluster Urban Trucks and Bus (UTB). Its activities are oriented around two key firms: Renault Trucks and IrisBus. This sector strongly uses the subcontracting with often SMEs in the agglomeration. Spatially, the activities are located in the east of the Greater Lyon (Venissieux, St-Priest, etc). The cluster works with car industry and logistics which stay important in the Region Rhone-Alps.

These three key sectors are not in themselves the power of the local economy which is multisectoral. Other sectors appear as important through public policies or through their employment. Technical textile is one of the sectors benefiting from public support through the implementation of a cluster: Techtera. This sector, historically well represented in Lyon, is now in decline due to relocation of firms in countries with lower labour costs. Nevertheless, it benefits from public support thanks to a powerful lobby from professional organizations. The sector keeps potential in the creative industries around fashion and creation. In the metropolitan area, this sector is located in the business park Techlid situated in the north of Lyon. Unfortunately, its network of SMEs is spread over the territory preventing a real cohesion.

The sector of audiovisual industries is currently very well-supported by the public policies, particularly through the cluster Imaginove. It is seen as a sector with a strong potential for development, in particular in the creative industries. It is located in Vaise in a new business park.

At last, the sector of mechanism and metallurgy does not benefit from public policy but remains important in terms of employment and its impact on other sectors. These both

activities don't arrange professional lobby to obtain the implementation of a cluster. The sector uses the sub-contracting thanks to a large network of SMEs located throughout the metropolitan area. Mechanism and metallurgy also provide a large number of unskilled jobs. This is very important because the skilled jobs are over-represented on the agglomeration. To conclude, the territories of the local economy are located in several sites: Part Dieu as the business centre, La Cité internationale as congress centre and Gerland and La Doua as incubator for scientific research.

Overview

The evidence presented thus far suggests that the transition from an industrial to a knowledge based economy in Europe has been associated with a significant reshaping of national and European urban hierarchies to the benefit of the larger, more dense, economically diverse and highly connected cities and metropolitan areas such as our case study areas. It also demonstrates that agglomeration economies have been important not only to processes of differentiation between metropolitan areas/city-regions but to the geography of economic change within our case study areas, privileging some parts more than others. However it is one thing to make a claim for the importance of agglomeration economies and another to make plausible links between processes of economic change and the variety of public policies that impact upon them. The patterns of change identified within the case study areas, ultimately, are the result of choices made by myriad economic agents and households on the basis of what they perceive to be functional and beneficial to them. The key questions are the extent to which these decisions, and the patterns they produce, are influenced by key public policy choices in general and, in particular, by the activities associated with various forms of metropolitan and city-regional governance. The next two sections focus upon the challenge of identifying these links by first looking at the evolution of metropolitan and city-regional governing arrangements in and for the case study areas and then taking a step back and asking whether, and in what way, such arrangements have contributed to public policy choices that can feasibly claim to have influenced the patterns of change identified in this section.

3. The evolution of metropolitan/city-regional governance arrangements in and for the case study areas

In tracing the evolution of metropolitan/city-regional governance, the study team were conscious of the fact that institutional arrangements change over time and differ fundamentally depending upon national context. The key question we posed was therefore how sub-national institutional arrangements and relationships between levels of government for sub-national territories had been reconfigured and where (if at all), within this more general context, specific metropolitan/city-regional structures and a concern with spatial economic management fitted. Below, we simplify each of the ‘narratives’ that describe our case study area experiences, within their particular national contexts, in turn.

Greater Manchester

Metropolitan/city-regional governance for Greater Manchester has developed through three broad phases over the course of the last four decades and it is only recently that a distinctive approach to ‘city-regionalism’ as a concerted attempt to understand and jointly manage agglomeration economies and their spatial consequences has begun to emerge. The broad context in which each of these phases have operated is one in which (a) national government has provided the bulk of funding (currently around 70%) for local government through a mixture of general and specific grants, (b) local authorities are constitutionally inferior bodies whose forms and functions can be amended by national legislation, and (c) a concern with economic development and change, although of increasing concern to local authorities, has only recently become an issue that they have statutorily been required to consider. Local authorities, therefore, have relatively little ‘vertical’ autonomy, i.e. formal independence from the central state.

In the first phase, beginning in the late 1960s, the focus of debate, at a time when continued population growth and industrial development were confidently predicted to continue, was on the need for comprehensive reform of a fragmented local government system which had survived, relatively unchanged, for almost a century. The twin

challenges of the reform programme were to devise a system of local government in which the constituent units were large enough, in terms of population, to enable local authorities to be effective (through economies of scale) but small enough to be accessible and responsive to citizens. The Royal Commission (expert advisory body) that was given responsibility for developing the reform proposals considered two main options. One was for a uniform, single tier of local government in which all services within a particular area would be delivered by a single local authority. The other was the creation of a two tier system whereby an upper tier authority, responsible for 'strategic' services, would co-ordinate and oversee a number of lower tier authorities, covering smaller areas, responsible for mainstream services that demanded engagement with citizens.

A dissenting member of the Commission argued for a two tier solution based on the principle of city-regions whereby the size of the population covered by the strategic authority would vary, depending upon 'the realities of social geography' and the size of the areas of influence centred upon particular urban settlements, and the number of lower tier authorities within any one city-region would also vary, in order to roughly standardise population sizes at this level. The majority report prepared by other Commission members advocated a primarily unitary (single tier) system that made an exception only for the three largest English cities outside London at that time – Birmingham, Liverpool and Manchester – where a two-tier solution was favoured. The Government that implemented the reforms, however, ignored both sets of recommendations and created a countrywide two-tier system based on a broad distinction between strategic and mainstream functions. This principle was applied most strictly in the case of six new 'metropolitan counties', covering ten new lower tier district authorities in the case of Greater Manchester, but partially ignored for all other areas of the country where new counties were given additional responsibilities for education and social services and all other mainstream services were given to district authorities.

The first phase of the development of metropolitan/city-regional governance for Manchester was, in one sense, the most formally institutionalised. However the new Greater Manchester County Council, created in 1974, survived for just twelve years,

during which time it was responsible for metropolitan transport, police, fire and planning services and, during the 1980s, created some limited economic development programmes, largely designed to cope with the environmental consequences of industrial decline. It was abolished, along with the other metropolitan counties and the Greater London Authority, in 1986 at a time when relationships between a Conservative central government and many Labour-controlled urban local authorities had become strained and antagonistic. Some of the functions that the metropolitan county had undertaken – in transport, police and fire service – were transferred to new, single purpose functional bodies. Others, unusually in areas where metropolitan authorities were abolished, were taken on by a consortium of the ten Greater Manchester district authorities. Critically, these included the airport, but also functions that were incidental to the service delivery responsibilities of local authorities – e.g. research, archeological services, Pension Fund management – that the ten authorities agreed should continue to be provided through joint arrangements. The Association of Greater Manchester Authorities (AGMA) was established to oversee these joint arrangements and provide a forum for local authority leaders and chief officers to consider issues that affected Greater Manchester as a whole.

The Conservative government's approach to economic development during the 1980s was partly driven by a perceived need to respond to the impact of national recession on key, formerly manufacturing-dominated urban areas and partly by a distrust of local government as an instrument for economic modernisation. As a result, its urban economic development initiatives increasingly bypassed local government and were delivered through various Government-appointed agencies, including two Urban Development Corporations which were established in Greater Manchester in Manchester City Centre and the Trafford Park industrial area. Manchester City Council was among the local authorities that formed part of a prominent 'local socialism' movement during the mid-1980s that rejected the idea of competitive economic development policies and saw the protection and growth of public employment as a more desirable option.

During the second phase in the evolution of metropolitan/city-regional governance, from the late 1980s to the early part of this century, institutional capacity at the metropolitan

scale remained fragmented, relatively weak and low profile and the potential for a new round of collaboration was built up slowly, largely as a bi-product of the City's radically different and increasingly successful approach to economic development. The City's earlier municipal socialist strategy was quickly abandoned after a third Conservative successive national election victory in 1987 and the prompt collapse of any collective resistance to national government strategy. From that point on, the council's approach to economic development and regeneration became overtly driven by a pragmatic desire to work more closely with potential investors and partners – public and private – on the upgrading of the city's asset base. There followed a number of projects, many of which – e.g. new and improved visitor attractions (concert and conference halls, museums and galleries), reconversion of industrial heritage areas for residential use, the regeneration of particular deprived and poor quality neighbourhoods – were entirely Manchester-focused and delivered through partnerships with the private sector and the inflow of competitively-allocated Government funding in which the main contribution of the City Council was through brokerage, providing land, planning permissions and support through mainstream services. Others, however – two successive bids to host the Olympic Games, the expansion and upgrading of the airport, completion of the motorway ring around the conurbation, the development of the UK's first modern tram system – demanded co-operation and joint work with neighbouring authorities as well as government and private sector support.

This cross-district, implementation-level co-operation, combined with the City's need to sell the attractions and potential of the conurbation, and not just the Manchester local authority area, internationally, and the evident success that the City's strategy began to produce, particularly once the national economic upturn encouraged a new wave of (unsubsidised) market-driven developments in the city, enabled joint responses to new opportunities to be considered. Thus, for example, when the Conservative government of the mid-1990s encouraged key cities to come forward with strategic visions and action plans ('City Pride Prospectuses') that integrated diverse economic development and regeneration programmes more effectively, Manchester was not only on the invitation list, it was able to broker a joint response with southern Greater Manchester neighbours.

Similarly, when the Urban Development Corporations were wound around the same time, a new inward investment promotion agency (MIDAS) was created, initially involving the three authorities covering the 'regional centre' (but subsequently extended to encompass all ten authority areas) to continue the business promotion activities of one of them (Trafford Park) and an international marketing body (Marketing Manchester) was created, with support from all ten authorities, the airport and the private sector, to continue the tourism promotion work that the other (for Central Manchester) had developed, largely through its work in support of Manchester's second Olympic Games bid.

This dual approach, whereby Manchester responds individually as a City to some opportunities and collectively, as part of Greater Manchester, to others, continues, and the same is true of other authorities. Both benefit, however, from the cumulative successes and reputational benefits that were built up, primarily by the City, from the late '80s. Thus, for example, the City's successful application to host the 2002 Commonwealth Games built on the development of new sports facilities and the plans for a new stadium that were triggered by the second Olympic Bid. The stadium, and the sporting and retail facilities that surround it, in turn, form a core element of a huge regeneration programme for ex-industrial east Manchester. Similarly, the relationships established with developers and financiers through a series of commercial development schemes from the late 1980s onward were critical to the City's response to the bombing of the city centre in 1996 and the subsequent rebuilding of the retail core of the city.

Since the turn of the century, however, the third phase of the evolution of metropolitan/city-regional governance has been characterised by a much higher level of institutionalisation and a more thoroughgoing attempt to develop an overarching strategy for the ten local authority areas in which a developing understanding of the importance of agglomeration has played a key role. This latest phase, which is still ongoing, reflects a substantial, but still incomplete, re-orientation of national policy towards spatial development and governance in which the Labour governments of 1997-2010, having originally seen economic development primarily as a regional function, have increasingly

looked to encourage sub-regional and city-regional capacity. During the first Labour government, non-elected Regional Development Agencies (RDAs) were created in each of the standard administrative English regions, ostensibly as the first step towards more thoroughgoing devolution. Paradoxically, RDAs gave further impetus to the institutionalisation of city- and sub-regional governance arrangements insofar as most of them quickly realised that the regional economic strategies they were established to formulate and deliver, in what for the most part are very diverse territories that do not form natural economic areas in any sense, could only have traction and be coherent if they were seen as collection of sub-regional and city-regional strategies. In Greater Manchester's case the ten authorities responded to the RDAs need for sub-regional delivery capacity by establishing a further city-regional body, Manchester Enterprises (as was), an economic strategy-development body that partly acts as an agent for the delivery of the regional strategy and partly as the strategic economic development body for Greater Manchester.

When the next intended phase of the Government's regional devolution plan failed in 2004, though, as the first of several planned referendums on the creation of directly elected regional assemblies produced an emphatic 'no' vote in the North East region, a fundamental rethink was needed. In the three years it took Government to produce a revised approach to sub-national economic development and regeneration, a loose campaign linking academics, think tanks and the so-called Core Cities group of local authorities (of which Manchester is a leading member) formed around the idea of a more selective approach to national policy in which the larger city-regions, in light of their important role in recent patterns of economic change, should play a more prominent role. The campaign had some success insofar as the policy statement produced in 2007 opened the way to the development of a number of mechanisms whereby sub-regions, covering 'natural economic areas' can be encouraged to co-operate on economic development strategy and governance arrangements and bargain directly with national departments on ways in which they can be delivered. In principle, the opportunity exists for any sub-regional grouping of local authorities to take advantage of the mechanisms that have been developed and put in place by new legislation. In an indication that Government was

prepared to go further with selected city-regions, though, the most recent mechanism to be developed involves the designation of two ‘pilot city-regions’. Greater Manchester was one of the two pilot areas designated in 2009, helped by the fact that it had gone through the process of organising an independent economic review, which looked specifically at the issue of agglomeration economies in the Manchester city-region in comparison with other UK cities and developed a series of policy implications from the work, and begun a further round of institutional reform designed to enhance city-regional delivery capacity through seven joint-authority Commissions, .

At the time of writing, Greater Manchester has agreed a series of priority actions with Government, through the city-region pilot process, established the seven Commissions, each of which is responsible for a particular policy area related to economic development, amended the constitution of AGMA to enable majority voting amongst its members on key issues and made a proposal to Government for the establishment of a joint authority that will bring together transport, economic development and planning powers across the ten authorities through which it can pool resources and provide the capacity for more devolved powers.

Dublin

The major expansion of the economic and commuting footprint of the Dublin city-region that accompanied the growth of the Irish economy in the 1990s occurred in parallel with significant changes in governance arrangements across all levels of the state apparatus at a time of increasing reliance on national coalition governments. In particular, the adoption by an ever widening range of stakeholders after the mid 1980s of a consensus approach to politics, administration and economic strategy - through a series of National Partnership Agreements - was viewed extensively as a significant contribution to the well reported success of the “Celtic Tiger”.

The new and more inclusive approach to governance was considered to be an adaptable and successful approach to addressing macro-economic and labour relations issues as

well as providing a stable political economy for global investment in the country. A conscious effort on the part of central government to release the creative capacities of local government and other stakeholders at all levels was pursued to consolidate and enhance the commitment of the Irish state to the business-friendly, macro-economic strategy which underpinned all subsequent national development programmes. The new departure was presented as part of Ireland's new fit with the EU competitiveness and cohesion agendas and its enhanced links with targeted areas of the business sector in the USA that were cultivated and developed during the Clinton Presidency's involvement as a peace broker in the Irish Peace Process.

In this evolving environment, a positive national image of dynamic entrepreneurialism was cultivated and economic promotional strategies pursued at a time of accelerating internationalisation when cities were increasingly seen as the engines of economic prosperity. Accordingly, the trajectory of the new governance in Ireland since the mid 1980s has involved a gradual relaxing of the constraints on municipal authorities and equivalent agencies of local government which viewed as having prevented them from competing successfully for increasingly mobile global investment. It is notable that this emancipatory governance regime in Ireland has a paradoxical element in that the 'control' functions of central government did not diminish as national government continued to be the predominant force driving the agenda for competitive outcomes. Typically, central government initiated, vetted and mandated the institutional changes and policies designed to secure the economic climate changes and environment required for the country and its cities to be perceived as attractive in the era of globalisation. Nevertheless, the main cities and their regions have over the past two decades increasingly utilised the opportunities afforded by the relaxation of strict traditional legal constraints to carve out the space needed to develop and pursue their own development paths.

Three phases of macro-economic policy and associated governance regimes can be identified for modern Ireland subsequent to the pre-industrial minimal-planning era which stretched from national independence in 1921 to the late 1950s.

(1) The early modernisation stage from 1960 to the mid-1980s which introduced the current Irish planning system which was expected to assist and regulate the anticipated industrialisation and associated urbanisation. Following the introduction of the modern Irish planning system in 1963, development in urban centres in Ireland was directed not by formal urban policy but by a town planning system administered by local authorities. In this phase the two Dublin local authorities (Dublin City and the surrounding Dublin County) pursued a development strategy of urban decentralisation which permitted a pattern of low-rise, low-density ‘new town’ suburban expansion to occur at the expense of the inner city area. This strategy persisted until the mid-1980s when serious concerns were expressed about the decline of the inner city and the ever-widening commuter belts that were resulting from the relocation of residents and industry to the urban fringe.

(2) The urban regeneration era which effectively got under way in 1986 when blighted urban zones were officially designated by central government for renewal and provided with tax exemption status to attract investment into targeted redevelopment projects in these areas. It was this phase that coincided with the early pressures of globalisation and intensified city competition trends. During this period, Dublin city, like many other cities, experimented with new ‘flagship’ projects and new implementation arrangements in the race to “avoid being left behind” both by other cities in the new emerging European and global urban hierarchy. The decline of the city centre was viewed as a problem but also as an opportunity for fresh initiatives and experiments which could draw on similar experiences abroad. Central government took the baton from local government and ushered in the by introducing ‘tax-break’ designated urban regeneration areas in Dublin and the country’s other major urban centres. Moreover, the local authority in Dublin was bypassed as central government sought to emulate a similar experiment in London Docklands by establishing an independent, single task organisation for the purpose of rejuvenating the Dublin Docklands.

In the absence of residential taxes or rates (which were abolished by central government in 1977) local authorities were totally reliant on a central exchequer grants system and compelled to raise additional resources through competing with other authorities for commercial rates and additional funding sources. A deliberate effort was made by the city authorities to combat the perceived threat of being “squeezed out” by central government or public-private partnership consortiums (or central government appointed QUANGOS). Dublin city developed and pursued its own regeneration initiatives in competition with the initiatives sponsored by central government. The institutional landscape became even more experimental and fuzzy when policies were adopted to modernise both central and local government through the Better Government and Better Local Government strategies which sought to free public agencies from the traditional practices which inhibited their innovative capacities. Thus, by the end of the 1990s the move from staid government structures to explorative governance had resulted in a fragmented and chaotic institutional landscape with a diversity of piecemeal approaches often based on a range of ‘stakeholder partnership’ initiatives being employed in pursuit of urban renaissance and competitiveness.

(3) The late 1990s and early part of 2000 was a period of consolidation, rationalisation and domestication which coincided with a move to a national competitiveness ethos based on city- regional promotion and regional cohesion. Despite the apparent successes of some of the institutional experimentation of the 1990s, the need to manage the chaotic flux that had emerged was debated and led to the development of a national and formal urban policy in Ireland together with efforts to rationalise the system of local government and new governance arrangements. Again, central government drove the agenda introducing new legislation in 2000 which provided the first consolidated updates of both the local government and planning systems and accorded an enhanced coordination role (but not a budgetary remit or devolved powers) to regional authorities. The national economic strategy (the National Development Plan) was augmented in 2002 by a state-wide spatial planning framework (the National Spatial Strategy) which

identified the Dublin region as the key economic engine of the state and the gateway to Europe and the world. The NSS drew on the concepts of the European Spatial Development Perspective (ESDP) which was then being promulgated across the EU. The NSS was supplemented in 2004 by Regional Authority Guidelines (currently being updated) which were expected to stimulate regional development capacities in order to advance the competitiveness and cohesion objectives set out in the NDP. By directly linking spatial planning, which is the main autonomous power available to local authorities in the Irish political system, to the investment priorities of central government reflected in the NDP, the state continues to drive and intensify the agenda of city-regional competitiveness led by Dublin and complemented by other regional city clusters.

The centrally driven process of competitive rationalisation and consolidation is currently being fine-tuned. Proposals to establish a role of elected mayor for the Dublin city region are contained in the Government's Green Paper on Stronger Local Democracy and the 2009 Planning Bill seeks to compel local authorities to comply more fully with the strategies of the Regional Guidelines and therefore of the NSS and NDP. In the meantime, the regional and city authorities are positioning themselves to respond proactively (and perhaps pre-emptively) to this evolving competitiveness agenda by developing alliances and economic strategies with associated spatial plans that will give them a competitive edge. Against this backdrop, the changing approach to city promotion in Dublin has moved from an initial concern with securing economic objectives through a traditional technocratic style of management to broad partnership schemes which seek to achieve a wider mix of economic and social objectives for targeted areas and sectors. This is all now occurring in the context of a fiscal crisis which erupted in Ireland in mid 2008. Collapses in the banking and building construction sectors have led to a huge contraction in central government tax receipts which is having a knock-on effect on state funding to local authorities and the NDP investment programme. The uncertainties created by these recent developments make it difficult to predict the

responses or strategies that will be pursued in either the short or medium terms at all levels of government.

In summary, the Dublin city region and the local and regional agencies representing other urban centres in Ireland have in recent decades become more focused on a competitiveness agenda that is being driven and overseen by central government. Operating with a limited remit (confined mainly to the planning function) and with little resource availability, they are typically obliged to react to major new institutional and funding initiatives promulgated by central government. Within this context, they have become increasingly active and adaptive in moving to a more strategic and regional approach to city development and promotion. In this sense, it could be said that their policy and practice trajectory has involved a move from a situation of predominantly inert localism constrained by law to an alternative constrained autonomy which situates them in a milieu in which their capacities are being released to both enable and oblige them to attain their competitive potential. Uncharted territory has been entered with the recent economic meltdown and it is difficult to predict where current trends will lead.

Barcelona

A key feature of the Spanish case is the power of the regional tier, and in particular the development of the state in the post-Franco period (after 1975). The Spanish Constitution of 1978 changed the basic territorial structure. As in some other European countries, the decentralisation process has resulted in progressive rationalisation or the rise of stronger levels of sub-national government. The territorial model adopted was the State of Autonomies, where seventeen Autonomous Communities (*Comunidades Autónomas*) have significant legislative and executive powers over a wide range of areas – housing, urban and regional planning, agriculture, transport, health, education, social welfare and culture – according to the terms of their individual autonomy statutes. The Autonomous Communities (AC) have progressively achieved more competences.

For the purposes of the ESPON project, the city-region is defined as NUTS3, that is, the **province** of Barcelona, formed by 311 municipalities and 11 counties. The competences of provinces are mainly offering technical support for municipalities and the coordination of supra-local services, especially for small municipalities. They are also the electoral circumscription for general elections and also for Catalan regional elections. Transfers from central government constitute the main economic resources for provinces.

However, in Barcelona, when we refer to the metropolitan question we use two other definitions, the **RMB (metropolitan region of Barcelona)** and the **AMB (metropolitan area of Barcelona)**. We are talking about two spatial concepts that do not correspond, so far, with an institutional level of government, as is the case of the province. These two alternative geographies refer to smaller territories than that of the province and correspond in particular to more concentrated urban densities, while the province is a mixture of urban and rural areas.

The RMB is composed of 164 municipalities, and is a spatial concept that reflects the functional area of Barcelona as defined by urban planners, geographers and architects since 1968. At present it has no institutional recognition, but this situation may change soon in two ways. First, the territory of the RMB corresponds to the Metropolitan Territorial Plan, which is waiting approval. Second, these 164 municipalities correspond to a new administrative level, the *vegueria*, which is proposed in the Catalan Law of Territorial Organisation, at present on parliamentary commission (April 2010). If approved, the RMB will become a level of decentralization of the Catalan Government, substituting the provinces. However, it is not clear whether the law will pass, for two reasons. Firstly, there is not a consensus about the territorial divisions proposed. Secondly, the Catalan Parliament cannot abolish provinces since they have constitutional recognition, so this reform needs the approval of the Spanish Parliament.

Similarly, the political future of the AMB - the metropolitan area of Barcelona – could change in the following months. What this would achieve would be to bring together the 36 municipalities or the first ring of the large metropolitan region that probably will be

given a new instrument of governance if the Catalan Parliament approves the Law of the Metropolitan Area of Barcelona (now at discussion stage). As we will see later, the objective of creating a single metropolitan authority gathering 36 municipalities is to put an end to the institutional fragmentation that characterises the metropolitan area since 1987.

Table 6, below, shows the population, surface, density and political fragmentation of the city-region of Barcelona. We take into account the different definitions of the metropolitan reality and include the weight of the central city and each territory in relation to the whole AC.

Table 6: Portrait of the city-region of Barcelona

	Population 2007	% of total pop.	Surface (Km2)	Density (hab/km2)	Administrative units

Barcelona	1.595.110	22,1	101,4	15.739	1 municipality
Metropolitan area	3.150.380	43,7	635,8	4.955	36 municipalities 4 counties
Metropolitan region	4.856.579	67,3	3.236	1.488	164 municipalities 7 counties
Province of Barcelona (city-region)	5.332.513	73,9	7.719	691	311 municipalities 11 counties
Catalonia	7.210.508	100	32.113	222	947 municipalities 41 counties 4 provinces

Source: Own elaboration with data coming from the Catalan Institute of Statistics (Idescat)

To return briefly again to the political construction of the **province**, this is the upper tier of local administration and one of the constitutional levels of government in Spain. Under the Franco dictatorship, its chief, the *governador civil*, was the delegate of the central power in Catalonia. This radically changed with the arrival of democracy with the creation of the AC. In Barcelona, the province has been very active in promoting the cooperation of municipalities through local networks and programs. However, for key a part of the Catalan political elites, the provincial division is an old-fashioned administrative level that does not correspond to the territorial functional reality, which is better adapted through 7 territorial districts or *vegueries* (as noted, there is a Parliamentary Commission studying a project to create them). There are 4 provinces in Catalonia and their task is give legal and technical assistance to municipalities. Provinces are financed mainly by transfers coming from the central government.

Local governments are considered as the Cinderella of the Spanish recent political evolution. The decentralization in the last 30 years has been focused on the regional level (the Autonomous Communities). In the case of Catalonia, this process has been even more important for its cultural and identitarian specificities. In other words, the issue of acquiring more legal and financial autonomy has guided the Catalan governmental strategy at the expense of other issues. The relations between the Catalan government and the municipalities belonging to the city-region have been influenced both by the Spanish-Catalan debate and the differences in political majorities of regional and local governments. Among political divergences, the political fight between the Generalitat and the City of Barcelona has been particularly relevant.

In formal legal terms, a “metropolitan area” in Spain is an organisational arrangement that AC can set up in their territories when they consider it is necessary to coordinate action among several municipalities linked by economic or social ties. Then, each regional government decides whether these linkages exist and, when they do exist, it approves the institutionalisation of formal arrangements among the municipalities involved. As a top-down policy, the AC decides to set up (or not) the institution of a “metropolitan area” in order to coordinate specific services and policies, mainly pertaining to transportation and services related to the environment (waste, water supply and sewage, etc.). By creating a formal structure of this type, the regional government acknowledges the existence of “integrated networks of municipalities in big urban agglomerations which have economic and social linkages” (art. 43, 7/1985 Act on Local Government) and makes the decision to establish a formal network of local governments for the coordination of certain policies.

In short, there is a high degree of vertical and horizontal fragmentation of administrative units, and to date there has been only faltering progress toward greater co-ordination and institutional development corresponding to a (variously conceived) functional economic-city regional level.

For the last 50 years, the city of Barcelona and the inner ring have shared the same institutional organisation, regional plan and management of services. The most powerful body was the Metropolitan Corporation of Barcelona (MCB) (1974-1987), made up of 27 municipalities and bearing several responsibilities like public transit, water supply, waste treatment and urban planning (particularly, the implementation of the General Metropolitan Plan of 1976). The political influence of a single institution's gathering half of the Catalan population was feared by the AC government. Similarly to what happened in London, the MCB was abolished in 1987 by the government of Catalonia, in the framework of a general reform of the territorial structure.

In order to replace the MCB, two specialised metropolitan bodies were created by the Parliament of Catalonia: a) covering 33 municipalities, the Metropolitan Environment Entity, with competences in water supply, sewage disposal and urban waste treatment, b) the Metropolitan Transport Entity, formed by 18 municipalities to organise, manage, plan and coordinate public transport services (buses, metro, taxi) in its area. Moreover, the responsibilities in planning were transferred to the AC government. The reform was not supported by local elected officials, not only because it fragmented the metropolitan interest but also because of its political significance. Indeed, the majority of metropolitan municipalities were ruled by left-wing political parties, while the AC government that passed the law was ran by the Catalan nationalists (on the centre right). In order to diminish the impact of the reform, 23 municipalities decided, one year later, to get together on a voluntary basis. They formed the *Mancomunitat* of Municipalities of the Metropolitan Area of Barcelona to carry out the MCB's remaining powers, like roads construction, public works and technical assistance to the municipalities (since 1988, the members of the association have increased up to 31). In 1997 the Generalitat created the Authority for Metropolitan Transport. The function of the ATM (which is a public consortium) is to organise the public transportation system in an area bigger than the metropolitan region but smaller than the province or city-region. The integration of the system of transport fares has been its main achievement.

The question of diminishing institutional fragmentation has been on the agenda of metropolitan municipalities since the dissolution of the MCB, but since 2003 the revindications have risen. In 2003, the nomination of Pasqual Maragall, ex-mayor of Barcelona, as prime minister of the AC government opened a policy window. After 23 years of the nationalist federation *Convergència i Unió*, headed by Jordi Pujol, the Socialist Party took the Generalitat (in coalition with two other left-wing parties). Since the election, mayors have advocated for the real institutionalisation of the metropolitan area. Considering it as a “natural” evolution, they wish to unify the three metropolitan bodies and their competences in a single institution, the Metropolitan Area of Barcelona. One way to give visibility to the “metropolitan reality” was the approval of the First Strategic Metropolitan Plan of Barcelona in 2003, which gathered the 36 municipalities of the metropolitan area, other public administrations and the main economic actors. The coincidence of political parties (the Socialist Party has been leading the City Council of Barcelona since the first democratic elections in 1979) appeared as the necessary condition to recognise the specificity of the metropolitan area.

Nevertheless, and much to the disappointment of metropolitan mayors and councillors, political priority was given to the approval of the new Statute of Autonomy of Catalonia, the law that contains the basic institutional regulations of the AC. Socialists won the elections and repeated the alliance with the two other parties, but the President since 2006 is José Montilla, former mayor of one of the biggest cities close to Barcelona (Cornellà). During his mandate, Montilla announced the creation of a metropolitan single authority, which is currently discussed at Parliament. However, the 36 municipalities of the metropolitan area decided voluntarily in 2009 to create the Consortium of the Metropolitan Area of Barcelona, which gathers the three metropolitan entities, so as to prepare the institutional transition to the new metropolitan authority. In other words, there is a consensus coming from local elites that the current institutional fragmentation is harmful to the interests of the metropolitan municipalities.

Yet we have to bear in mind that if the single metropolitan authority is created, it will correspond to a smaller part of the city-region, formed by 311 municipalities. At this

level, we have to take into account the coexistence of other administrations with overlapping powers, which limits city-regional autonomy.

Key issues for city regional governance and autonomy

As we have seen, there are several metropolitan institutions and different levels of local governments with responsibilities within the city-region.

First of all, there is the Provincial Council of Barcelona (*Diputació de Barcelona*). In the metropolitan area, the intervention of the Council is minimal, since both functions of technical and legal assistance to municipalities are carried out by the *Mancomunitat*. Municipalities of the first ring are quite large (98% of municipalities have more than 10.000 inhabitants) and therefore their councils have enough resources (technical and legal). In cooperation with the *Mancomunitat*, the *Diputació* manages the most important parks of the metropolitan area. However, the *Diputació* effectively acts as a support for small and medium towns in the metropolitan region, which lack of an association like the *Mancomunitat*. The *Diputació* helps these municipalities in the development of local services (such as waste management) and provides them with technical support (such as in the preparation and implementation of projects or collecting the taxes).

Secondly, there are 11 counties in the city-region (Alt Penedès, Baix Llobregat, Barcelona, Garraf, Maresme, Vallès Occidental, Vallès Oriental, Bages, Osona, Anoia and Berguedà). According to the laws of territorial organization of Catalonia approved by the Parliament in 1987, the counties are the basic level of supralocal organization. They support the provision of local services in cases where municipalities cannot do it. As in the case of the Provincial Council, the county has a different role in the metropolitan area than in the city-region. Within the metropolitan area, the county has a minimal role and is regarded as an aggravating factor of institutional fragmentation. In fact, the creation of the counties coincided with the elimination of the Metropolitan Corporation of Barcelona (MCB) and the creation of metropolitan bodies. The territory of the MCB was divided into different counties, considered by most local elected as an “artificial division”. On the

contrary, counties in the rest of the city-region have greater symbolic importance and identity. They also help small municipalities in the provision of local services such as planning, environment and social services. However, the lack of financial resources and the overlapping of responsibilities with the *Diputació* limit their importance.

Last but not least, the institutional capacity of the city-region of Barcelona is influenced by the role of the Catalan government, the *Generalitat*. As described above, the powers of the AC Government are governed by its Statute of Autonomy and under the Spanish Constitution. Regarding the local government, State government and AC governments share legislative powers. The State has exclusive competence to legislate in terms of general precepts and basic constitutional guarantees of local authorities (powers, electoral system and financial resources). The Catalan Government, under these State laws, has passed laws relating to local government, mainly the territorial laws in 1987 and the revised text of the municipal law and local government of Catalonia in 2003. As stated earlier, the Parliament is currently discussing a project for creating seven territorial divisions (*vegueries*) to substitute provinces. If approved, the territory of the city-region, that is, the province of Barcelona, will be divided into two *vegueries*: 164 municipalities of the city-region will belong to the metropolitan *vegueria*.

With regard to metropolitan governance, the Government's intervention –or the lack of intervention– has been important. We highlight two decisions that have affected the city-regional autonomy. In the first place, the dissolution of the MCB meant not only the loss of the institution but also the loss of capacity planning in the metropolitan area. Planning powers were absorbed by the *Generalitat*, and, partially, by municipalities. As we have seen before, the abolition of the metropolitan authority resulted in a fragmentation of the metropolitan area between different bodies and was very criticised by local elected. After 10 years of lack of crucial decisions affecting the city-region, the creation by the *Generalitat* of the Authority for Metropolitan Transport in 1997 represented a change in the recognition of the metropolitan reality. This consortium formed by different levels of administrations has been essential for enabling citizen's mobility across a large part of the city-region's territory thanks to the integration of public transit systems.

Differently, there has been a lack of intervention of the *Generalitat* in relation to territorial planning and particularly regarding the revision of the General Metropolitan Plan of 1976. This Plan refers to the 27 municipalities of the ancient MCB and has been the main tool for urban planning in this area. However, for most urban planners, geographers and architects, the plan is obsolete to deal with urban reality in the 1990s. In 1995, the *Generalitat* approved the Territorial General Plan, which established the boundaries of six areas for planning, one of them corresponding to the metropolitan of Barcelona (164 municipalities). Once the metropolitan plan approved, it will replace the General Metropolitan Plan of 1976 with a specific plan for its area. However, the elaboration of the metropolitan plan, which takes into account for the first time a larger territory than the inner ring of the metropolitan area, has been postponed until 2009. Finally, in April 2010, the metropolitan plan of Barcelona is at the point of approval.

The role of the *Generalitat* in the city-region is also essential in soft policies such as health, education, social services, etc. Like in most metropolitan areas, metropolitan authorities have responsibilities in hard policies, mainly urban planning, public transport and environment. To sum up, there is little city-regional autonomy. The city-region of Barcelona is divided into multiple institutions with responsibilities mainly in environment and public transport. The provincial council, the county council and the *Mancomunitat* have similar tasks, i.e. promoting municipal cooperation and giving assistance to municipalities.

Political blockage on the development of metropolitan projects has been overcome under the leadership of the mayor of Barcelona and through the involvement of civil society, particularly through the important instrument of strategic planning. The use of strategic planning has become the instrument of creating a collective vision and designing the main guidelines for the city's development over a ten-year term. During the 1990s, three Strategic Plans were approved (1990, 1994, 1999) based on the City of Barcelona. After Maragall, the new mayor Clos decided to go one step further and started working on the first Strategic Metropolitan Plan (approved in March 2003). In relation to territorial

interest intermediation, the first Strategic Metropolitan Plan is different from the other plans because it includes representatives from thirty-six municipalities of the metropolitan area of Barcelona. The leadership comes from the mayor of Barcelona (who is the president of the general council of the plan, which includes 300 representatives from different sectors) and also from members of his team (who lead different commissions). This plan has also enabled the participation of other local leaders (and mayors from other political parties) for the first time. One of the collective demands that was supported by the majority was the need to simplify the institutions of the metropolitan area and create a new body to coordinate the thirty-six municipalities. Furthermore, this plan has provoked a reaction from municipalities in the metropolitan region that were not included. Seven medium-sized municipalities have argued for participation in the plan, raising the question as to whether the limits of the metropolitan area are too small. In fact, the latest document of the Strategic Plan underlines the need to reinforce the body's relations with the second metropolitan ring and the metropolitan region of Barcelona (Strategic Plan, 2006: 66).

In relation to the participation of other local and regional authorities, this plan integrates all the municipalities that belong to the three different metropolitan bodies created in the 1980s (Environment, Transport and Mancomunitat). It also includes the bodies in charge of the Port and the Airport of Barcelona, as well as representatives from the two supra-local levels (counties and the province of Barcelona). The plan also has three commissions which work with the regional government (through meetings four times a year), with other big cities such as Madrid and Valencia (through meetings twice a year), and with other European cities that have expertise in strategic planning such as Lyon and Milan (through annual meetings). This plan has opened up the debate on the future of the metropolitan area to a larger number of actors from the administrative segment of interest mediation (Strategic Metropolitan Plan of Barcelona 2002). The corporate actors are represented in several commissions such as those centred on tourism and economic development. They include the Chamber of Commerce, Industry and Shipping, the Fair, the trade unions (CCOO and UGT, but also the unions of farmers, hospitals and metallurgic sector), employers' organisations (*Foment del Treball*), financial groups,

hotel groups and the utility companies. Finally, a wide variety of actors from civil society participate in the general council of the plan, including NGOs, private foundations, centres for research, universities, the mass media and several associations (ranging from arts, crafts and sports to automobiles). There are also some individuals who participate as experts on specific issues

Grand Lyon

Throughout the 20th century, Lyons was characterised by the constant progress of co-operation between municipalities at the metropolitan level, originally driven by local governments themselves and subsequently due to the imposition by the central State of more ambitious forms of cooperation. The most significant manifestation of this trend was the creation of the *Communauté urbaine de Lyon* in 1969, an inter-municipal cooperation consortium that had then progressively absorbed an increasing number of functions. At the beginning, the cooperation was limited to utilities and urban networks management issues (urban transport system, sewage, water). It was then extended to cover more strategic and political issues (planning, housing, infrastructures) and the scale of the *Communauté urbaine* (today called *Grand Lyon*) became the essential scale for the construction of visions and strategies. Nevertheless, the strategic capacity of the metropolitan institution has been for long essentially exerted on spatial planning and facilities. It is only recently that *Grand Lyon* had developed a capacity to elaborate strategies and implement policies in the economic field.

Integrated, co-operative metropolitan governance arrangements have developed in three main stages. The first, from the late 1960s to the early 1980s, focused upon functional cooperation. Inter-municipal co-operation is a longstanding practice in Lyons due to the comparatively small size of the core city, rapid early urbanization of peripheral municipalities (especially Villeurbanne) and the failure of attempts to absorb some of them. Inter-municipal cooperation was chosen as an alternative to amalgamation in the 1920-30s period and single-purpose inter-municipal consortia were created. This co-operation remained limited to functional and technical issues for a long time such as the

development and management of networked urban utilities (public transport, water, sewage). From the beginning, the central State encouraged this collaboration. In the 1960s, it gave it a decisive boost by first imposing on 26 municipalities of the Lyon agglomeration the gathering in a multi-purpose inter-municipal cooperation consortium (SIVOM), and then by creating in 1969 the *Communauté urbaine de Lyon* (first called COURLY), an inter-municipal cooperation body endowed with its own assembly composed of municipal elected official designated by municipal councils, its own budget and tax incomes. The 55 communes gathered in the COURLY delegated most of their competences they previously exerted in urban utilities matters.

During the two first decades of its existence, the COURLY did not really modify the way the Lyons' style inter-municipal cooperation was working since the inter-war period. The cooperation remained essentially functional, focused on utilities networks management and with very low strategic and political ambitions. The collective management of networks consented to maintain clientelistic bargaining games between municipalities. Economic development remained a competence mainly exerted both by the central State and its field services and representative organisations, particularly the Chamber of Commerce, which public officials viewed with a mixture of distance and mistrust. At this time, the civil engineers and technical field services of the State still had the control of large urban projects and infrastructures (e.g. the Part-Dieu and Perrache areas, outer high-rise social housing estates). Nevertheless, the institutionalisation of inter-municipal cooperation enabled an « acculturation » of municipal elected officials and officers to the city-region scale.

From the late 1980s to the early 21st century, metropolitan institutions and scales were re-orientated towards the challenges of internationalisation. In the 1980's, a rupture occurred with the passing of the decentralisation laws (1982 and 1983) that relaxed State control over local governments' deeds and gave them new responsibilities in matters such as urban planning and economic development. In the case of Lyons, a neat rupture also occurred with the election at the city and metropolitan level of Michel Noir, a young and ambitious Gaullist politician who acquired a single mandate as mayor of Lyon and

president of the COURLY (1989-1995). His period of office brought about innovations in three different fields: urban renewal, urban and metropolitan planning and internationalisation.

On the first aspect, with the assistance of Henry Chabert, the City alderman in charge of urban planning, he launched a series of policies aiming at enhancing urban quality (architectural and urban heritage valorisation, regeneration of public spaces, flagship buildings) considering that it was an essential means to position Lyons favourably in the urban competition. These policies were first implemented at the core-city level with the renewal of Old Lyons and the Lightning Plan but was soon extended, thanks to the COURLY (which became Grand Lyon in 1991) technical services, with the launching of a single urban public realm policy at the metropolitan scale and the use of new tramways lines as a tool to regenerate public spaces throughout the agglomeration.

Michel Noir also relaunched planning at the Grand Lyon and the larger city-regional scale. He supported the master plan revision process initiated by the Grand Lyon Urban planning agency. Jean Frébault, the director of the agency was willing to import the new methods of city visioning and strategic planning and to overcome the spatialist vision of urban planning. He thus insisted on the use of the use of new visioning and prospective methods and conceived the plan revision process as a way to mobilise the local society and created an urban coalition. At the larger city-regional scale, Michel Noir decided to revive a scale the central State already helped to emerge through a series of studies and prospective initiatives in the 1960s and 1970's: the city-region comprised the urban poles of Lyons, Saint-Étienne and the North of the Isère department (the area of the new town of l'Isle d'Abeau). In 1989, he created the Lyons Urban Region association (Région Urbaine de Lyon, or RUL), a place where the decision-makers of the city-region might gather and define in a concerted way strategies of the metropolis. Today, the perimeter of the RUL extends to 4 departments (Rhône, Ain, Isère, Loire) and covers a population of almost 3 million. The RUL is the expression of a leitmotiv shared by Noir and subsequent mayor-presidents: to reach "critical size" in order to compete in the same league with other large 'second tier' European cities.

Internationalisation was the third priority of Michel Noir. It was one of his main themes during the 1989 municipal campaign. During his mandate, he launched the Cité Internationale urban project designed by Renzo Piano. Raymond Barre, ex-Prime Minister and elected mayor of Lyon in 1995, put even more emphasis on internationalisation. His status of ex-Premier enabled him to organise a G7 meeting in Lyon in 1996. He manoeuvred to obtain the localisation in Lyons of the Interpol headquarters for Europe and the settlement of Euronews. He also obtained the move of the Ecole Nationale Supérieure from Paris to Lyons. He launched the first *Fête des Lumières*, a sort of urban lightning festival in order to capitalise on the know-how accumulated by the city on this matter. He also contributed to develop biannual festivals of dance and contemporary art and to foster the presence of Lyons in European cities networks.

Nevertheless, it has to be mentioned that during the Noir and Barre mandates, the City and Grand Lyon policies were limited to matters such as planning, infrastructure, culture and events. At this time, Grand Lyon did not engage directly in economic development issues due to a lack of expertise and an institutional culture dominated by planning and civil engineering. Economic development –and above all the development of the services sector which was the obsession of the two mayors - is conceived as proceeding from the enhancement of urban quality and infrastructures. As in many other French cities, the ideology of urban policymakers is dominated by a strong “estate tropism”.

The focus on economic development grew stronger from the early 2000s. This latest period is characterised by the impressively rising power of Grand Lyon in the economic development field and the return of the central State in the very same field. In 2001, for the first time, a leftwing mayor was elected in Lyons. The Socialist Gérard Collomb also became, as is the tradition, the president of Grand Lyon. (He was easily re-elected in 2008). In spite of the change of partisan control, the new mayor announced his willingness to govern the city and the city-region with the same agenda as his predecessor. The main objective remained internationalisation of the city but Collomb

added a much stronger preoccupation with economic development and the construction of a strong link with the local business elite. This new priority has had a strong impact on the power balance between the various local institutions. Grand Lyon became the main actor in economic development, relegating the Chamber of Commerce (CCI) to a secondary role. Grand Lyons quickly reinforced its economic staff capacity and his grip on ADERLY, the economic development agency jointly owned by the Grand Lyon, the CCI, the local business association and the Rhône department.

Paradoxically, the return of the central State in the field of local economic development helped Grand Lyon to impose itself as the dominant actor in this field. Indeed, since 2005, the central State has reoriented its regional policies around the “Pôles de compétitivité” initiative. This policy aims at labelling and funding local partnerships uniting businesses, universities and research centres working in the same domain and willing to foster links between research and industry. Five poles have received the label in the Lyons city-region : « Lyon Biopôle » in the field of virology ; « Axelera » in the domain of chemicals and environmental sciences; « Lyon Urban Truck Bus »; « Techtera » in the field of textiles; « Imaginove » in the field of numeric leisure. The Grand Lyon economic development policy is today largely structured by actions supporting these sectors.

4. Have metropolitan/city-regional governance arrangements made a difference?

In seeking to examine whether metropolitan/city-regional governance arrangements have made a substantial difference to the patterns of economic change that were described in Section 2, we need to acknowledge four things from the outset. First, and most obviously, the locational behaviour of firms which, largely inadvertently, produces and reproduces such patterns is primarily the product of myriad individual firm-level decisions taken for a variety of instrumental reasons and not as a result of the designs or preferences of public policy-makers. It helps public policy-makers enormously to have a sense of what drives these preferences and might cause them to change but it remains the case that they cannot be shifted radically or quickly on anything more than an incremental, highly targeted and selective basis.

Second, if it is right to observe that the public sector in general can only influence locational decision-making indirectly, by contributing to the way in which business environments change, this is emphatically true of metropolitan or city-regional governance arrangements which, because they are not as firmly ‘embedded’ as the principal institutions of government at the national and local (and in some cases regional) scales, necessarily have to work within a context in which they can, at best, only hope to influence some of the major investment and policy decisions that impact most significantly upon locational behaviour and work within the framework they effectively provide. Examples of major, ‘game-changing’ factors that can be shaped by the public sector that were raised in the study’s interview programme include critical communication infrastructures, the availability of skilled or high potential labour (including the presence of research intensive higher education institutions), international connectivity through a globally connected hub airport, the clarity, decisiveness and speed of public planning processes, and so on.

Third, if the capacity to influence the geography of economic change is distributed, vertically, across different levels of government, they are also separated, horizontally, into different policy areas in which decision-making criteria rarely acknowledge, at least

formally, the spatial implications of policy choices and investments. The classic example, here, is transport investment, where major decisions are generally based on considerations of safety, speed and predictions of demand for travel rather than, for example, the effect of a new motorway on the attractiveness of employment sites in its vicinity or of ‘landing’ one of the stops on a high speed rail network on the locational preferences of firms that rely heavily on the ease of face to face meetings with clients or partners distributed over a wide national or international market.

Fourth, and leading on from this, understandings about the nature and likely future implications of agglomeration economies remain relatively undeveloped – or at least poorly articulated - within public policy communities and are not seen as relevant to many policy or funding allocation decisions. Within our case studies, the notion of agglomeration was one of the conceptual building blocks for Manchester’s Independent Economic Review but the extent to which the analysis it provided is widely understood and accepted within the Greater Manchester policy community whose thinking and behaviour, in principle, would need to change in order to accommodate its messages is, as yet, questionable.

Taken together, these factors mean that the line of causality that it is implied when we ask the question ‘what impact have metropolitan/city-regional institutions had upon agglomeration economies?’ also works in the opposite direction. The forms of governance we have described in this report can be interpreted as partial, and always incomplete, attempts to assemble the capacity, autonomy and forms of influence that make it possible to achieve greater coherence in public policy-making in relation to the economic performance and potential of complex and fragmented territories. In other words, metropolitan/city-regional governance is an *outcome* of the search for these conditions as well as a *mechanism* that can embody and intensify them.

Were we to rank our case study areas according to the longevity, consistency, capacity and influence of the institutions that have been created at the inter-municipal scale at something approximating the metropolitan area or city-region over the last 30-40 years,

Lyon would appear at the top, followed by Manchester, Barcelona and Dublin. This stark summary clearly simplifies a complex picture within which the direction of travel – towards greater integration and coherence – is similar but the routes through which it has been approached vary widely, as do the factors that encourage or discourage success in this respect.

In the Lyon case, inter-municipal co-operation is a longstanding feature of the architecture of governance which has been institutionalised, in a relatively stable form, for over forty years. The independent capacity of Grand Lyon as a functional, executive body with a remit that has been expanded over time is underpinned by an ability to tax. The important challenge of achieving coherence between policy at this (metropolitan) scale and at the city level is strongly encouraged by a tradition whereby Lyon's mayor is also the President of Grand Lyon. The coherence and capacity these arrangements helped create, with the active support of national government at key junctures, have enabled the metropolitan core area to construct alliances with a wider range of municipalities at the city-regional scale and encouraged strategic ambitions, and a set of supporting programmes, that would have been difficult to construct in a more fragmented institutional environment.

The capacity and inter-municipal coherence that can be observed in Lyon is almost entirely absent in Dublin, where the notion of a Greater Dublin exists within the planning field but has never been institutionalised. In this context, the creation of a loose governance framework for Greater Dublin has been encouraged through an unusually strong attempt, by national government, to understand the role of Ireland's capital region relative to the rest of the country and to enable national planning policy, to a greater degree than is found in the other case study areas, to drive some key investment decisions. The relatively weak role played by local authorities in the Irish context is exemplified by the fact that many of the key sector developments that were analysed in Section 2, to the extent that they have been influenced by public sector decisions at all, have been supported by national policies and investments rather than local ones. The examples of Irish financial services and information technology clusters in Dublin,

substantially facilitated by tax incentives, new road infrastructures and the incidental benefits of the concentration of higher education institutions in the city, are a case in point, here.

In broad terms, Manchester lies closer to Lyon and Barcelona closer to Dublin in these respects. Both have had to cope, at different points, with the abolition of strategic metropolitan authorities which were seen, to some extent, as threatening by higher levels of government. (National in Manchester's case, regional in Barcelona's). In the case of Barcelona, the city-region remain institutionalised in the form of the Province but that authority's role and remit is primarily to provide technical support to lower level authorities rather than to act as an integrating force on strategic issues relating to economic development. To the extent that this integration exists at either the metropolitan or city-regional scales, it has been articulated, as for Dublin, through the strategic planning process and through shifting alliances between municipalities and the powerful Autonomous Community for Catalunya.

The Manchester experience, on the other hand, is marked by the development, over time, of a series of functional, ad-hoc metropolitan institutions which are in the process of being consolidated and drawn closer together by the creation of joint metropolitan Commissions and the planned move to a joint authority model for all ten Greater Manchester local authorities. These institutional developments offer the possibility of the further devolution of powers in the fields of transport, economic development and planning in the medium term. Metropolitan institutionalisation, here, has been driven largely by the City of Manchester whose functional alliance with its neighbours in southern Greater Manchester is encouraged by a high degree of economic interdependence and the fact that the regional commercial centre clearly spans local authority boundaries. These have encouraged a sense of 'shared destiny' that has helped overcome both administrative fragmentation and differences in party political control amongst the relevant authorities. The City's alliance with northern Greater Manchester authorities which have derived far fewer benefits from new agglomeration economies, on the other hand, is more politically-driven and this has helped keep the ten authorities

together even in a context in which the economic performance gap between the two 'halves' of the conurbation have been growing. The work that has been completed on the longer-term potential benefit to northern Greater Manchester of the economic success of the south of the conurbation has been important to this alliance. As is the case with Lyon, the City of Manchester's ability to link city-level economic development initiatives to a wider conurbation-wide strategy has been critical. In Manchester's case, however, the stability and ambition of the political and executive leadership of the City is a product of good fortune rather than an automatic benefit of the way metropolitan structures work.

This brief overview of the factors that have influenced the success of metropolitan and city-regional institutionalisation processes in the four case study areas clearly glosses over some of the more detailed mechanisms through which metropolitan/city-regional governance arrangements have impacted upon agglomeration economies. In the final phase of the research, which involves teasing out the policy and institutional development implications of the findings of the research, we will be capture the more specific lessons of the case study work for discussion with Steering Group members. The results of this process will be written into the final report.

5. Remaining tasks and timetable

The final report of the CAEE study is due by the end of June. This will build upon the completion of three key remaining tasks, namely:

- Repetition of the econometric analysis for NUTS 3 areas and a bespoke, Europe-wide aggregation of NUTS 3 areas into functional urban areas and comparison with the results of the NUTS 2 analysis reported on in Section 2,
- Completion of individual case study reports, drafts of which will be circulated in advance of the final Steering Group meeting in Lyon, and
- Preparation of a discussion paper to assist the joint development, between the research team and Steering Group members, of the policy and institutional development implications of the study.

Appendix A. Summary statistics for NUTS 2 areas by country

Table 1: Ireland (2)

Sample Name (Region)	Average Productivity				Average Employment Density			
	1980- 2006	1981- 1989	1990- 1998	1999- 2006	1980- 2006	1981- 1989	1990- 1998	1999- 2006
Southern and Eastern (ie02)	48.57	35.83	47.78	66.41	28.32	22.70	26.11	37.75
Border, Midlands and Western (ie01)	35.77	28.77	35.90	45.12	10.68	8.98	9.64	13.89

Table 2: Spain (15)

Sample Name (Region)	Average Productivity				Average Employment Density			
	1980- 2006	1981- 1989	1990- 1998	1999- 2006	1980- 2006	1981- 1989	1990- 1998	1999- 2006
Comunidad de Madrid (es3)	37.46	35.06	39.31	38.79	261.5	202.1	249.6	350.3
Pais Vasco (es21)	37.38	35.10	38.78	39.11	113.3	100.7	106.9	135.6
Comunidad Foral de Navarra (es22)	35.42	33.80	37.44	35.61	22.06	18.11	20.77	28.41
Cataluña (es51)	34.76	32.44	36.51	36.17	78.17	62.85	75.36	100.2
La Rioja (es23)	32.56	30.51	33.75	34.16	22.21	19.48	21.26	26.67
Cantabria (es13)	31.79	28.69	33.70	34.00	35.65	32.40	32.82	42.51
Aragón (es24)	31.59	28.97	33.26	33.53	10.05	8.80	9.77	11.91
Principado de Asturias (es12)	31.20	28.54	31.92	34.13	35.07	34.54	33.64	36.93
Comunidad Valenciana (es52)	31.16	29.48	32.00	32.66	62.83	51.64	60.87	79.09
Andalucía (es61)	30.65	28.34	32.10	32.32	23.73	19.87	22.80	29.55
Castilla y León (es41)	30.22	26.83	31.42	33.44	9.81	9.36	9.50	10.67
Región de Murcia (es62)	29.52	27.18	30.58	31.63	33.43	27.11	32.05	42.98
Castilla-la Mancha (es42)	28.23	25.04	30.36	30.06	7.31	6.43	6.97	8.79
Galicia (es11)	25.76	21.12	26.25	31.21	34.77	35.79	33.84	34.40
Extremadura (es43)	24.98	21.26	26.62	28.26	7.69	7.08	7.43	8.71

Table 3: France (21)

Sample Name (Region)	Average Productivity				Average Employment Density			
	1980- 2006	1981- 1989	1990- 1998	1999- 2006	1980- 2006	1981- 1989	1990- 1998	1999- 2006
Île de France (fr1)	61.03	52.48	63.08	70.45	419.0	399.9	413.9	447.3
Provence-Alpes- Côte d'Azur (fr82)	48.83	43.97	50.44	53.79	49.93	46.54	48.54	55.66
Rhône-Alpes (fr71)	47.26	41.72	48.89	52.82	50.23	47.04	49.36	55.26
Alsace (fr42)	47.00	41.65	49.28	51.56	81.29	77.84	79.78	87.38
Haute-Normandie (fr23)	45.26	39.72	47.14	50.82	54.81	54.57	53.37	56.50
Champagne- Ardenne (fr21)	45.07	39.31	46.57	50.78	20.34	20.39	19.88	20.62
Picardie (fr22)	45.01	39.83	46.96	49.48	33.19	32.85	32.43	34.24
Languedoc- Roussillon (fr81)	44.88	41.12	45.92	49.13	26.22	23.17	25.86	30.52
Aquitaine (fr61)	44.79	40.39	45.54	50.19	25.99	24.52	25.42	28.43
Lorraine (fr41)	44.63	39.48	46.39	49.29	35.11	35.29	34.03	35.80
Nord - Pas-de- Calais (fr3)	43.69	38.75	45.79	47.92	108.8	107.2	104.5	115.1
Centre (fr24)	43.38	37.64	45.23	49.03	24.16	23.91	23.57	25.09
Midi-Pyrénées (fr62)	43.35	38.38	44.65	48.66	20.86	19.22	20.45	23.36
Bourgogne (fr26)	42.19	36.71	43.97	47.57	20.12	20.33	19.52	20.40
Franche-Comté (fr43)	42.14	36.51	43.72	47.67	26.56	26.09	25.76	27.81
Pays de la Loire (fr51)	41.33	35.28	42.85	47.69	39.11	37.29	37.77	42.86
Bretagne (fr52)	40.85	34.90	42.08	47.26	40.21	38.47	38.79	44.01
Basse-Normandie (fr25)	39.92	33.65	42.16	45.63	30.81	30.28	30.04	32.11
Poitou-Charentes (fr53)	39.88	33.06	41.66	46.88	24.36	24.55	23.33	25.17
Auvergne (fr72)	39.52	33.10	41.35	45.99	20.05	20.73	19.09	20.06
Limousin (fr63)	39.47	33.83	41.27	45.04	16.61	17.04	15.88	16.74

Table 4: UK (37)

Sample Name (Region)	Average Productivity				Average Employment Density			
	1980- 2006	1981- 1989	1990- 1998	1999- 2006	1980- 2006	1981- 1989	1990- 1998	1999- 2006
North Eastern	80.34	66.96	81.52	97.07	40.21	35.52	42.94	43.12

Scotland (ukm5)								
Inner London (uki1)	53.14	39.99	54.08	69.41	7322.5	7166.7	6905.7	7943.0
Berkshire, Bucks and Oxon (ukj1)	45.91	36.79	45.85	58.08	192.77	171.84	191.66	221.36
Cheshire (ukd2)	45.36	40.76	45.82	51.33	198.57	177.71	196.70	225.37
Beds, Herts (ukh2)	44.22	36.94	43.81	54.30	270.33	260.63	262.57	290.99
Outer London (uki2)	43.14	34.00	45.10	53.10	1489.9	1480.6	1430.5	1559.4
Surrey, East and West Sussex (ukj2)	42.68	36.52	42.97	50.57	217.81	197.90	214.76	247.52
East Wales (ukl2)	42.10	38.70	41.78	47.57	64.06	57.15	64.14	72.20
Gloucestershire, Wiltshire and Bristol/Bath area (ukk1)	41.95	35.77	41.20	51.07	143.58	128.67	144.33	161.78
Derbyshire and Nottinghamshire (ukf1)	41.52	36.68	41.44	48.18	184.59	178.14	182.35	194.59
Tees Valley and Durham (ukc1)	41.49	38.63	42.33	44.80	149.22	145.86	146.25	154.19
Leicestershire, Rutland and Northants (ukf2)	40.84	35.77	40.58	48.11	148.67	134.03	149.88	166.00
West Midlands (ukg3)	40.68	34.80	41.67	47.56	1413.3	1411.5	1376.1	1436.8
East Yorkshire and Northern Lincolnshire (uke1)	40.46	36.77	41.12	45.20	107.79	99.78	110.24	114.54
Greater Manchester (ukd3)	40.02	36.59	39.54	45.48	945.72	909.83	922.59	1006.5
Essex (ukh3)	39.90	35.22	40.11	45.80	178.67	165.82	174.30	200.05
West Yorkshire (uke4)	39.67	35.57	39.24	45.86	485.14	450.30	483.37	528.28
Northumberland, Tyne and Wear (ukc2)	39.53	34.86	39.82	45.58	109.83	107.16	106.24	116.12
Lancashire (ukd4)	39.38	36.15	39.73	43.62	206.68	196.07	205.49	219.31
East Anglia (ukh1)	39.29	35.15	39.19	45.04	79.70	72.30	81.05	87.99
Hampshire and Isle of Wight (ukj3)	38.59	32.82	38.83	45.94	210.00	199.88	204.09	229.45
Northern Ireland	37.95	32.97	39.03	43.51	47.92	42.81	46.62	55.61

(ukn)								
Merseyside (ukd5)	37.77	35.04	37.83	41.57	888.03	907.96	836.44	904.13
West Wales and The Valleys (ukl1)	37.47	35.03	37.68	40.98	53.37	50.23	53.81	56.39
South Yorkshire (uke3)	37.25	33.86	37.33	41.88	355.23	354.59	337.51	370.71
Kent (ukj4)	37.06	31.43	37.56	43.95	184.27	176.12	180.29	199.03
Cumbria (ukd1)	36.92	33.78	38.33	39.97	34.76	35.24	34.51	34.36
Dorset and Somerset (ukk2)	36.91	32.84	36.24	43.25	84.30	75.88	85.10	94.32
North Yorkshire (uke2)	36.72	32.71	36.90	42.12	43.11	38.51	42.98	49.08
Lincolnshire (ukf3)	36.54	32.00	37.19	41.82	45.29	41.08	46.00	49.76
Herefordshire, Worcestershire and Warks (ukg1)	36.32	29.06	36.65	45.52	95.18	88.28	94.98	104.03
Shropshire and Staffordshire (ukg2)	35.90	31.63	36.50	41.09	106.27	99.95	105.81	114.37
Eastern Scotland (ukm2)	35.62	32.35	35.83	39.91	51.24	48.46	50.31	55.51
Devon (ukk4)	35.50	32.12	35.54	39.99	71.73	65.49	72.89	78.42
South Western Scotland (ukm3)	35.27	32.14	35.32	39.64	80.67	78.56	79.12	84.32
Cornwall and Isles of Scilly (ukk3)	30.89	28.80	29.25	35.63	55.35	47.98	56.73	63.31
Highlands and Islands (ukm6)	27.61	23.90	27.68	32.80	3.56	3.50	3.48	3.65

Table 5: Belgium (11)

Sample Name (Region)	Average Productivity				Average Employment Density			
	1980-2006	1981-1989	1990-1998	1999-2006	1980-2006	1981-1989	1990-1998	1999-2006
Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest (be1)	59.41	52.09	59.97	68.37	4036.49	4112.57	3925.54	4045.23
Prov. Antwerpen (be21)	55.68	50.47	56.59	61.57	232.07	214.47	232.06	253.31
Prov. Vlaams Brabant (be24)	54.75	49.54	55.94	60.40	157.38	131.60	158.16	188.82
Prov. Brabant Wallon (be31)	52.38	45.83	52.64	60.59	94.59	78.23	94.65	115.04

Prov. Oost-Vlaanderen (be23)	48.37	44.85	48.60	53.05	158.19	144.94	159.14	173.49
Prov. Limburg (B) (be22)	44.77	40.11	46.24	49.68	110.77	98.31	111.60	125.50
Prov. West-Vlaanderen (be25)	44.72	39.90	45.52	50.19	138.13	125.67	140.31	151.31
Prov. Liège (be33)	44.02	39.47	45.53	48.44	90.14	89.33	88.72	92.10
Prov. Hainaut (be32)	43.73	39.75	44.79	47.99	101.91	100.01	100.56	104.75
Prov. Namur (be35)	41.53	36.86	42.12	47.11	37.66	35.34	37.42	40.73
Prov. Luxembourg (B) (be34)	40.01	34.46	41.55	45.74	17.80	16.36	18.12	19.26

Table 6: Germany (39)

Sample Name (Region)	Average Productivity				Average Employment Density			
	1980-2006	1981-1989	1990-1998	1999-2006	1980-2006	1981-1989	1990-1998	1999-2006
Hamburg (de6)	57.28	49.86	58.51	65.64	1336.3	1283.5	1347.7	1383.8
Darmstadt (de71)	51.62	43.11	54.30	59.76	251.77	236.03	256.19	266.81
Oberbayern (de21)	51.08	43.87	51.68	59.87	119.47	108.60	121.46	131.18
Düsseldorf (dea1)	49.34	45.56	50.58	52.98	465.08	453.86	463.46	478.78
Köln (dea2)	48.08	44.67	50.33	50.08	255.71	236.56	254.41	280.93
Stuttgart (de11)	48.01	43.18	49.28	53.06	187.31	177.19	189.35	198.24
Karlsruhe (de12)	47.42	42.54	49.21	51.92	184.57	172.51	185.46	198.78
Bremen (de5)	47.19	41.76	47.98	53.34	965.96	964.37	974.15	951.60
Rheinessen-Pfalz (deb3)	46.72	43.31	48.56	49.36	123.27	121.09	121.44	128.10
Hannover (de92)	45.45	42.74	47.28	47.19	105.86	99.21	107.07	112.55
Arnsberg (dea5)	45.20	42.73	46.48	47.17	205.01	197.77	206.08	211.90
Braunschweig (de91)	44.50	41.21	45.34	48.02	90.11	86.23	90.95	93.82
Mittelfranken (de25)	44.39	39.20	44.99	50.69	117.89	111.59	119.91	123.58
Tübingen (de14)	43.38	37.89	44.19	49.73	91.66	85.07	94.03	97.28
Schwaben (de27)	43.35	37.67	44.72	49.36	81.51	77.24	82.71	85.65
Schleswig-Holstein (def)	43.22	38.67	44.75	47.43	74.40	70.07	75.88	78.06
Freiburg (de13)	43.03	39.17	43.79	47.38	102.47	94.04	103.98	111.32
Detmold (dea4)	42.76	38.96	44.28	46.05	140.39	128.59	143.21	152.05
Münster (dea3)	42.56	40.68	43.51	44.13	152.31	140.46	154.46	164.42
Saarland (dec)	42.52	39.68	44.05	44.83	187.33	180.43	186.20	196.60
Berlin (de3)	42.36		40.30	44.42	1769.9		1798.6	1741.2
Kassel (de73)	42.32	36.59	43.82	48.10	68.34	64.92	69.65	70.94
Gießen (de72)	42.30	36.18	44.05	48.18	82.70	79.44	83.57	85.78

Koblenz (deb1)	41.69	39.08	42.66	44.34	77.13	71.93	78.19	82.29
Unterfranken (de26)	41.30	35.77	42.31	47.52	71.44	66.64	72.85	76.00
Lüneburg (de93)	40.85	36.83	42.60	44.22	38.93	36.24	39.66	41.44
Oberpfalz (de23)	40.62	34.52	41.57	47.58	51.96	48.25	53.13	55.32
Weser-Ems (de94)	40.34	35.90	42.00	44.41	67.74	62.36	68.23	73.75
Oberfranken (de24)	40.31	34.84	41.62	46.20	74.25	71.93	76.58	74.40
Niederbayern (de22)	40.26	34.24	41.53	46.70	51.49	48.12	52.34	54.93
Trier (deb2)	39.81	36.49	41.07	43.05	43.75	41.66	43.69	46.19
Brandenburg - Südwest (de42)	34.92		30.24	39.61	43.34		44.22	42.46
Brandenburg- Nordost (de41)	34.77		29.56	39.98	28.79		29.34	28.24
Leipzig (ded3)	34.26		31.10	37.43	112.84		114.09	111.58
Sachsen-Anhalt (deb2)	34.25		29.13	39.37	52.74		55.40	50.09
Mecklenburg-Vorpommern (de8)	33.71		29.89	37.52	32.18		33.03	31.34
Dresden (ded2)	33.38		29.06	37.70	96.97		98.35	95.60
Thüringen (deg)	32.31		28.08	36.54	64.63		65.60	63.67
Chemnitz (ded1)	32.03		27.97	36.09	114.50		117.13	111.87

Table 7: Italy (19)

Sample Name (Region)	Average Productivity				Average Employment Density			
	1980-2006	1981-1989	1990-1998	1999-2006	1980-2006	1981-1989	1990-1998	1999-2006
Valle d'Aosta/Vallée d'Aoste (itc2)	47.81	46.23	50.91	46.82	16.97	16.54	16.73	17.81
Provincia Autonoma Trento (itd2)	46.76	42.76	49.26	49.04	32.76	30.41	32.25	36.43
Provincia Autonoma Bolzano-Bozen (itd1)	46.49	43.13	48.88	48.07	29.94	27.88	29.84	32.77
Lombardia (itc4)	46.10	39.91	48.26	51.92	182.26	175.7	179.91	193.1
Lazio (ite4)	44.14	38.17	45.81	50.06	129.54	125.9	128.01	136.8
Piemonte (itc1)	43.80	39.83	46.12	46.58	74.67	73.63	73.26	77.30
Liguria (itc3)	43.43	38.49	45.31	47.71	124.48	129.6	121.99	120.6
Emilia-Romagna	42.12	36.32	44.10	47.26	88.60	86.39	86.80	93.62

(itd5)								
Friuli-Venezia Giulia (itd4)	41.09	35.50	43.74	45.33	68.40	65.72	66.90	73.38
Toscana (ite1)	40.93	36.81	41.74	45.30	67.90	66.04	67.45	71.18
Veneto (itd3)	40.34	33.13	42.84	46.97	118.02	116.9	114.19	123.7
Umbria (ite2)	38.48	33.62	41.17	41.57	41.23	40.46	39.82	44.01
Marche (ite3)	37.70	33.49	39.06	41.12	64.70	60.86	63.69	71.59
Abruzzo (itf1)	36.22	31.44	38.19	40.46	45.91	46.03	45.19	46.48
Molise (itf2)	35.01	30.15	37.21	38.65	26.41	26.68	26.26	26.40
Campania (itf3)	34.87	31.36	35.98	38.31	131.98	132.0	130.29	134.5
Basilicata (itf5)	34.29	28.56	36.98	38.44	20.45	20.61	19.46	21.41
Puglia (itf4)	33.74	29.11	34.68	38.71	67.90	68.53	67.95	67.09
Calabria (itf6)	32.61	27.37	33.34	38.42	42.78	43.99	42.50	42.16

Table 8: The Netherlands (12)

Sample Name (Region)	Average Productivity				Average Employment Density			
	1980-2006	1981-1989	1990-1998	1999-2006	1980-2006	1981-1989	1990-1998	1999-2006
Groningen (nl11)	63.90	73.19	56.79	59.69	99.29	89.88	100.4	109.1
Noord-Holland (nl32)	45.56	41.22	45.42	51.71	447.6	396.5	445.9	511.6
Utrecht (nl31)	43.85	37.47	44.84	51.33	390.3	316.9	396.8	474.1
Zuid-Holland (nl33)	43.06	37.90	43.92	49.10	540.2	494.1	537.2	599.3
Zeeland (nl34)	42.00	40.51	40.82	45.40	85.88	75.09	88.59	96.79
Drenthe (nl13)	41.35	42.15	41.13	40.96	71.00	60.93	71.65	82.40
Noord-Brabant (nl41)	40.09	34.98	41.58	45.40	216.1	183.4	216.7	256.1
Friesland (NL) (nl12)	38.69	35.64	39.70	41.97	75.30	65.71	75.49	86.48
Overijssel (nl21)	38.42	35.84	39.42	41.04	139.9	120.3	139.2	164.5
Limburg (NL) (nl42)	38.28	34.01	38.92	43.50	231.0	203.3	234.6	260.9
Gelderland (nl22)	35.35	32.87	35.86	38.33	175.5	148.5	178.1	205.7
Flevoland (nl23)	26.08	15.50	33.16	33.14	93.85	53.41	81.80	127.6

