Area definition and classification and regional development finance: the European Union and China

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1 Introduction

Area development policies are widely implemented. In each case such measures involve the definition and classification of geographical areas, the establishment of information systems to support policy initiatives, the determination of strategic policy goals, the establishment of policy instruments and the allocation of financial and other resources to plan, implement, monitor and evaluate the measures adopted. The aim of this chapter is to deal with two of these dimensions of area development policies: the definition and classification of areas and the allocation of financial resources. These issues will be considered in relation to the experience mainly of the European Union but also of contemporary China.

2 Defining regions

A region is essentially a part of the land surface of the earth. In the geographical literature regions are defined in three ways as, respectively, uniform, functional and administrative areas. Most useful for economic development purposes are functional areas which combine places characterized by strong degrees of interdependence and strong complementarities. Examples include market areas where the function is performed and the places in which the people who use those market centres reside. A classic case is afforded by Christaller’s (1933) theoretical account of the size, number and spacing of market centres and market areas in Southern Germany. Another example is a travel-to-work area which combines places of employment and the places where the people who work in those places of employment live. As this definition implies, functional areas are essentially city regions.

The degree of emphasis placed on functional definitions of regions varies. In part this variation reflects the shifting relative importance attached in geography to the study of regions as self-contained entities (as in the regional tradition and more recent ‘territorial’ approaches to regional development studies) and as places that can only be understood in terms of their relationships with other places (as in the locational tradition and in recent relational approaches to economic geography) (Wrigley, 1965; Pike, 2007).

Although functional definitions are from a scientific point of view the most useful, most used are regions defined for administrative purposes. Once a regional division is put in place it can acquire a historical justification especially if its development is associated with the creation of relatively strong regional identities and with the development of social movements that press for the preservation of the resulting regional entities. Also possible however is the opposite: the creation of new political and administrative arrangements and new regional divisions designed
specifically to make a break with the past. A step of this type can occur as part of projects of economic and political transformation (Dulong 1975; Dulong 1978). An example is the initial creation of a regional tier of the administration in Gaullist France in the 1960s where the creation of Commissions de développement économique régionale (CODER) were a part of a programme of state-directed economic and social modernization in which regional planning was a vital instrument and where an important aim was to recompose regional elites in established regions with powerful traditional elites considered as obstacles to economic and political modernization. A case in point was Brittany where a new region was defined so as not to coincide with earlier definitions (Dulong, 1974). A longer view of European development would include many striking instances of these two types of change as the processes of political integration saw the creation of a European nation state system out of an earlier patchwork quilt of political entities, and as the state system was itself successively modified through the interaction of further projects of integration, attempts to preserve the territorial integrity of existing states and attempts to preserve historical identities. Administrative regions can coincide with uniform regions, functional regions or neither. There are reasons related to the criteria that an administrative system should satisfy that suggest that an administrative region should make functional sense. A situation in which administrative and functional regionalizations coincide is however in practice difficult to achieve (Parr, 2003; Dunford, 2008), although non-achievement has important consequences for the rationality of administrative systems. In addition it leads to the existence of functionally over- and under-bounded administrative areas with significant repercussions for the meaningfulness of widely used statistical indicators.

3 The NUTS classification

A European regional policy was first put in place at the start of the 1970s. At that point in time a geographical division of the territory of the Community was required for the analysis of regional problems, for the design and implementation of this new policy including decision-making about eligibility for regional aid and for the compilation of harmonized regional statistics to inform analysis and policy decisions. The result was the establishment of the Nomenclature des Unités Territoriales pour la Statistique (NUTS). (In the 1960s what came to be called NUTS LEVEL II areas were identified as the framework used for Member State regional policies, whereas NUTS LEVEL I were identified as the principal entities for the analysis of Community regional issues such as the sub-national impact of customs union and economic integration, and NUTS LEVEL III areas were considered as useful in the diagnosis of regional problems and in identifying where regional policy measures were required. Today the periodic report on the social and economic situation and development of the regions of the Community, which the Commission is required to prepare every three years draws mainly on NUTS LEVEL II data).

The NUTS is intended to provide a single uniform breakdown of the territory of the European Union's into a hierarchical set of statistical regions. The main building blocks of the NUTS system are general-purpose administrative divisions of each Member State. The current NUTS system is a three-level hierarchical classification of regions in which each Member State is subdivided into a whole number of NUTS LEVEL I regions, each of which is in turn
subdivided into a whole number of NUTS LEVEL II regions and each NUTS LEVEL II region is subdivided into a whole number of NUTS LEVEL III regions. As EU concern with areas not derivable from the these three NUTS Levels and especially with smaller territories (mountainous areas, disadvantaged agricultural areas, coastal zones, deprived urban areas) increased, smaller NUTS LEVEL IV and NUTS LEVEL V areas were also identified. At present however former NUTS LEVEL IV and 5 areas are classed as Local Administrative Units 1 and 2.

As the administrative systems in the different Member States differ quite significantly combining national territorial communities into an EU-wide system was far from straightforward. It was however the path that in the past was chosen most often: issues of data availability and regional policy implementation required that the NUTS nomenclature be based primarily on the institutional divisions currently in force in the Member States. One consequence of these differences is that in many Member States construction of the first three intra-member state tiers permitted the use of only two levels of the administrative system and therefore required construction of a non-administrative NUTS Level.

The exceptions to the adaptation of NUTS classifications to existing administrative arrangements are mainly found in the new Member States in central and eastern Europe where the establishment of NUTS classifications was often accompanied by the top-down imposition of new sub-national administrative arrangements.

Until relatively recently the NUTS classification was changed as a result of the initiative of the statistical offices of the individual Member States, although subsequent steps in the procedure were largely determined by the way in which the classification was compiled. Any change in a national administrative tier used to establish a particular NUTS Level saw an almost automatic change in the NUTS classification (Eurostat, 2003). Other changes such as the creation of new NUTS LEVEL II areas in the UK had to be examined in detail. In some of these cases negotiations with Member States were protracted and difficult (Eurostat 2003). The reasons why lay in the impreciseness of the statistical criteria and the room they left for manoeuvre in a situation where the change in classification might have an impact on eligibility for Structural Fund support.

In 2003 a reliance on ‘gentlemen's agreements’ between Member States and Eurostat to establish NUTS classifications came to an end with the approval of a NUTS Regulation. The Regulation calls for the use of objective criteria to define regions, the stability of the nomenclature (laying down clear rules for the management of change with a view to preventing changes in the classification during negotiations over the allocation of regional assistance) and comparability in the sizes of the populations of areas at each level of the hierarchy (see Table 1).
Table 1 Threshold population sizes for NUTS LEVEL I, 2 and 3 areas. Source: EU (2003)

<table>
<thead>
<tr>
<th>Level</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>NUTS LEVEL I</td>
<td>3 million</td>
<td>7 million</td>
</tr>
<tr>
<td>NUTS LEVEL II</td>
<td>800 000</td>
<td>3 million</td>
</tr>
<tr>
<td>NUTS LEVEL III</td>
<td>150000</td>
<td>800000</td>
</tr>
</tbody>
</table>

### 4 Assessing the NUTS classification

As indicated in the last section the administrative systems in the different Member States differ sharply. These differences reflect different decisions about the division of responsibilities, estimates of the population sizes require to meet responsibilities efficiently and effectively and distinct histories of sub-national governance. Creating a harmonized EU system of sub-national territorial communities was consequently an extremely problematic task.

The reasons for the choice of national administrative arrangements as the foundation for the NUTS classification are absolutely clear: on the one hand data is produced for these entities at a Member State level; on the other hand sub-national administrations play a role in the design and implementation of EU-funded regional development programmes.

One consequence is the heterogeneity of NUTS regions. To some extent this problem derives from the fact that population is the only criterion for the allocation of national administrative and non-administrative areas to different levels of the NUTS hierarchy. Even in narrowly demographic terms however the areas vary very widely. The reason why is that mean size is used to match administrative tiers and non-administrative areas to particular NUTS Levels, although in the case of non-administrative areas changes under the Regulation are only accepted if they reduce the degree of dispersion measured by the standard deviation of the populations of areas at that level in the EU as a whole. Although this provision improves the situation, it is clear from Figure 1 that while the mean size of NUTS LEVEL II areas standing at 1,831,000 lies between the threshold values of 800,000 and 3 million a substantial number of NUTS LEVEL II areas lie outside these limits. The smallest had a population of just 26,400 while the largest (Ile de France) had a population in excess of nearly 11.4 million.
A more fundamental problem arises from the fact that the features of important geographical distributions do not necessarily coincide with administrative boundaries: areas chosen in deciding on territorial breakdowns should ideally reflect the geographical distribution of the phenomena under investigation. In relation to many of the issues deal with in Cohesion policy functional areas and in particular travel to work areas would make more scientific and policy sense. What is more the harmonized application of rules for defining functional regions would ensure the international comparability of the regions in the individual Member States. Insofar as cohesion policy deals mainly with issues to do with the geography of economic activities and employment travel to work areas make sense. The difficulty is that if a number of other distinct subjects require analysis (access to schools for example) the number of potential functional regionalizations increases.

As far as regional economic development is concerned travel-to-work areas have a strong rationale. One of the major disputes in the regional economic policy area concerns the extent to which differences in employment rates reflect ‘demand-side’ (differences in employment opportunities) or ‘supply-side’ (unemployed do not get jobs that exist) factors. In this context there is a significant difference between two types of area: areas with low levels of employment that are not within easy travelling distance of anywhere with a tight labour market; and areas with low employment rates that are within commuting distance of areas with tight labour markets. In areas of the first type that are a part of concentrations of Travel-To-Work Areas
(TTWAs) with low employment rates, demand for labour needs to be stimulated as if jobs are not created within the travel-to-work area concerned only temporary or permanent migration affords an answer to low employments rates. In this case searching for TTWAs and in particular for concentrations of TTWAs with low employment rates plays a particularly important role in the diagnosis and design of regional policies.

To this important consideration must be added another: areas defined as assisted areas should not be defined so narrowly as to cut them off support from nearby functionally-interdependent areas that are zones of potential growth.

The use of administrative areas that are not also functional areas raises a number of particularly important difficulties arise in relation to one of the most important indicators used for EU regional policy purposes: Gross Domestic Product (GDP) per head. The difficulty arises as GDP is usually measured by place of employment, whereas population is measured by place of residence. Measuring GDP by place of employment makes sense as regional policy is designed to augment the wealth-creating capacities of economically disadvantaged areas. If however GDP per head is calculated for administrative areas that are not at the same time travel-to-work areas the GDP per capita indicator will be seriously misleading either because the administrative areas exclude the places of employment of the people who live there or the places of residence of the people who work there. At present for example Inner London has by far the highest GDP per head of NUTS LEVEL II areas in the EU. This figure is artificially high. The reason why is that Inner London includes a very large number of places of employment for people who do not reside in Inner London, while relatively fewer residents work outside of Inner London. Inner London in other words excludes many of the suburbs of London and a vitally important commuter zone that lies beyond the limits of Greater London.

The importance of the use of a set of reasonably objective criteria in the definition of areas is also highlighted by the fact that measured indicators of disparities and therefore for example maps of aid eligibility designed to target disadvantages areas depend upon the ways in which regions are created. Figure 2 explores a simple hypothetical example (Dunford, 1994). Suppose a country is divided into 16 areas (A1, A2, ..., D4) with identical populations but different levels of GDP per head, and that these areas are grouped first into four and then into two regions (see Figure 2A). The standard deviation expressed as a percentage of the mean decreases from 38.5 per cent (16 areas) to 10.6 (4 areas: A1..B2, A3..B4, C1..D2 and C3..D4) and 3.22 (2 areas: A1..B4 and C1..D4). It is important to note however that the choice of regional boundaries can affect the result. If in Figure 2A the 16 areas are divided horizontally rather than vertically into two groups (A1..D2 and A3..D4) the indicator falls to 9.67 instead of 3.22. Alternatively if four areas are identified in the manner indicated in Figure 2B the coefficient of variation will equal 24.7. Measured regional disparities depend, therefore, not just on the degree of spatial concentration of economic activities, but also on the regional division of the country: the number of areas and the choice of boundaries affect the measure of disparity, just as the delimitation of electoral districts shapes the outcome of elections. Clearly the ideal solution is to use functional economic areas which combine places of work with corresponding places of residence, although disparities between politically identified areas are significant as determinants of the resources over which different communities can exercise political leverage.

Figure 2 Measured inequality and regional division
The pertinence of this simple example is demonstrated in practice by the ways in which changes in regional boundaries have in practice affected eligibility for EU regional aid. In the case of the Republic of Ireland for example there was just one NUTS LEVEL II area up to the point in time when the higher levels of GDP per capita in the more developed south and east were so high as to raise the Republic as a whole over the threshold for Objective 1 status (GDP per head less than 75 per cent of the EU average). At that point in time the Irish government negotiated a division of Ireland into two NUTS LEVEL II areas in the context of the Agenda 2000 agreement. The Agenda 2000 agreement was an agreement relating to the EU budget for the period 2000-06 that was finally reached at the Berlin summit in 1999. This agreement was profoundly shaped by the implications for in particular EU agricultural and structural policies of the soon-to-start eastern enlargement. Also in 1999 in Ireland two regional assemblies comprising nominated members of elected regional authorities were established. As a result of this division the Border, Midland and Western region retained Objective 1 status for the purpose of the Structural Funds for the period 2000-06. The Southern and Eastern region qualified for Structural Funds assistance under the Phasing-out regime for Objective 1 until December 2005.

A more recent example relates to the German Land of Sachsen-Anhalt which was divided into three NUTS LEVEL II areas (Table 2). For the period 2007-13 Magdeburg and Dessau were identified as Convergence regions as their average GDP per capita at PPS in 2000-02 was less than 75 per cent of the EU15 average. Halle however was identified as a phasing out area as its average per capita GDP at PPS exceeded 75 per cent. As Table 2 shows however Sachsen-Anhalt as a whole is small enough to qualify as a NUTS LEVEL II area. Had it in fact not been subdivided the whole of the area would have qualified for funding under the Convergence objective.
Table 2 Statistical indicators for Sachsen-Anhalt, 2000-04. Source: Statistisches Landesamt Sachsen-Anhalt, Eurostat, calculations of the Staatskanzlei Sachsen-Anhalt, my calculations

<table>
<thead>
<tr>
<th>NUTS 2 regions</th>
<th>Magdeburg</th>
<th>Halle</th>
<th>Dessau</th>
<th>Sachsen-Anhalt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>1178061</td>
<td>835933</td>
<td>521421</td>
<td>2535415</td>
</tr>
<tr>
<td>Demographic change, 2000-03 (%)</td>
<td>-3.00</td>
<td>-3.90</td>
<td>-4.90</td>
<td>-3.70</td>
</tr>
<tr>
<td>Employees</td>
<td>476971</td>
<td>339396</td>
<td>195632</td>
<td>1011999</td>
</tr>
<tr>
<td>Employee change 2000-03 (%)</td>
<td>-2.80</td>
<td>-6.40</td>
<td>-4.30</td>
<td>-4.30</td>
</tr>
<tr>
<td>GDP change 2000-03 (%)</td>
<td>9.20</td>
<td>3.80</td>
<td>8.40</td>
<td>7.20</td>
</tr>
<tr>
<td>GDP per employee in 2004 (€)</td>
<td>44455</td>
<td>44459</td>
<td>44171</td>
<td>44402</td>
</tr>
<tr>
<td>GDP per capita at PPS in 2003 (EU25=100)</td>
<td>75.50</td>
<td>77.60</td>
<td>70.90</td>
<td>75.20</td>
</tr>
<tr>
<td>GDP per capita at PPS in 2000-02 (EU25=100)</td>
<td>72.27</td>
<td>75.07</td>
<td>65.99</td>
<td>74.54</td>
</tr>
<tr>
<td>Unemployment rate in 2003 (%)</td>
<td>17.6</td>
<td>21.3</td>
<td>21.3</td>
<td>19.6</td>
</tr>
</tbody>
</table>

It is finally important to recognize that the generation of statistics for territorial entities involves a significant degree of information loss. These information losses are particularly problematic in situations such as the one depicted in Figure 3 of non-correspondence of the administrative boundaries especially of relatively large territorial entities with one of the geographical distributions central to many policy areas. Figure 3A plots population density by LAU LEVEL II administrative units (Cubitt, 2007). Figure 3B, 3C and 3D plot the same data by NUTS LEVEL III areas, NUTS LEVEL II areas and NUTS LEVEL I areas respectively. As this figure makes clear, movement up the NUTS hierarchy results in quite extraordinary losses of detail, while the average values for NUTS LEVEL I areas in particular can potentially be quite misleading. Figure 3E finally plots the same data using grid squares. The use of georeferenced data of this kind provides a significantly superior representation of the underlying distribution than the NUTS administrative divisions.

Figure 3 Geographies of population density. Source: Cubitt, 2007
To these considerations should finally be added the fact that development is at present defined in a relatively restricted manner. Wider definitions of the meaning of development require consideration of the distribution of wealth and income, the ways in which wealth and income are used and economic sustainability. In regional development studies some writers are calling for a more explicit consideration of foundational principles of development such as equity and justice (Pike, Rodríguez Posé and Tomaney, 2007). A wider concept of development implies a wider set of indicators and, since the scale and the extent of interdependence of different phenomena vary, greater complexity in the definition of appropriate areas.

5 Areas for regional development assistance in China

China differs from the European Union in that it is a sovereign state with as the top decision-making institution the system of the National People's Congress and as the top executive institution the State Council. The State Council exercises uniform leadership over a series of sub-national tiers of administration and determines the specific division of powers and responsibilities.
China is divided into 22 provinces, 5 autonomous regions and 4 municipalities directly under the Central Government (Figure 4). The provinces and autonomous regions are divided into autonomous prefectures. Autonomous prefectures are divided into counties, autonomous counties and cities. The counties and autonomous counties are divided into townships, ethnic townships and towns. The municipalities directly under the Central Government and large cities in the provinces and autonomous regions are divided into districts and counties. The result is a four-level system, a three-level system if the prefectural level is absent and a two-level system where municipalities under the central government are divided only into districts (http://www.china.org.cn/english/Political/28842.htm).

Chinese national regional development strategies have for the most part operated at a very large geographical scale. In the 1960s China was divided into an Eastern, Central and Western region. After 1964 the priority was the development of a Third Front (or third line of defence) of strategic industries dispersed in mountainous areas in Sichuan, Guizhou, Yunnan in south-west China. Essentially the aim was to develop rail and other infrastructures and to develop strategic industries (such as chemical, metallurgical, energy, machine-making, electronics and aviation) away from the north-east of China and from the coast in the face of fears of conflict with the Soviet Union and with the United States which at that time was conducting a war in Vietnam. In the 1980s the orientation of development changed radically, yet these industries laid foundations for a more recent drive to develop western China.

The early 1970s saw the normalization of relations with the United States and a major change of course in China with the adoption of a strategy of modernization (the four modernizations) and
in 1978 of reform and opening up. This change of course saw a remarkable acceleration in Chinese economic growth at the expense of marked increase in geographical and social inequalities in part as externally-oriented growth was concentrated in Special Economic Zones and open cities on the east coast of China.

Although the aim was to accelerate growth (or in Marxist terms develop the productive forces) permitting some areas and some people to get rich first the 1980s nonetheless saw the first of a set of initiatives to address China’s growing regional disparities and to support the restructuring and development of economically disadvantaged areas. Accordingly, the 'Sixth Five-year Plan' (1981-85) divided the whole country into coastal areas and hinterland. The 'Seventh Five-year Plan' put forward the concepts of 'eastern, central and western' regions. The 'Eighth Five-year Plan' envisaged strategic development trends for 7 cross-provincial economic zones. The 'Ninth Five-year Plan' strengthened the financial, investment and policy supports to central and western regions. The 'Tenth Five-Year Plan' put forward proposals for an overall plan for regional development, involving a ‘great western development drive’ (xibu da kaifa), the restructuring of old industries and industrial areas in north eastern China and the rise of central China with coastal areas continuing to take the lead in development. (The Great Western Development Strategy was started in 2000. It covered the provinces of Gansu, Guizhou, Qinghai, Shaanxi, Sichuan, and Yunnan, 5 autonomous regions (Guangxi, Inner Mongolia, Ningxia, Tibet, and Xinjiang), and 1 municipality (Chongqing). This region contains 71.4% of mainland China's area, but, as of the end of 2002, only 28.8% of its population and, as of 2003, just 16.8% of its total economic output. The programme involved investment in infrastructure (transport, hydropower plants, energy, and telecommunications), the enticement of foreign investment, increased ecological protection (such as reforestation), the promotion of education, and retention of talent flowing to richer provinces. As of 2006, a total of 1 trillion yuan had been spent building infrastructure in western China).

A largely similar regional division of China underpinned the balanced regional development strategy in the Eleventh Five-Year Plan which called for development that reflects the carrying capacity of the environment and the development regional resource endowments, that addresses the weaknesses of disadvantaged areas, and that involves a clear zoning of economic activities, stronger inter-regional interaction, an equitable allocation of public services and reduced disparities in living standards. To these ends it called for: advancing the development of the Western Region, revitalizing Northeast China and other old industrial bases, promoting the rise of the Central Region, Encouraging the Eastern Region to take a lead in development, and supporting the development of old revolutionary bases (the areas from where the Chinese Communist Party and the Red Army drew its strength in the period from the start of the Long March in 1934 to the Communist victory in 1948), ethnic minority areas and border areas. Chinese regional development policies involve several types of action: (1) an investment policy under which for example the central government provides 29 per cent of resources for drinking water projects in the east and 63 per cent in the west; (2) a tax policy under which corporate income tax stands at 15% in the west and 30% in the east with until recently 15 per cent for multinational and other companies in Special Economic Zones) and where there are special Value Added Tax arrangements for north-east China and selected cities in central China; (3) a credit/loan policy under which disadvantaged areas get more long term credit; and a tax transfer
policy under which some formula-driven elements operate to the advantage of disadvantaged areas. The tax policy and investment policy area classifications differ.

Alongside successive regional development strategies spatial poverty reduction programmes were put in place. In 1994 592 poverty counties were identified. A 2001 revision also identified 592 poverty counties (plus all 73 counties in Tibet) removing poverty counties in 8 eastern provinces. These areas receive earmarked funds for enterprise support, construction and preferential loans and are given preferential treatment in the allocation of investment subsidies. In addition a partnership system pairs each western province (except Tibet which is paired with all provinces) with an eastern province which is required to support poverty reduction programmes.

To this spatial strategy the Eleventh Plan added a strategy for promoting the formation of priority development zones in part to move in the direction of a model of development that is more sustainable from an environmental point of view. Four classes of area were to be identified:

1. Optimized development zones: regions with high density land development and a declining resource and environmental carrying capacity;
2. Prioritized development zones: regions with relatively strong resource endowment and environmental carrying capacity as well as favourable conditions for the agglomeration of economic activities and people;
3. Restricted development zones: regions with weak resource endowment and environmental carrying capacity, poor conditions for agglomeration of economic activities and people, and which are crucial to wider regional or national ecological security; and
4. Prohibited development zones: legally established nature reserves.

These zones were to be identified through area classification exercises conducted first at a national level and subsequently at a provincial level. This classification raises many important issues. It raises demographic issues to do with the relocation of people, and the livelihoods that support them; issues to do with the household registration (hukou) system; industrial issues to do with the development of non-polluting industries in optimized, restricted and forbidden development areas; investment issues; environmental issue to do with different environmental regulations in different areas; and not least fiscal issues. On this last front measures to restrict development were to prove extremely controversial due to the negative impact that they would have on sub-national government revenues in an period in which central government was asking sub-national administrations to invest more in health and education.

Most striking finally are the ways in which the evolution of regional policy thinking reflects the evolution of development models in China. Just as in the European Union regional policy where regional policy was redesigned to reflect more closely the economic growth-oriented goals of the Lisbon Agenda and the Sapir Report (Dunford, 2005), in China regional policy is changing in important ways to reflect the goal of harmonious development understood as social harmony and harmony with nature and will change further to reduce the degree of dependence of China on export-oriented growth.
6 Solidarity, cohesion and the allocation of financial resources in the EU

In order to achieve their strategic goals and to meet their responsibilities governments require financial resources. The aim of this section is to identify the ways in which in the European Union (EU) and in its constituent Member States financial resources are acquired and allocated in particular to activities relating to regional economic development.

The EU is a union of sovereign nation states. The powers of the EU are those powers that the Member States agree to confer on it in order for the EU to achieve its objectives as set out in successive Treaties. Competences that relate to territorial development are for the most part competences that are shared with its Member States and a set of sub-national, regional and local authorities.

6.1 The EU budget

In absolute terms the European Union (EU) budget is large. At present it stands at over €100 billion per year: in 2007 appropriations stood at €115.5 billion. As a share of EU income and public expenditure it is however small, standing at less than 1% of Gross National Income (GNI) and at less than 2.5% of public expenditure. As a share of GNI however it has recently decreased in size.

As in the past the most recent 2007-13 New Financial Framework was largely determined by national interests (Mrak and Rant, 2004). The reason why was that national interests expressed in terms of the global and partial (related to particular issues) net cash flows/net budgetary balances (NBB) gave rise to coalitions that corresponded very closely with the actual coalitions that shaped the negotiation of the budget. The underlying data is plotted in Figure 5. On the vertical axis is plotted each Member State’s NBB defined as total expenditure allocated to a country less its total contributions comprising traditional own resources, the VAT source and the GNI source plus net receipts from the UK rebate. Net contributors have negative NBBs and net recipients positive NBBs. Each column also identifies partial NBBs defined as the net cash flows attributable to individual issues: Member State receipts from the issue minus Member State contributions to financing of that issue. In Figure 5 NBBs and partial NBBs are all expressed as shares of GNI.

These data suggest that new Member States and net recipient old Member States wanted high spending especially on the Common Agricultural and Cohesion policies, old Member States wanted low spending especially on Cohesion policy, and Belgium and Luxembourg as well perhaps as the European Commission probably wanted high administrative spending. Mrak and Rant (2008) showed that the main drivers of the New Financial Framework stemmed from (1) the existence of strong and opposing coalitions that prevented major reductions in cohesion spending, (2) the ability of the Gang of Six to secure low overall spending and in the face of the retention of the October 2002 Franco-German agreement to extend the Common Agricultural Policy via a limited financial commitment to the Lisbon objectives.

Figure 5 The 2007-13 New Financial Framework: net budgetary balances, partial budgetary balances and GNI Source: elaborated from data in Mrak and Rant (2004)
6.2 The financial resources for Cohesion Policy

As indicated in the last section Cohesion policy was allocated €308,041 million in 2004 prices (€347,410 in current prices) for the period 2007-13. This sum was divided into a financial profile of annual allocations. The new Cohesion Policy architecture identified three objectives and three financial instruments: a convergence objective, a Regional competitiveness and employment objective, and a European territorial cooperation objective. 81.4 per cent overall financial resources were allocated to the convergence objective, 15.8 per cent to the regional competitiveness and convergence objective and 2.5 per cent to the European territorial cooperation objective.

In spite of the strong concentration of resources on convergence areas, aid intensity does not increase as relative national prosperity decreases. In Figure 6 Member States are ranked according to their GNI at PPS per head in 2003-5, while aggregate aid per capita is recorded on the vertical axis, using as a denominator national population figures. EU12 countries with the exception of the two newest member States (Bulgaria and Romania) and Cyprus receive between €373 (Czech Republic) and €252 per head (Poland). As Figure 6 shows there is a clear tendency for aid per capita to increase at first as GNI per capita increases and only to decline once GNI per capita reaches around 84 per cent (in the case of Slovenia) of the EU27 average.
If the population figures used in computing aid intensities relate to the populations resident in eligible areas (and not national population figures as in Figure 6) and the convergence, phasing-out, phasing-in and competitiveness and employment objectives are considered separately some striking additional results emerge. Average annual aid intensity indicate that annual aid per capita to convergence regions which stands at €184 in assisted areas is not far ahead of that for the phasing out areas which receive €141. The phasing in areas receive €82 per head per year, and the regional competitiveness and employment (RCE) areas receive €21. Also striking is the fact that amongst the convergence regions the highest aid intensities are for Portugal (€344) and Greece (€333). Of the new Member States the Czech Republic (€269) and Estonia (€239) do well. Romania and Bulgaria receive €84 and €81 respectively even though their per capita GNI at PPS stood at just 32.7 and 34.4 per cent of the EU27 average compared with 71.8 per cent in the case of the Czech Republic. Estonia's GNI at PPS was lower at 55.6 per cent but was not as low as that of the two newest Member States. The aid intensity for Poland (€166) is close to that for the UK (€163) and Germany (€155).

6.3 Criteria for the allocation of financial resources

The financial allocations are the result of published and unpublished criteria that differ from one strand of policy to another. The outcomes however were not simply a result of the application of these criteria but reflected also a set of overarching constraints (Bachtler, Wishlade and Mendez, 2007: 24) and a series of compromises made in particular during European Council negotiations.

Of these overarching constraints the most important was an absorption cap designed to restrict financial resources to a share of national Gross Domestic Product that the recipients could spend effectively. This cap is important mainly as it over-rides mechanisms which allocate resources according to need and in accordance with the original principle of concentration of resources. Another factor driving down per capita Structural Fund flows to the lowest income Member States was the setting of the share of the Cohesion Fund for Member States that joined...
the Union on or after 1 May 2004 at one third of their total financial allocation (Structural Funds plus Cohesion Fund). The effect of this constraint is to increase the relative importance of Cohesion Fund resources which in contrast to Structural Fund resources are confined to investments in transport and environmental infrastructures.

As already mentioned the underlying criteria vary from one strand of policy to another. Consider the case of the convergence objective. As is well-known areas eligible for the convergence objective are NUTS 2 areas whose per capita GDP at PPS is less than 75% of the Union average. The allocation of resources for each Member State is the sum of the allocations for its individual eligible regions. The way in which regional allocations are initially derived centres on the so-called Berlin mechanism implemented in 2000-06. Three steps are involved. First each region's population is multiplied by the difference between its GDP per capita measured at PPS and the EU25 average to derive a sum expressed in €. Second the sum derived from the first step is multiplied by a relative prosperity coefficient reflecting the relative GNI at PPS of the Member State in which the eligible region is situated. As a result the sum is larger the lower regional GDP per capita and the lower is the relative prosperity of the Member State concerned. The third step involves the computation of an additional sum that reflects the existence of relatively high unemployment compared with other eligible areas. This sum is derived by multiplying the number of people out of work in that region as a result of the fact that the unemployment rate is in excess of the average unemployment rate in all EU convergence regions by a premium of €700. If for example 1,000 people are out of work, the unemployment rate is 10 per cent and the average rate is 5 per cent, excess unemployment stands at 500 and the region would receive an additional €350,000.

The main driver of the allocation of resources is relative GDP per capita and relative GNI per capita. The unemployment driver however generates a quite different geographical distribution allocating resources in particular to a number of EU15 Member States (Italy, Germany, Spain and France). More strikingly the published indicative allocation of resources differs markedly from the outcome derivable from the application of this variant of the Berlin mechanism. The main reason why is that the resulting allocation of resources is inconsistent with the spending caps, and that the resources in excess of the caps that were initially allocated to low-income Member States are re-allocated.

7 Government finance in EU Member States

In 2007 the EU budget appropriations stood at €115.5 billion, and that as a share of EU income and public expenditure they stood at less than 1% of GNI and at less than 2.5% of public expenditure. It means that it is the Member States and sub-national tiers of national government that account most European public expenditure. The aim of the first part of this section is to put some figures to these roles before attention is paid to some of the mechanisms for fiscal redistribution inside EU Member States.

In 2007 EU27 general government expenditure (excluding the expenditure of public corporations) stood at 45.8% of GDP (EUROSTAT, 2008). Government revenues were equal to 44.9 per cent of GDP. For the EU15 expenditure stood at 46.1 per cent (0.8 per cent more than government revenue). This figure was a long way beneath the 1995 figure of 52.5 per cent.
Within the EU27 there are very wide variations in government expenditure per capita. In 2007 general government expenditure expressed in Euros and adjusted for Purchasing Power Parities (PPP) was highest (setting aside the Luxembourg) in Sweden (16,465), Denmark (15,418), Austria (15,320), the Netherlands (14,907) and France (14,451). At the other end of the spectrum lie formerly Communist new Member States in eastern and central Europe. The lowest scores for Bulgaria (3,580) and Romania (3723) are approximately 22 per cent of the figure for Sweden. Expressed in Euros (without the PPP adjustment) the range extended from 28,787 in Luxembourg and 21,104 in Denmark to 1,421 in Bulgaria and 2,083 in Romania. By far the most important contribution was made by central government which accounted for 25.1 per cent of EU27 GDP. States present in only four countries accounted for 4.2 per cent and local government for 11.2 per cent, although these figures differed substantially from one country to another.

8 National governance and fiscal equalization in the EU

As emphasized in the last section the Member States account for a large share of public expenditure, and are mainly responsible for a wide range of activities. One indication of the scale and scope of Member State activities is provided by the functional (as opposed to government departmental) analysis of UK public expenditure: in 2006-07 UK public expenditure amounted to 41.3 per cent of GDP. Social protection (13.4 per cent of GDP), health (7.1 per cent), education (5.5 per cent), general public services (3.6 per cent), economic affairs (2.9 per cent) and defence (2.4 per cent) were the most important areas of activity. Considered in its widest sense a number of these areas of expenditure play an important role in local and regional development.

In each Member State similar sets of responsibilities are divided up between national and sub-national tiers of government. Generally speaking sub-national government has sole or shared responsibilities for a wide but varying range of activities: land use planning, economic development, infrastructure provision, and the provision a range of local services that may include education, health and employment.

The division of responsibilities across different tiers of government requires a corresponding allocation of financial resources such that all subnational authorities can meet these responsibilities and in particular can provide citizens with largely comparable services at similar levels of overall taxation.

If all tax revenues are collected centrally, resources can be allocated so as to secure equal service provision making allowance for differences in needs and costs through formula-driven methods of resource allocation that allocate more resources to areas with relatively high costs or greater needs.

If conversely some taxes are raised at a sub-national scale situations will arise in which there are mis-matches between the revenue raising capabilities of sub-national governments and the costs of providing similar services: some areas will have high tax revenues and low costs and others will have low tax revenues and high costs. In this situation ensuring that citizens receive comparable services at similar levels of taxation requires movement in the direction of fiscal equalization either through fiscal redistribution (horizontally across tiers of government or
vertically from higher to lower tiers of government) or tax sharing arrangements (where different tiers of government are entitled to fixed shares of specified taxes).

In EU Member States equalization measures of this kind serve at least to reduce these disparities. Some years ago Wishlade, Yuill, Taylor, Davezies, Nicot and Prud'homme (1996) estimated the size and impact of fiscal transfers in seven Member States (France, Germany, Italy, Portugal, Spain, Sweden and the UK). As this study showed, irrespective of whether a flow (in which regions is public money spent) or benefit concept (in which regions do the benefits of public expenditure accrue) of the distribution of expenditure is used, the richer regions in the eight countries studied transfer significant sums to the poorer regions. At an EU scale, however, whether a region is a part of an economically strong or an economically weak Member State makes a great difference: areas with similar levels of GDP per head are net recipients of public expenditure flows in rich countries such as Germany but net contributors in poorer countries such as Spain.

9 Finance for regional development in China

In China fiscal revenue is far smaller as a share of GDP than it is in EU member States. As Figure 7 shows fiscal revenue declined from 30.1 per cent of GDP in 1978 to 10.3 per cent in 1995. After 1995 it rose to reach 18.4 per cent in 2006. Of course this figure underplays the role of the state in economic life as many assets and many enterprises are state-owned.

Figure 7 Fiscal revenue as a share of GDP, 1978-2006. Source: elaborated from People's Republic of China, National Bureau of Statistics. Note that figures for some years up to 1990 were interpolated.

In China there are significant disparities in the resources available to subnational authorities. An unequal distribution of revenue conflicts with principles of equal access to public services: subnational governments are not able to finance basic public services such as education, medical care and social security. As Figure 8 shows in 2005 per capita fiscal revenue varied from RMB 9957 in Shanghai to 1202 in Anhui. These variations were a reflection of large variations in fiscal revenue (7980 in Shanghai to 435 in Tibet) that were not invariably rectified by transfers (6921 in Tibet to 521 in Fujian). Although there are very large per capita transfers to some
provinces with little fiscal revenue there are also large positive transfers to relatively rich provincial level cities such as Shanghai and Beijing. This situation is a consequence of a number of features of the Chinese fiscal system.

Figure 8 Fiscal revenue and fiscal transfers per inhabitant in 2005. Source: elaborated from People's Republic of China, National Bureau of Statistics.

As Figure 9 shows from 1979 onwards central government expenditure declined as a share of the total standing around 30 per cent of until 2003. The share of local government increased to reach in the order of 70 per cent. As a result of the introduction of a tax-sharing system in 1994 central government’s share of total fiscal revenue rose from 22 per cent in 1993 to 52.8 per cent in 2006. As the division of responsibilities was not changed central government came to receive twice as much revenue as it spent, whereas local government received about two-thirds of what it spent. (In China there are five levels of government and five levels of public finance with the central government providing near-pure public goods and other responsibilities split across levels of government: nine year of compulsory education is provided mainly at a county level, while rural co-operative health care involves four levels up to the county. Central government expenditure accounts for 30-35% of total.)
Central government revenues derive from 21 tax items. At a sub-national level there are 31 tax items of which the most important is a resource tax. Extra-budget income from for example land development accounts for one-third to one-half of local revenue. Alongside these two sets of tax items there are a number of tax-sharing items. An example is Value Added Tax of which 75 per cent goes to central government and 25 per cent to sub-national government. The gap between subnational government revenue and expenditure is covered by central government fiscal transfers although their contribution to fiscal equalization is limited. These transfers fall into three groups. (1) General transfers (33 per cent of the total) are mainly compensation for losses caused by the 1994 reform. Only 10 per cent of this transfer is in reality formula-based. In this case relative underdevelopment is considered with national average of 60% and for example 90% for Tibet. (2) Specific transfers (33 per cent of the total) are divided into a first set of funds earmarked for service provision, and a second part which does not require match-funding comprising 210 vertically managed items whose allocation is based on precedent/quotas and not science; and (3) a tax rebate (33 per cent of the total) which is a legacy of 1994 reform and was designed to ensure that the revenue of subnational governments did not fall. In addition there are sub-national inter-provincial transfers but these transfers are not unified into an integrated system.

10 Conclusions

The aim of this chapter was to consider two interconnected issues that generally receive too little attention in academic discussions of local and regional area development policies: the definition and classification of areas and the mechanisms and distributional consequences of financial resource allocation. Area development policies by definition involve the identification of geographical areas to which spatial policies will apply and the establishment of criteria determining the eligibility of different areas for different types of support. In this chapter I have shown how in the European Union and in China administrative definitions of regions are the
foundation for most area development policies. In the European Union a set of rules have been established in an attempt to harmonise different national administrative systems. This NUTS system plays three important roles. First it provided the framework for the development of harmonized regional statistics. Second it served as the foundation for the socio-economic analyses of the EU regions. Third it provides a framework for EU regional policy and in particular it is used in deciding on eligibility for regional aid: with the establishment of the Structural Funds the classification of areas eligible for support under Objective 1 or the Convergence objective was carried out for NUTS LEVEL II regions, while the classification of areas eligible under other priority objectives has involved the use of NUTS LEVEL II areas. In the Chinese case area development policies also rest on administrative divisions of the country. Although China has not developed a set of formal rules similar to those embodied in the NUTS system the different levels of the Chinese administrative system are roughly comparable with tiers of the NUTS system, although some levels of the Chinese system are subject to more rapid and frequent changes.

The reasons for the choice of national administrative arrangements as the foundation for area development policies are absolutely clear: on the one hand data is produced for administrative entities; on the other hand sub-national administrations play a role in the design and implementation of regional development programmes. Administrative areas are however especially in the EU heterogeneous. A more fundamental problem arises from the fact that the features of important geographical distributions do not necessarily coincide with administrative boundaries. In relation to many of the issues deal with in area development policy functional areas and in particular travel to work areas would make more scientific and policy sense. The importance of the use of a set of reasonably objective criteria in the definition of areas is also highlighted by the fact that measured indicators of disparities and therefore for example maps of aid eligibility designed to target disadvantages areas depend upon the ways in which regions are created.

As far as financial issues are concerned emphasis was placed on the importance of examining the geographical distribution of public finance considered as a whole. Generally speaking the per capita financial resources available to sub-national government should enable the uniform provision of public services. As such these resources should be roughly proportional to the population served with some allowance for variations in the costs of equal service provision due to variations in need and cost structures. Area development resources exist alongside and complement normal public service provision providing additional resources to deal with economic adjustment and economic development but are by comparison relatively small. In the EU case attention was paid mainly to EU area development policies. Equal service provision is a responsibility at present of Member States and involves the use of a variety of schemes for fiscal equalization. Equalization occurs however only at a Member State level. At an EU level there are very wide disparities.

In relation to resources for area development it was pointed out that aid for 2007-13 is not proportional to relative GNI. Although the underlying Berlin mechanism allocates most resources to the most disadvantaged areas capping mechanisms in particular result in a situation in which aid at first increases with GNI and only subsequently falls.
In the Chinese case large disparities in the availability of fiscal resources per capital were noted. Although the Chinese government compensates for the lack of financial resources in some provinces with very large transfers to areas in the west of China, it also supports politically powerful and economically advanced areas. An unequal distribution of resources is an impediment to the Chinese government’s ambitions to improve health, education and social security provision. The importance of fiscal reform is accentuated by several other factors. One is the need to release savings and to expand the domestic market to underpin China’s future economic growth. Another is the fact that the prevention or the restriction of development in ecologically-sensitive areas will under the current fiscal system place limits on revenue generation in these areas. Additional transfers will be required therefore not just to enable subnational authorities to meet their health, education and social security responsibilities but also to compensate these areas for ecological protection schemes that will improve environmental conditions not only in the areas affected but in other parts of China.

As these considerations also indicate, finally, questions of the definition and financing of area development intersect in important ways with definitions of the meaning of development and the choices made with respect to development models.

References


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