ESPON
EUROPEAN SPATIAL PLANNING OBSERVATION NETWORK

ESPON project 3.4.2 "Territorial impacts of EU economic policies and location of economic activities"

Second Interim Report

February 2006

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Volume 1
Executive summary

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This report does not necessarily reflect the opinion of the members of the Monitoring Committee.

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Executive Summary

1.1 Introduction

The main objectives of this project are to study the patterns and determinants of localisation of economic activities and investments and to analyse the impact of economic policies implemented at different scales on these patterns and determinants. Put in other words, the project should show where businesses, employment and production are and what policy can do about reinforcing or modifying this spatial distribution in order to bring it closer to the overarching goal of territorial cohesion.

The current policy debate around territorial development is crystallised in the work on the inter-ministerial document on the "territorial state and perspectives of the Union", due to be approved in its final version in the first half of 2007. In the only preparatory paper to this document published to this date[1], the ministers assert the following ideas as the basis of their reasoning:

1. Most important and dynamic forces in terms of economic development are increasingly both localised and territorially specific.
2. A key challenge for European regions is the accelerated relocation of economic activities.
3. Cities and regions specialise in certain kinds of production because of their specific territorial advantages.
4. The most competitive regions are those that are able to respond most effectively to globalisation.

One of the aims of the project is to examine at least some of these issues in order to sharpen the political debate around them.

As a framework for the team's work, a general hypothesis was elaborated which guides the entire research in the project:

In a knowledge and innovation based economy going through a slow-growth cycle with low growth of productivity and demand, economic activity is becoming more

1 Scoping document and summary of political messages for an assessment of the Territorial State and Perspectives of the European Union towards a stronger European territorial cohesion in the light of the Lisbon and Gothenburg ambitions, Endorsed for further development by the Ministers for Spatial Development and the European Commission at the Informal Ministerial Meeting on Regional Policy and Territorial Cohesion, 20/21 May 2005 in Luxembourg.

spatially localised, i.e. more linked to specific environments which offer the necessary context to enterprises looking for externalities allowing them to profit from existing infrastructures and knowledge and thus to reduce costs. In this situation, combined with fiscal and ideological restrictions, public policy is oriented towards an indirect intervention through the creation of these specific environments. This leads to a rising importance of the existing resources of regions and thus to the remetropolitisation and reconcentration of economic activities, mainly into those areas already endowed with the necessary framework conditions.

The first interim report set the scene of the study, through preliminary literature reviews and data analysis. No real "findings" were presented as the project had just started. The report mainly provided an outlook of the things to come in the project.

This second interim report (only 3 months after the first) still finds the project in intense work in progress, thus providing only a snapshot of the current state of thinking and analysis. All "results" presented thus continue to be provisional.

Current state of work and structure of the report

In terms of practical work, the following advances have been made since the first interim report:

Continued literature reviews

As explained in the tender and the first interim report, the resources and time allocated to this project are not sufficient to achieve any fundamentally new and innovative research. We, therefore, decide to follow Newton and "stand on the shoulders of giants" in order to translate the existing knowledge into a form which is both understandable and applicable to the relevant political debates around territorial development and cohesion and to expand on it with small empirical contributions where the added value seems greatest. Quite some time has thus been invested in the review of the literature, in different fields:

Macro-economic framework

For anyone working on regional development it should be obvious that an important proportion of the development path of a region is determined by the country this region belongs to. In spite of all discourse around the "death of the nation state", national regulatory frameworks and macro-economic policies still lay the fundamental grounds on which regions grow or decline. The second chapter of this report presents an extended overview of the macro-economic developments in the last 60 years, putting the issues at hand for regional development into a larger context.

Theories and evidence in regional development

As already explained in the first interim report, many diverse theories concerning regional development have been evolving in the last 20 years, moving the field from an orthodox (generally neo-classical) perspective to heterodox perspectives taking into account intangible factors and agglomeration economies. In order to understand empirical analyses of regional development and to place potential policies into their theoretical (and thus often ideological) context, it is necessary to have a grasp of the wide scope of research undertaken in this field. After a first overview presented in the first interim report, the third chapter of this report focuses on business networks and the link between multi-national companies and regional innovation systems, in order to understand how knowledge and innovation is created, imported and distributed within and amongst regions and firms.

Entry/exit literature

In order to study the localisation of firms from their own perspective, it was originally foreseen to study the empirical evidence provided by enquiries and to analyse this through techniques of meta-analysis. This, however, proved infeasible as the scientific literature on such enquiries is too sparse and grey literature to difficult to find and use. It was, therefore, decided to base our analysis on a second type of literature, the so-called entry/exit literature, which tries to identify the determinants of firm births or firm deaths in specific regions. The results of this review are presented in chapter 3.

Macro-economic impacts

In chapter 7 we concentrate the literature review on policies of economic integration and of monetary union, in order to identify some of the elements of impact which we could approach at least through proxies, leading to suggestions concerning a possible approach for testing the impact of monetary union. In further work we will also cover state aid and tax harmonisation policies.

Continued data collection and analysis

Parallel to this extensive work aiming at distilling policy relevant knowledge out of the scientific literature, the team has continued to collect empirical data with the aim to study the geography of localisation of economic activities and its dynamics and determinants.

The main obstacle, as always in ESPON, is the lack and/or bad quality of data at regional level. We have advanced quite well in the collection of data on sectoral structures, but for some countries this data is still missing and as mentioned in the first interim report, the Eurostat data on firms is quite unsatisfactory.

In chapter 4 we present a first analysis, more of a proof of concept, based on 5 economic sectors (instead of the 31 we are aiming for). In addition, we provide a series of maps and analyses concerning different factors of economic development.

Analysis of regional policies and their impacts

Chapter 6 deals with the connection between "regional competitiveness" and regional policies. It goes through an analysis of drivers of regional competitiveness in order to identify the levers for policy intervention. We have called upon the network of ESPON ECPs asking them to provide us with budgetary data from two regions per country as basis for an analysis of the current budgetary priorities in Europe's regions. At this stage the survey has not been very successful, yet, but we hope to improve the situation in the next weeks.

Preparation of case studies

At the same time (and also in chapter 6), efforts went into the selection of case study areas and in the definition of the guidelines for these case studies. A total of 9 cases is foreseen, selected according to structural economic types presented in the first interim report.

In the tender to this project, the team had suggested not to try any impact analysis of macro-economic policies as the allocated resources would not suffice to achieve any sensible results. This was refused by the ESPON Monitoring Committee and the team will, therefore, have to at least test one or two methods. As is discussed in chapter 7, any positivist scientific impact analysis is impossible because of the absence of counter-factuals, i.e. identical regions to which the policy is not applied.
Another approach to impact assessment is simulation. This will be provided through the MASST model developed by project 3.2 and applied in 3.4.2 for simulating different policies.

1.2 Main policy-relevant findings so far

In the following, we present some findings in relation to the policy issues raised at the beginning of this summary. As already mentioned these findings are still preliminary and should be understood and treated as such.

NB References to figures and tables refer to this volume 1, while references to chapters and pages refer to volume 2.

1.2.1 What is driving regional development and what is "regional competitiveness" ?

A first and quite important idea is that **the evolution of regional economic development depends to a large extent on national development**. Thus, regions cannot be seen as isolated actors in a global or European competition. They are part of national systems and their welfare continues to be strongly influenced by these systems. This can be demonstrated by calculating the total variance of economic growth of all NUTS 2 and all NUTS 3 regions in Europe and then disaggregating this variance according to the different levels. As the following table shows, 2/3 of the variance between NUTS 2 regions is explained by the variance between countries and almost half of variance between NUTS 3 regions. The fairly high proportion of variance of NUTS 3 regions within their NUTS 2 regions can probably mainly be explained by the differences inside metropolitan or urban areas, since most of the urban areas have good economic performances at their peripheries while many centres are in crisis.

	Share of the total variance (nuts2 -EU25)	Share of the total variance (nuts 3 -EU25)
Variance Nuts 0 - Eur25	67,0	46,8
Variance Nuts 1 - nuts 0	16,7	11,7
Variance Nuts 2 - Nuts 1	16,3	11,4
Variance Nuts 3 - Nuts 2		30,2
Total variance	100,0	100,0

Table 1 Share of variance of economic growth 1995-2002 (in PPS) taken into account by the different spatial level of European divisions

This strong national component can be seen on figure 1 which shows economic growth at NUTS 2 level in both absolute and relative terms. The absolute figure clearly underlines the weight of main national economic poles and of central Europe in the total growth in Europe. The growth rate puts into the fore the national differences in economic growth, for example between Germany and Italy, on one hand, United Kingdom and Eastern countries, on the other hand. We can already observe that most of the main national economic poles have better performances than the rest of the country, a finding which supports the hypothesis of metropolitization (at least at this scale) and which we developed more in detail in the first interim report.

Since intra-national differences are hidden by international ones on this first map, we present a second map (figure 2) which shows the economic growth of the NUTS 2 regions in comparison of the growth in the country. It allows a much better perception of regional pattern of growth in Europe. With few exceptions, it confirms the better dynamic of the

main economic poles, especially in central and Eastern Europe. But this map also underlines the persistence of regional differentiation in most of the countries.

See chapter 4.2 for a more detailed discussion of these elements.

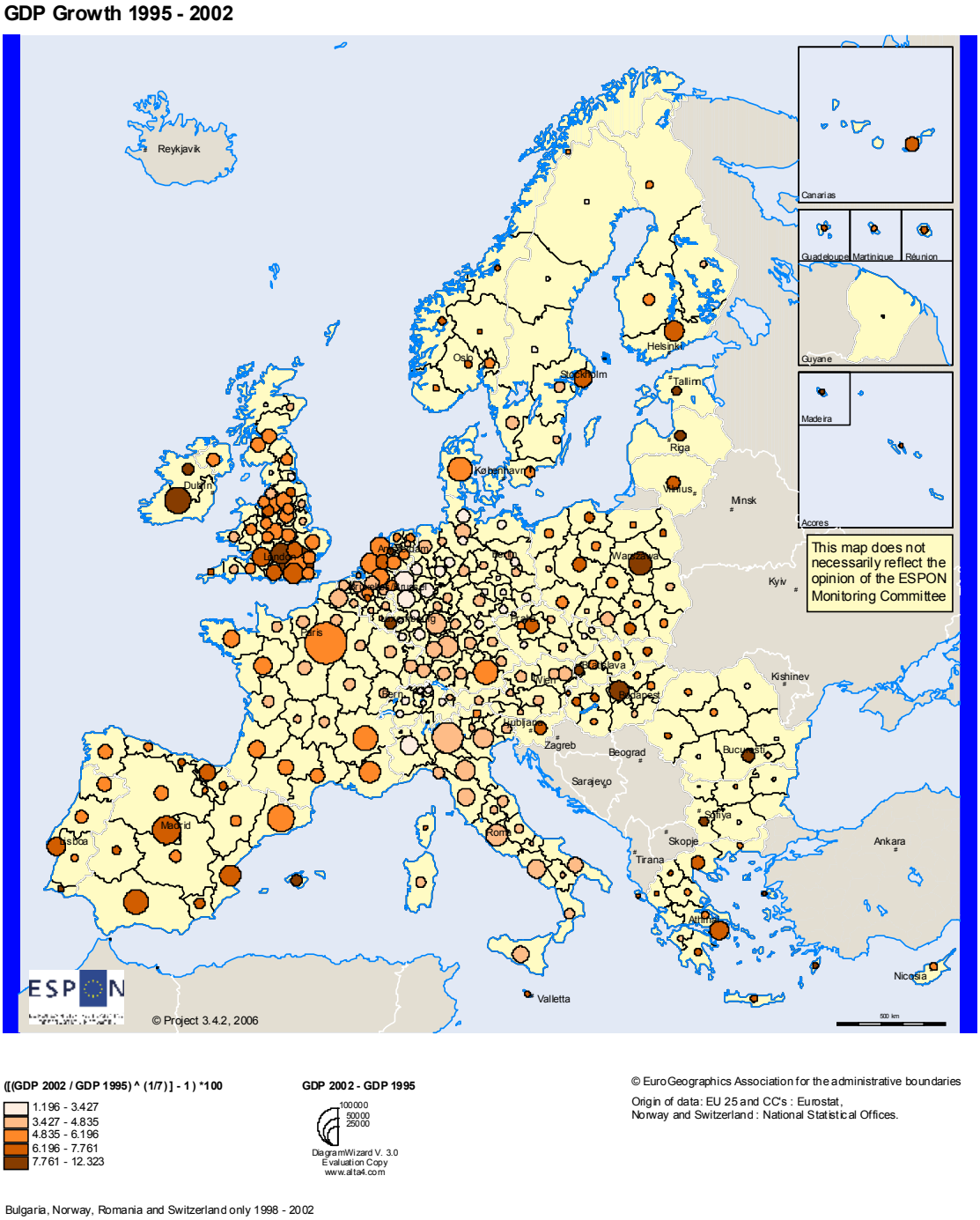


Figure 1 GDP growth 1995-2002

NUTS 2 growth of GDP (PPS) in comparison to the respective national growth rates

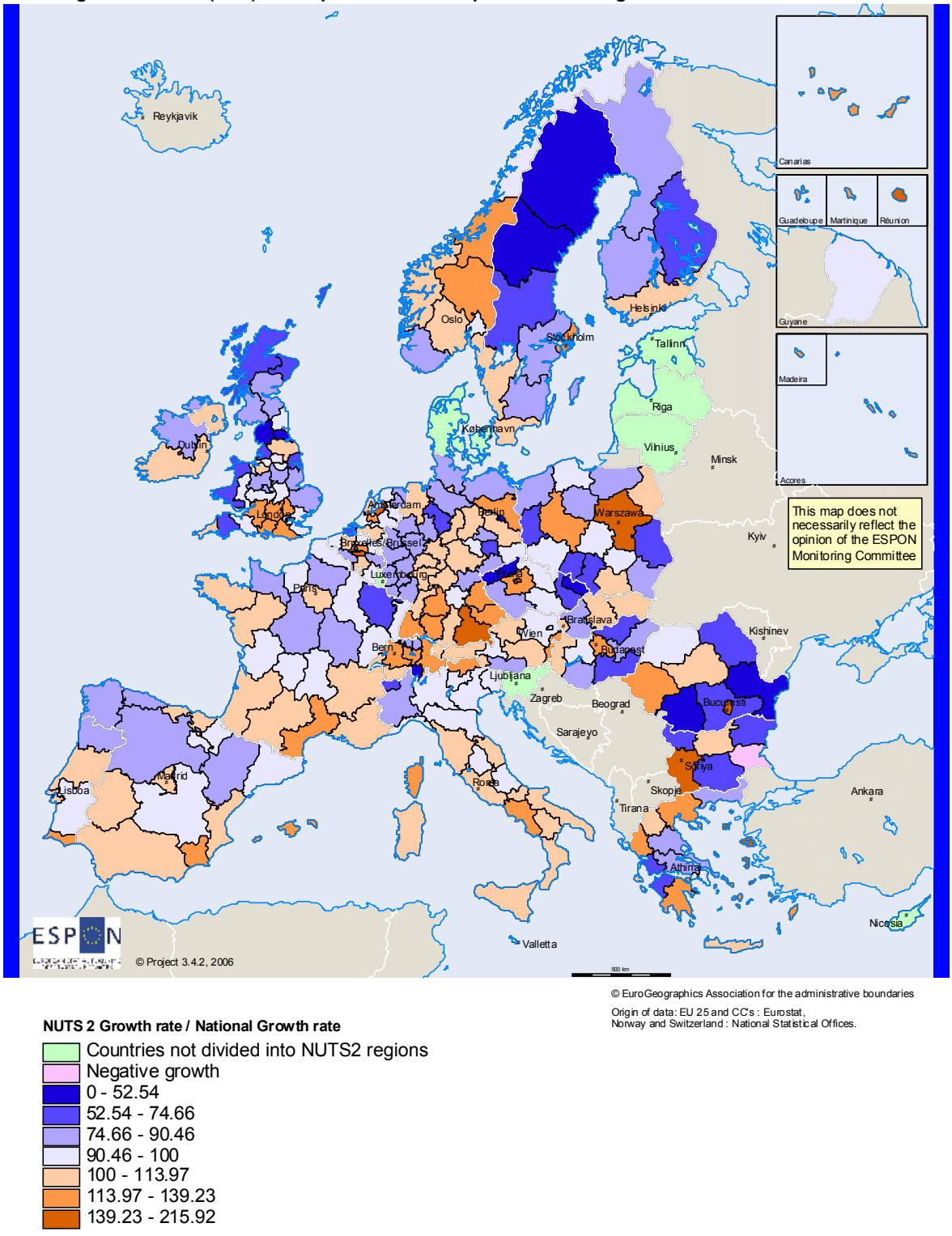


Figure 2 Nuts 2 growth of GDP (PPS) in comparison to the respective national growth rates

ESPON project 3.4.1 has shown that trade with countries outside the ESPON area is fairly low, the sum of exports and imports representing in average only 14% (see ESPON 3.4.1, SIR, Vol 1., page 235, Map 45). Even though this is different for some countries, overall, this seems to indicate that **the internal demand within the ESPON space is an important factor for the economic success of Europe's regions**.

So, in light of the fact that national performances are important determinants for regional performances and that the internal demand within the ESPON space also plays a significant role, **it is important to understand the current macro-economic developments in order to understand regional development**. The slow-down in productivity growth and the consequent dismantling of a system of redistribution of productivity gains has lead to **a shift in policies from Keynesian to neo-liberal approaches, thus leading from policies combining supply-side elements** (increase of productivity through new patterns of work organisation and through new technologies) **with demand-side elements** (distribution of productivity gains to wages, profits and state) **to a purely supply-side orientation with a severe reduction of potential demand** (share of productivity growth going to salaries has declined significantly)**.** See chapter 2 for a thorough analysis of the macro-economic dynamics of the last decades and some of their spatial consequences.

In this context, what does the idea of "regional competitiveness" mean? Many authors seem to agree that "**true competitiveness is measured by productivity**" (Martin, 2005). The question, therefore, is how to increase productivity. The common answer to this in the current political paradigm is an increase of flexibility of the labour force and a decrease of costs, including a decrease of wages. However, it seems quite clear that Europe cannot become more flexible and cheaper then other countries in the world. And in light of the above, **trying to adjust wages downwards to global levels in order to compete on global markets is contradictory with the fact that most of Europe's products are sold in Europe**. On the contrary, such a policy would just have the effect of reducing the market by reducing potential internal demand. On this issue, see box on pp.34-35 on the issue of delocalisations.

The European Commission has defined competitiveness as "the ability to produce goods and services which meet the test of international markets, while at the same time maintaining high and sustainable levels of income or, more generally, the ability to generate, while being exposed to external competition, relatively high income and employment" (EC, 1999, p.4). Even if definition seems to forget the local and intra-European competition, it does highlight the fact that **Europe's path to competitiveness, alias higher productivity, can only be through the "high road" leading to high income and employment**. See chapter 6.1 for a more detailed discussion of the notion of regional competitiveness. However, such a high road implies the need for investments into new technologies and new work processes. **Such investments have been lacking in Europe, however, as an**

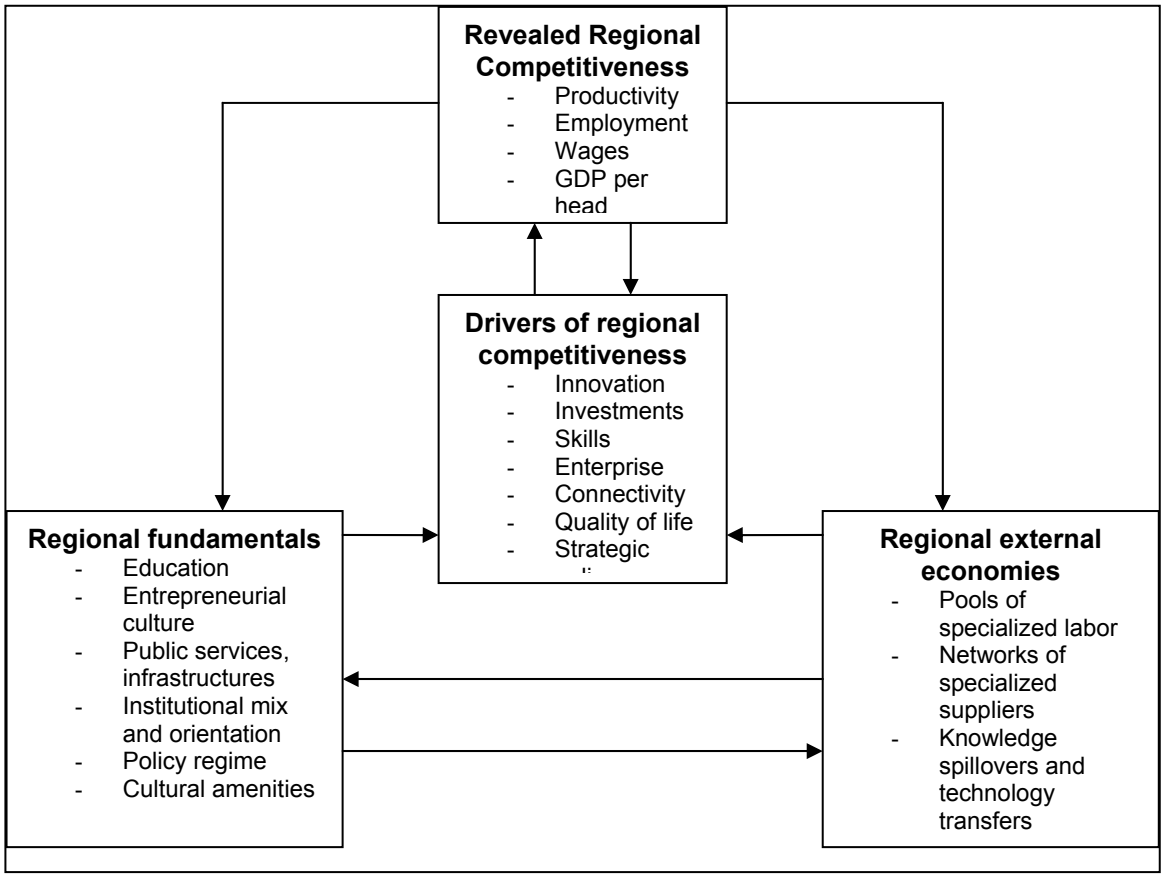
increasing share of companies' profits is distributed to shareholders and not used internally for expansion (see chapter 2)**.**

So, what seem to be the drivers for enhancing productivity growth ? The following table from chapter 6.1 lists the most important drivers:

Drivers of regional competitiveness	***Definitions***
Hard or Tangible Infrastructure	Transport networks; industrial sites; communication systems; energy supply network; waste disposal and sewage systems; etc.
Social Capital	The networks of relationships among persons, firms, and institutions in a society, together with shared norms of behaviour, values and understandings (trust, cooperation, coordination, reciprocity, etc.) that enable a society to function effectively. Measurement of social capital is very difficult as it includes subjective elements ("trust", etc.). Here, we focus on the public efforts to structure networks enabling cooperation and information flows (mainly through institutional capacity building) (based on OCDE definition).
Human Capital	Skills and competencies of individuals which are mainly acquired through learning and experience. Some aspects of motivation and behaviour, as well as attributes such as the physical, emotional and mental health of individuals are also regarded as human capital. Here, we account public measures increasing individuals' skills or stimulating to the recruitement of unemployed people through wage subsidies. The latter measure is mainly seen as a tool to compensate the depreciation of human capital caused by lengthy periods of unemployment (based on OCDE definition).
Fiscal and Financial Interventions (Investment)	Public direct aid aimed at decreasing the cost of capital investments, mainly through grants and fiscal incentives.
Financing (Capital and Credit)	Compensating the high cost, shortage, rigidity and lack of access to financing means. Supply of capital, credit, credit guarantees.
Innovation (Knowledge Capital)	(Based on the Canadian Centre for Innovation Studies) While "invention" is the creation of a new idea or concept, "innovation" is turning the new concept into commercial success. Innovation is primarily an economic and social, rather than exclusively a technological term. "Technological innovation" is an innovation with significant performance content (as opposed to a fashion). Here, we focus on the public institutions which contribute to the development and diffusion of new technologies in a region and public spending for R&D (universities, firms).
Amenities / Quality of Life	Amenity is defined as "An enhancement to a piece of property that is not essential to the property's use, but may increase the property's value. Examples include a swimming pool, tennis courts, scenic view, access to a body of water, etc.". In terms of economic regional development amenities can for instance be the activities of soil or "architectural" decontamination in industrial areas, the building of sport and cultural facilities in under-developed remote areas to attract investments, etc.

Table 2 Drivers of regional competitiveness

These drivers and the resulting "competitiveness" can be seen as linear concepts, but they are much more efficiently understood as "an evolving complex circular process, in which some outputs themselves become inputs, and thus influence future outputs" (Martin, 2005). This is schematized in the following table.



Source: Martin, 2005

Table 3 Regional competitiveness as a structured but circular process

Thus a region's capacity for productivity is not defined once and for all by a series of factors identical for a regions, but more by the complex interaction of many different factors.

One important aspect, especially in the potential advent of a "new economy" is the capacity to innovate. However, just as with the entire system of drivers identified above, in recent years the concept of innovation as a driver of economic growth has shifted away from that of an individualistic "linear" technology transfer process, towards an incremental,

endogenous, group activity. **Innovations are not necessarily based on high or new technology**, and new products and new processes often originate within the manufacturing sector, or from an interaction between producers and their customers/suppliers. **Innovation, therefore, depends not solely on technology transfer arrangements, or the presence of individual "innovators", but upon the characteristics of the entire local economy; the various actors, the relationships between them, and the environment within which they operate.**

One important aspect in this systemic notion is that of network or linkages between different actors, mainly firms, but also other stakeholders. Grannovetter (1985) has argued that **"strong" (exclusive, durable) linkages are inimitable to adaptability and innovation, whereas "weak" (transient) links to new trading partners are more likely to act as sources of information which can lead to the development of new products, working practices or markets.** The phrase "the strength of weak ties" has become a popular shorthand for this idea. Lechner and Dowling (2002) write: "Strong ties add to depth, weak ties to diversity. Strong ties lead to routines, weak ties open the door to new options." They further suggest that there is a developmental stage dimension: " We believe that the successful (growing) companies first develop strong ties to get the maximum out of the relations and then add weak ties to gain diversity." They also make a distinction between endogenous innovation and exogenous knowledge transfer: "**Knowledge creation seems to depend on strong ties, while knowledge acquisition depends on weak ties**". See chapter 3.3 for a detailed discussion of these issues.

1.2.2 Where do firms locate ?

In terms of localisation of innovative activities of multinational companies (MNC), **it is typically where there is already a strong existing domestic technological presence that R&D of foreign-owned affiliates are most likely to locate and grow** so as to gain a significant role with respect to the global technological development strategies of the MNCs as a whole. Cantwell and various collaborators suggest that the relative attractiveness of European regions to the technological efforts of foreign-owned MNCs depend on different factors, and that their significance in attracting MNC R&D establishments vary between different European regions (for details see chapter 3.4).

Thus, as is mentioned in our general hypothesis, the localisation strategies of enterprises, and of MNCs in particular, seems to be guided by already existing resources offering potential externalities. This is true for general R&D activities, but also more generally for the localisation of headquarters of MNCs. Figure 3 shows the localisation of those European companies that are part of the list of the 2000 largest companies in the world published by Forbes. This map shows the **attractiveness of metropolitan areas for multinational**

companies and the strong concentration within the pentagon, thus confirming the empirical evidence on metropolitization presented in the FIR. Most headquarters are indeed located between the North of England and central Italy, including the Benelux, Germany and Switzerland. Inside this large central area, the predominance of three poles is clear: London and Paris are the main internationalized economic poles in Europe, followed by the Randstad Holland (Amsterdam- Rotterdam).

However, **the map does not only illustrate a general hierarchy in the European command but also that of national command of the economies, very related to the general urban structure of the economies**. At one side, we have the French pattern, where all the headquarters are localized in Paris, with two minor exceptions, at the image of the very centralized French urban structure. On the other side, we have the German pattern, where headquarters are localized in several major centres.

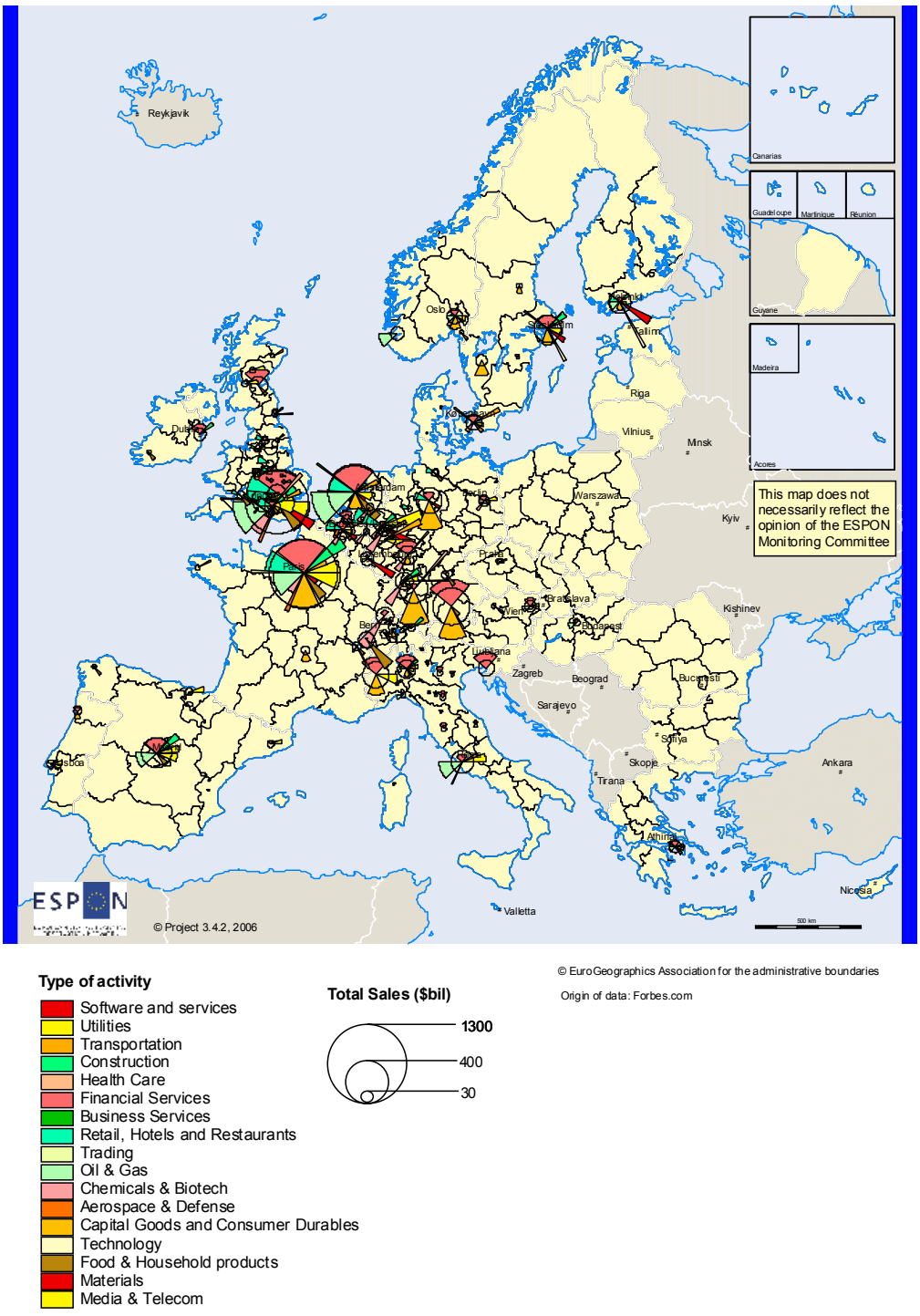


Figure 3 Location of Forbes 2000 company headquarters in Europe

However, most jobs in Europe are not created by MNCs, but rather by local and regional small and medium-sized enterprises. It is, thus, important to study the factors that determine the creation and localisation of such firms. Even though results depend quite a lot on methodological choices, the entry-exit literature which studies firm entries and/or exits

in a given territory offers some interesting insights, relevant for regional economic development mainly for three different reasons:

- job growth: it is widely argued - but also contested by some - that net new firm formation is key to employment (job) growth.
- new firms are often viewed as being more innovative
- firm 'flux' (births, deaths and relocations) matters for regional structural change and adaptation, a view especially defended in the evolutionary economics literature.

The most important message coming out of this literature is that **there is no easy and straight forward answer to the question why the number of new firms differs between regions**. Regions and countries differ this implies that there are no uniform policy recommendation that will fit all regions. However, it seems that **local demand is a driving force for firm entry.** The increase in local demand could be due to higher income levels, in-migration or population growth, but could also be driven by increased spending by the public sector. However, the results concerning the effect of formal education measured as the share of the population with a university degree are ambiguous. This is the same for local entrepreneurship, but here the intangible nature of the concept also makes it difficult to measure. See chapter 5 for more details on the entry-exit literature.

In order to study these factors more in detail, it would be important to not only look at firm entry (and exit), but also at firm survival rates. At the same time, **depending on the local structures economic expansion can also take place within existing firms**. Compared to firm expansion rates in the US, much of Europe seems to have low rates. In other words **it is not just firm entry and exit that matter, but what happens to surviving firms (and why this may depend on location)**. However, data is so poor on these issues that it is difficult to proceed to any empirical measurements of these phenomena, especially across a space as large as the ESPON space and at a regional scale.

1.2.3 Future synthesis of the analytical results and notions of regional "performance"

In the final report **we will attempt to bring all this empirical information together into a more synthetic analysis**. We have already begun this task and first very preliminary elements are presented in chapters 4.6 and 4.7.

In this context, it is also important to reflect upon the general notion of regional economic "performance". GDP is an indicator of regional production, but not necessarily of regional wealth. However, for the notion of territorial cohesion (particularly when linked to the idea of well-being) the latter might actually seem more important then the former. Axel Behrens from Eurostat has developed an **experimental indicator measuring regional wealth**. In

figure 4 we map the difference between this indicator and classical GDP and show that it highlights two main mechanisms leading to the smoothing out of differences between regions (see chapter 4.4 for more details):

- transfers from metropolitan areas to their surroundings
- transfers from richer regions to poorer regions (e.g. West to East Germany, North to South Italy).

Further work will go into this notion in the next phase of the project.

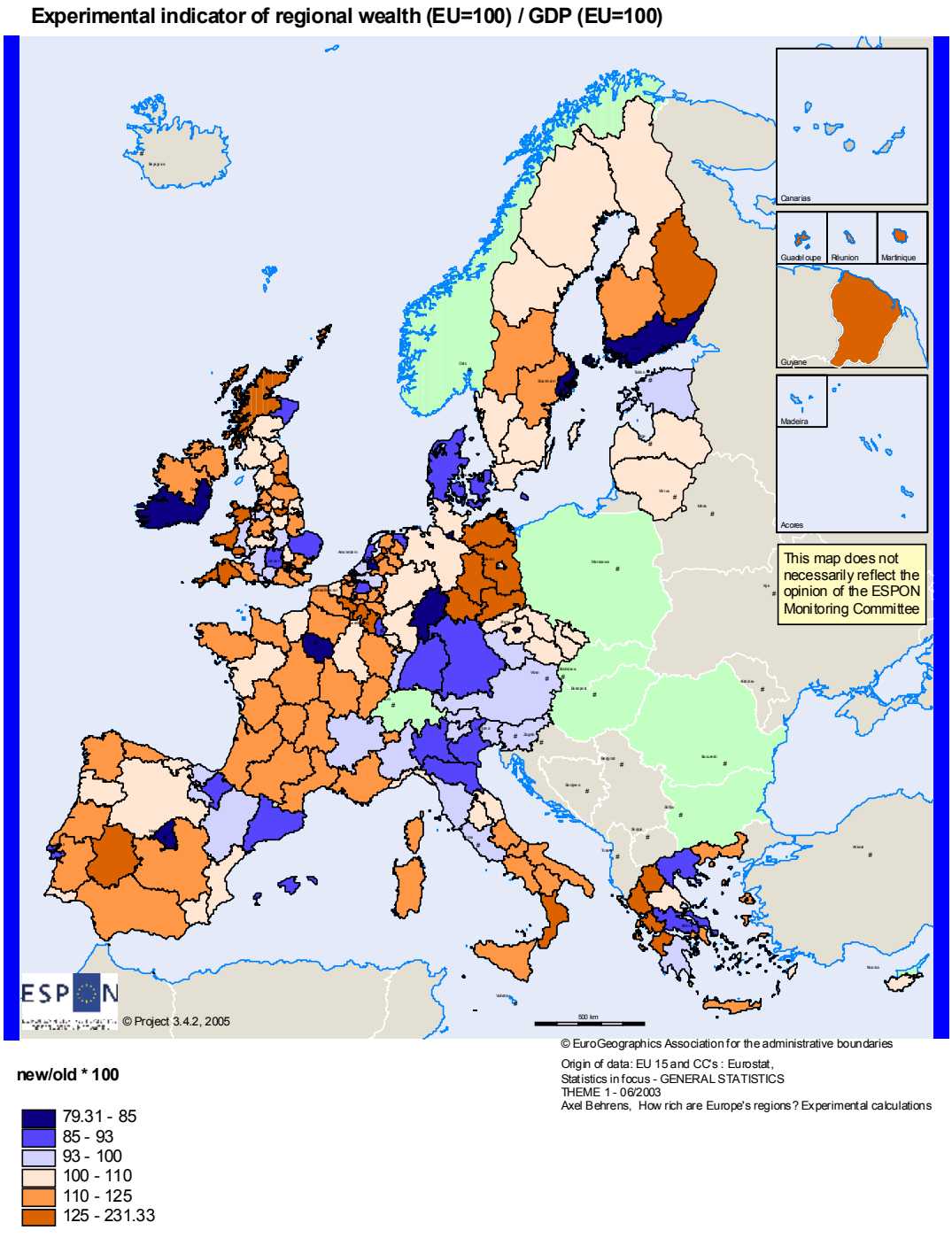


Figure 4 "Winners" (red) and "Losers" (blue) in the experimental indicator of regional wealth compared to GDP

1.2.4 Policy impacts at different scales

Since this is a policy-oriented research effort, the main objective is obviously to gain insights into which policies have which effects, in order to choose the most appropriate depending on the political priorities. This project has set out to analyse this at two scales of policies, the macro-economic (chapter 7) and the regional (chapter 6). We define the former as pertaining to policies that "treat all regions equally" and the latter as those which focus on specific regions.

Before going into any of the preliminary findings, **it is very important to realise the inherent methodological problems of any attempt to study impacts of policies**. These are mainly:

- **the absence of counter-factuals**: we cannot study identical regions where the policy was not applied, but where all other factors were equal. This alone is sufficient to assert that **no policy impact analysis can be of a positivist (falsifiable) scientific nature!**
- **the interdependency between the EU, national, and regional policies**: it is reasonable to think that national policies may be implemented in order to support specific industries and regions in response to the effect caused by the EU policy of economic integration. Thus, it is difficult to separate the effects from the EU-level policy from the effect of the national policy. In a similar way, regional policies may be implemented by both nations and the EU as a response to effects that may arise from EU-level policies, e.g. the common monetary policy.
- **time lag**: most policies are not introduced as shocks in the economy. Thus, the policies may be anticipated long before they are implemented, e.g. the implementation of the common currency was anticipated before 1999 meaning that actors in the economy, both public and private, may have adopted changes in their behaviour according to the policy. This introduces the problem of when to expect the effects of a policy to be observed.

This means that the only way to study policy impacts is to start with theoretical models representing such impacts and then either test hypotheses derived from these theoretical models through the analysis of evolution of some proxy variables over time, or to use the theory to build simulations models. In this project we will test both models as explained in chapter 7.

1.2.4.1 Impacts of macro-economic policies

As explained more in detail in the first interim report, just as the theoretical literature diverges, **empirical results do not show any clear pattern of convergence or divergence**. However, one conclusion is that previous patterns of convergence have become weaker in empirical growth studies. Theory also predicts that economic integration results in regional specialisation. This is one of the main hypotheses of the inter-ministerial scoping document mentioned in the introduction. However, empirical research indicates that regional specialisation is lower in Europe compared to the U.S. Furthermore, **the process of regional specialisation, if there is one, seems to be relatively slow**. There is a need for further studies on regional specialisation among European regions and cities, as unfortunately, there are few empirical studies on regional specialisation; the natural explanation is lack of relevant data. The data on regional economic structure, once complete, will hopefully allow adding some empirical evidence to this question.

In order to understand regional effects of monetary policy, especially through asymmetric shocks, it may be important to also consider financial structures and their implications for regional effects of a uniform monetary policy shock to the economy. **The transmission effect of monetary polices differ between regions due to disparities in financial markets and in this aspect, the regional banking development is a central factor.** The money supply is foremost determined by banks and borrowers liquidity preferences and not the intervention by the central bank (Dow and Rodriguez-Fuentes, 2003). **Important regional differences in financial structures are for example, the share of small banks, the development of the bank sector, and substitutes for bank-lending.**

These findings are confirmed by a survey published by the European Commission (IFO, 1990) which showed that in lagging regions, the determinant "cost of credit" was mentioned most frequently, indicating **that interregional disparities in interest rate appear to remain significant** (see chapter 6.1).

If one considers that in spite of the above, observations concerning regional financial structures and in spite of agglomeration effects favouring specific location of innovative activities, capital and generalised innovation are more or less mobile, then the only ways to deal with regional disparities resulting from asymmetric shocks seem to be either labour mobility or fiscal redistribution. **The fact that migration in Europe is less sensitive to regional differences then the US** (obviously because of barriers more or less inexistent in the U.S. such as language and culture) **makes it difficult to rely on labour mobility in order to compensate asymmetric shocks.** This is particular troublesome if European integration enhances regional specialisation. Then, it is necessary to rely on other adjustment mechanisms, which is a conclusion that is found in several studies. A study on Spanish regions shows that if production factors and prices remain relatively rigid, then **the most important policy for regional asymmetric shocks will be fiscal redistribution**.

1.2.4.2 Nature and impacts of regional policies

Chapter 6 aims at addressing the following very broad question: "**what kind of policies are implemented, in which type of regions, and with which results?**". This question is motivated by the observation that regional economic policy has gradually shifted since the 1960s. In the emerging new context of a supply-economy going through a cycle of low growth, regional and local authorities progressively gained a greater role in the implementation of economic policies. **In accordance with our common working hypothesis the instruments and the forms of assistance shifted from direct business aid to business environment upgrading; from "hard" infrastructures to "soft infrastructures".**

In this new context, the concept of regional competitiveness has gained growing influence. **Instead of exogenous development policies, efforts are now concentrated on the competitiveness of local firms, mainly through the valorisation of the region's innovation potential and its human capital**.

Assuming that regions do actually focus on regional competitiveness, **our central objective is to analyse the current actual weight of policies aiming at strengthening regional competitiveness, and, thus, to verify the extent of the policy shift.** The analysis is based on an overview of regional policies implemented across European regions together with the relative financial efforts devoted to the factors, or the drivers, of regional competitiveness as explained in table 2. We consider that budget analysis is the most reliable manner to understand the content of regional policies. The scope of the analysis includes all economic development spending within the limit of the regional territory. The levels of governance considered include the EU, National and Regional levels.

The ongoing analysis covers a dozen of European regions. As far as the two Belgian regions, Wallonia and Brussels, are concerned (the only ones for which results are available at this stage), both suffer from a similar problem of very high unemployment. But they present rather different economic characteristics. In terms of economic development means (budget 2005) Brussels' spending for roads networks and public transports reach 81% of the total. Needless to say, that the remaining few financial means cannot allow a significant public support for innovation or human capital. In Wallonia, obvious efforts are made towards innovation (9% of total means). However, the traditional instruments of investment grants and other financial interventions still account for 12%. The final report will to provide further observations for other regions.

The case studies part will make use of the previously developed methodology analysing regional policies in the light of seven drivers of regional

competitiveness. While the first part is attempting to answer the question of "what kind of policies", case studies will deal with the rest of the question: "…in which type of regions" and "with which results".

On the basis of the typology developed by the current project, 9 regions were selected. This typology, which highlights a Centre-Periphery structure, proposes several categories defined according to the region's economic structures. Detailed guidelines for the case studies are elaborated. Results and policy recommendations will be provided in the Final Report.

One best performing and worst performing region were selected within a category of the typology. Case studies will cover Metropolitan regions (Gloucestershire, Wiltshire and North Somerset (UK); Berlin (Germany)); Central regions (Rhône-Alpes (France)); Intermediate regions (Ringkøbing amt (Denmark)); Valle d'Aosta (Italy)); Periphery regions (Border, Midlands and Western (Ireland); Norrbottens län (Sweden)); and the New member states (Nyugat-Dunántúl (Hungary); Opolskie (Poland)).

ESPON
EUROPEAN SPATIAL PLANNING OBSERVATION NETWORK

ESPON project 3.4.2 "Territorial impacts of EU economic policies and location of economic activities"

Second Interim Report
February 2006

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Figures and tables

1 Introduction

The main objectives of this project are to study the patterns and determinants of localisation of economic activities and investments and to analyse the impact of economic policies implemented at different scales on these patterns and determinants. Put in other words, the project should show where businesses, employment and production are and what policy can do about reinforcing or modifying this spatial distribution in order to bring it closer to the overarching goal of territorial cohesion.

The current policy debate around territorial development is crystallised in the work on the inter-ministerial document on the "territorial state and perspectives of the Union", due to be approved in its final version in the first half of 2007. In the only preparatory paper to this document published to this date[1], the ministers assert the following ideas as the basis of their reasoning:

1. Most important and dynamic forces in terms of economic development are increasingly both localised and territorially specific.
2. A key challenge for European regions is the accelerated relocation of economic activities.
3. Cities and regions specialise in certain kinds of production because of their specific territorial advantages.
4. The most competitive regions are those that are able to respond most effectively to globalisation.

One of the aims of the project is to examine at least some of these issues in order to sharpen the political debate around them.

As a framework for the team's work, a general hypothesis was elaborated which guides the entire research in the project:

In a knowledge and innovation based economy going through a slow-growth cycle with low growth of productivity and demand, economic activity is becoming more spatially localised, i.e. more linked to specific environments which offer the necessary context to enterprises looking for externalities allowing them to profit from existing infrastructures and knowledge and thus to reduce costs. In this

[1] Scoping document and summary of political messages for an assessment of the Territorial State and Perspectives of the European Union towards a stronger European territorial cohesion in the light of the Lisbon and Gothenburg ambitions, Endorsed for further development by the Ministers for Spatial Development and the European Commission at the Informal Ministerial Meeting on Regional Policy and Territorial Cohesion, 20/21 May 2005 in Luxembourg

situation, combined with fiscal and ideological restrictions, public policy is oriented towards an indirect intervention through the creation of these specific environments. This leads to a rising importance of the existing resources of regions and thus to the remetropolitisation and reconcentration of economic activities, mainly into those areas already endowed with the necessary framework conditions.

The first interim report set the scene of the study, through preliminary literature reviews and data analysis. No real "findings" were presented as the project had just started. The report mainly provided an outlook of the things to come in the project.

This second interim report (only 3 months after the first) still finds the project in intense work in progress, thus providing only a snapshot of the current state of thinking and analysis. All "results" presented thus continue to be provisional.

Current state of work and structure of the report

In terms of practical work, the following advances have been made since the first interim report:

Continued literature reviews

As explained in the tender and the first interim report, the resources and time allocated to this project are not sufficient to achieve any fundamentally new and innovative research. We, therefore, decide to follow Newton and "stand on the shoulders of giants" in order to translate the existing knowledge into a form which is both understandable and applicable to the relevant political debates around territorial development and cohesion and to expand on it with small empirical contributions where the added value seems greatest. Quite some time has thus been invested in the review of the literature, in different fields:

Macro-economic framework

For anyone working on regional development it should be obvious that an important proportion of the development path of a region is determined by the country this region belongs to. In spite of all discourse around the "death of the nation state", national regulatory frameworks and macro-economic policies still lay the fundamental grounds on which regions grow or decline. The second chapter of this report presents an extended overview of the macro-economic developments in the last 60 years, putting the issues at hand for regional development into a larger context.

Theories and evidence in regional development

As already explained in the first interim report, many diverse theories concerning regional development have been evolving in the last 20 years, moving the field from an orthodox (generally neo-classical) perspective to heterodox perspectives taking into account intangible factors and agglomeration economies. In order to understand empirical analyses of regional development and to place potential policies into their theoretical (and thus often ideological) context, it is necessary to have a grasp of the wide scope of research undertaken in this field. After a first overview presented in the first interim report, the third chapter of this report focuses on business networks and the link between multi-national companies and regional innovation systems, in order to understand how knowledge and innovation is created, imported and distributed within and amongst regions and firms.

Entry/exit literature

In order to study the localisation of firms from their own perspective, it was originally foreseen to study the empirical evidence provided by enquiries and to analyse this through techniques of meta-analysis. This, however, proved infeasible as the scientific literature on such enquiries is too sparse and grey literature to difficult to find and use. It was, therefore, decided to base our analysis on a second type of literature, the so-called entry/exit literature, which tries to identify the determinants of firm births or firm deaths in specific regions. The results of this review are presented in chapter 3.

Macro-economic impacts

In chapter 7 we concentrate the literature review on policies of economic integration and of monetary union, in order to identify some of the elements of impact which we could approach at least through proxies, leading to suggestions concerning a possible approach for testing the impact of monetary union. In further work we will also cover state aid and tax harmonisation policies.

Continued data collection and analysis

Parallel to this extensive work aiming at distilling policy relevant knowledge out of the scientific literature, the team has continued to collect empirical data with the aim to study the geography of localisation of economic activities and its dynamics and determinants.

The main obstacle, as always in ESPON, is the lack and/or bad quality of data at regional level. We have advanced quite well in the collection of data on sectoral structures, but for some countries this data is still missing and as mentioned in the first interim report, the Eurostat data on firms is quite unsatisfactory.

In chapter 4 we present a first analysis, more of a proof of concept, based on 5 economic sectors (instead of the 31 we are aiming for). In addition, we provide a series of maps and analyses concerning different factors of economic development.

Analysis of regional policies and their impacts

Chapter 6 deals with the connection between "regional competitiveness" and regional policies. It goes through an analysis of drivers of regional competitiveness in order to identify the levers for policy intervention. We have called upon the network of ESPON ECPs asking them to provide us with budgetary data from two regions per country as basis for an analysis of the current budgetary priorities in Europe's regions. At this stage the survey has not been very successful, yet, but we hope to improve the situation in the next weeks.

Preparation of case studies

At the same time (and also in chapter 6), efforts went into the selection of case study areas and in the definition of the guidelines for these case studies. A total of 9 cases is foreseen, selected according to structural economic types presented in the first interim report.

In the tender to this project, the team had suggested not to try any impact analysis of macro-economic policies as the allocated resources would not suffice to achieve any sensible results. This was refused by the ESPON Monitoring Committee and the team will, therefore, have to at least test one or two methods. As is discussed in chapter 7, any positivist scientific impact analysis is impossible because of the absence of counter-factuals, i.e. identical regions to which the policy is not applied.

Another approach to impact assessment is simulation. This will be provided through the MASST model developed by project 3.2 and applied in 3.4.2 for simulating different policies.

2 Macro-economic framework[2]

Marcel Roelandts (IGEAT)

2.1 Where do we come from and where are we heading?

The Lisbon strategy (2000) gave the Fifteen about ten years to catch up with the United States and become *the world's most competitive and dynamic knowledge-based economy.* Beyond a mid-course assessment, which would be inopportune here, we must admit that the Lisbon strategy did leave its mark in all fields, and notably in regional policy, which we are addressing here. Without simplifying too much, one can easily say the essence of the Lisbon strategy comes down to the key concept of *competitiveness*, which definitely underlies -or at least, very strongly marks- all policies. Regions are in an increasing way asked to take that notion into account and to integrate it into the definition of their objectives. Indeed, it has never been so much talked about *regional competitiveness* as today, notably in the "Scoping Document for an Assessment of the Territorial State and Perspectives of the EU" endorsed at the Luxembourg Informal Ministry Meeting on Regional Policy and Territorial Cohesion in May 2005, and even the notion *of inter-city cooperation* within the framework of polycentric structures is more and more conceived and understood as a tool allowing cities *to best position themselves in the world's urban networks competition* in a context of globalization, etc.

The purpose of this study is to analyse the territorial impacts of European economic policies and of the location of economic activities. To carry out this analysis – notably from the point of view of the Lisbon strategy, which means checking if the policies defined do or do not increase regional competitiveness – it seems necessary to us, in methodological terms, not to be satisfied with a mere radiography and a diagnosis of the current situation at a certain moment but to replace it in a historical and changing perspective. Indeed, the essence of political practice precisely consists in making structures and evolutions more flexible in the right direction. This requires a good understanding of the main trends and aggregates of the global macroeconomic framework in which we evolve. Those who do not appropriate and master their past cannot define their future.

To lay down this progressive framework, we have to define its temporal and geographical horizon.

Our temporal horizon will be the post-war period, as the current situation is inherited from, and still quite marked by the structures and dynamics established in those days, a period

[2] See the bibliography at the end of section 2.4 for a list of the main sources of inspiration for this chapter.

that is better known as the Golden Sixties, the golden age, wealth or consumption society, etc. This post-war prosperity itself can only be understood as a reaction to the particularly troubled interwar period. The second reason for this choice is linked to the fact that the present period – which starts with the neo-liberal turning point in the early 1980s – result, on one hand, from the deterioration in the conditions that made the Golden Sixties prosperity possible and, on the other hand, from the failure of the attempts made to remedy that deterioration during the 1970s (neo-Keynesian policies). As a consequence, understanding the current neo-liberal period presupposes a good knowledge of the problems the neo-liberal trend tried to respond to and to which extent it was or not successful.
It seems therefore essential, to understand the current situation and its dynamics, (a) to outline the main macroeconomic advances and determining factors, (b) to realize why it weakened between the late 1960s and the beginning of the 1970s, (c), to identify why the neo-Keynesian policies in the 1970s failed to revive the Golden Age and lastly (d), to understand the impulse behind the neo-liberal turning point that started in the early 1980s and provides the framework of the present situation.

At this point of our analysis, our geographical horizon will essentially be limited to the national framework, since differences in regional growths are first determined by differences in national dynamics (see chapter 6). A sound understanding of regional differentiations implies a good comprehension of national dynamics. In the following chapters of our study, we will examine how this comprehension framework is expressed at regional level, as much from a theoretical as from an empirical point of view.
Yet the above assertion should not lead us to conclude that there is no call for considering properly regional specificities. Instead it aims at delimiting the place of regional policies, understanding their scope but also their limits, because it is useless to consider regional policies as a book of recipes, of *best practice* which, if implemented identically everywhere, will give the same results, whatever the national context and the specific history of the forces and weaknesses of the regions may be.

2.2 The Golden Age of Keynesian-Fordist interventionism

2.2.1 Conditions of emergence

The postwar years were much influenced by the preceding period which, in about thirty years (1914-1945), suffered two world wars of growing intensity, the biggest overproduction crisis in the whole history of capitalism, as well as considerable social unrest in the 1930s but also at the end and in the immediate beginning of World war I. It was in the second half of World War II, more exactly after the Stalingrad defeat in January 1943 – true turning point in the process of military operations – that the life blood exiled in London started to reflect on the organisation of society after the victory of the Axis forces. This

reflection takes place in a context of concord with multiple meetings gathering the leaders of the State, the Resistance, employers, and unions, from which several major ideas explicitly or implicitly emerge:

(a) the necessity to avoid another economic depression like in the 1930s, with its economic (brankrupts), political (fascism) and social (unemployment, poverty, social unrest) consequences and, in the end, a new, still more terrible war;
(b) the necessity to avoid multiple protectionist reactions like in the 1930s, because they result in a deflationist spiral;
(c) the – unanimously shared - conviction that State intervention at national level is essential, since it represents a coordination and regulation instrument on European and international scale;
(d) the necessity to avoid a remake of World War I, with the rise of insurrection and social unrest [3]
(e) the perspective of strong economic growth due to productivity gains resulting from the introduction and the generalisation of the Fordist industrial production offered the necessary material for a collective agreement between all nations' life blood.
(f) finally, to react to the emergence of a new world division into two rival blocs, notably the necessity to counter the USSR influence, which made the social question its propaganda fund, when it was still basking in the public opinion for having "escaped the 1929 crisis and for its military successes against Nazism".

The Beveridge Plan can be considered the emblem of the new Welfare State policy which will be defined in most European countries.

2.2.2 Mode of regulation

From those meetings a new form of regulation appears at macroeconomic level – to which we limit the present analysis – which we will call *Keynesian-Fordist interventionism*, a heavy formula indeed, but extremely explicit:

(a) *interventionism,* because all the other social and political actors are now convinced of the profitable character of State intervention in the economy after the failure of the return to liberalism in the inter-war period, and of the positive State contribution to the restoration of economic and social situation in the 1930s, and of its role during World War II.

[3] Indeed, in addition to the Russian revolution in 1917, there was another revolution in Bavaria during six months (from November 1918 to April 1919), as well as in Hungary between March and August 1919. Moreover, a large insurrectional movement took place in Bulgaria in September 1918, another affected the whole of Germany between November 1918 and February 1919, and all the other European countries were hit by multiple social movements of various scope.

(b) *Keynesian,* because in this case, regulation is first aimed at offsetting the insufficient solvent demand so as to avoid deflationary trends like those characterizing the 1929 recession and the 1930s (Keynesianism is also called "economy of demand");
(c) *Fordist*, because this regulation is based on spectacular productivity gains (an average threefold increase for the whole economy, much more if we consider the industrial sector only), unprecedented in the whole history of capitalism.

This Keynasian-Fordist interventionism is structured around the four following elements:

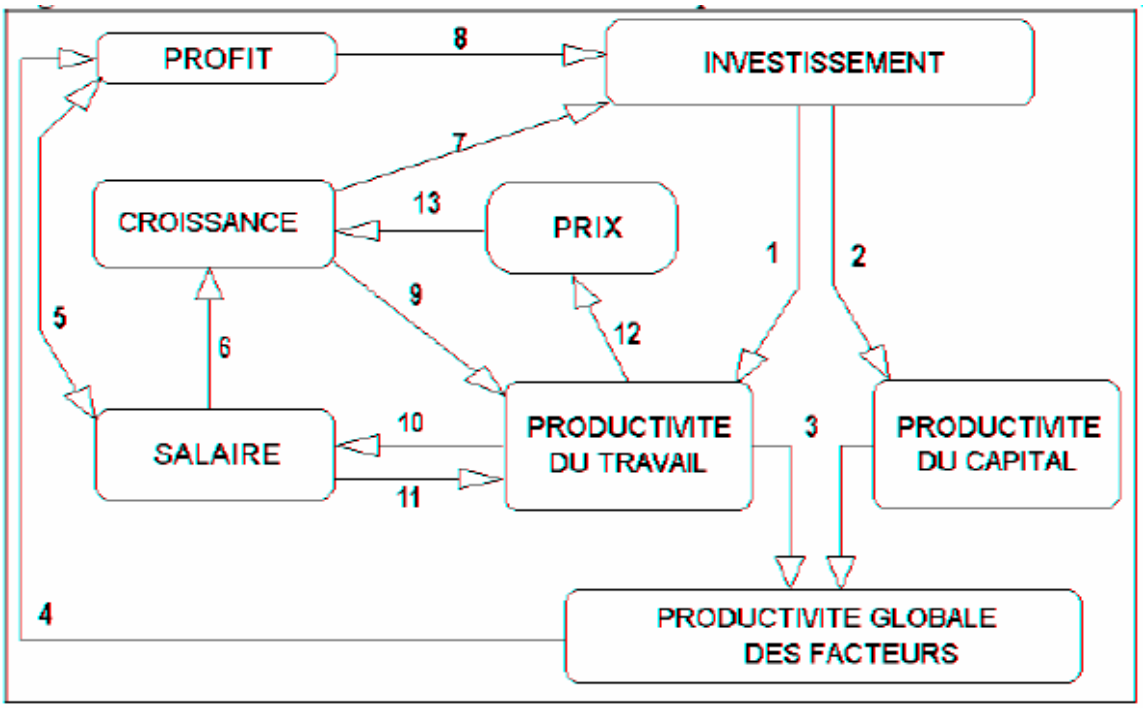
1) The introduction and the generalisation of the Fordist production process – which can be summarized in the "assembly line + shift work organization" binomial - are going to bring about very high productivity gains resulting in an abundance of goods at decreasing real prices and consequently ensure higher profit rates and volumes. Shift production (organised in three shifts of 8 hours) is notably going to allow the depreciation of fixed assets much more rapidly and thus allow a quicker introduction of new technologies.

2) Two major mechanisms will be put in place to create the necessary solvent demand in order to absorb the growing supply of goods and services: an increase in real wages and growing State intervention in the economy. In opposition to the previous tendency to reduce wage costs, it will now be explicitly – legally or conventionally – provided for an indexation mechanism of real wages (thus outside inflation), in proportion to productivity gains. Similarly, the growing State interventionism in the economy, by means of a significant increase in State revenues and expenditures, is also going to contribute to support solvent demand and stabilize economic cycles. Productivity gains will be distributed almost proportionately between benefits, salaries and State revenues.

3) The implementation of a range of Keynesian mechanisms to support demand such as maintenance and training of the workforce, the creation of a true social security at all levels and the granting of multiple and varied allowances (family, pension, unemployment, industrial accident, sickness, dismissal notice, prepension, etc.) are going to allow increased qualification of the active population and stabilisation of solvent demand and economic cycles through the freezing of deflation.

4) All those regulation mechanisms will be incorporated into institutional or conventional constraints varying from country to country (through national, sectoral or field agreements) to ensure the permanence in time of that huge mechanism of productivity gains distribution.

The following figure represents that type of regulation in which productivity gains and their equidistributed sharing play a determining structural role in the completion of economic cycles



source: M. Roelandts, IGEAT

Figure 1 The economic cycle

The conjunction of high productivity gains – both from work and capital –, made possible by the introduction and the generalisation of the Fordist mode of production, determine performances in terms of global factor productivity (link nr.3). It is the relative evolution of the latter, compared with the evolution of real wages, which, in turn, determines the progress of the firms profit rate (links 4 and 5). The connection between wages and profits (link nr.5) is crucial in the Keynesian-Fordist regulation because there is, on one hand, an equidistribution between these two aggregates and, on the other hand, an indexation of real wages to productivity gains. Indeed, if real wages increase at the pace of productivity, the sharing of revenues remains stable.

This progression of wages is going to contribute – thanks to saving rates and dynamic incomes other than revenues from work – to determine the GDP growth according to total effective demand (link 6). The progression of demand in turn impacts on the dynamics of investment (link nr.7). In the same way, the evolution of the profit rate influences the creation of capital (link 8). Investment is not only influenced by profits but also by demand. Capital accumulation is thus determined both *by profitability conditions AND demand size*. During the Keynesian-Fordist period, the considerable gains in terms of global factor productivity and in terms of wage increase are going to combine and give a strong impulse growth and investment.

The so-called Law of Kaldor-Verdoorn introduces a positive link between GDP growth and increase of labour productivity (link 9). The high labour productivity gains allow, this time at sectoral level, the modulation of the scope of real wage evolution (link 10). An opposite relation can also play a role as far as the wage evolution resulting from social demands is going to partly determine the evolution of work productivity (link 11). Productivity and its sectoral profile strongly contribute to the determination of relative prices (link 12), which in turn contribute to determine the dynamism and the sectoral direction of growth (link 13). The consumption elasticity to prices is a powerful means to focus demand on high productivity sectors and this way contribute to the creation of a virtuous circle.
Finally, investment, boosted by favourable profitability conditions of capital and by product growth (allowing the extension of the production scale) results in increases in the productivity of work and capital (links 1 and 2).
The economic cycle is thus a ***two-act*** play, requiring at the same time guaranteed conditions for capital profitability (supply side-competitiveness) and the existence of corresponding solvent markets (demand side).
This pattern is of the utmost importance since it allows to understand at which level the virtuous circle ground to a hold between the 1960s and 1970s, before deteriorating all along the seventies and, on the other hand, to understand the logic of the new neoliberal regulation which, little by little, took shape from the beginning of the eighties.

2.2.3 Some results in figures

How does *Keynesian-Fordist interventionism* translate into figures? Some graphs and tables validate and illustrate the main links described above:

2.2.3.1 *Considerable productivity gains*

Productivity growth rates: GDP by worked hour			
1870-1913	1913-50	1950-73	1973-98
1,55	1,56	4,77	2,29
1,99	1,8	7,74	2,7
1,92	2,48	2,77	1,52
Source: Maddison A., *L=économie mondiale*, 2001: 370, OCDE.			

The above table illustrates the exceptional character, in the history of capitalism, of the Keynesian-Fordist period (1950-73 period in the table) in terms of productivity gains. The latter have more than tripled in Europe and more than quadrupled in Japan by comparison with previous periods. The lower performances of the United States are due to the fact that the regulation had started earlier, as of the 1930s, and had been strongly speeded up by World War II.

2.2.3.2 *Considerable increase in real wages*

Real wages 1953-82 (1970 = 100)					
	1953	1960	1970	1982	1953-82
FRG	41,8	55,8	100	140,2	x 3,35
Italy	37,5	52,5	100	139,7	x 3,73
Belgium	53,5	64,3	100	168,3	x 3,15
Netherlands	40,2	54,9	100	131,9	x 3,28
France	55,5	61,9	100	154,4	x 2,78
UK	61,1	75,3	100	123,1	x 2,01
USA	69,0	81,0	100	106,9	x 1,55
Japan	38,2	50,9	100	169,9	x 4,45
Source: Herman Van Der Wee, *Histoire économique mondiale*, Academia Duculot, p.192.					

The above table illustrates the dynamics in solvent demand growth all along the Keynesian-Fordist period. Real wages are on the average more than tripled in developed countries, something that had never been seen in the whole history of capitalism. Once again, the lower performances of the USA are explained by a movement of increase starting in the mid-1930s and which will be maintained during WWII.

2.2.3.3 *Revenues sharing or parallelism between productivity gains and real wages*

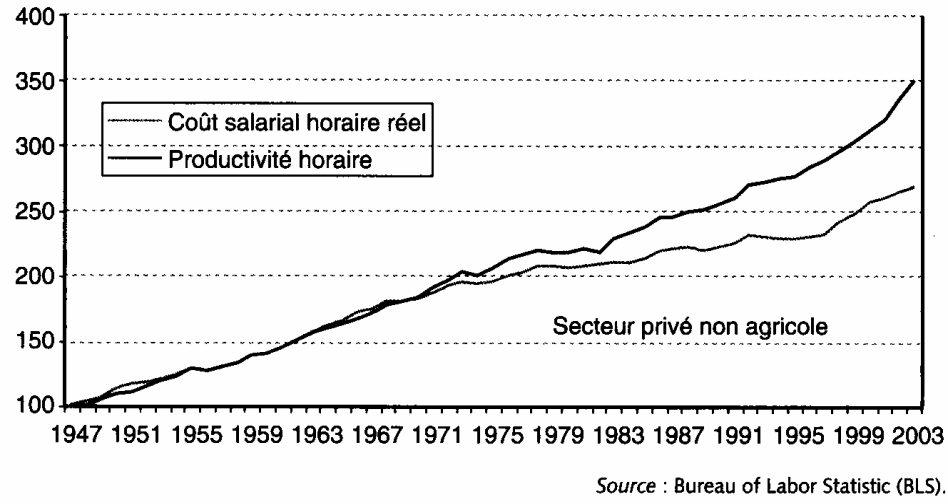
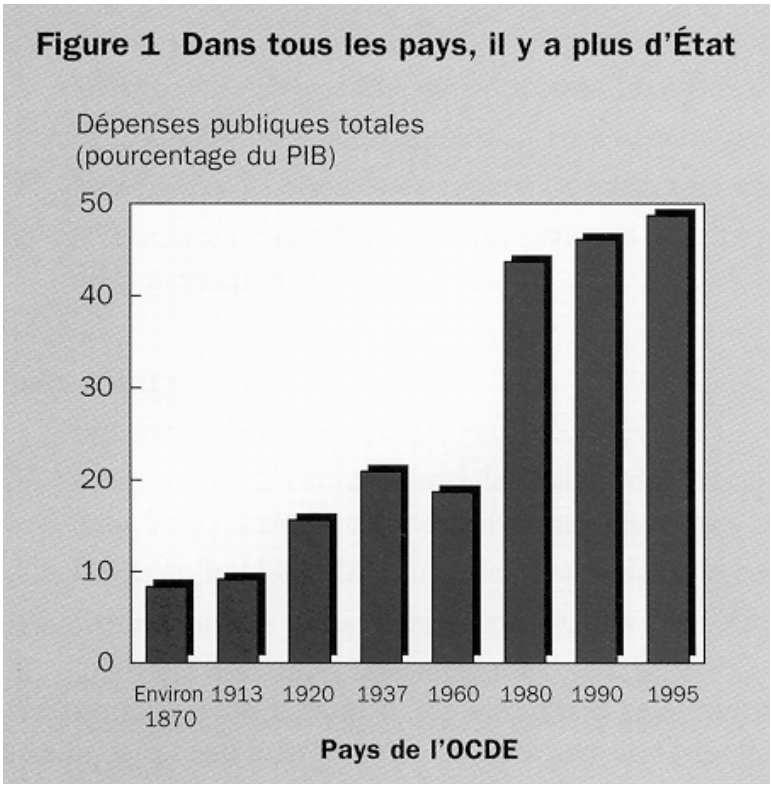


Figure 2 Real wage cost per hour (....) and productivity per hour (__) in the USA.

The above graph, showing the evolution of wages and productivity in the USA, illustrates the typical parallelism, in the Keynesian-Fordist regulation, between the growth in

productivity gains and the postwar increase in real wages until the early 1970s. After a first small divergence in the 1970s, we can clearly identify, from the early 1980s, the growing gap typical of neoliberal regulation.
We have chosen the United States as example on purpose because, contrary to long lasting clichés, the link between wages and productivity, characteric of the Keynesian-Fordist regulation, is not typical of Europe but rather of the great majority of the OECD countries.

2.2.3.4 *Increasing State intervention in the economy*



Source: World Bank, *Rapport sur le développement dans le monde*, 1997

Figure 3 Total public expenditure as a percentage of GDP

On this graph from the World Bank report, we can notice the very strongly growing share of total public expenditure in the GDP. In Europe and the United States, most of this growth took place during the typical Keynesian-Fordist period and not in the course of the (neo-Keynesian) seventies, as shown in the following table:

Public expenditure (in % of GDP at current price)			
	1950	1973	1999
Europe (Fr, G, NL, UK)	29,8	42,0	45,9
USA	21,4	31,1	30,1
Source: Maddison A., *L'économie mondiale*, 2001: 370, OCDE.			

E) The *Golden Age* in terms of growth

Growth rate of GDP by inhabitant				
	1870-1913	1913-50	1950-73	1973-98
Europe (12 countries)	1,32	0,76	4,08	1,78
USA	1,82	1,61	2,45	1,99
Japan	1,48	0,89	8,05	2,34
World	1,3	0,91	2,93	1,33
Source: Maddison A., *L'économie mondiale*, 2001: 284, OCDE.				

The above table illustrates the indisputably spectacular and totally new character of the Golden Sixties, with growth rates by inhabitant that were never as high in the history of capitalism, about twice if not three times higher than during previous or posterior periods. The Keynesian-Fordist regulation made this possible by increasing demand parallel to supply during a good thirty years, thus as long as high productivity gains and redistribution mechanisms could remain stable.

2.2.4 Why did Keynesian-Fordist interventionism run out of steam?

The Keynesian-Fordist interventionism weakened little by little from the 1970s because its continuation depended on two conditions: the continuation of high productivity gains and of redistribution mechanisms, the latter being themselves dependent on the continuation of the historical context in which they had appeared.

Why did work productivity start decreasing at the turn of the 1960s-70s?

Work productivity gains have two main origins: a better organization of the working process – this is typical of Taylorism and Fordism- and the emergence of technical progress. A reorganisation of the working process is theoretically more interesting, because less expensive, but, most of the time, both are combined because a reorganisation of the working process very often means a deepening of the division of work and increased mechanisation of that process (especially for Fordism). This explains why productivity gains cannot grow forever, and why they started decreasing at the turn of the 1960s-70s:

1. As long as the Fordist production mode affected every possible industrial field, productivity gains were particularly boosted by geographical and sectoral expansion. When the adoption of that new working process started to decline, the productivity gains bound to that adoption progressively disappeared, leaving only the productivity

gains bound to the introduction of technical progress within the Fordist production mode itself or its selective improvements (such as the import of its Japanese variant – Toyotism- with Just in time, quality circles, etc.).

2. After the stage of domestic durable Fordist goods with high productivity (cars, household appliances, radio, TV, Hi Fi, etc.), the consumption structure progressively moved towards goods, and especially services, with weaker productivity progress (personal care, culture, tourism etc.). It is indeed more difficult to obtain productivity gains in services, especially when they imply face-to-face relationships. Most of the time, it is even precisely the contrary that occurs: improving the quality of a service requires spending more time on it. This was coupled with a growing tertiarisation of the economy, with a very large development of the non-market sector in which productivity gains are structurally lower. The second reason explaining the drop in productivity gains is thus to be found in a shift in the consumption structure and in the growth of a large part of the tertiary sector.
3. As competition and technical advances generalised more and more rapidly, productivity gains have become more and more expensive, bringing about a decrease in their profitability. More precisely, if, during a first stage, productivity gains allowed a decrease in real prices which largely made up for the efforts made in order to constantly modernize the production apparatus, little by little, the competition pressure, the acceleration of capital turnover, etc. resulted in a situation in which investment costs were less and less offset by the productivity gains they generate. In the 1950s-1960s for example, there was an important saving on the quantity of work needed for the production of a good or a service, but, since then, the pace of such savings has slowed down. Capital productivity[4] drops from the beginning of the 1960s in Europe and in the middle of the same decade in the USA. This tendency makes the notion of technical advance relative since work savings went on in production but resulted in higher need for capital.

Deterioration of the conditions having favoured Keynesian-Fordist interventionism

If we take the six conditions that, from a historical point of view, determined the emergence and the continuation of the Keynesian-Fordist regulation, we have to admit that many of them have already lost importance, if not completely disappeared, at the turn of the 1960s-1970s. This disappearance will be completed with the collapse of the East bloc in 1989:

(a) Not only the spectre of a recession like in 1930s had disappeared, but the idea that the economic parameters were from then on under control, was very widespread until and in the 1970s. Today, crises are no longer considered avoidable but the conviction remains

[4] GDP by capital unit (monetary unit of fixed assets).

that, all in all, the problem comes down to a question of more or less efficient macroeconomic adjustment.

(b) That conviction is all the more widespread that, thanks to the existence of numerous international institutions, international cooperation in case of a crisis, and the opening to markets resulting from globalisation, the fear of a return to the 1930s' deflationist protectionism has completely disappeared.

(c) The failure of neo-Keynesian policies and the State's growing debt in the 1970s have largely undermined the State's credit gained in economic interventionism.

(d) The fear of social unrest, strongly developed from the end of the 1960s – prompting social measures in the framework of neo-Keynesian policies –, evolves in parallel and starts to drop in the second half of the 1970s with the progress of unemployment, restructurations and general job insecurity.

(e) At that point, the atmosphere of harmony prevailing in the days of reconstruction is far away. To this are to be added a range of problems linked with the decline in growth and in firm profits, rising unemployment, etc. which no longer prompt social actors to get involved in large compromise solutions or projects like in the aftermath of World War II but rather make them withdraw into the defence of their own interests. A new stage is now reached in which, step by step, *every man for himself* overtakes collective plans. The drop in productivity gains makes the issue of gains redistribution always more acute.

(f) Lastly, the fall of the Berlin Wall in 1989 and the resulting collapse of the East bloc have removed any necessity to position as competitors like in the aftermath of WWII. The political system in the Eastern countries has lost the attractive character it had in the public opinion in those days.

2.3 Toward neo-liberal regulation after the failure of the 1970s' neo-keynesianism

2.3.1 The failure of neo-Keynesian policies in the 1970s

As we have seen, the interlude of economic growth due to Keynesian-Fordist interventionism depended on two conditions: high productivity gains (Fordism) and their conventional distribution between State, capital holders and wage-earners (Keynesianism). We have also seen that such a regulation is only possible if those gains keep increasing fast and their redistribution is agreed on. The progressive decrease in productivity gains from the turn of the 1960s-70s saw the end of the consensus on gains sharing. Indeed, one can only share the wealth created, and that wealth started to decrease progressively, catalysing a growing stake around its appropriation. In addition to this deterioration of wealth conditions, there were the erroneous policies of the seventies.

In the 1970s, when the Fordist production mode is running out of steam, policies aim at compensating the consequent recessions and the increase in social unrest through some extra Keynesian measures (reflationary measures, support of sectors in difficulties, deficit spending, etc.). Meanwhile, purchasing power injection (to support solvent demand and ease social tensions) in absence of productivity gains leads to inflation and debt of all the economic actors. In the late 1970s, inflation is at a maximum, firm profits insufficient, and debt starts to snowball everywhere.

Since Keynesian-Fordist interventionism was able to increase demand parallel to supply and since solvent demand was guaranteed, the return of recession resulted, first and last in the late 1960s, in a decrease of labour productivity rather than an overproduction crisis like in the past. Of course, as soon as the machine grinds to a hold, the shortfall in solvent markets comes along on top of a decrease in profitability because that growth slackens (and so does investment, resulting in lower demand on firm side), austerity sets in (in first place through decrease in indirect wages and erosion by inflation), unemployment grows, etc. Nevertheless, the shortfall in demand will still largely be compensated over the 1970s by maintaining direct real wage indexation and neo-Keynesian mechanisms (budget deficits, multiplication of multiple credit forms, public compensation for restructuring processes, public support for restructurations, etc.). It is only from the 1980s that, following the neoliberal turning point, mechanisms of redistribution of productivity gains are dropped in favour of a curb or even a cut in real direct and indirect wages.

2.3.2 Neoliberal regulation

The incapacity of neo-Keynesian policies to give a boost to growth and reestablish firms profitability, curb inflation and public debt, will strongly legitimize the neoliberal turning point launched by the Thatcher and Reagan administrations at the turn of the 1970s and 80s, soon followed by other countries, and characterized by the drop of redistribution of gains in favour of their almost exclusive allocation to profits aiming at restoring firms profitability which was at its lowest level by the late 1970s. This will be achieved through deindexation, curb or freezing of wage increase and limitation of public expenditure. The extremely sharp divergence between increase in productivity and real wages is clearly visible in Figure 2 as regards the USA. On top of that there was a strong increase in intrest rates from 1970 in order to curb inflation.
The following table presents the new allocation of productivity gains, typical of the neoliberal regulation. We have taken the case of France but, apart from some details, the main trends are similar in all countries having experienced Keynesian-Fordist interventionism:

Productivity gains and their distribution (annual growth rates) Productivity gains have been broken up into 5. Their addition = productivity per hour.		
	1959-1980	1980-2002
Work productivity per hour	4,80	2,26
(1) increase in real wages	4,35	0,37
(2) increase in tax rates	0,56	0,35
(3) decrease in working time	0,60	0,75
(4) increase in profits share	- 0,90	0,52
(5) relative consumption price	0,16	0,24
Sources: Insee and OEDC Benallah S*. et al*., Revue de l'IRES, nr. 44, 2004/1		

This table clearly shows the difference in dynamics between two periods of a similar duration, covering both regulation types, Keynesian-Fordist (1959-1980) and neo-liberal (1980-2002).

Between 1959 and 1980, work productivity per hour has been progressing at the exceptional pace of 4,8% per year. It was thus multiplied by 2,7 over a period of 21 years. This means that, in 1980, it was necessary to work 22 minuts to produce what was produced in one hour in 1959. It is precisely that performance, unprecedented in the history of capitalism, that provides enough material to allow Keynesian tri-distribution. Indeed, we can notice the very strong progression of real wages (thus outside inflation), hardly inferior to productivity per hour, and which are multiplied by 2,4 in about twenty years. Concretely, this means that, in terms of purchasing power, wage-earners can afford to buy 2,5 times

more in 1980 than in 1959. As to profits, starting from a historically quite high point in the afterwar period, they have slightly gone down over the period (-0,9%). The differential between work productivity per hour and increase in real wages (= 0,45), added to the drop in profits (= 1,35%), allows both a small decrease in working time (0,6% yearly, thus a 12% decrease in 20 years) and a modest progression of indirect wages (the progression of tax rates absorbs yearly 0,56 productivity points).

The neoliberal turning point of the 1980s results in a total upheaval of this distribution of productivity gains. Indeed, the work productivity per hour has been more than divided by two and it now increases by only 2,26% per year (in a way, a return to "normal", since the average productivity in the entire 20th century is about 2%) but the very conditions of productivity gains distribution are completely modified, all the more as firms returns had dropped to a historically low level given their progressive decrease. The Keynesian-Fordist tri-distribution will disappear in favour of the sole profit of companies. The share of wages goes down spectacularly, from 4,35% per year before 1980 to 0,37% after: a division by twelve! In other words, the fall in work productivity growth is reflected in the sole direct and indirect wages (the contributions rate drops from 0,56 to 0,35%), and only the working time is spared[5].

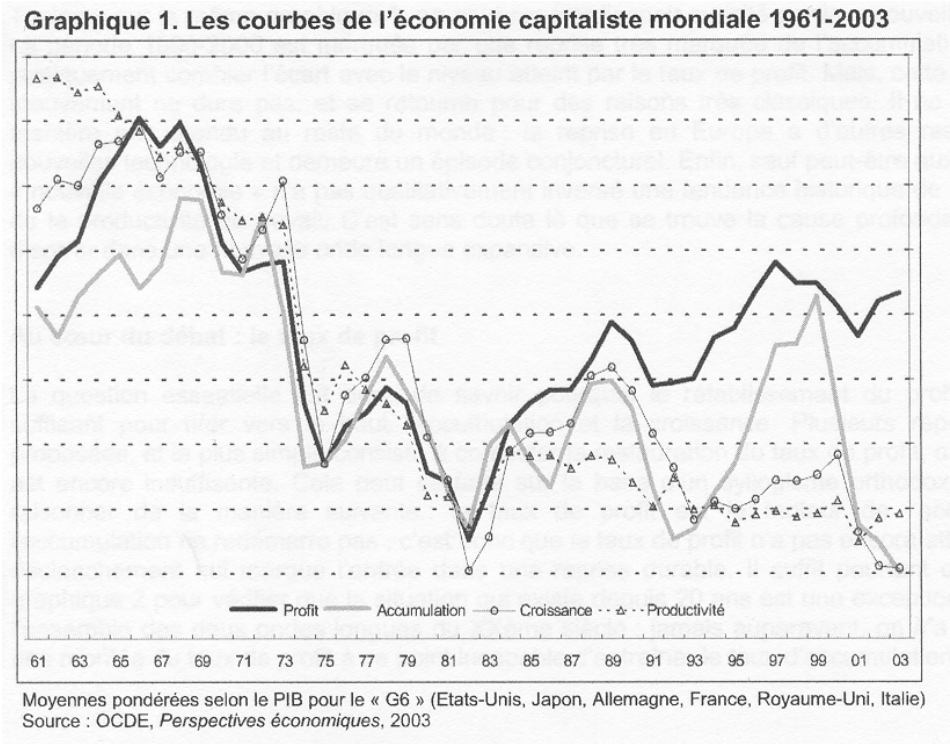
2.4 How is the world after 25 years of neoliberalist tendencies of regulation?

2.4.1 Major trends

The basic idea of the new neoliberal regulation from the 1980s can be summarized in the famous expression of Germany's former Chancellor Helmut Schmidt*: "Today's profits make tomorrow's investments and the day after tomorrow's jobs".* That's the whole paradigm of supply economy, which focuses almost exclusively companies profits. Indeed, according to this economic theory, if firms make profits, they can invest and therefore provide for solvent demand through jobs creation.

Which conclusions can one draw, from a macroeconomic point of view, after 25 years of neoliberal regulation? The following graph shows the general trends for the G6 countries (USA, Japan, Germany, France, UK, Italy).

[5] This is unique to France, with 39 hours in 1982 and 35 hours at the end of the 1990s.



Source: M. Husson, *Le capitalisme après la ‹nouvelle économie'* in Christian Zeller (Hrsg.), *Die globale Enteignungsökonomie*, Verlag Westfälisches Dampfboot, Münster (2004).

Figure 4 Evolution of profits, accumulation, growth and productivity for the G6 (USA, Japan, Germany, France, United Kingdom, Italy).

From this graph it is clear that the neoliberal regulation has allowed the restoration of profitability since profit rates have strongly picked up again. On the other hand, neither productivity nor accumulation (though with very pronounced cyclic variations), nor, consequently, growth recovered. The diagnosis is easy and now shared to diverse extents by more and more economists, and highly respected ones at that: productivity gains are almost entirely monopolized by profits and the latter were hardly called upon to invest. This is what explains the structural weakness of investments, and thus of accumulation and resulting growth. The growth failure does not allow unemployment to come down and, since the curb on wages continues, demand is not keeping pace. This is why, as a logical consequence, firms are no longer encouraged to invest in expanded capacities, which would allow scale economies and productivity gains.

The Keynesian-Fordist period had seen a boom of the world trade and a recentring of the latter on developed countries, due to the dynamic demand within those countries. This is how the Thirld World's share in world trade constantly decreases between 1950 (30%) and 1972 (18%). Today, on the contrary, given the crippled internal demand (as much on enterprise side with low investments as on household side with stagnant purchasing power), we are faced with a race toward the "outside" leading to globalisation and investment in emergent countries.

This leads to a seemingly paradoxical situation: while firms make very high profits and record dividents are paid out to shareholders, wage-earners see their purchasing power decrease in a climate of growing anxiety, dominated by the multiplication of delocalisations, a permanent high unemployment level and insecurity in all its forms. Many reforms have been implemented in order to increase liberalisation, deregulation, and flexibilisation of the labour market. Markets have opened to the East, China and India have made their entrance, public expenditure has been cut, private enterprise made easier, and yet world growth, measured in terms of GDP/inhabitant, still hasn't recovered (fig. 5).

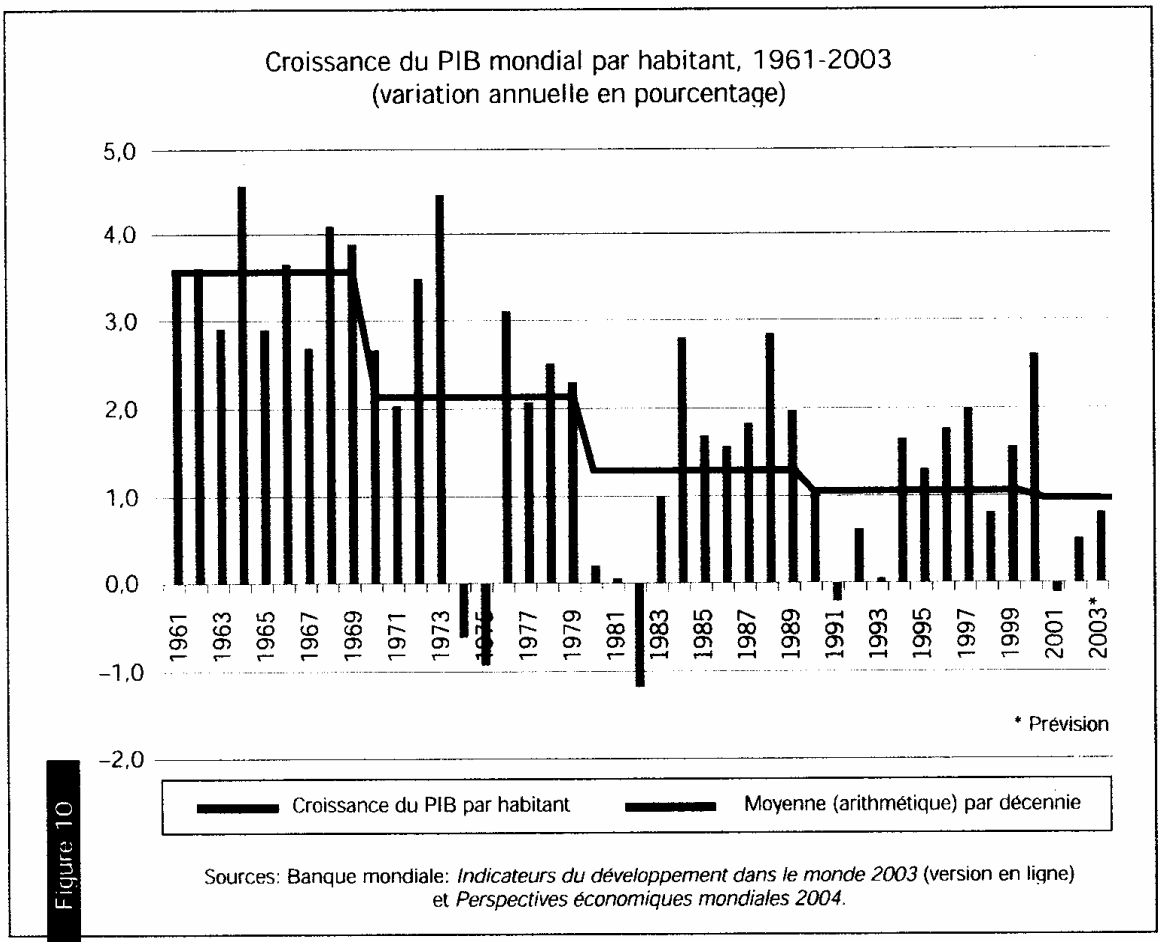
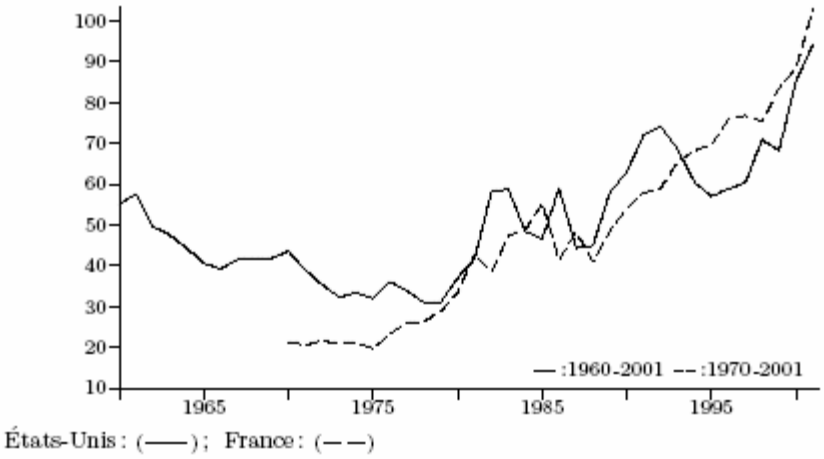


Figure 5 Growth of world GDP per inhab., 1961-2003 (yearly variation in %) and arithmetic mean by decade

2.4.2 Neoliberal regulation in some figures

2.4.2.1 *Financialisation of the economy*

Figure D6. **Part des profits distribuée en dividendes (%) : France et États-Unis, sociétés nonfinancières**



États-Unis : (——) ; France : (— —)

Source : Comptabilité nationale française (INSEE) ; NIPA (BEA).

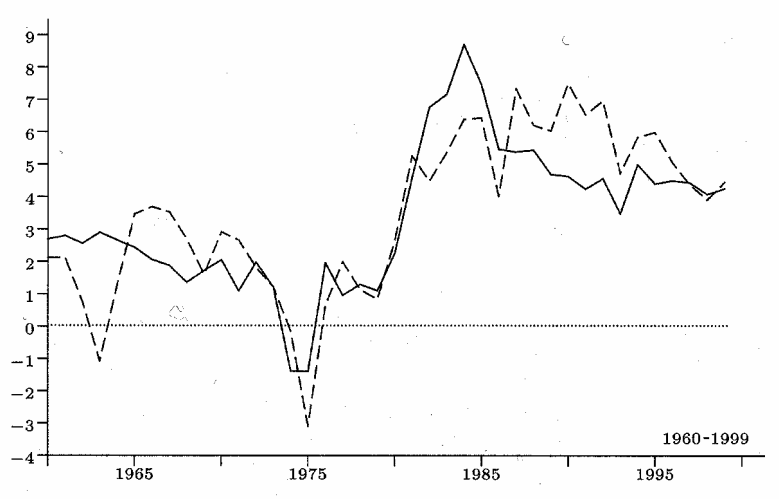
source: Duménil and Lévy

Figure 6 Proportion of profits distributed as dividends in France and the USA

Today, in spite of strong increases in profits on one side, growth, purchasing power and employment decrease on the other. Where do the firms' profits go? As the above graph shows, a growing part of these is redistributed in form of dividends instead of being reinvested within the firms.

This evolution has allowed easier financial flows and has led to a reduction in proximity between capital, management and (state) regulatory systems, leading to an increase in power of (mainly institutional) stock holders and higher rotation rates in management, whose members often have direct interests in the evolution of their companies stock market value. In a circular dynamics, this again leads to larger proportions of companies' value added being distributed in form of dividends and to pressure to increase the return on investment and thus the profit rates. Long-term investments are no longer favoured as

stock holders demand high profit rates in short periods and as companies cannot hold on to their revenues long enough for long-term projects.



Source: Crise et sortie de crise, G. Duménil et D. Lévy, PUF, 2000

Figure 7 Long-term real interest rates (%): France (---) and USA (____)

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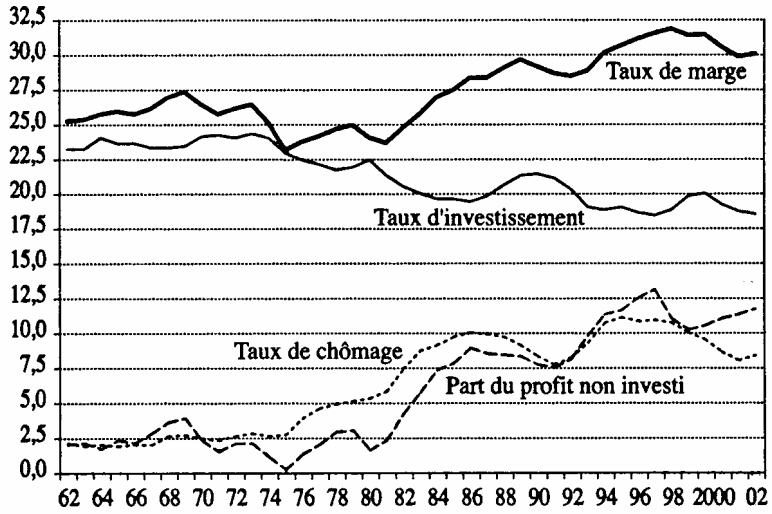
The graph shows that real interest rates were fairly low and thus did not discourage investment in the Keynesian-Fordist time, contrary to the neoliberal regulation period, in which they represent a transfer of value in favour of financial capital and to the detriment of investment.

2.4.2.2 *Profits destination*



Source: M. Husson: *Les casseurs de l'Etat social*, La découverte, 2003.

Figure 8 Profit (__), investment (__) and unemployment (...) in Europe.

As this figure clearly demonstrates, contrary to Helmut Schmidt's famous assertion, the reality is that the increase in *today's profits* hasn't *made tomorrow's investments* nor *the day after tomorrow's investments.* On the contrary, while profits have been strongly rising since the beginning of the 1980s, investments have steadily decreased. At the same time, one can observe al almost parallel evolution of unemployment and the proportion of profits which are distributed.

2.4.2.3 *More financial instability*

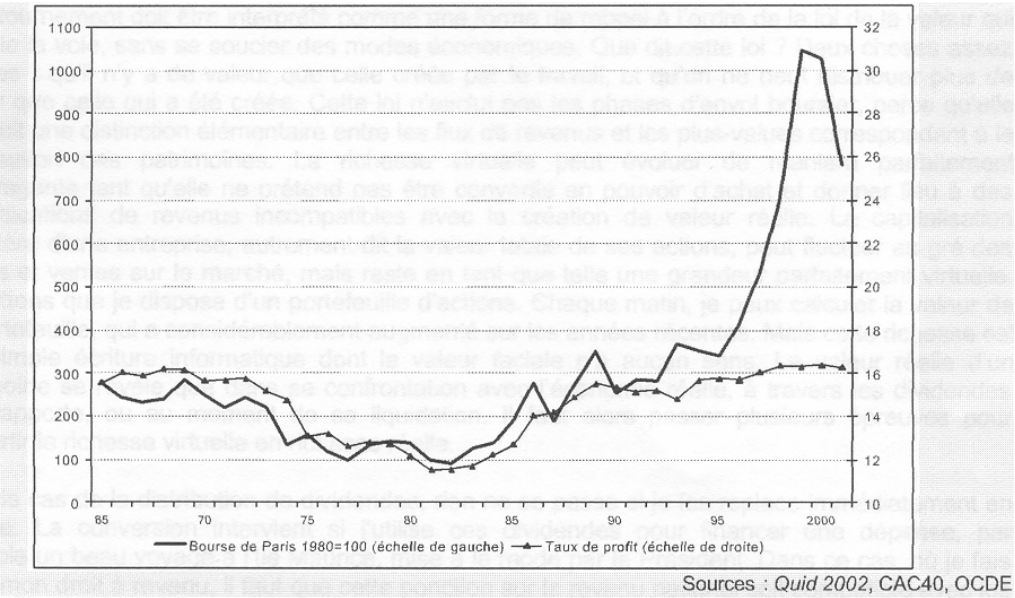
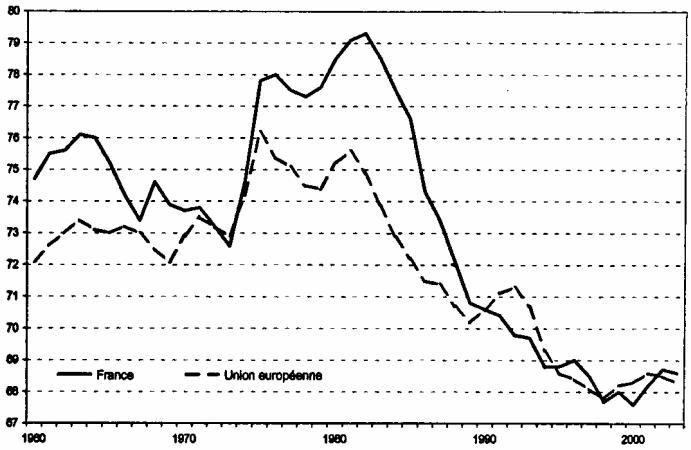


Figure 9 Stock exchange performances and profit rates

In the Keynesian-Fordist period, stock market performances followed the evolution of firms profits. This is logical and easy to understand, since stock exchange prices anticipate future firm profits. Relatively stable until the early 1970s, those performances started falling as a consequence of the deterioration of the economic situation all along the 1970s and till the early 80s. With the neoliberal turn and the restablishment of firm returns, the profit rate recovered in the 1980s to reach and even slightly overtake the level of the late 1960s. Meanwhile, with the accumulation of profits and the increase in their distribution in the form of dividends instead of reinvestment, there has been, as soon as the early 1990s, a disruption between firm profits evolution and stock exchange prices. This shows most clearly the consequences of financialisation of the economy generated by neoliberal regulation. Financial intermediaries have, in a way, fallen into monetary illusion which consists in the idea that money creates money (M-M'), forgetting that profits are the result of production through the creation of value within enterprises (M-P-M').

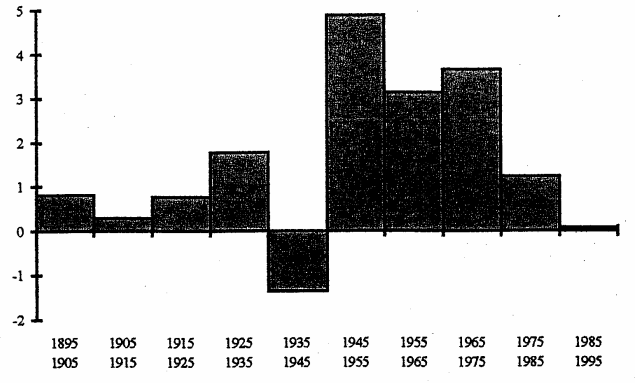
2.4.2.4 *Relative decrease of wages within developed countries*



Source: M. Husson: *Les casseurs de l'Etat social*, La découverte, 2003.

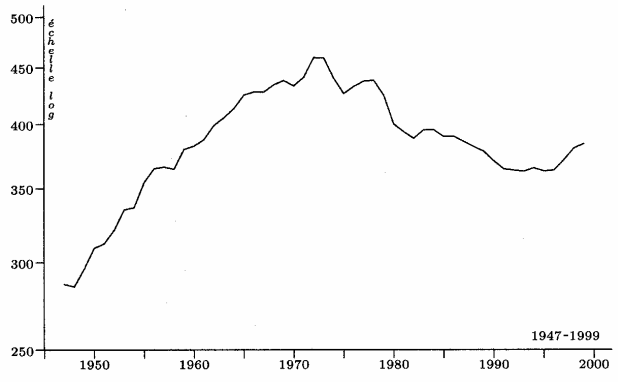
Figure 10 Evolution of the proportion of wages in the total value added (France and EU). Adjusted wage share, whole economy (% of GDP)

The above graph illustrates the shift in the structure of income distribution to the detriment of wage-earners' income and in favour of capital returns. Further details about this shift can be found in the chapter hereafter *"Some considerations on basic trends today".*



Source: Bayet A., 1997, *Deux siècle d'évolution des salaires en France*, document de travail INSEE série verte, n°97-02.

Figure 11 Average yearly growth rate of the purchasing power of workers' average net wages in France (%)



Source: G. Duménil et D. Lévy, *Crise et sortie de crise*, PUF, 2000.

Figure 12 Weekly income of a production worker (1990 dollars, USA)

The first graph very clearly shows the logic underlying the 3 main regulation types over the last hundred years:

(a) liberal regulation (1895-1945 on the graph), maintains constrained wages – on the average under 1% on the whole period- leading to periodical overproduction crises.

(b) Keynesian-Fordist regulation makes increases in profits, wages, employment and growth compatible, while reducing economic cycles;

(c) Lastly, neoliberal regulation turns out to be the worst in the whole history as regards incomes, especially workers' incomes.

The second graph shows the same dynamic for the United States during the last two regulation periods: growth in the Keynesian-Fordist period and decrease afterwards.

2.4.2.5 *The structural distortion in income sharing*

Within the G7, the share of profits in national income has never been as high as since the two oil crises of the 1970s: they represented 14% of the GDP in 2004, vs. only 10% at the beginning of the 1980s. In the industrialised countries, since the end of the 20th century, the share of wages in the added value, after having been over 70% at the end of the 1970s, has not stopped decreasing, with an acceleration in the last decade, to reach a level under 65% since the beginning of the 21st century, according to the latest OECD data. As for the share of profits, it has taken the opposite way, increasing from 30% to almost 40%. According to some studies, one half of the increase of profits is due to the distortion in gains distribution in favour of capital, the other half results from the fall in costs resulting from globalisation which, *in fine*, amounts to work productivity gains too.

Which are the reasons for this structural distortion in income sharing?

We are faced here with the confluence of short economic cycles and long- and medium-term movements in the economic history. We have seen that the failure of neo-Keynesianism in the course of the 1970s to revive the virtuous circle of the Golden Age (1945-1970), the necessity to restore firms profitability which were at their lowest level in the late 1970s, the burden of unemployment, which had already largely deteriorated wage-earners' negotiation power, the imperious necessity to put an end to the two-digit inflation rates of the 1970s and the necessity to reduce the growing debt of States, which were quite often superior to 100% of the GDP, etc., all this had strongly contributed to legitimize the neoliberal turn in the early 1980s. In essence, this turn amounted to give up *de facto* the agreement on productivity gains distribution, which had prevailed in Europe, implicitly or explicitly, since the end of World War II. From then on, productivity gains have been, through austerity and reduction measures or freezing of wages, almost entirely allocated to the restoration of firms profits.

The neo-liberal turn was not limited to giving up the incomes distribution rules, even if this is its essential feature. Indeed, one could have imagined that, once firm profits were restored, inflation and the snowball effect of public debt mastered, the Golden Age would have returned progressively. Yet it didn't. The opportunity was seized to change permanently the order at almost all levels. The paradigm has been completely modified: today, neo-liberal inspired policies are implemented almost exclusively and to a growing extent, with its trail of State disengagement, deregulation, flexibilisation of the work market, market liberalisation, and so on. Therefore, and we want to emphasize this idea, one must be conscious that this shift in paradigm has set in for good with its own dynamic, evolution laws and contradictions. Wage freezing, growing precarity, delocalisation threats have undermined wage-earners' negotiation power still more and make way for a wider erosion of incomes by profits, a relative fall in demand and investments in developed countries. This is a self-maintaining dynamic which tends to draw the whole society downwards.

Are there countertrends to this structural distortion in income sharing?

Are there any countertrends that could eventually stop that deflationary spiral? We see three of them.

First, the phenomenon of population ageing in the industrialised countries might contribute to restore a balance by limiting the work supply, and consequently push wages upwards. Secondly, wage costs should, one day, start increasing in emergent countries. Thirdly, the effects of competition should end up in limiting the benefits of delocalisation.

Meanwhile, these three structural countertrends are uncertain at several levels. On the one hand, population ageing might be compensated by an opening to foreign workers and/or following a still higher liberalisation of the work legislation. On the other hand, the transition period necessary to see a tendency to wage increase in China and in India may be quite long since it will essentially depend on the exhaustion of rural exodus, which is far from over given that, in these two countries, still more than one half of the population belongs to rural areas. Lastly, one does not see what could stop the domino game of delocalisations toward areas with still lower wages if some day wages in emergent countries went up considerably. In short, the time is still far away when tensions on the labour market will reduce downward pressure on wages and delocalisation drains, all the more because emergent countries will also reduce their productivity gap and will therefore be able to maintain their comparative advantages a long time still.

Delocalisations and competitiveness through wage costs

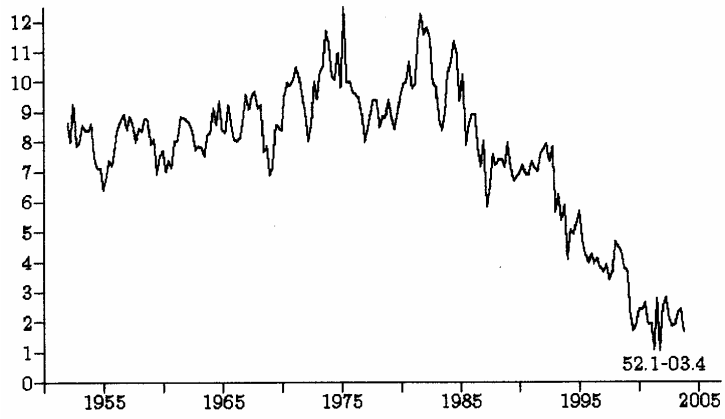
In all cases, the delocalisation process is going to support firm profitability since its first aim is to reduce production unit costs, almost always toward countries with low wage costs. Seven European firms out of ten delocalize with a view to approach emergent countries, of course, but also to cut their work costs: on average this decrease represents of 30% according to Roland Berger consultants[6], sometimes much more. The gap is indeed, as everyone knows now, considerable. While the cost of one working hour in the manufacturing industry reaches 24$ in Germany (world record), 21 in the USA, 19 in Japan and about 17 in France, it only amounts to 5$ in Poland or the Czech Republic and 0,6$ in China, thus approximately 30 times less than in France and 40 times less than in Germany!

Thanks to those wage levels, the unit labour cost for a Western firm which delocalizes finally amounts to 50% (in CEECs) and 85% (in China) less than in Germany, which is the most expensive in industrialised countries. Moreover, the movement also affects activities that could not even be thought of 10 years ago, notably in services: computer programming, of course, but also telephone platforms, advice in law, tax, accounting…, without forgetting financial information analysis.

[6] *La délocalisation des services prend son essor en Europe*, a study co-directed by UNCTAD and Roland Berger Strategy Consultants, in a representative sample of 500 European big firms in June 2004.

The scope of the movement is yet very difficult to assess, so difficult indeed that different studies on the issue conclude with job losses varying from a factor 1 to 5! Nevertheless, all of them draw negative conclusions, especially for the least skilled jobs but here also, moves up the value chain in emergent countries affect a growing part of skilled jobs and sectors.
In any case, the industrial production growth in the different parts of the world and the growth of their respective share in world trade provide a good indicator of the tendency: from 1994 to 2004, industrial production increased by 10% in Japan, 25%in the Euro zone, 40% in the USA, but by 80% in the CEECs and the Asian countries (except China), and by 300% in China.
As for the share of emergent countries in the world trade, it went up from 20 to 30% over the period (30 to 45% of the imports of the developed countries). For firms producing goods and services whose cost price strongly depends on work cost, it is obvious that delocalisation, when technically and commercially possible, directly favours profits increase. But this phenomenon can be just as efficient for the firms which only threaten to delocalize, and also for those, still more numerous, for which delocalization is practically impossible and whose managers use threats of unemployment due to globalisation in order to put pressure on wages.

2.4.2.6 *Household savings*



Source of figure: Duménil-Lévy (2003), *Le néo-libéralisme sous hégémonie Etats-Unienne*.
Source of data: NIPA (BEA).

Figure 13 Share of savings in the available income of USA households (quarterly data, %). Available income = total income after tax. Savings = excess of available income over purchase of goods and services (incl. housing) and payment of interests.

Faced with stagnation if not a cut of their income, households draw on their savings more and more in order to maintain their level of consumption. This is a great concern for the future since tomorrow's investment and consumption are being undermined. One doesn't need to be a genius in economy to understand that this model of growth cannot

survive in the medium or the long run, and that there is another reason for being concerned by a still greater cut in global demand in the coming years.

2.4.3 The weak growth trap

One of the major consequences of the structural distortion in income sharing is the weak growth trap. Indeed, job losses and the relative decline in global demand in the industrialised countries do not encourage firms to invest in production capacities but rather to delocalize still more in search of more dynamic consumption markets abroad. Apart from some exceptions, household demand is weak because incomes are weak. The distortion in income sharing does not lead to a restoration of employment nor to an important increase of investments. Everywhere, mountains of cash are piling up, but investments lag behind. The lack of investment in Europe is not offset by investments overseas. There is a true capital drain in financial intermediation.

We have also seen that the fall in global demand not only marks our present; from now on it leaves a mark on our future too, since a good deal of the current consumption occurs to the detriment of savings and the financing of pensions is less and less ensured.

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2.5 The translation into space

In the context described in previous chapters, i.e. where companies have to compete on cost (as productivity is not rising) and do not invest themselves, one of the main sources of cost-savings is the increased use of externalities (already trained work force, outsourcing, existing infrastructures, etc) because, confronted with the lack of long-term investment funds and with the need to innovate constantly, enterprises (in the rush to higher and higher profit rates) have to save costs by pooling their resources, either directly in specific enterprise clusters (groups of firms specialised in the same sectors) or indirectly in metropolitan areas offering a more anonymous system of agglomeration economies (a large base of a flexible, trained work force, many different potential subcontractors, etc).

The translation into space of the above general economic trends obviously depends on the spatial context. We will differentiate our hypotheses concerning territorial impacts along the lines of the classical division in centre and periphery.

In central regions, the increased use of externalities can be seen as one of the most important factors determining current economic geography. Much of this trend is linked to the need for companies to have access to a recruitment pool of qualified and flexible labour, but also to the availability of multiple potential subcontractors allowing rapid changes of products and production flows. In spite of modern communication technologies, physical proximity still seems to be an important factor. Two types of regions offering externalities can be identified: First highly-specialised regions in which a network of enterprises offer a pool of subcontracting and labour-recruitment possibilities for a specific economic sector (so-called Marshall-Romer externalities). Classical examples have been the "Third Italy", the Belgian Courtraisis, and other marshallian districts. Second, large metropolitan areas which offer a wide spectrum of qualified labour and potential subcontracting relations across many economic sectors, thus allowing enterprises to reorientate themselves easily if necessary (Jacobs externalities). Generally, regions already rich in externalities have been favoured by the recent economic developments, which explains the trends of (re)metropolitanization of economic development.

At the same time, a high capital ratio allows industries to retain a certain independence from salary costs and thus to stay in high-salary, metropolitan regions, close to their markets. This is reinforced by the fact that most of the EU production remains within the EU.

The European economic geography, however, is obviously not only determined by the central and metropolitan regions with their particular offer of externalities. Some peripheral regions that present quite different characteristics show high growth rates. The companies localising in these regions seem to specialise in sectors demanding a careful balance between salary levels, public intervention and proximity to the central EU markets, thus

justifying their choice of relatively (within the EU context) low-cost regions within Europe instead of moving further away. The classical metropolitan externalities of a qualified labour force seem to play a lesser role here.

Another type of possible regional growth type to be investigated is one based on a strong internal demand. Economic policy most often seems to focus on globalised markets and "competition". However, historically many economies have grown on the basis of their local markets and the specificity of the EU's economy as an SME economy pleads for the interest of at least investigating the possibility of regions not attracting supra-regional players, but of building their success on endogenous growth potentials. One example supporting this idea is the recent economic developments in Germany, where exports are flourishing, but the economy is almost in recession, mainly due to the very low level of internal demand.

Although they are represented in all of the above types, we will also have to investigate the Eastern European regions with special attention, due to their very specific historical paths. Some of them seem to offer some form of laboratory in terms of more radical economic policies. These should not, however, be overestimated either, as they are dependent on the very specific situation of these regions at this point in time.

2.6 General economic policy: in search of convergence

Addressing the issue of integration and economic and territorial cohesion, one is confronted with the question of how to deal with a group of countries and/or regions of very diverse productivity and wage levels, such as, for example, Spain, Portugal and Greece at the moment of their accession or such as today's structural funds regions. One can oppose the two extreme approaches existing today: either a progressive harmonisation and a proactive policy towards economic, structural and spatial cohesion in a medium-term perspective, as was the case for the three aforementioned countries, or or an immediate opening of competition as the current discourse seems to endorse. Obviously other options exist between the two, but we seem to be in a phase of transition from the former to the latter.

The harmonisation approach is based on a process during which the lagging countries catch up in terms of productivity and wage levels. To launch this process at the time the European Community had put into place a macro-economic context along the following axes:

- The zones with low productivity have relatively high prices. In order to avoid the shock of immediate and total competition, these zones can maintain prices in (artificially) rapidly progression in order to accompany the catch-up in productivity. Such price support7 made possible an economic transition allowing restructuring and reconversion of low-productivity sectors towards more productivity intensive production.
- Lagging regions also benefited from transfers supporting convergence.
- At the same time, the application of the European social model implying wage progressions in relation to productivity growth allowed a rise of salaries and thus the strengthening of internal demand.
- Finally, the still existing control of capital movements allowed a certain stability for this exceptional mode of transition.

In this context, as could be observed in Spain, Greece and Portugal, regions were able to move up the value chain and to specialise in productive structures more in line with the European average.

The competition approach, on the other hand, goes against the first model on four levels:

1. By making price stability an absolute priority (as through the ECB's status), current European policy reduces the adjustment opportunities available in the past. Competition is immediate and severe pushing a series of economic activities lagging in productivity over the brink of bankruptcy.
2. Convergence transfers to new member states are less in relative terms than those attributed in earlier accession processes.

7 As for example the support of agricultural prices for Spanish products after its accession.

3. Current policies at all scales aim at abandoning any generalised norms for wage evolutions, but also at deregulating the labour market and reducing mechanisms of social transfers. In addition, globalisation and deregulation policies create competition for jobs, thus exerting pressure on direct and indirect wages and on working conditions.

The almost perfect freedom of movement of capital takes away the possibility for differential policies in lagging regions as it puts much pressure on prices, wages and social transfer mechanisms.

As a result of these elements, the new macro-economic context incites lagging regions to specialise in those economic sectors where wage level is an important competition factor, forcing them to limit the redistribution of productivity gains towards salaries and thus reproducing regressive specialisation. As recent studies have shown at global scale for the national level (Milanovic, 2003; Bensidoun and Chevalier, 2005), this development scenario contains the risk of rising economic, social and spatial inequalities as generalised competition blocks wage progression both in rich and poor regions, thus limiting the potential for endogenous growth and pushing towards an exogenous growth model. The unequal distribution of wealth contributes to the reduction of growth and employment, while the accumulated capital is invested elsewhere in the world. Thus harmonisation of production structures and convergence become more difficult.

Parallel to convergence, the second approach also seems to weaken economic growth. Europe does not have a problem of competitiveness, but a problem of internal demand due to a transfer of income from wages to financial revenues as well as a lack of investment (see Figure 8) Financial revenues are only very partially reinvested (at least not in Europe) and the potential for private consumption decreases as can be seen in the proportion of wages in the total value added since 1960.

Three observations support this hypothesis:

1. During the period 1993-2003, wherever salaries have risen the most, economic growth was highest. Without wanting to discuss the relationship between growth and salaries, it is impossible to deny that those countries which have seen the slowest salary growth have not seen the highest growth in GDP as can be seen in Figure 14. At the same time, it seems to be mostly those countries whose salaries have progressed the most rapidly that have also experienced the most important decreases in unemployment rate (Figure 15).

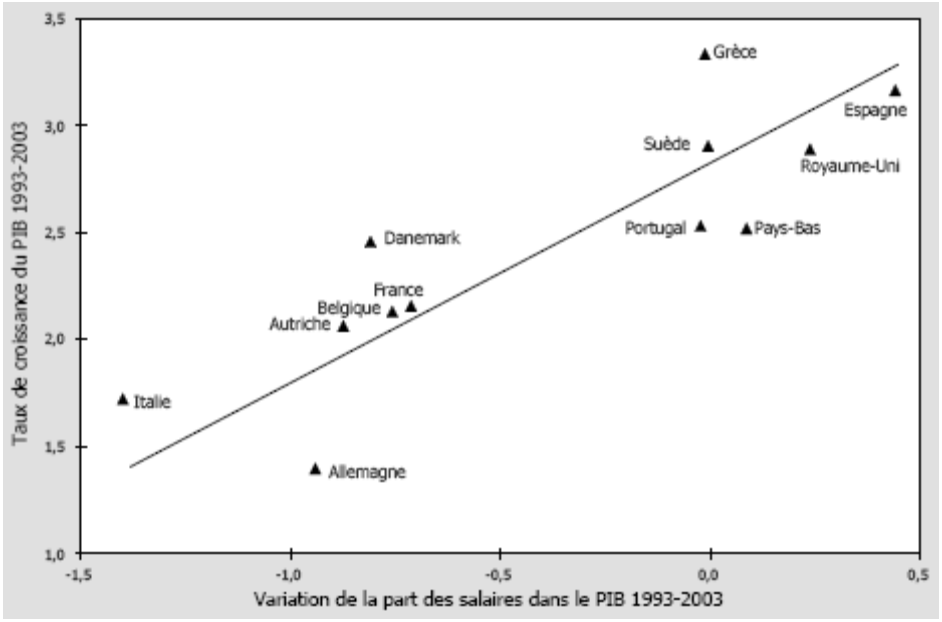

Figure 14 Variation of GDP growth rate and of proportion of salary in total GDP between 1993 and 2003 in Europe

Source: Les mutations de l'emploi en France, IRES, éd. La Découverte, 2005

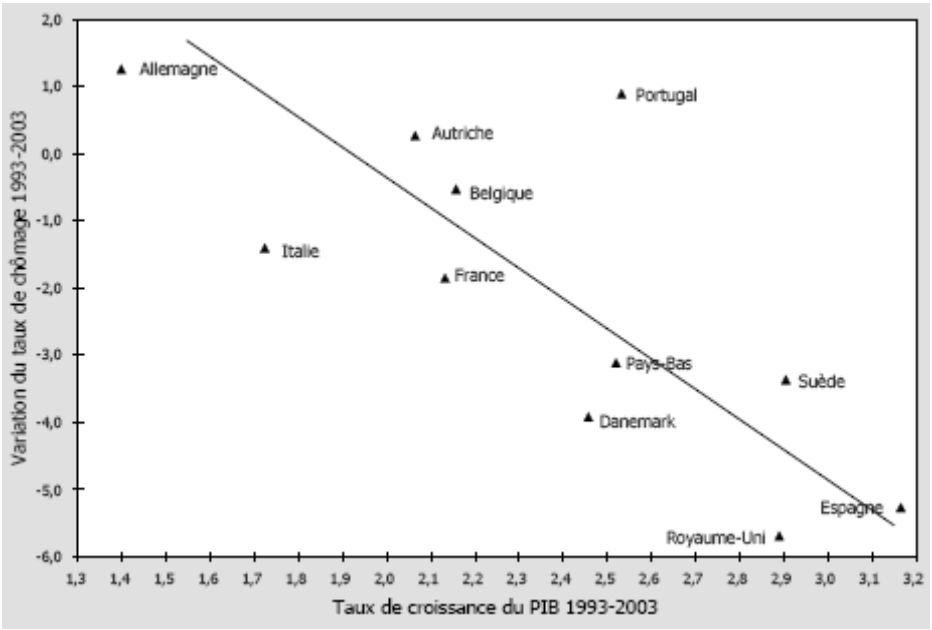

Figure 15 Variation of unemployment rate and GDP growth rate between 1993 and 2003 in Europe

Source: Les mutations de l'emploi en France, IRES, éd. La Découverte, 2005.

1. The "boom" period Europe went through between 1997 and 2001 with the creation of some 10 million jobs was essentially due to two factors: the weak Euro supporting exports and a halt of the decline of the proportion of wages in GDP. These factors

are thus either exogenous (exchange rate) or in contradiction with the logics of current political leitmotiv of current EU policies

2. Finally, it is interesting to note that in Germany – as an example of a low-growth region – reduction of wage costs has allowed to support exports, increasing in volume by 16% between 2000 and 2004, but at the same time severely constricted internal demand which decreased by 1%. At the same time, growth has been slow.

3 Literature review on regional growth, competitiveness, etc.

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3.1 Introduction

The main elements and the most likely structure of this chapter on **theories of localization of economic activities**, were decided upon at TPG-meeting in Brussels in Mid-January.

As the CU-comments to the FIR were rather positive it was decided that many of the elements in the FIR would survive (albeit in an improved, and much more elaborated, version). As compared to the line of arguments used in the FIR the final report is going to be rearranged so the arguments are presented in a much more coherent way. Also, in order to ensure "compatibility" in the argumentation in the various working packages a distinction between theories of "regional development" and "regional competitiveness" will be made. The latter will apply a direct address to the overall working hypotheses, e.g. primarily linking the discussions in the report to the overall questions on regional competitiveness.

Below the structure of the final report is compared to chapter 3.2 in the FIR. It should be notice that the reordering of arguments also entails the inclusion of arguments that has hitherto been dealt with in other chapters in the FIR. In this Interim report, however, most emphasis has been given to the arguments in chapter 5.

Chapter	Title	Content	FIR-equivalent
1	WP2.1 title	Framing the WP2.1 arguments	-
2	Localization of economic activities	Orthodox and heterodox perspectives; contours of a post-weberian location theory	pp.31-34 & 95
3	Regional development	Theories on regional development	-
4	Regional competitiveness, innovation and technology	Neo-Schumpeterian approaches, regional systems of innovations; learning regions	Section 3.2.2
5	Thematic issues		
5.1	SMEs and regional development	SMEs and regional development	Section 3.2.5
5.2	MNCs, regional development and regional innovation systems	MNCs, regional development and regional innovation systems	p.41
5.3	Re-agglomeration and re-metropolization	Re-agglomeration and re-metropolization	Partly section 3.2.3
6	Concluding remarks	Concluding remarks	-

3.2 Localization of economic activities

In the current debate on localization of economic activities, and in the literature on territorial development, industrial (re-)organisation and issues related to regional and economic competitiveness, such as innovation and technological development, it is becoming clearer that *orthodox perspectives*, e.g. the paradigmatic status of Weberian locational theory, have been challenged over the last 10-20 years by a variety of heterodox perspectives (Storper, 1997).

The *heterodox perspectives* on territorial development are building upon inspiration from developments within various strands of economic theory, for an example evolutionary and institutionalist economics. A major inspiration referred to by many scholars is the seminal work of Piore and Sabel (1984), which spurred researchers to look more carefully at localized, specialised productions systems, the "industrial districts", "Marshallian" districts, found in The Third Italy, in Baden-Württemberg and other places throughout the European space. Through this various developmental paths have been detacted, for example, regions that are "high road" instances (e.g. Baden-Württenberg); upstream innovations (e.g. Québec); downstream near-market innovations (e.g. Catalonia); "dirigiste" systems (e.g. Midi-Pyrénées); localist system (e.g. Tuscany), etc.

The heterodox perspectives are elaborated in and through a rather vivid, and at times bewildering, inter-disciplinary discussion amongst economic geographers, urban and regional economists, and economic sociologists. Despite the dissimilarities between the heterodox perspectives they share a rather critical stance towards the orthodox perspectives, especially that they are rooted in neo-classical economics. This, of course, have posed the orthodox perspectives with a challenge, and they have certainly not been unaffected by that very critique.

In the FIR the main arguments within orthodox and heterodox perspectives were reviewed and discussed at some length. This argumentation is not to be repeated here. In order to frame the discussion, however, it seems useful to have another look at the presentation of the main theories and their implications for "regional competitiveness", cf. table xxx.1 (based on Martin, 2005). In the table the first two set of theories rest within the orthodox perspectives, whereas the latter are forming an essential part of the heterodox discourse:

Theory	*Main Source of Regional Growth and Productivity*
1:Export-base theories	The competitiveness (productivity) of a region's tradable base is an important determinant of its overall economic performance and success. Export base theory highlights the role that a region's export sectors play – both directly and via multiplier effects on the region's non-tradable activities – in stimulating incomes, investment and productivity advance.
2:Endogenous (or "new") growth theory	The accumulation and attraction of educated and skilled human capital is the key source of local economic growth and productivity advance, via its effect on technological progress. The localised concentration of such workers promotes knowledge creation and spillovers, and thence innovation.
3:Neo-Schumpeterian theory	Innovation, technological advance and entrepreneurialism are the key drivers of regional competitive performance. There are two opposing views as to what stimulates local innovation: local economic specialisation (through rivalry between similar and competing firms), or local economic diversity (through the greater scope for novelty and market opportunities).
4:Cluster theories	A region's competitive advantage depends on the presence of localised clusters of specialised export-orientated industries, and associated supporting supplier and institutional networks. Such clustering stimulates: inter-firm rivalry and knowledge spillovers, innovation, investment, and a local pool of specialised skilled labour, all of which increase local productivity.
5:Evolutionary theory	An evolutionary perspective emphasises dynamic competitive advantage, and the adaptive capabilities of a regional economy to respond to shifts and changes in markets, the rise of new competitors, and the development of new technologies. A region's competitive advantage is the complex outcome of its past development – path dependence- and its capacity to create new pathways of development. The evolution of institutional forms and is crucial to this process.
6:Institutionalist theory	A region's competitive advantage is held to derive from the "thickness" of its institutions. That is, a well-developed and regionally embedded set of informal and informal institutions, from business and trade associations, to educational and training institutions, to entrepreneurial culture, to civic trust and other forms of social capital, all with a common sense of purpose, provide a highly favourable environment for economic development and expansion.
7:Cultural theory	A looser body of "theory" that attributes regional (and city) success to the existence, on the one hand, of cultural diversity and tolerance (which allegedly stimulates creativity, innovation and entrepreneurship), and, on the other, to favourable cultural amenities and infrastructure which enhance the quality of life and help to attract workers and businesses.

Table 1 Theories of regional competitiveness

Below a review of some of the main contributions within the heterodox perspectives, cf. points 3-6 in the table, are presented. The arguments are later to be included in chapter 4 and 5 in the final WP2.1-report.

3.3 The role of Business Networks in Localisation of Economic Activity and Differential Regional Performance

In recent years business linkages and networks have been recognised as very important features of the economic landscape. A substantial and varied literature reflects on research carried out within a range of disciplinary contexts. Although the terminology varies

considerably, and the exact nature of cause and effect relationships is not always clear, it is nevertheless evident that business networks cannot be ignored in any review of the changing geography of economic activity in Europe.

In the interests of clarity it will be helpful to begin by briefly considering the nature of business linkages and networks, before reviewing the network characteristics of different types of clustering and agglomeration, relationships with governance environments, and with innovation. The section concludes with a discussion of the potential for networks to act as a surrogate for agglomeration, and the geographical implications.

• *Definition of Business Linkages and Networks*

Business networks, and the linkages which compose them, have been variously defined and described by writers from a range of disciplines. A fundamental distinction should perhaps be made at the outset between those who focus on linkages/networks based upon transactions, and those who stress the importance of social relations and informal contacts between entrepreneurs. The former could be described as the "transaction cost" school, and the latter the "embeddedness" school. The former is the older academic tradition, which can be traced back to the writings of Alfred Marshall in the 1890s[8]. The second is often associated with the Norwegian sociologist Granovetter (1985), but also draws very much on studies of industrial districts in Italy, and of networks in South Asia. It has become popular in recent years, in association with the decline of manufacturing and the increasing role of service and high technology industries, in which the exchange of "tacit knowledge" is especially important to innovation and growth.

(a) Transaction costs are those associated with trade at intermediate stages between raw material processing and sale to the final consumer. They relate to transport costs, the search for suitable suppliers, the need to ensure goods match specification, writing of contracts, ensuring delivery on-time and so on. A firm which carries out all its transactions in a "spot trade" or "anonymous market" environment will incur all elements of transaction cost for every one-off transaction. Economies may be achieved by repeatedly doing business with the same partner(s). This is because some aspects of the process can be "routinised" or omitted as a relationship of trust is established. This is the point at which a transaction becomes part of a "business linkage".

> *"It is evident that if the same pair – a buyer and a seller – is involved in similar transactions regularly and frequently, the pair will have an incentive to organise the transaction procedures and processes so that costs are reduced. The buyer and seller represent nodes connected by a specific linkage." (Johansson and Quigley 2004 p169).*

[8] For a "potted" history of the concept, see Johansson and Quigley 2004

Customers are transaction parties who can become network members if frequent and stable transactions lead to benefits beyond direct sales. The same argument holds for suppliers (Lechner and Dowling 2002 p?)

Once established, such a business linkage will be sustained if both partners perceive benefits in terms of transaction cost reduction. A reliable or obliging supplier, or a prompt paying customer will be nurtured, since risk is reduced, and some of the procedures associated with spot trading can be omitted. Business networks are composed of a number of firms inter-connected by such linkages.

(b) According to the "embeddedness school" network linkages are primarily based upon social contacts, kinship, or membership of a local or ethnic community. In this conception transactions are often associated, but not strictly necessary. Such networks are usually characterised by a degree of co-operation between competitors, sometimes termed "co-opetition" (Lechner and Dowling 2002 p?)

Whilst the transaction cost and embeddedness school highlight the differences between "formal" and "informal" linkages, many writers clearly consider the two to be complimentary, if not inseparable. Lechner and Dowling (2002 p?) stress the fact that for many new firm start-ups the social relationships of the entrepreneur(s) form the initial framework on which a transaction network is later built. Johannisson *et al* 2002 provides a systematic description of embeddedness, distinguishing between *systemic* embeddedness, which is based on economic transactions, and *substantive* embeddedness, which involves social interaction.

• *Business Networks, Clusters and Agglomeration*

McCann and Shefer (2004) distinguish three types of agglomeration or clustering behaviour, associated with (a) Marshallian or New Economic Geography clusters; (b) Industrial complexes and (c) Social Networks.

The first type is characterised by transient inter-firm relations (spot trading). Cluster membership and benefits are associated only with location, and are therefore open and free to all once local rent costs are met. According to the Marshallian school agglomeration brings "external economies of scale" due to reduced transaction costs, labour pooling and rapid diffusion of technical information. The "New Economic Geography" school built on the "cumulative causation" ideas of Myrdal (1957), Friedman (Wight 1983) and Hirschmann (1958) producing "buttoned-down, mathematically consistent analysis" of agglomeration economies (Fujita et al 1999, Krugman 1994).

Industrial complexes are common among heavy industries where long term investment in locations and long-term inter-firm relationships along the production chain are necessary. Access to this sort of "cluster" is restricted by high costs, and location may be dispersed (implying attenuated linkages).

The third type of cluster is typified by the "New Industrial District". Inter-firm relations are characterised by high levels of trust and co-operation, entry may be restricted according to social criteria, and the geographical manifestation is most likely to be relatively localised.

Moulaert and Sekia (2003) have provided a very detailed review of this last group, which they give the generic title "Territorial Innovation Model". Over the past two decades, they explain, there has been a resurgence of interest in the region as an environment for innovation and economic growth. This has been associated with the rejection of Keynsian regional interventions and the acceptance of structural shifts away from heavy and manufacturing industries and towards light, technology-based industries and services. Within this context there has been an interest in identifying the characteristics of regional environments which can help to explain why some regions have adjusted to the "post-Fordist" world better than others. This has resulted in the development of a number of "Territorial Innovation Models", including:

- Innovative Milieux
- Industrial Districts
- Localised Production Systems
- New Industrial Spaces
- Clusters of Innovation
- Regional Innovation Systems
- Learning Regions

All these conceptualisations share many elements, and differ in emphasis rather than substance[9]. All of them, for instance assume that firms within an innovative region will interact within a relatively dense network of linkages. Most stress the importance of informal linkages as well as transactions. Several stress the importance of kinship relationships. Co-operation is generally considered more auspicious than competition, and path dependency is important, (in the sense that relationships of trust, traditions and institutions generally develop relatively slowly).

• *Institutional Thickness and the Associational Economy*

Most "territorial innovation models" recognise the importance of links between firms and organisations within the public and third sector. Johannisson *et al* 2002 propose a three-fold classification of business linkages. They define first order networking as comprising business

[9] Although Moulaert and Sekia argue that the unity is semantic rather than substantive, due to the flexible way in which the core concepts are treated.

to business links (both transactional and social), second order networking as comprising business to institutional links, and third order networking as indirect (social) links between firms via local institutions. Thus networks not only extend to include the public and third sector development organisations, but the latter are seen as an essential component of local networks, since they connect firms which may be unlikely to form transaction links.

Particular emphasis is laid upon second and third order links in the work of Amin and Thrift (1995) on "institutional thickness", and Cook and Morgan (1998) (among others) on the "associational economy".

Amin and Thrift (1995) claimed that a particular model of regional governance - known as "institutional thickness" – can provide one of the preconditions for successful economic development. They suggested that

> *" … institutional thickness amounts to a combination of features, including: the presence of many institutions; inter-institutional interaction; a culture of collective representation; identification with a common industrial purpose; and shared norms and values which serve to constitute the "social atmosphere" of a particular locality. Thus institutions were broadly conceived to include not only formal organisations, but also more informal conventions, habits and routines which are sustained over time and through space. Similarly "thickness" is conceived to stress the strong presence of both institutions and institutionalising processes, combining to constitute a framework of collective support for individual agents. Implicit to the argument was also the tacit stress on the inclusive nature of such collective support, reaching out to and involving the majority of individuals and groupings in the local economy."*

Amin and Thrift argued that institutional thickness may be broken down into four elements:

(i) A large number and variety of institutions (ranging from development agencies, local authorities industry associations, unions and research institutes, and, even, the firms themselves) to represent the actors in the network.

(ii) High levels of interaction within the network are necessary. "The institutions involved must be actively engaged with and conscious of each other, displaying high levels of contact, cooperation and information interchange which may lead, in time, to a degree of mutual isomorphism."

(iii) The development of "…sharply defined structures of domination and/or patterns of coalition resulting in both the collective representation of what are normally sectional and individual interests, and the socialisation of costs and the control of rogue behaviour."

(iv) A "commonly held industrial agenda which the collection of institutions both depends upon and develops". This common agenda for development may be formally defined,

or simply a common set of priorities, perhaps reinforced by other sources of common identity, reflecting their embeddedness in local culture.

The authors stress that the first of the elements is a necessary precondition, but not sufficient without the development of the other three less tangible processes. "What is of significance here is not only the presence of a network of institutions *per se*, but rather the *processes* of institutionalisation; that is, the institutionalising processes that both underpin and stimulate a diffused entrepreneurship" (Amin and Thrift, 1995). Furthermore they point out that while the former is relatively easy to create by policy intervention, the institutionalising process is much more difficult.

More recently, it has been argued that the "associational economy" offers a "third way" (Cooke and Morgan, 1998; Garmise and Rees, 1997; Hudson et al 1997), between state and market led strategies. "The common thread running through many third wave conceptions is the idea that to be an effective animateur of development the state must be reconstructed rather than dismantled and this means enhancing its capacity rather than its size." (Cooke and Morgan, 1998) This third approach, namely the associational model, considers more the efficacy of the state as opposed to the scale of state intervention (which had been a key distinction between previous Keynesian and neo-liberalist approaches).

Like the concept of institutional thickness, the associational model is based upon "networks of institutions, both private (such as firms) and public-sector (such as universities and research laboratories, etc) as well as "intermediate" (trade associations, chambers of commerce, etc) (Garmise and Rees, 1997). However it differs in that it explicitly seeks to empower the intermediate associations that lie between the state and the market, where economic activity is increasingly based on modes of collective learning and where competition increasingly involves partnership and interactive innovation (Cooke and Morgan, 1998).

Within this context, "…one of the key developmental roles of the state is to create the conditions – the formal framework as well as the informal norms of trust and reciprocity – whereby firms, intermediate associations and public agencies can engage in a self-organised process of interactive learning" (Cooke and Morgan, 1998).

Those promoting the associational model stress that the state is just one among many institutions in the developmental process. Salas et al (1999), for example, suggest that universities, local governments, labour markets, communities, entrepreneurs, infrastructure and financial sources are all shapers of the economic structure of a region. Consequently, "… the effective use of state power is contingent on the active cooperation of others, hence it needs to collaborate with and work through the institutions which collectively constitute the national system of innovation" (Cooke and Morgan, 1998).

• *Networks, Innovation and Growth*

In recent years the concept of innovation as a driver of economic growth has shifted away from that of an individualistic "linear" technology transfer process[10], towards an incremental, endogenous, group activity. We have been reminded (North and Smallbone 2000, Asheim 1999) that innovations are not necessarily based on high or new technology, and that new products and new processes often originate within the manufacturing sector, or from an interaction between producers and their customers/suppliers. Innovation therefore depends not solely on technology transfer arrangements, or the presence of individual "innovators", but upon the characteristics of the entire local economy; the various actors, the relationships between them, and the environment within which they operate.

Such incremental innovation, based upon "learning by doing", and information which is not formally codified (tacit knowledge), is shared between entrepreneurs of firms through informal contacts. Hence the vital importance of non-transactional business linkages in the development of regional innovation systems.

Romijn and Albu (2002) for instance, found that, among high technology firms in the UK, innovation tended to be associated with higher frequency of contact with suppliers and with scientific institutions.

> *"Interaction with suppliers, customers, public agencies, industry associations, foundations and the like may provide important inputs for the accumulation of innovation capability…Firms interact to gather technological and market information, and to obtain other learning inputs such as training services and R & D grants. Furthermore many authors have suggested that the effectiveness of "learning by interaction" would be boosted by regional clustering of network actors…" (Romijn and Albu 2002 p81)*

Amin and Cohendet (1999 p89) point out that the popularity of endogenous growth theories based upon dense localised networks has tended to result in a strong emphasis upon informal, tacit knowledge. They describe the popular view that "Firms in regions that are replete with the assets which support innovation and learning – information, knowledge, technology, ideas, training and skill – gain dynamic efficiency through the access they enjoy through networks of interdependency with other firms, formal institutions of learning and common conventions and understandings that surround firms." However they argue that "formally constituted and distantiated networks of knowledge and learning based on universally available fruits of science and education" (Ibid p88) are of equal importance to regional economic growth.

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[10] Marshall (1920), Schumpeter (1934)

Nijkamp (2003) sees networking as a strategy for reducing the risk associated with entrepreneurship and innovation. "It seems as though the modern entrepreneurial 'hero' is largely a 'network hero' (Nijkamp 2003 p401). "In general, local inter-firm networks may be seen as supporting mechanisms for new forms of creative entrepreneurship… as such are a blend of openness (necessary for competition) and protection (needed for an 'infant industry')" (Ibid p.402).

• *The strength of weak ties*

Grannovetter (1985) has argued that "strong" (exclusive, durable) linkages are inimitable to adaptability and innovation, whereas "weak" (transient) links to new trading partners are more likely to act as sources of information which can lead to the development of new products, working practices or markets. The phrase "the strength of weak ties" has become a popular shorthand for this idea. Lechner and Dowling (2002 p?) write: "Strong ties add to depth, weak ties to diversity. Strong ties lead to routines, weak ties open the door to new options." They further suggest that there is a developmental stage dimension: " We believe that the successful (growing) companies first develop strong ties to get the maximum out of the relations and then add weak ties to gain diversity." They also make a distinction between endogenous innovation and exogenous knowledge transfer: "Knowledge creation seems to depend on strong ties, while knowledge acquisition depends on weak ties" (Ibid p?)

By contrast Perry (1999 p20) has argued that strong ties may be beneficial in widely different contexts. Thus strong ties are a necessary feature of a just-in-time supply chain network (such as the Japanese lean production model) producing standardised goods for a mass market. However they are equally important within the Italian Industrial Districts, where they have facilitated collective learning, adaptation and mutual support. Perry concludes:

> *"There is a fine balance within networks between the benefits that cooperation can bring to information and resource sharing and the danger of closing access to alternative sources of inputs and knowledge" (Perry 1999 p23)*

Lechner and Dowling (2002 p?) describe similar "strong tie" benefits in the Munich IT cluster, where "Intense relations open doors to new knowledge creation through interactive knowledge sharing with people who trust each other".

Johannisson et al (2002 p310) in their analysis of a furniture cluster in Sweden came to similar conclusions. "The combination of dense local networks, building an absorptive capacity for external influences through any member business, and globally significant firms, provides competitive strength to all individual firms as well as to the (business) community as a whole" Nijkamp expresses the same idea as follows: " Locality and globality are two sides of the same medal in an open network" (2003 p396)

(Lechner and Dowling 2002 p?) add a dynamic dimension to the discussion of strong and weak ties, arguing that, over time firms generally begin to manage their networks, adding weak ties, then strengthening those which prove most beneficial, and at the same time dropping existing strong ties which have become redundant.

Thus the relationship between stong and weak ties, innovation, and growth is clearly not as simple as the oft-quoted Grannovetter axiom suggest.

• *Networks as a Surrogate for Agglomeration*

> *"...networks among economic actors dispersed over space may act as a substitute for agglomerations of actors at a single point, providing some or all of the utility gains and productivity increases derived from agglomeration." (Johansson and Quigley 2004 p165-5)*
>
> *"To reduce the risk of "misinvestment", there is much scope for collective learning strategies which manifest themselves in two configurations, viz network participation and geographical agglomeration. At present both forces are at work simultaneously and create the new geographic landscape at the beginning of the new millennium…" Nijkamp 2003 p 396)*

Agglomeration and Business Networks are alternative responses (though not mutually exclusive ones) to the need to minimise certain costs, and to maximise access to information relating to innovation. Cost minimisation may be achieved either by reducing transport costs (agglomeration) or by offsetting lower transaction costs against higher transport costs (networking). The diffusion of innovation is driven by "knowledge spillovers" which may originate either in research and development institutes (often in cities) or from within the industry itself.

Transaction costs tend to be lower in urban areas, where a large number of potential trading partners are located within a relatively small area, and trading institutions and services are well developed and easily accessible. Therefore, within urban areas or conurbations competitive advantage is mainly derived from "agglomeration", whereby large numbers of firms, located within a relatively small area are able to trade without incurring high transport costs, whilst benefiting from a degree of product differentiation and diversity, and relatively low transaction costs due to the presence of institutions and services. Shared access to specialised pools of skilled labour are also important. Knowledge spillovers are available both from publicly funded research institutes, and through formal or informal contact between firms (Goetz and Rupasingha 2002 p1229). The relatively large number of trading opportunities mean that "spot trade" or "anonymous market" transactions tend to be common, flexibility and the benefits of differentiation being more attractive than those of

"routinised" business linkages. Thus both the benefits of agglomeration and the majority of knowledge spillovers are external to the businesses, they are predominantly public goods (Johansson and Quigley 2004 p168).

Agglomeration economies are not available outside cities and densely populated industrial regions. Here competitiveness must be based upon another strategy to offset reduced transaction costs against the generally higher transport costs. This often results in the development of stronger business networks, composed of spatially dispersed firms linked by repetitive transaction relationships. Such transaction links may also develop into channels for the diffusion of information relating to innovation. Unlike agglomeration advantages business networks are not a public good, they are a form of "club good" (shared between each pair of network members).

> *"... for many transactions, an established network reduces the effective distance between nodes, reducing the transaction (or transport) costs that would otherwise be prohibitive. When co-location is infeasible, networks may substitute for agglomeration.*
> *This possibility of substitution means that small regions may survive and prosper – to the extent that networks can substitute for geographically proximate linkages, for local diversity in production and consumption, and for spillouts of knowledge in dense regions." (Johansson and Quigley 2004 p175)*

Recent analysis of geographical patterns of business linkages, based upon primary data collection in twelve case study regions in six EU member states (Copus and Skuras 2006, Copus, Skuras, MacLeod and Mitchell 2003) provides a number of further insights into business linkage geography, and its determinants. The substitution of extensive networks for agglomeration seems to be mainly a feature of accessible rural regions, where transport infrastructure is relatively good and long distance networking is feasible. In less accessible rural regions the evidence suggests that intra-regional linkages are more common, perhaps due to prohibitive transport costs, and probably associated with a relatively narrow industrial structure, focussing on activities which can best survive in this environment. However there are substantial variations between different parts of Europe (generally more localised networking in the study regions of southern Europe compared with those of the North and West), and between sectors (shorter linkages for services and perishable manufactures). Interestingly, those firms claiming to be innovative tended to have more geographically extensive linkage patterns. Longer linkages were also associated with younger, better educated/trained entrepreneurs, and with those who had recently re-located from another region.

The above findings reflect the situation at the close of the 20th Century. Johansson and Quigley (2004 p175) argue that technological evolutions (affecting both production and transport and communication) are already changing the trade-off conditions between agglomeration and networking in complex ways, so that during the first decades of the 21st

century spatial patterns of business networking are likely to change considerably. One hypothesis might be that some peripheral regions could see a broadening of their economic structure as transport and communication improvements increasingly allow firms located there to participate in long distance networking. Whether a remote region can exploit these new possibilities, and become more competitive, will depend upon a range of local characteristics, including attractiveness to inward investment due to quality of life characteristics, and the potential for endogenous entrepreneurship, reflecting human and social capital, governance and so on.

3.4 MNCs and regional innovation systems

Recent studies on innovation systems indicate that the region is a key level at which innovative capacities are shaped and value-generating processes governed and coordinated (Asheim et al. 2005). Governments and national agencies are approaching regional innovation systems (RIS) as key elements of promoting the innovativeness and competitiveness of regions and firms.

RIS are defined as interacting knowledge generating subsystems, composed of public and private R&D establishments, higher education institutions (universities and colleges), technology transfer agencies, vocational training organisations and the production structure – i.e. the business community. RIS studies have been inspired by Porter's work on how clusters, geographically proximate groups of interconnected firms in the same or adjacent industrial sectors, can produce competitive advantage based on exploiting unique resources and competencies.

Multinational companies (MNCs) and regional innovation systems are different social settings with different governmental mechanisms. As such, they differ with respect to how they create, represent and transform knowledge (table:)

	MNCs	RIS
Knowledge creation	Sustaining and extending existing know how	Disrupting and challenging existing know how
Knowledge representation	Knowledge represented in declarative and codified forms consistent with established trajectories	Knowledge tacit by nature and represented in decentralised but interdependent memory systems
Knowledge dissemination	Driven by central governance; organisational surveillance systems or assigned development teams	Facilitated by shared labour pools, temporary alliances and user-producer learning

Source: Houman Andersen and Rind Christensen (2005)

Table 2 MNCs and regional innovation systems as different social settings

Given these distinctions, there is still no unified set of factors explaining the managerial process of obtaining and managing knowledge transfer from regional innovation systems to MNCs.

A key issue for MNCs concerns their problems of transferring knowledge across different institutional contexts. Rabbiosi (2005) argue that the very reason MNCs exist is that they are efficient vehicles for creating and transferring knowledge across borders. In the MNC-RIS context, knowledge transfer takes place in two different forms: either as flows from MNC subsidiaries to the local environment or as flows from the local environment to the MNC subsidiary.

Considerable academic research has looked at the flows of knowledge between MNC subsidiaries and their external network. The common idea has been that foreign subsidiaries generate knowledge and innovations in response to stimuli resident in the host-country environments in which they operate. The external networks, that is the relationships with local customers, competitors and research institutions, become central for upgrading existing products and services as well as the creation and development of knowledge concerning new operating procedures and business practices.

In a tentative analysis, Ho (2005) has argued that regional innovation systems that can display both economic as well as technological resources are more attractive for MNCs than innovation systems that can display merely one of them.

Le Bas and Sierra (2002) identify the determinants of the foreign location of technological activities in MNCs by asking whether they locate their knowledge activities as a consequence of home country advantages or according to host country strengths. In the majority of cases, MNCs locate activities abroad in technological areas or fields in which they are strong at home. While European firms rarely internationalise their R&D to compensate for their technological weaknesses, there is nevertheless a high recourse to asset-augmenting strategies.

Grünfeld and Knell (2004) have developed a model that explores whether foreign subsidiaries in Norway in general are more or less likely to transfer technology to the local economy. Correcting for various aspects of the innovative behaviour of enterprises, they find that foreign ownership per se does not facilitate knowledge spillovers for the local economy.

3.5 Regional hierarchies of research locations

The literature on the location of R&D activities tend to view MNCs' innovative activities as affected by centrifugal and centripetal forces which determine whether the company centralize or internationalise to create additional R&D centres abroad. Such firms tend to embark on a path of technological accumulation that sustains a distinct spatial profile. MNCs are often required to be on-site with their own innovative capacity if they are to benefit totally from advances in geographically localised technological development to feed their own innovation (Cantwell and Piscitello 2002, 2003, Narula and Zanfei 2004).

Due to the complexity of technological learning and the significance of maintaining face-to-face contacts, the localisation of technological contacts tend to occur at the regional level within host countries (Cantwell, Iammarino and Noonan 2001, Verspagen and Schoenmakers 2004).

Typically, it is where there is already a strong existing domestic technological presence that R&D of foreign-owned affiliates are most likely to locate and grow so as to gain a significant role with respect to the global technological development strategies of the MNCs as a whole.

Verspagen and Schoenmakers (2004) provide some empirical evidence that regional innovation systems matter for attracting (foreign) R&D activities. The European regions that attract the largest part are almost all located in Central Europe, more specifically in the UK, France, Germany, Switzerland, the Netherlands and Belgium. Southern Europe attracts comparatively little R&D activities, as does most Northern European regions. This could be taken as evidence of the fact that regional technological capabilities is considered by MNCs when they determine where to locate R&D. There are also differences in the location strategies selected by European, US and Japanese firms (Le Bas and Sierra 2002, Verspagen and Schoemakers 2004).

3.6 Regional innovation policies and localised knowledge interactions

As knowledge is mainly tacit, geographic distance increases the obstacles in both transmitting and absorbing it. Tacit knowledge diffuses easily over short distances but less easily over longer distances. This has lead to the hypothesis that the intensity of spillovers increases with geographical proximity (Verspagen and Schoenmakers 2004).

One recurring observation in studies of knowledge spillovers using patenting data has, for instance, been that innovative activity tend to cluster and that innovators in an areas tend to cite ideas from neighboring territories more frequently. Bottazzi and Peri (2003) estimate an "innovation generating" function at the regional level for Western Europe, and estimate

the elasticity of innovation to R&D done in other regions at various distances. They find the elasticity to be positive and significantly different from 0 only for R&D done within 300 Kms distance. These limited spillover effects are consistent with the idea that spillovers are mainly the result of diffusion of non-codified knowledge between people who have relatively frequent interactions.

Cantwell and various collaborators suggest that the relative attractiveness of European regions to the technological efforts of foreign-owned MNCs depend on different factors, and that their significance in attracting MNC R&D establishments vary between different European regions.

Factors such as the presence of external sources of knowledge and a breadth of local technological specialisation in a region (i.e. ample opportunities to capture general purpose spillovers) seems to matter for regions throughout Germany, the UK and Italy (Cantwell and Piscitello 2002, 2003). This emphasises the importance of science-technology spillovers, and the central role of general purpose technologies.

On the other hand, the presence of industry-specific and cluster-based spillovers are essential in attracting foreign-owned R&D establishments to localised clusters. This appears to be more common in the UK and Italy than in Germany, where local development may be more heavily concentrated to a few leading firms in a particular region. In German cases, a crowding-out effect may deter foreign R&D from agglomerating. In fact, in Germany the importance of university knowledge for innovative output may be relatively low, as Fritsch and Slavtchev (2005) have recently displayed.

Overall, such observations may have some implications for regional innovation policies. Braunerhjelm et al. (2000) suggest that policies that are mainly based on regional investments rather than on providing regional incentives may best improve the attractiveness of a region as a preferred local environments for potential foreign investors.

A different call is made by Asheim et al. (2005), who make the distinction between entrepreneurial and institutional regional innovation systems (ERIS and IRIS). Both types may co-exist within the same country depending on what knowledge-base innovation support have to be pursued from. This argument is echoed by Andersson and Karlsson (2004), who argue that at least for regional innovation systems in small and medium-sized regions it is necessary to base all regional innovation policies upon careful studies of the existing RIS

In a critical re-assessment of the literature on localised knowledge spillovers, Breschi and Lissoni (2001) argue that what is often approached as knowledge spillover may actually be pecuniary, managed externalities mediated by economic mechanisms, or rather well-

regulated knowledge flows between different actors within innovation systems with deliberate appropriation in mind.

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4 Statistical analysis of economic development

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Introduction

In the first interim report we presented a general historical overview of the regional development dynamics in Europe as well as a first analysis of the available and necessary data to go further in an empirical analysis of the current situation and trends. In this report we will report on the advances in terms of data collection, give some examples of methodologies we wish to apply once all the data has been collected, and map some elements which should help explore the hypothesis and questions that guide this research.

4.1 State of affairs in data collection

4.1.1 Structural value added (and employment) data

The main data set we wish to work with in this project is the division of value added into 31 NACE sectors (i.e. using only letter codes). Such a data set is nonexistent for regional level at Eurostat at the current time. We, therefore have to collect this data from national sources, often using employment data in order to disaggregate from higher levels to NUTS 2 or 3. Much progress has been made on this since the first interim report, but for some countries data are still missing.

4.1.2 Structural Business Statistics

Another very interesting data set for analysing the situation of enterprises across European regions is the so-called "Structural Business Statistics" which is part of the Eurostat Regio database. It contains information about numbers, size, investments and wages of enterprises according to a fine-grained sectoral disaggregation. This data, especially once it is available as a coherent time series, should give very useful insights about the evolution of enterprise structures in Europe.

However, as analysed in depth in the first interim report, this dataset is very difficult to use across the entire area as the quality and coherence of the data is very inconsistent from one country to another. This is surprising as it has been used for maps in Eurostat's "Regions: Statistical Yearbook". Contacts with Eurostat concerning this data set are ongoing, but haven't been fruitful, yet.

4.2 Recent economic growth in Europe at regional level

4.2.1 The map of economic growth between 1995 and 2002

The spatial pattern of recent economic growth in Europe shows strong inequalities between regions. We present these dynamics in three different maps.

The first one shows economic growth at NUTS 2 level in both absolute and relative terms. The absolute figure clearly underlines the weight of main national economic poles and of central Europe in the total growth in Europe. The growth rate puts into the fore the national differences in economic growth, for example between Germany and Italy, on one hand, United Kingdom and Eastern countries, on the other hand. We can already observe that most of the main national economic poles have better performances than the rest of the country, a finding we developed more in detail in the first interim report.

Since intra-national differences are hidden by international ones on this first map, we present a second map which shows the economic growth of the NUTS 2 regions in comparison of the growth in the country. It allows a much better perception of regional pattern of growth in Europe. With few exceptions, it confirms the better dynamic of the main economic poles, especially in central and Eastern Europe. But this map also underlines the persistence of regional differentiation in most of the countries. In the UK, the dynamic is not only concentrated on the London metropolis but in nearly all the southern part of the country, prolonging a long term tendency. In France, the good performances of the Western and Southern periphery of the country is also a well known fact, in opposition to the bad performances of old industrial areas of the north and of remote and underpopulated areas

of central France. The same type of opposition can be observed in Western Germany, while the growth in Eastern Germany mainly concerns the large periphery of Berlin, as we can confirm from the NUTS 3 map. In Italy, the pattern is a little bit more surprising, since it seems that the best performances are not anymore concentrated on the Northern, and especially, central parts of the country anymore, but rather in the Southern parts, even if the difference is not big. This should also be put into the context of the generally poor performances of Italy.

Finally, the NUTS 3 map gives a perception at a more refined scale. For example, the German NUTS 3 allows us to evaluate the growth differential between central towns, with generally a low growth rate, and their suburbs, with a better dynamic. As another example, in France, we can draw from this map that the dynamic of the western and southern peripheries is very much concentrated on the coastal "departement".

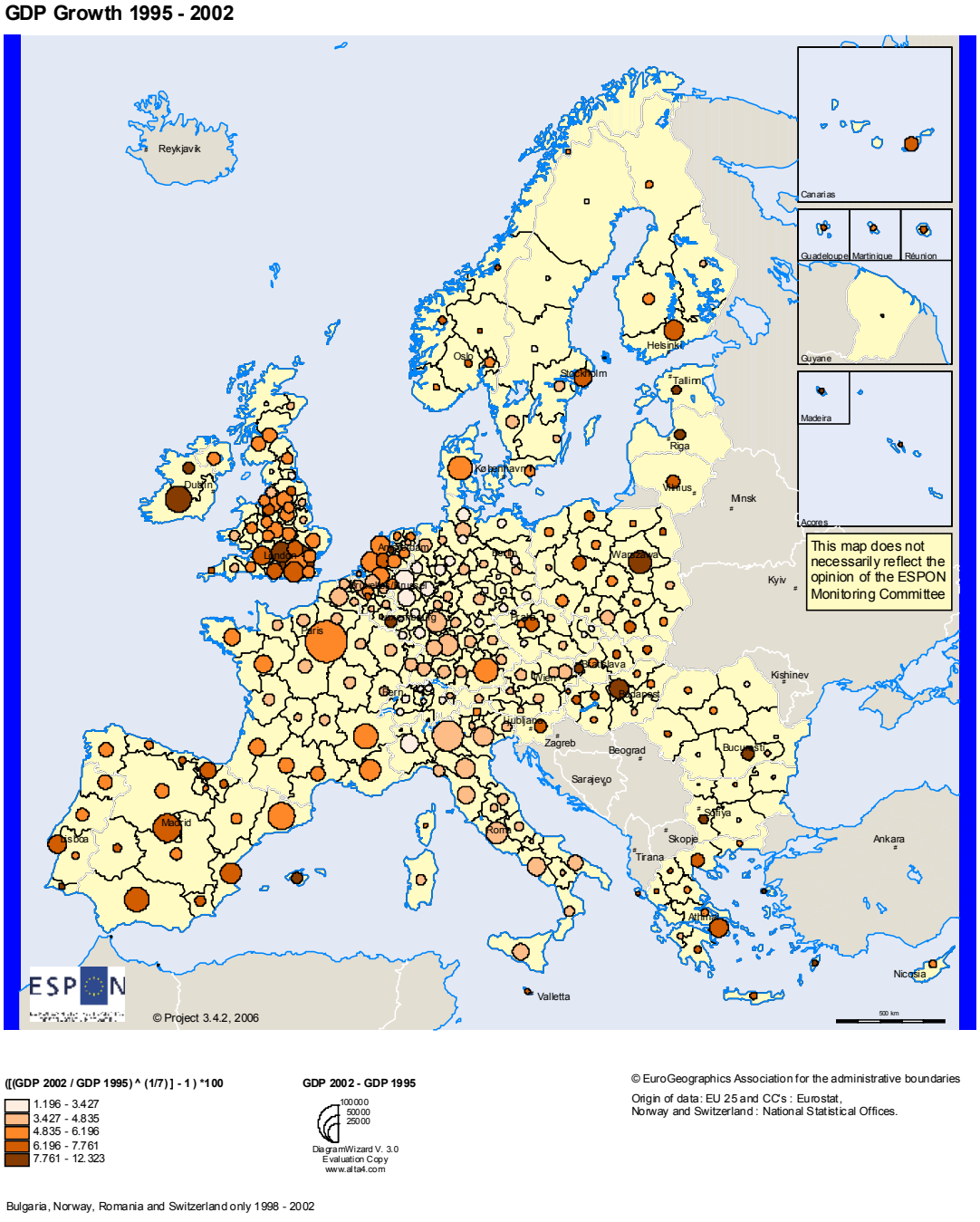

Figure 16 GDP growth 1995-2202

NUTS 2 growth of GDP (PPS) in comparison to the respective national growth rates

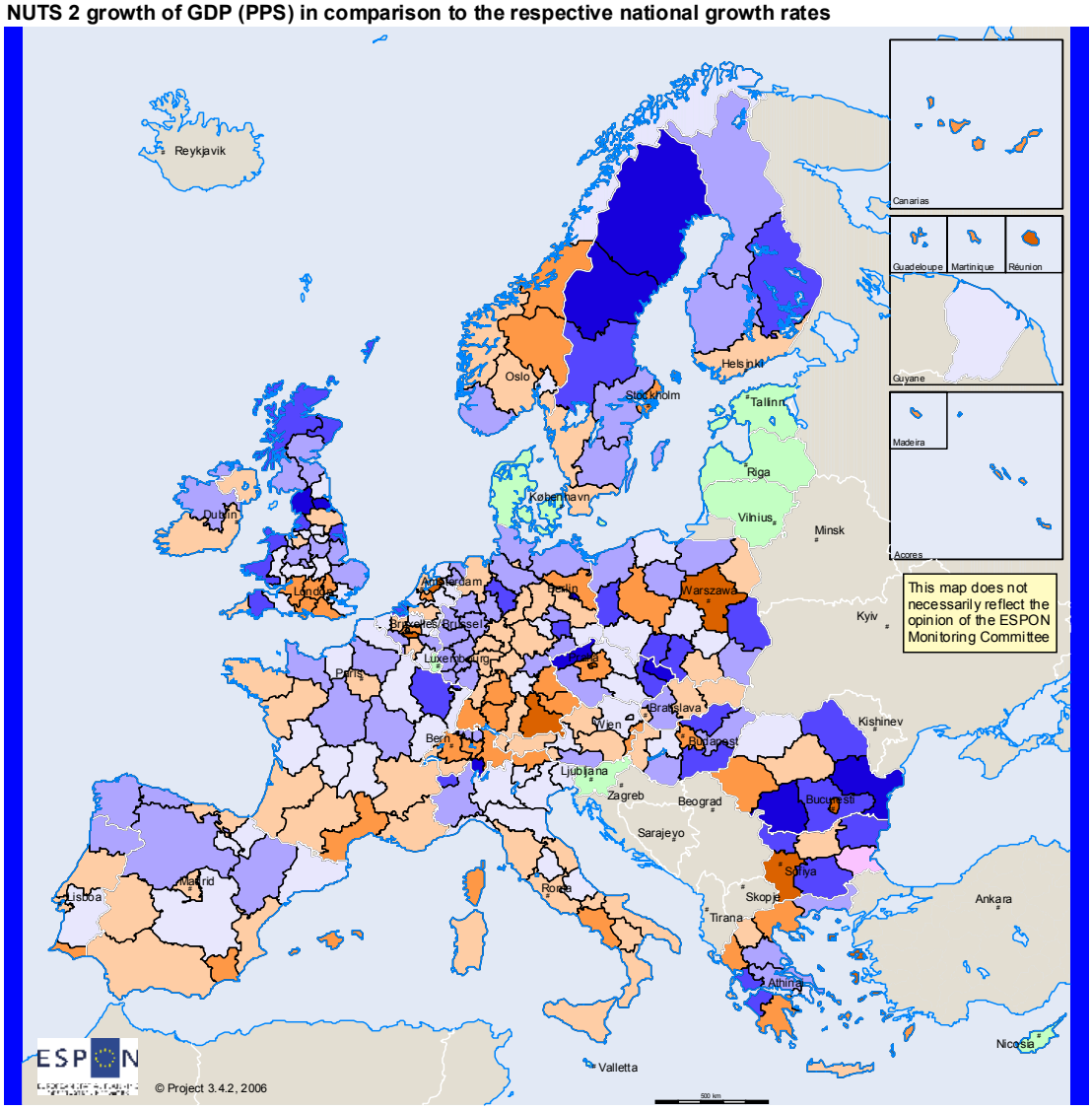

Figure 17 Nuts 2 growth of GDP (PPS) in comparison to the respective national growth rates

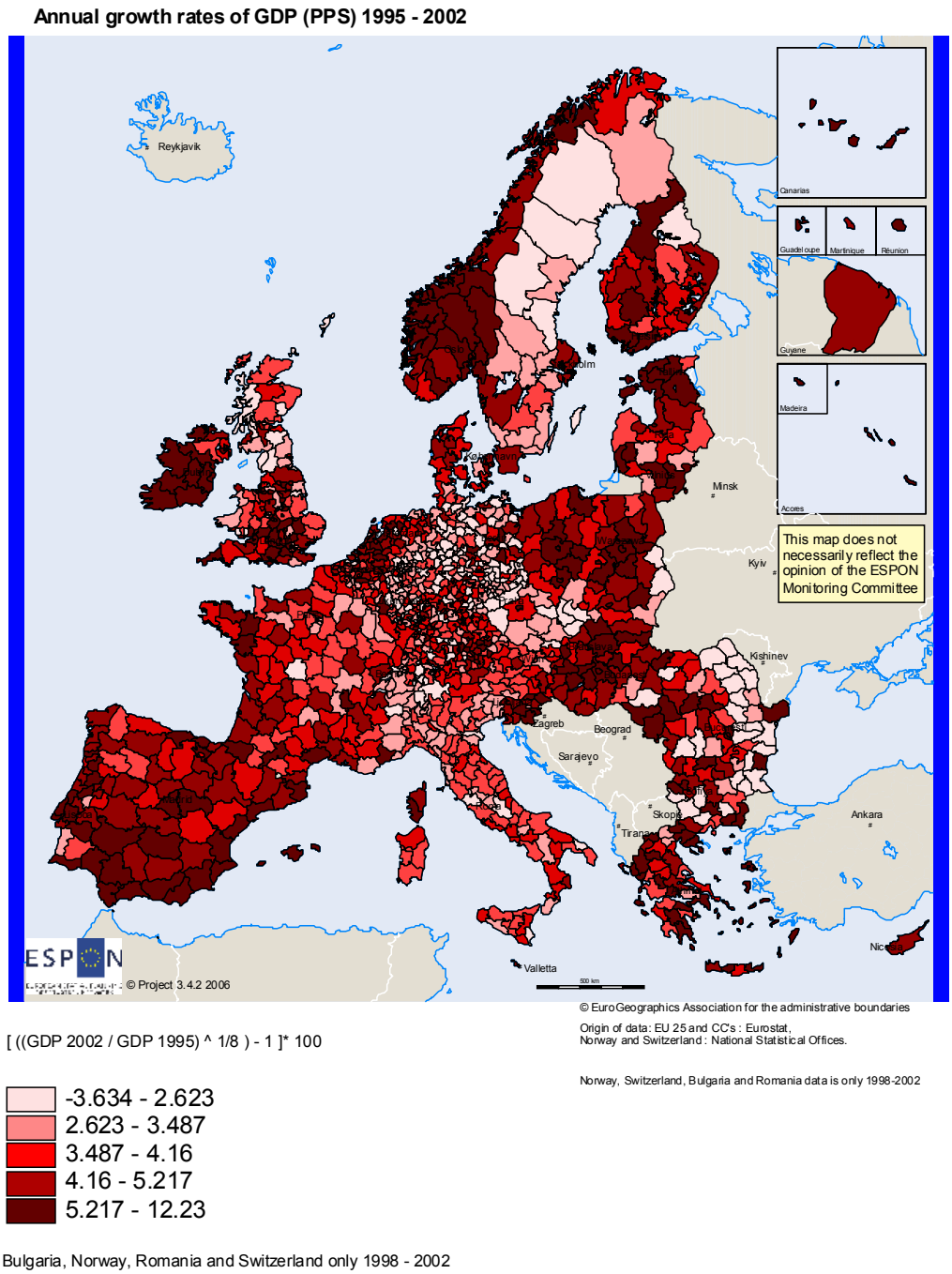

Figure 18 Annual growth rate of GDP (PPS) 1995-2002

4.2.2 Which level is important to understand the geography of recent economic growth?

To evaluate the most relevant scale to analyse the geographical pattern of economic growth, we conducted a variance analysis. This analysis will not give us the complete understanding of the territorial inequalities of economic performances but will help us to ask the good questions.

The principle is very simple and is based on the fact that the total variance[11] of economic growth between regions and EU 25 in the 1995-2002 period is the sum of the variance of international growth regarding to the European average and the variance of intra-national growth regarding to their national average (NUTS1 regarding to NUTS 0).

More generally, we can write:
Total variance (NUTS3 - EU25) = variance (NUTS0 – EU25) + variance (NUTS1 – NUTS 0) + variance (NUTS 2 – NUTS1) + variance (NUTS3 – NUTS 2)

The ratio between variance at one spatial level and the total variance gives the share of variance (or information) that is explained by the differences in the economic growth at this level.

These ratios are calculated in table 3. It shows clearly that a high share of the variation (46,8 %) of the economic growth is due to the differences between countries. In others words, it means that the economic performances of a region is mainly explained by the country in which this region is included. To understand the European map of growth, one has to understand first the differences between countries.

So the main questions would be:
- Why do Germany and Italy have so bad economic performances?
- How to explain good performances in most of Eastern Europe?
- How to explain the differences between peripheral countries of Western Europe (Ireland has much better growth than Greece)?
- Etc.

More generally, this result raises the question of the persistence of major international differences in a unified market economy. To understand it, one has to take into

[11] Sum of the square of the difference between the regional economic growth and European growth weighted for each region by its average GDP in PPS between 1995 and 2002.

consideration the large autonomy of states in their economic policies (tax system, social redistribution…) and the importance of institutional factors, still strongly national (education…).

The second most important level to explain differences of economic performances is the differences of growth between NUTS 3 regions of the same NUTS 2.

The main process here is the differences inside metropolitan or urban areas, since most of the urban areas have good economic performances at their peripheries while many centres are in crisis. We can observe this process at NUTS 3 level in Germany, since German NUTS 3 clearly separates towns from their suburbs. However, this scale is not so relevant for our purpose as we could argue that centres and peripheries of a town belong to the same economic area, notably because of the importance of commuting. This is why, we also present our results excluding the NUTS 3 level, which is, for some aspects, a too refined one.

The others levels only account for about 20% of the total variation. It means for example that the process of metropolitization – if it is understood as the concentration of the economy on the main national and international poles – is not the main factor to explain the map of economic growth in the recent years. It does not mean at all that this process does not exist: we already showed that the main metropolises have better economic performances than their national average, which was not the case on the precedent decennials from the 60s to the 1990. But the metropolitization process does not explain everything and we can observe from our second map the persistence of big interregional differences in economic performance. For example, we can underline the best performances of South-Western Germany in comparison to its northern part, the good performances of Southern France, which constitute a kind of French sunbelt, and the higher growth of Flanders compared to Wallonia in Belgium, etc. Some structural features, and some specific social inheritages, could explain a part of these differences, for example the weight of old industrial structures in North-western Germany, in Wallonia, in Northern France or England.

	Share of the total variance (nuts2 - EU25)	Share of the total variance (nuts 3 - EU25)
Variance Nuts 0 - Eur25	67,0	46,8
Variance Nuts 1 - nuts 0	16,7	11,7
Variance Nuts 2 - Nuts 1	16,3	11,4
Variance Nuts 3 - Nuts 2		30,2
Total variance	100,0	100,0

Table 3 Share of variance of economic growth 1995-2002 (in PPS) taken into account by the different spatial level of European divisions

Conclusions

From the maps and the statistical analysis, we can draw some main conclusions, which lead to some major interrogations.

First of all, the regional differential of growth is largely due to gaps in national performances. Even if our purpose is not to explain deeply these national differences, we have to keep in mind that regional differences on which we intend to focus represent a relatively low share of the total variance.

Secondly, even if intra-national variations between large regions (NUTS 1 and NUTS 2) account only for about 23% (sum of NUTS1-NUTS0 and NUTS2-NUTS1 variances), it is still very important to highlight patterns in these spatial differences and to explain them. We already insisted in the First Interim Report on the importance of a metropolitization process inside each country (see table 12 of FIR).

Finally, the analysis shows the importance of the variation of growth at a refined scale of NUTS 3 (about 30% of the total variance NUTS 3 – EU 25). We interpret this mainly as the differences of economic growth between centres and peripheries inside metropolitan areas but others processes could also play a role.

In a further step, we should give better understanding of the regional economic dynamics, by crossing these data with the regional economic structures once all data has been collected.

4.3 Proposals for new ESPON indicators performance

As many other ESPON projects, notably project 3.3, have developed indicators for measuring regional performance and potentials, we have decided to present a different set, which does not correspond to the classic EU Commission style indicators, but which we believe are important for understanding the economic structures and dynamics of European regions.

The elaboration of these new indicators has been guided by the global macro-economic framework we have developed in chapter 2. As we have seen, their key variables were both productivities: labour productivity (indicator 1) and capital productivity (indicator 8). It is the relative evolution of these two productivities compared with real wages (indicator 6) that determines the margin rate (indicator 2) and the profit rate (indicator 4). The analysis

of the link between real wages and profits is crucial to understand if there is a distortion in income structure (indeed, if real wages go up at that same pace as productivity, income sharing remains stable, and conversely), and thus a trend toward a relative decrease in internal demand (indicator 7). We have also seen that real wage progression was going to contribute to determine product growth according to global effective demand, and that this progression in turn brings about a positive effect on the dynamics of investment (indicator 5), and thus the capital intensity of productive capacities (indicator 3).

Contrary to the Keynesian view, which emphasizes demand above all (and make supply depend on demand), or to neo-liberal views, which almost exclusively stress the conditions of supply profitability (and make demand depend on supply), we believe a completed economic cycle can only be effective if ones respects at the same time and in a well-balanced way, capital profitability conditions (supply) and the increase in final demand (wages, public expenditure, investments). Our set of indicators tries to best approach and measure this global logic.

However, the following list of indicators represents the result of a very preliminary reflection and will thus certainly be modified in the future. At this stage of the study, we have already been able to improve our proposal in 3 ways:

(a) by limiting the number of indicators to 8 instead of 11 previously selected (we have given up redundant and unnecessary indicators)
(b) by more efficiently specifying their denomination and
(c) by improving their calculation mode.

In the course of the last phase of the project, these indicators will be submitted to a more detailed reflection, mainly oriented along two axes:

1. What is the actual meaning of these indicators at a regional level? Often indicators which exist at one scale are applied at another scale without verification of the meaning. This can be said for many national-level indicators, but also for some micro-level (enterprise) indicators, which are more and more applied to regions as independent entities (see the debate about regional competitiveness for example). Further scrutiny of these first ideas in that sense is thus necessary.
2. Some of the data necessary for constructing these indicators exist, although not always in a perfect state as explained in chapter 2. For others, however, new data collection at regional scale would be necessary.

Indicator	Calculation	Comments
1. Labour productivity (AV/L)	GDP / Hours worked	[or wages; or employment]
2. Margin rate	EBITDA/Added value	[or (AV – Wages) for EBITDA]
3. Capitalistic intensity (K/L)	Capital stock / employment	Measures capital intensity of the production system
4. Economic profititablity (Profit rate)	EBITDA / Capital stock	EBITDA/K = (EBITDA/AV) * ((AV/L) / (K/L)) [or (AV – Wages) for EBITDA] [if not: EBITDA / GDP]
5. Accumulation	Investment / GDP	Rate of investment
6. Real wages	Average wages in regional PPS	Regional PPS does not yet exist
7. Wages part	Wages / GDP Household income / GDP	This proportion of wages in GDP might be used to discuss the contribution of regional economic production system to internal demand. [! Self-employed]
8. Capital efficiency	GDP / Capital stock	Efficiency of capital accumulation. Opposite of K intensity (K/GDP)

4.4 Mapping economic wealth and regional transfers

One of the tasks for this project is to reflect upon the notion of regional economic performance and wealth and aggregate measures of these. The main aggregate measure up to date is the GDP which has the advantage of being widely available and fairly well harmonised. However, it only gives an idea of the amount of economic production in a given territory, and not necessarily of the actual income in this territory, which might be more relevant for notions such as territorial cohesion, where an indicator of economic well-being (or at least of economic revenues) would be more appropriate than on of production[12]. In its per capita form, often used for regional benchmarking, measuring regional GDP also means dividing the production at the place of work by the population at the place of residence, thus biasing results because of commuters.

Eurostat publishes income indicators, and the comparison between household income and gdp already gives a certain idea of the relation between a regions GDP and its inhabitants. However, household income is not the only source of regional wealth, as transfers to public authorities and business profits also potentially benefit a region. Axel Behrens from Eurostat has developed a new experimental indicator attempting to identify the entire flows of money towards regions.[13]

This indicator was calculated by first applying the following formula:

[12] See also OECD (2006), "Economic Policy Reforms: Going for Growth", notably chapter 6 on "Alternative measures of well-being".
[13] Behrens, A. (2003), "How rich are Europe's regions ? Experimental calculations", Statistics in focus, Theme 1, 06/2003, 7p.

Gross domestic product at market prices
+
Balance of primary income from rest of the world
-
Fixed capital consumption _____
= Net national income at market prices
-
Balance of current transfers to/from rest of the world
_____
= Disposable income of all sectors
-
Disposable income of private households (1)
_____
=
Disposable income of financial/non-financial corporations and private non-profit organisations (2)
+
Disposable income of the State (3)

The regional distribution of (1) is known. This is not the case for the sum of (2)+(3). Here Behrens makes the assumption that state activity on average benefits all citizens equally and divides the total amongst the regions according to their population. This might not be as defendable for (2), but as this only represents 4% of the total GDP, the bias seems insignificant.

Each region is, therefore, attributed the sum of disposable incomes of private households plus its share of the incomes of other sectors (state and private). This – experimental! - indicator, therefore, should give a better indication of the actual financial wealth of each region, in contrast to the production-oriented information provided by the GDP.

In order to show some of the effects of such a recalculation, we have mapped Behrens' results. For several countries, data was not available, or not at NUTS 2 level, so these maps are to be understood as a first glimpse of the possibilities of such an indicator. In the final report, we foresee to apply Behrens' calculations to the entire ESPON space, as long as data availability allows.

For reasons of comparison, we have mapped the GDP values Behrens used in Figure 19 showing both the total GDP (represented as share of the sum of all regions) and the GDP per capita. The following, map then gives the same type of representation for the experimental indicator of regional wealth. Finally, we mapped divided the new indicator by the old and multiplying the result by the quotient of the two means (old/new) in order to take into account that the mean of the new indicator is lower then that of the GDP.

The geography exposed by these maps shows that in terms of regional wealth (as estimated by this indicator), disparities are not as strong as in terms of regional production. The overall picture is a smoothed one, with most regions in the central classes. Figure 21 allows to identify mostly two main levels of this redistribution. First of all one can observe that most capital regions lose in favour of their surroundings. This obviously is partly due to commuting effects, but also to the fact that metropolitan areas concentrate most of production (as can be seen in Figure 19) and wealth creation, which is then redistributed to other regions. But also clearly visible is the redistribution at a higher level between macro-regions within countries, such as from (South-)West to East Germany and from North to South Italy.

A refined version of such an indicator might be very useful in determining the actual state of territorial cohesion (at least in economic terms) in Europe.

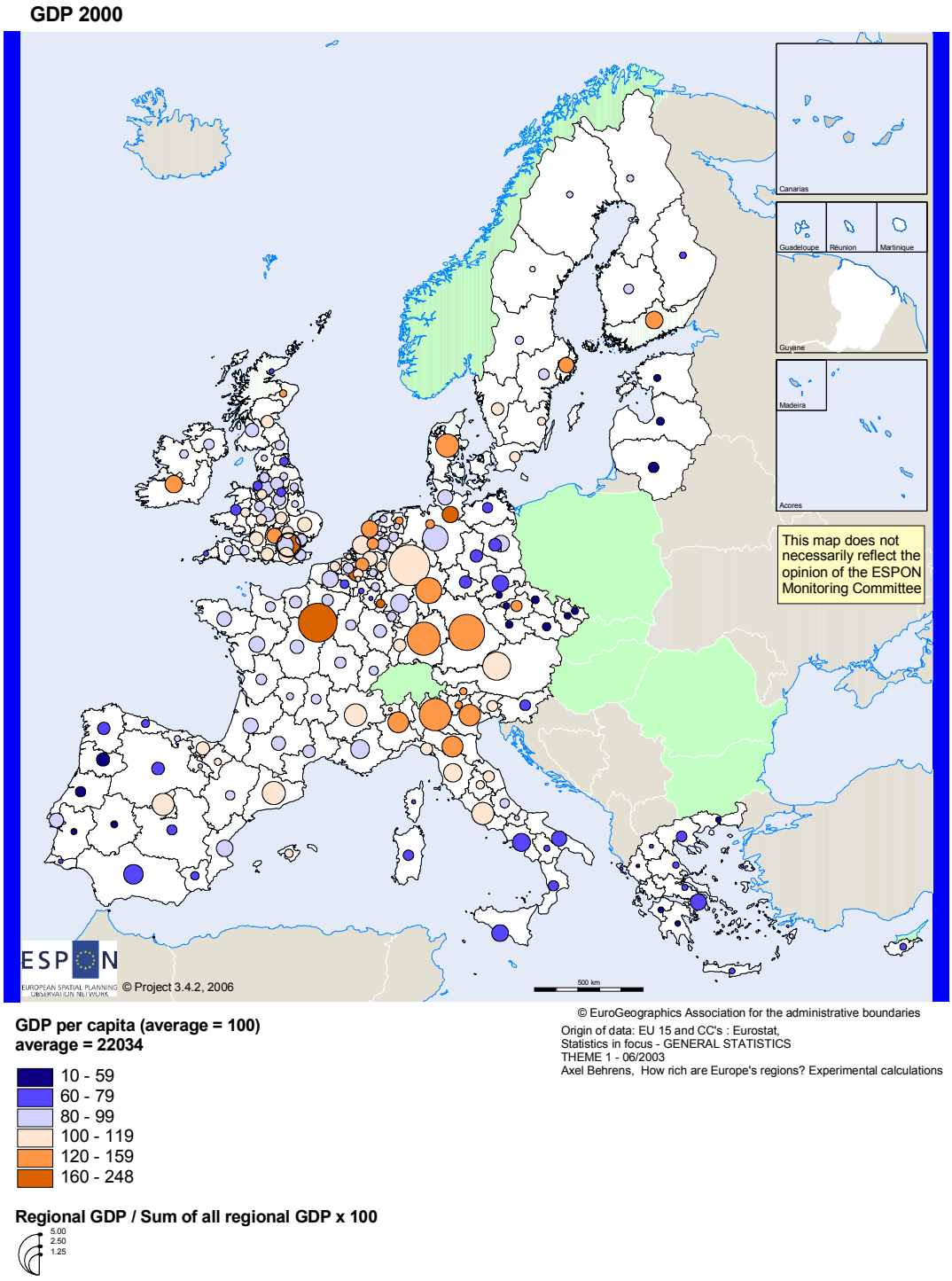

Figure 19 GDP 2000

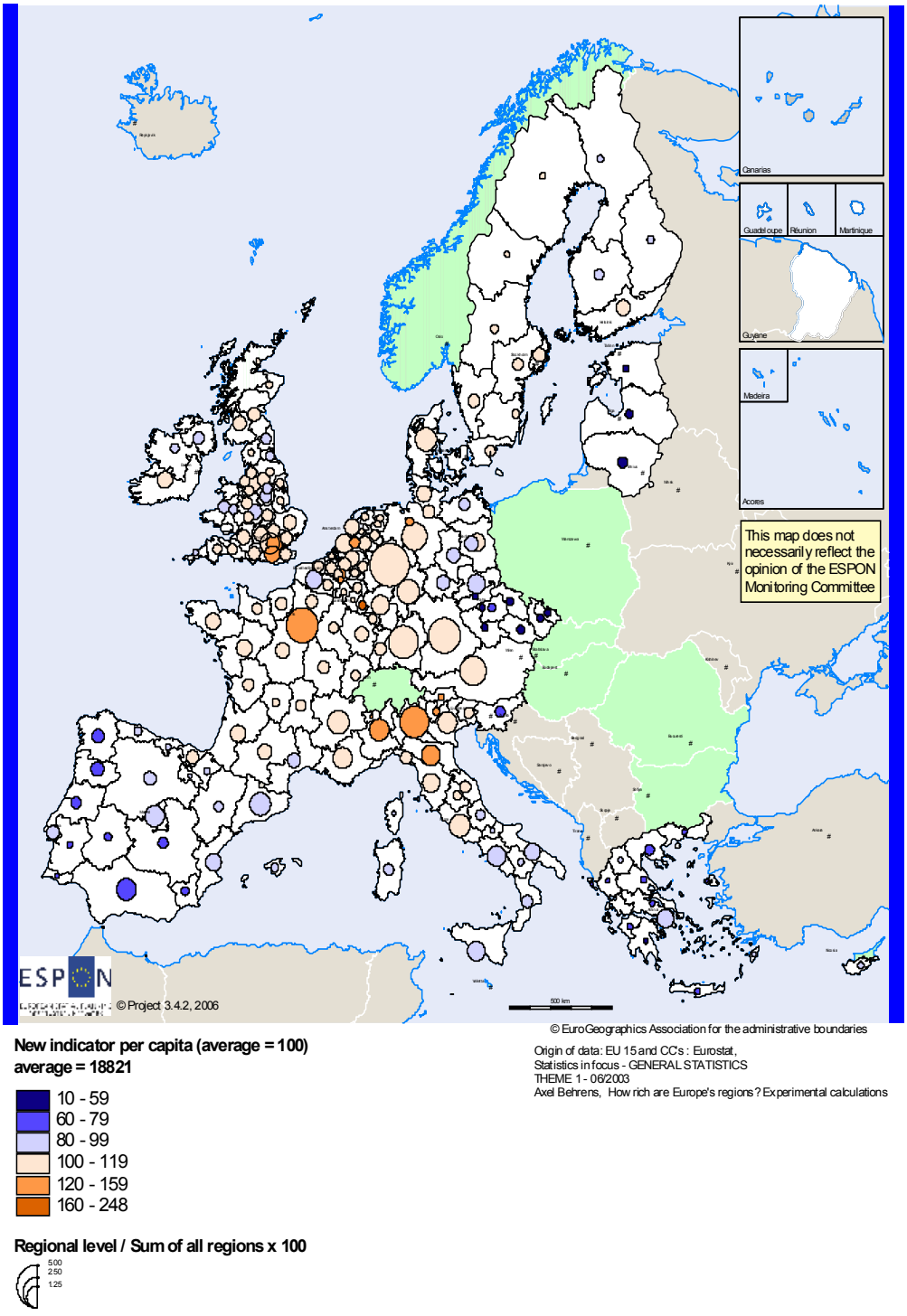

Figure 20 New indicator of wealth 2000

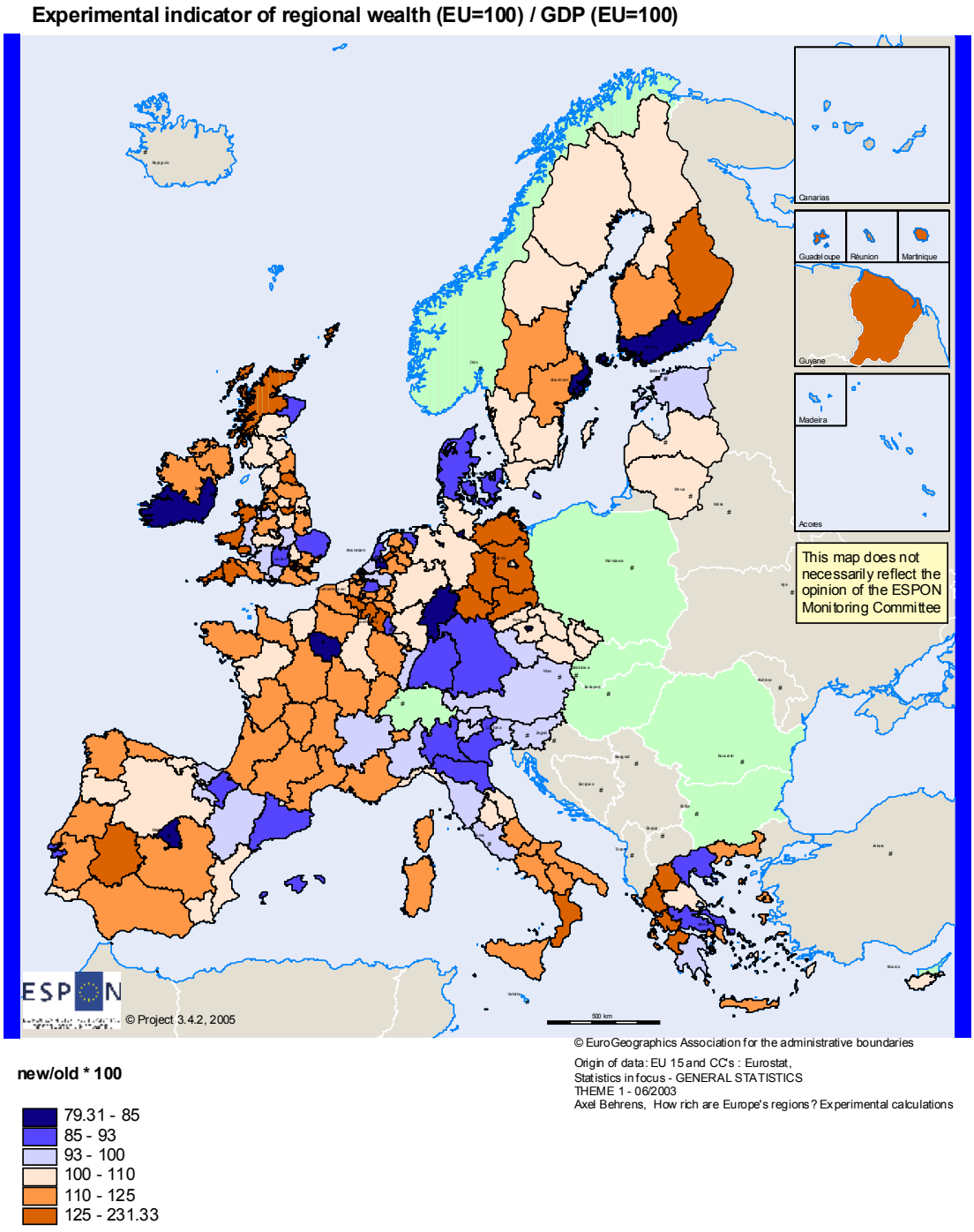

Figure 21 Experimental indicator of regional wealth (EU=100)/GDP (EU =100)

4.5 Location of multinational enterprises and economic command in Europe

Even more than that of wealth, the geographical distribution of economic command shows a very high level of concentration in Europe. Multinational headquarters, financial services, stock exchanges illustrate this phenomenon. To evaluate this concentration, we elaborated a map of the localization of headquarters of multi-nationals enterprises which belong to the list of the top 2000 global companies compiled by Forbes[14], which also specifies their sectoral specialization. This specialization is illustrated in figures 22 and 22a by the use of specificity diagrams.

The concentration of the economic command in the central "blue banana" of Europe, and Paris, is evident from this map. Most headquarters are indeed located between the north of England and central Italy, including the Benelux, Germany and Switzerland. Inside this large central area, the predominance of three poles is clear: London and Paris are the main internationalized economic poles in Europe, but the Randstad Holland (Amsterdam-Rotterdam) is not so far from these two major poles. It confirms the strong internationalization of the Dutch economy, put into the fore in the second interim report of the 3.4.1. project (see the high extra-European opening rate of the Dutch trade). More generally, the international importance of these three major poles is also confirmed by others indicators, as the internationalization of the airports, the stock market value, and the weight of business and financial services (see figure 27 for this last indicator, and the SIR of the 3.4.1. project for the others). These indicators underline also the importance of some others poles, especially Frankfurt, Zurich and Milan, which are not of this major level when one takes only multi-national headquarters into consideration.

The map does not only illustrate a general hierarchy in the European command but also national command of the economies, very related to the general urban structure of the economies. At one side, we have the French pattern, where all the headquarters are localized in Paris, with two minor exceptions, at the image of the very centralized French urban structure. On the other side, we have the German pattern, where headquarters are localized in several major centres (Hamburg, Dusseldorf, Frankfurt, Berlin, Munich…), reflecting here again a decentralized urban, and political, structure. The British distribution of headquarters, while close to the French centralized pattern, shows beside the major pole of London, a high number of towns (Manchester, Birmingham, Newcastle…) with few multi-national headquarters. In Italy, beside the three important poles (Turin, Milan, Roma), we observe a dispersion of the headquarters of multi-nationals mainly specialized in the financial services, at the image of the scattering of its financial system, already observed in figure 26 of this report. Moreover, it is necessary to underline the weakness of Italy in

[14] available at www.forbes.com.

terms of localization of headquarters, sign of an economy in some aspects less internationalized and dominated by firms of small and medium size.

Outside the blue banana, headquarters are very often localized in the capital cities, such as Madrid, Dublin, Stockholm. In the case of Spain, the clear domination of Madrid is striking, despite the fact that Barcelona is a comparable city in terms of size.

In Eastern Europe, only Praha and Budapest have few multi-nationals headquarters.

In terms of specialization, we can underline some major facts:

- the similar structure of London and the Randstad Holland, specialized in tertiary multinationals such as financial services, retail trade and trading, but also oil industry. While the Randstad is clearly underspecialized in all production except oil, London has some specialization in some high technological production (biotechnology, aerospace);
- Paris has a more balanced structure between services and production, including some high technological industries (software, aerospace…);
- in Germany also, the specialization reflects and underlines the economic structure: we observe two poles specialized in financial services (Munich and Frankfurt), some cities specialized in capital goods and consumer durables (Munich, Stuttgart, Wolfsburg…), in chemicals, and in some traditional industry in the Ruhr area (utilities and materials). This last point is interesting because this old industrial region is the only one to keep the ownership of its own industry and even to constitute firms of multi-national level;
- In Italy, financial services are dominant especially in Milan and Turin and in small cities of third Italy, while Rome is more specialized in oil industry and media;
- Elsewhere, we observe local specializations such as the famous technological industry in Helsinki. Only Madrid and Stockholm reach, on a smaller scale, the diversification of major poles of the "blue banana".

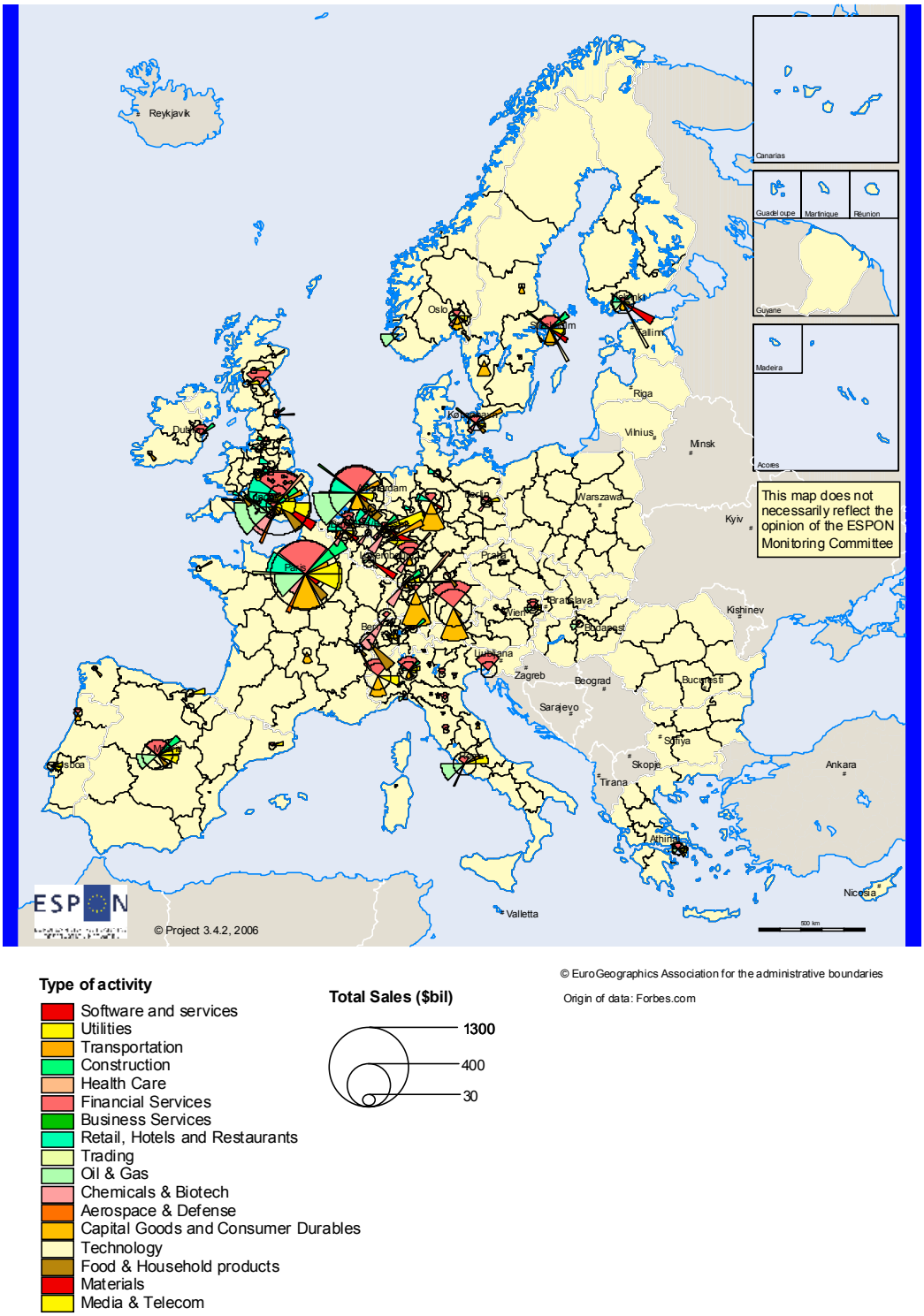

Figure 22 Location of Forbes 2000 company headquarters in Europe

Location of Forbes 2000 company headquarters in Europe

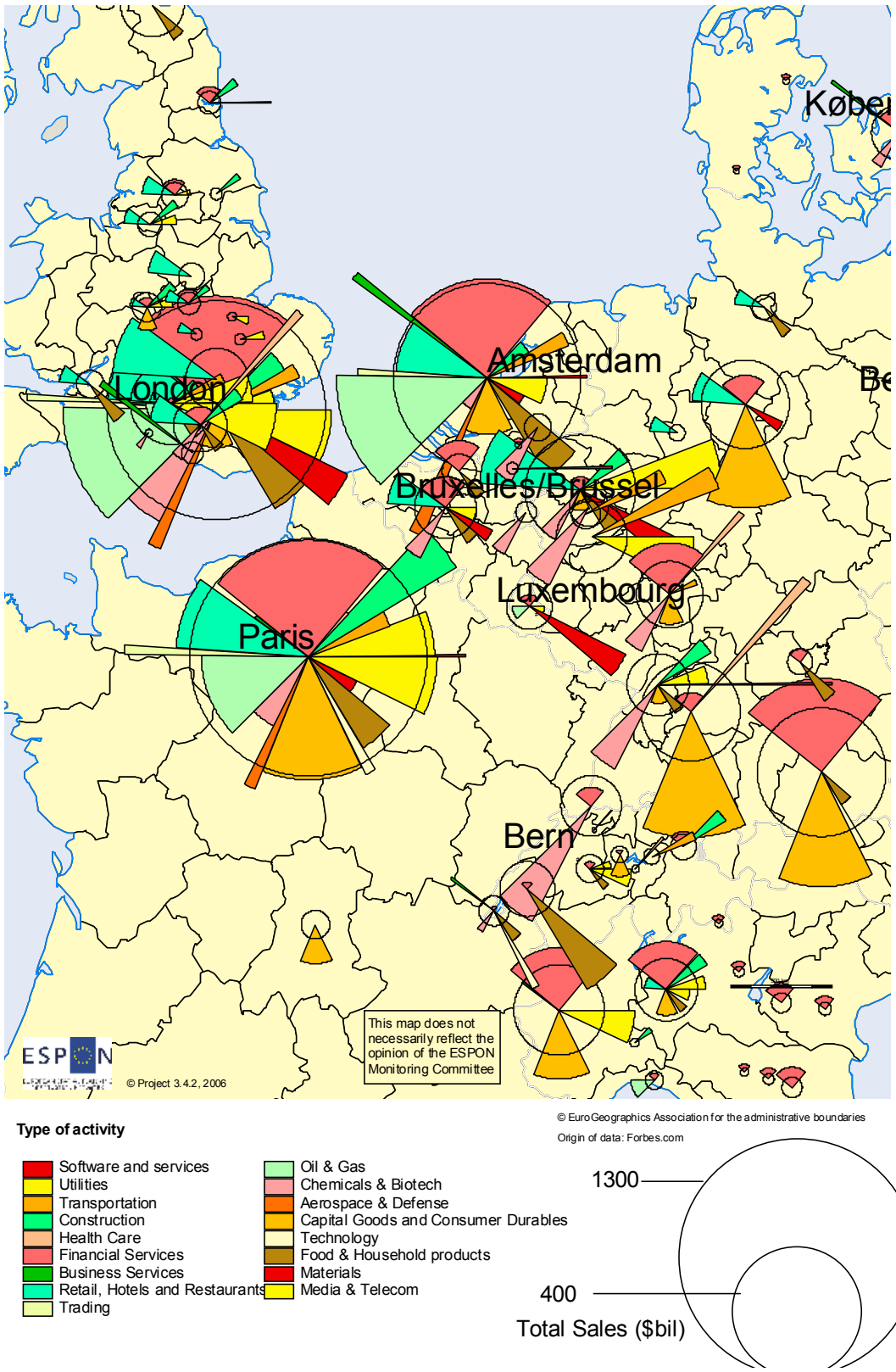

Figure 22 a Location of Forbes 2000 company headquarters in Europe (detail)

4.6 An example of a typology based on structural data

4.6.1 Regional economic structure at NUTS 2 – NUTS 3 level

Introduction

As explained above, the collection of regional data on value added in 31 NACE sectors is still ongoing. However, data does exist at this scale for groups of sectors and in this following section we present a first typology based on these 5 sectors, mainly in order to introduce the methodology we will apply to the final data matrix, but also to already extract some main messages from this rough sectoral division.

4.6.1.1 *Data base*

The matrix on which the typology is based presents added value in five major economic sectors for each region at NUTS 2 level, except for France and Italy, where we used NUTS 3 as the NUTS 2 level is much too big for comparison with the rest of Europe. We intended to produce data at NUTS 3 level also for Spain but the data are not available.

The matrix at NUTS 2 level for the year 2002 comes from the Eurostat data base. For France and Italy, we calculated data at NUTS 3 level by disaggregating the NUTS 2 level data on the basis of employment data which comes from national statistical institutes.

The five economic sectors covered are: primary sector (NACE A&B), secondary sector (including extraction, energy and building – NACE C-F), market services mainly oriented to people (commerce, transportation, communication, hotels and restaurants – NACE G-I), finance and business services (NACE J-K) and, finally, mainly non market services (health, administration, education, personal and collective services – NACE L-P).

As mentioned in the introduction, this five sectors approach is a preliminary result since we intend to produce a more refined sectoral economic structure of the European regions for the final report.

4.6.1.2 *The economic structure in five major sectors of regions in Europe*

The first map (Fig. 23) shows the share of agriculture in the economy. This share is highly correlated to the general development level of the region and in particular its GDP per inhabitant. Indeed, a high share of agriculture does not mean in general a better development of the sector in itself but the lack of development of services and manufacturing industries. On one hand, we observe the generally low share of agriculture in

the GDP in the most developed part of Europe, "the blue banana", despite the very high added value agriculture of regions such as the Netherlands or the Po Plain in the north of Italy. On the other hand, we observe a much higher share in the most remote regions of the periphery of Europe, such as Alentejo in Portugal, most of Bulgaria, Romania, and Greece, eastern Poland, and even northern Scandinavia, but with a much higher standard of living in this last case.

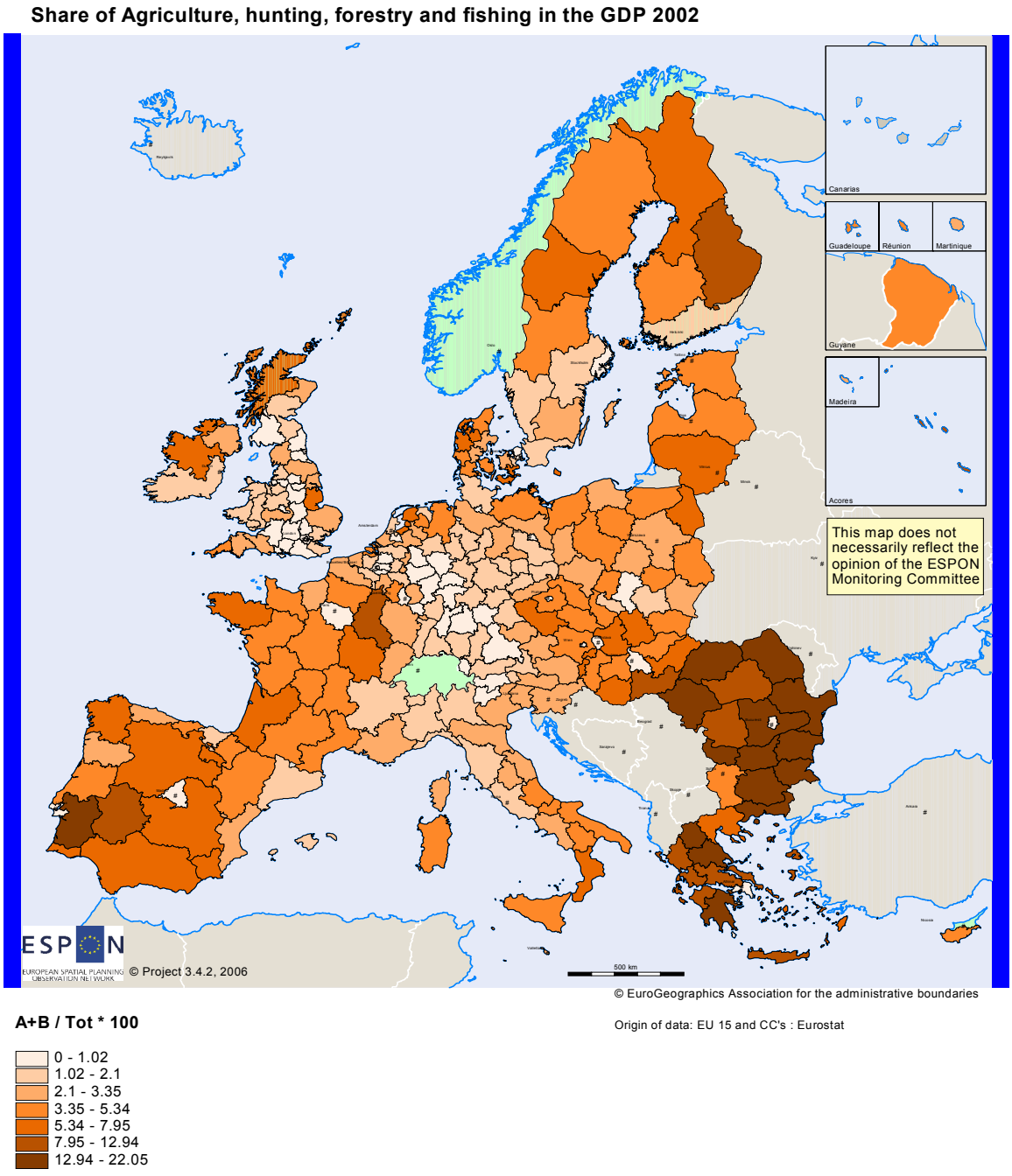

Figure 23 Share of agriculture, hunting, forestry and fishing in the GDP 2002

The share of total industry in the GDP, including mining and construction, is much more difficult to interpret, since we are very far from the classical centre-periphery model, which was still the main key of interpretation of the distribution of industry 25 years ago. A high share is in the same time typical of some old industrial regions in decline (Northern France, pais Vasco…), while others of these regions have lost most their industrial infrastructures (Wallonia for example), and of some dynamic non metropolitan regions. In this last type, we can distinguish regions based on small and medium industrial enterprises, often called marshallian districts, for example in the third Italy, the northern Portugal or Ringkoebing in Denmark, from fordist areas, mainly specialized in fordist industries, whether they mainly benefit from foreign investments or intranational delocalizations (Parisian Basin, Limburg in Belgium or more recently western Slovakia, or even in some aspects Ireland) or from a strong local-national capitalism (northern Italy, south-western Germany,…). In Eastern Europe, the high share of industry in some countries is mainly the result of intense delocalization towards these areas, sometimes on the basis of existing industries of the communist period (Czeck Republic, western Hungary and Slovakia). In Romania, it could reflect the delocalization of textile and other light industry but also the heritage of the old industrial infrastructure.

The third map (Fig.25) includes mainly market services to households but not only. The heterogeneity of this sector makes a coherent interpretation of this map difficult.

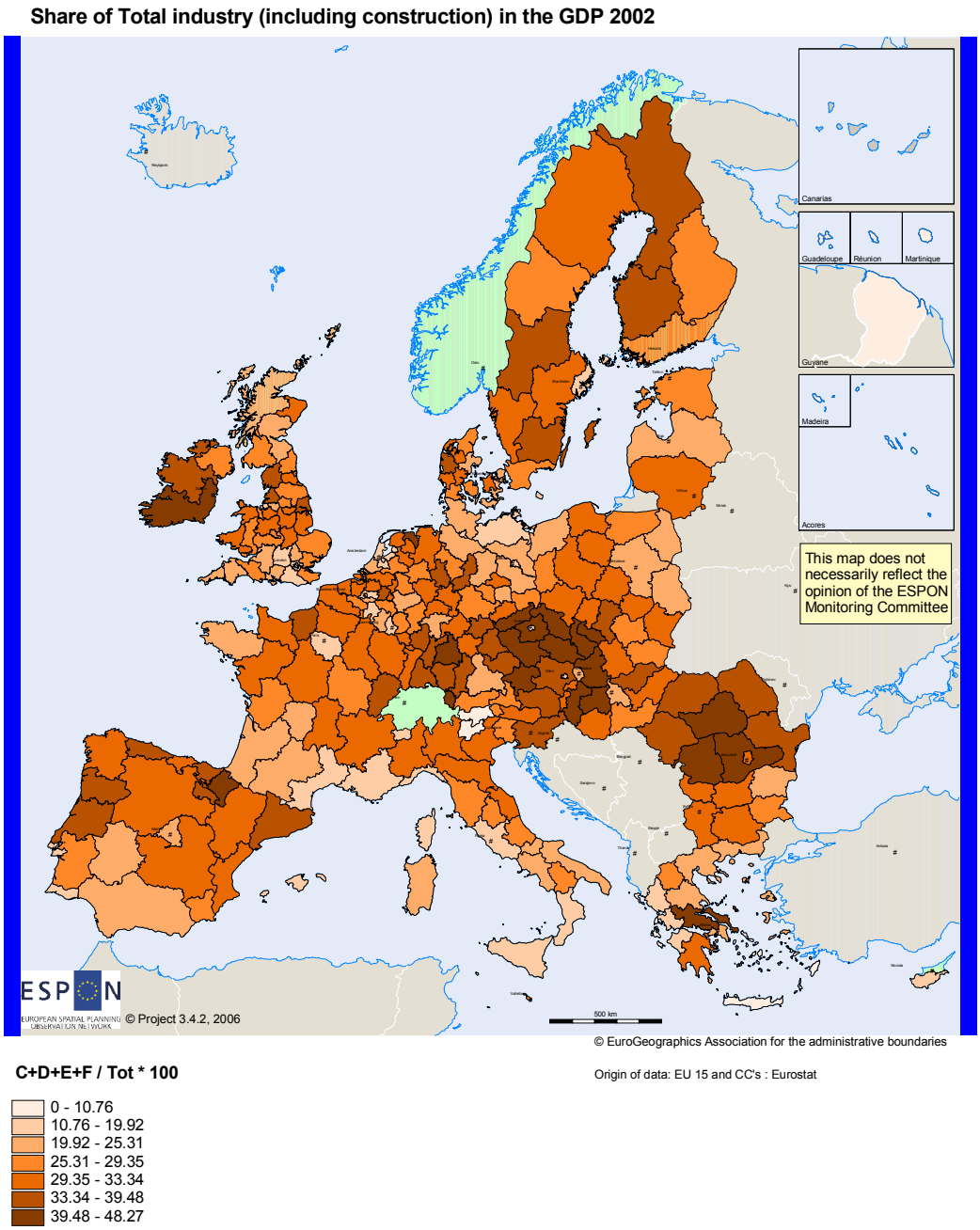

Figure 24 Share of total industry (including construction) in the GDP 2002

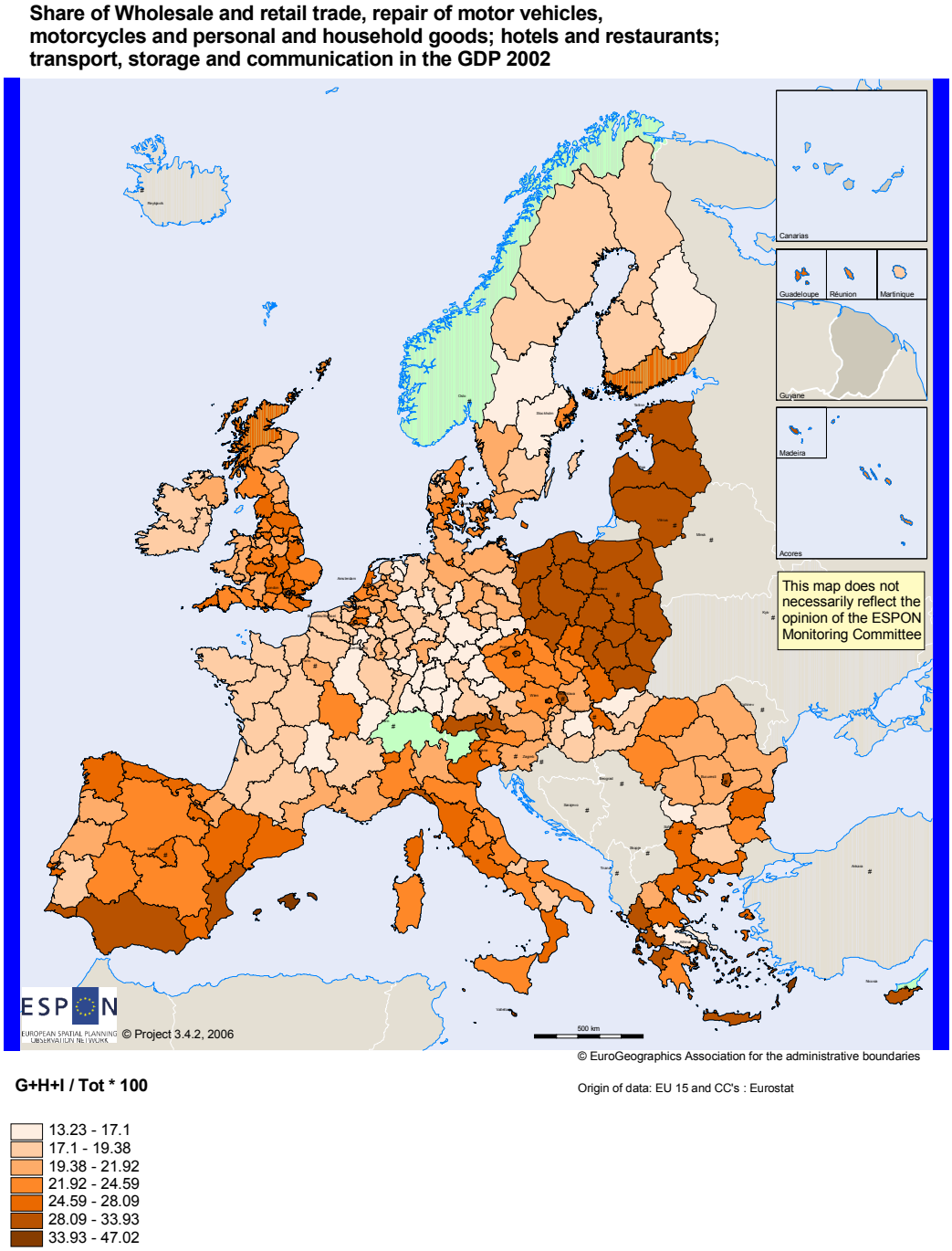

Figure 25 Share of wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods; hotels and restaurants; transport; storage and communication in the GDP 2002

The share of financial and business services shows to a certain point an idea of the economic command in Europe. The high share of this sector in the blue banana reflects the concentration of the command functions in this part of Europe. More precisely, the main poles of command are emerging: Paris, London, Frankfurt, München. On a national scale, we also observe the weight of the major poles, especially the capital cities. But it is interesting to notice that the level of specialization in this sector in peripheral metropolises never reaches the one of the main central international metropolises. In Italy, the scattering of the financial services is reflected in the relative homogeneity of the level of specialization of the different regions, even if Lombardia, with Milano, and Lazio, with Roma, have the highest level of specialization in this sector. We can also underline the weak development of high level services in Eastern Europe, even in the most developed part of it.

The last map (Fig. 27) mainly shows the weight of non market services in the economy, even if some of these services have been more privatized in some countries than others. The geographical pattern reflects firstly the importance of non market services at national scale: it opposes the states where public services are still very developed (Scandinavian countries for example) to countries where it has severely dropped, especially some eastern countries. But mostly, it puts into the fore the declining or poor regions of a country, where the high share often reflects the lack of development of other sectors and some form of regional redistribution at national or European scale: we find here remote regions of peripheral countries, such as Extremadura in Spain, northern Scandinavia, Eastern Poland, or Southern Italy, as wall as declining old industrial regions such as Wallonia in Belgium or Southern Wales.

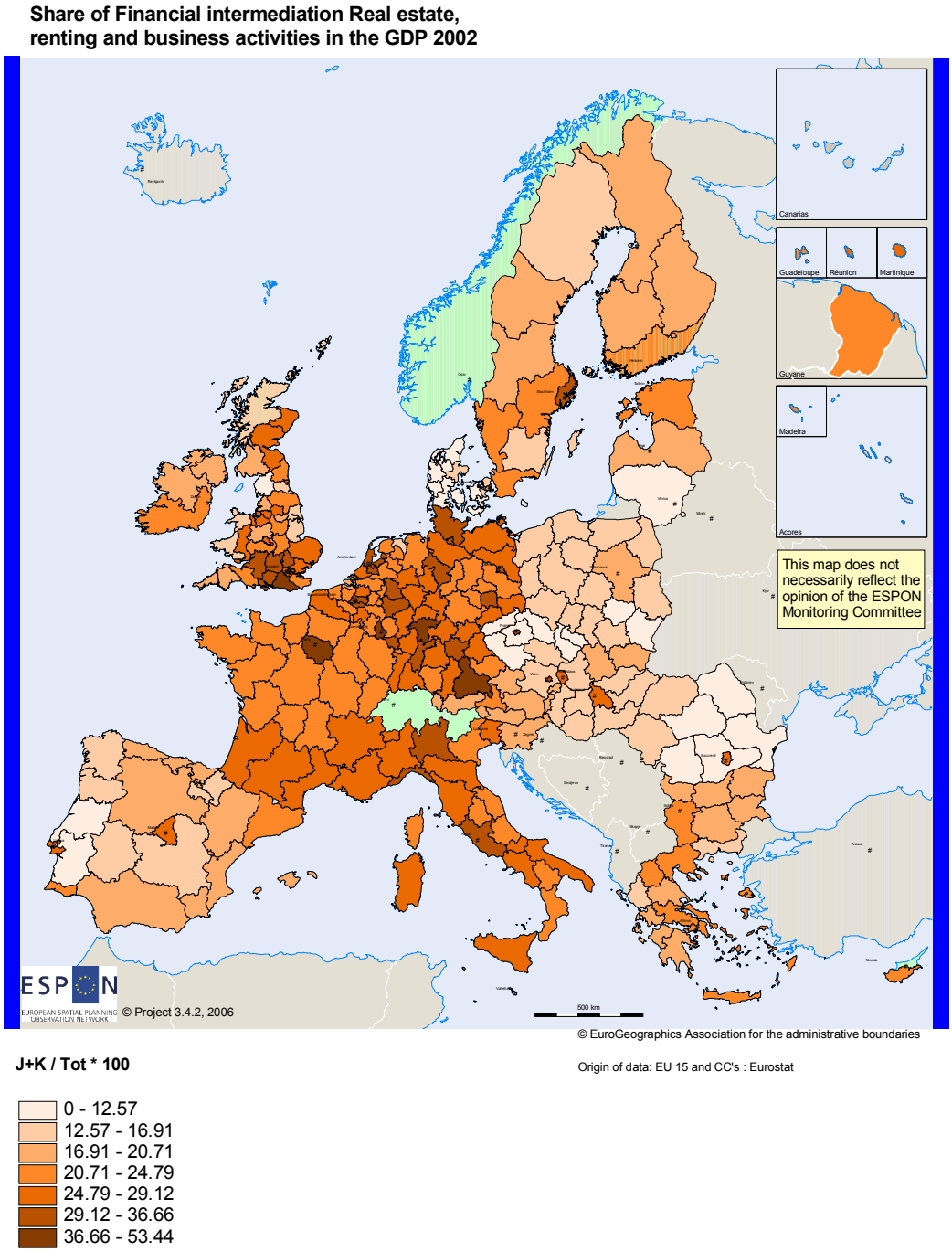

Figure 26 Share of financial intermediation in real estate, renting and business activities in the GDP 2002

Share of Public administration and defence, compulsory social security; education; health and social work; other community, social and personal service activities; private households with employed persons in the GDP 2002

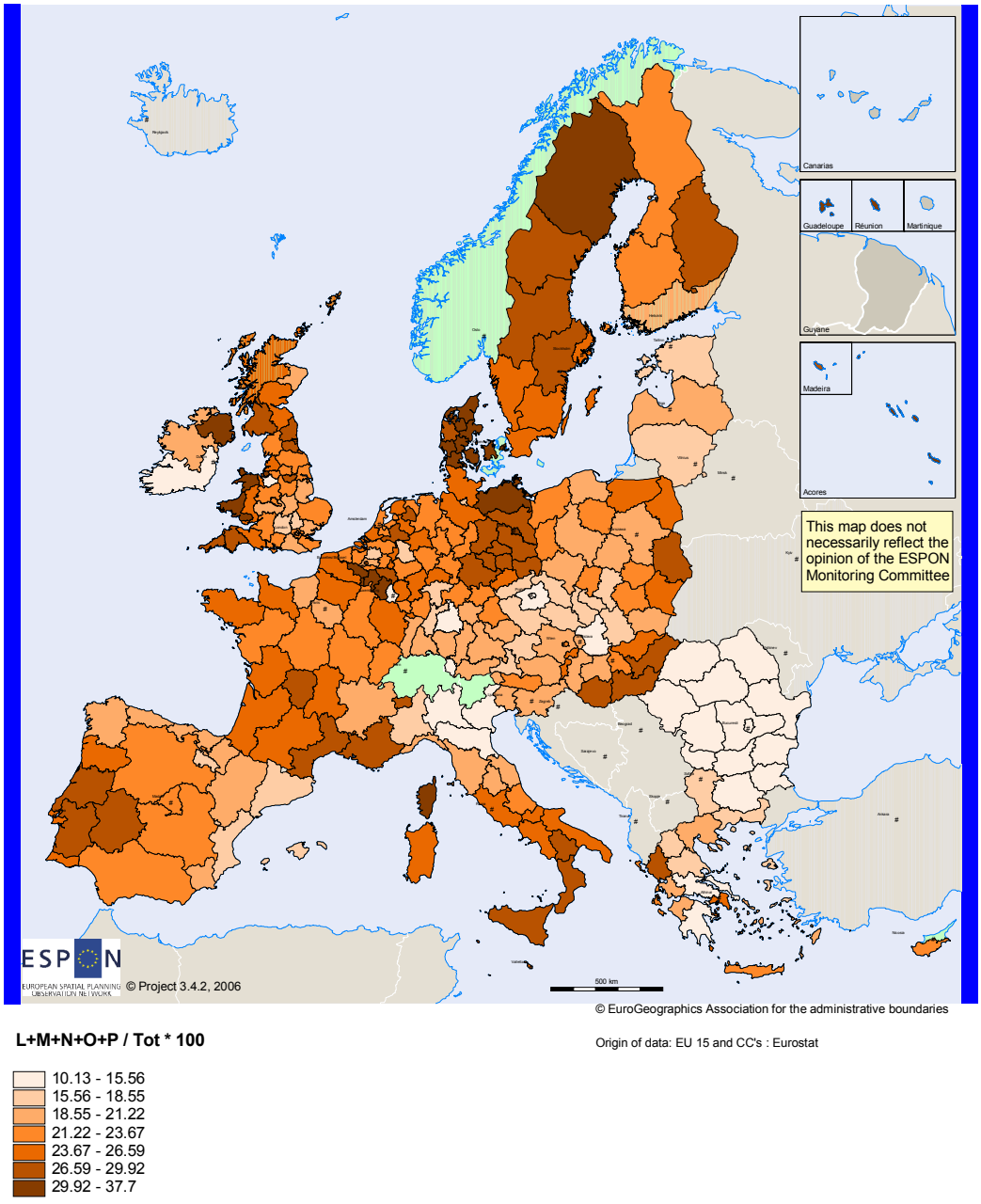

Figure 27 Share of public administration and defence, compulsory social security; education; health and social work; other community, social and personal service activities; private households with employed persons in the GDP 2002

4.6.2 Typology of regional economic structure at NUTS 2 – NUTS 3 level

4.6.2.1 *Methodology*

The first step of the typology was to produce a principal component analysis on the basis of the five sectors disaggregation of the regional economies of Europe.

The first new component of the analysis takes into account about 38% of the total information, while the second and the third counts respectively for 29,5% and 19,5%. Considering that each initial variable theoretically accounts for 20% of the information, we choose to keep the three first components of the analysis.

The graphs presented below show the position of the initial variables on the new components.

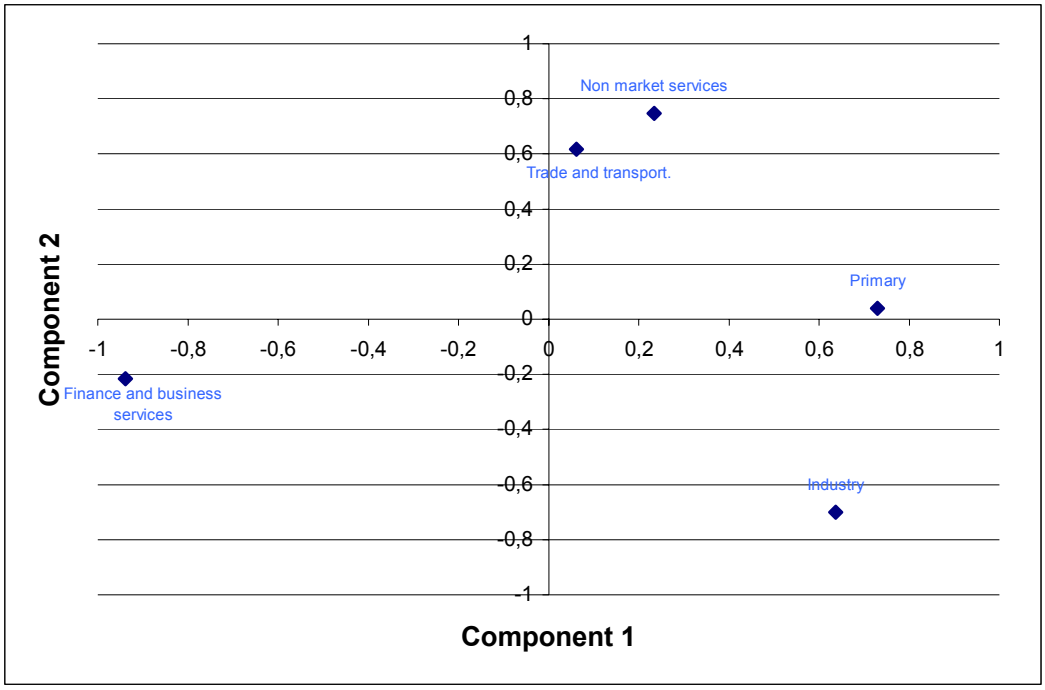

Figure 28 Correlation between initial variables and the first two components of the Principal Component Analysis

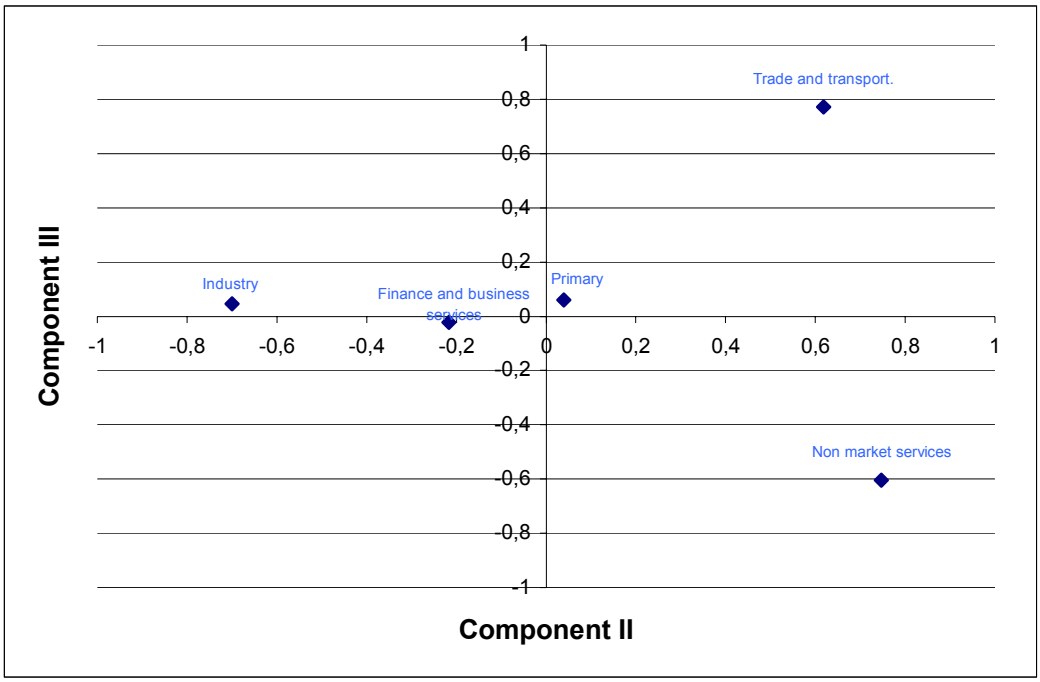

Figure 29 Correlation between initial variables and the components II and III of the Principal Component Analysis

The first component opposes regions with a high share of advanced services (finance and business services) to regions with specialization in agriculture or industrial production. In geographical terms, it shows a clear centre – periphery pattern at both European and national scales.

The second component opposes the industrial regions to regions more specialized in services (market services such as trade or non market services).

The third component opposes non market services to market services. In geographical terms, this has a clear national dimension opposing countries where public services remain strong to the ones where services are provided by the market. At a finer scale, it puts into the front regions where the share of non market services is high by lack of development of other activities (Northern Scandinavia, Central France, Eastern Germany, Wales, Wallonia…).

The second step was to produce a classification of the regions on the basis of the three new components we produce. To achieve this objective, we use the scores of each region on the three first components weighting them by the percentage of variance explained by the respective component in order to take into account the hierarchy between the three components of the PCA. The typology was elaborated through a hierarchical ascending analysis using the Ward criterion for joining clusters.

We finally opted for a typology in seven groups which represents a good compromise between readability and synthesis, on the one hand, and richness of information, on the other hand. This typology is based on an eight groups typology, but we decided to put together two groups to form group three of our typology (even though they would not have been grouped at this stage by the ward criterion). We did this because one of these two groups is marginal and structurally very near to the other.

4.6.2.2 *The typology*

The first type clearly isolates big metropolitan areas specialized in finance and market services. These are the main poles of command of the European economies. We find here big world cities such as London or Paris, as well as national poles of command of the economy (Brussels, Madrid, Lisbon, Stockholm, Prague, etc.). In more peripheral eastern countries, the economic and political capitals don't have such a high specialization in finance and market services (Warsaw, Bucarest…).

The second type is mostly located in north-western Europe. The specialization in the finance and business services is lower than in the preceding type but still exists. This type also has a clear specificity in industry. It includes Northern England, north-western Europe (almost all of Germany), the Parisian Basin as well as north-eastern Spain. The seventh type is relatively near to the second in terms of economic structure but has a weaker share in the business services and a higher share in the market services oriented to people. However, the most significant difference is the lower share of non market services in the seventh type.

The third type includes rural and less densely populated areas characterized by a specialization in the primary sector as well as non market services. It concerns specifically those remote areas in western Europe where the non market services still account for an important share of the GDP (Northern Scandinavia, Jutland, Central France, Southern Italy,…).

The fourth type is strongly specialized in both the primary and secondary sectors. It includes the most developed parts of eastern Europe, where the primary specialization indicates a relative economic backwardness and the industrial specialization is mostly related to the importance of western investments. The weakness of non market services is also very specific to these areas: the privatization of the post communist economy explains this feature in the Czech republic.

The sixth type has similar features and concerns Balkan countries at the exception of their capital cities (Romania and Bulgaria), and some remote parts of continental Greece. We can also observe here the weakness of the non market services in very privatized post communist economies. The specialization in agriculture is six times higher than the

European average. These areas are also specialized in industry, as subcontracting areas for western firms in sectors like the textile industry.

The fifth type has a strong specialization in the primary sector even if it does not exceed 4% of the economy. These regions are also specialized in market services mainly oriented to people, such as trade, hotels and restaurants and transportation. It includes mainly Poland and the Baltic countries as well as some remote peripheral areas of Western Europe (Galicia, Andalusia, western Greece….). It also includes touristic areas very specialized in those types of services (Algarve, some alpine regions, Greek islands, Baleares…).

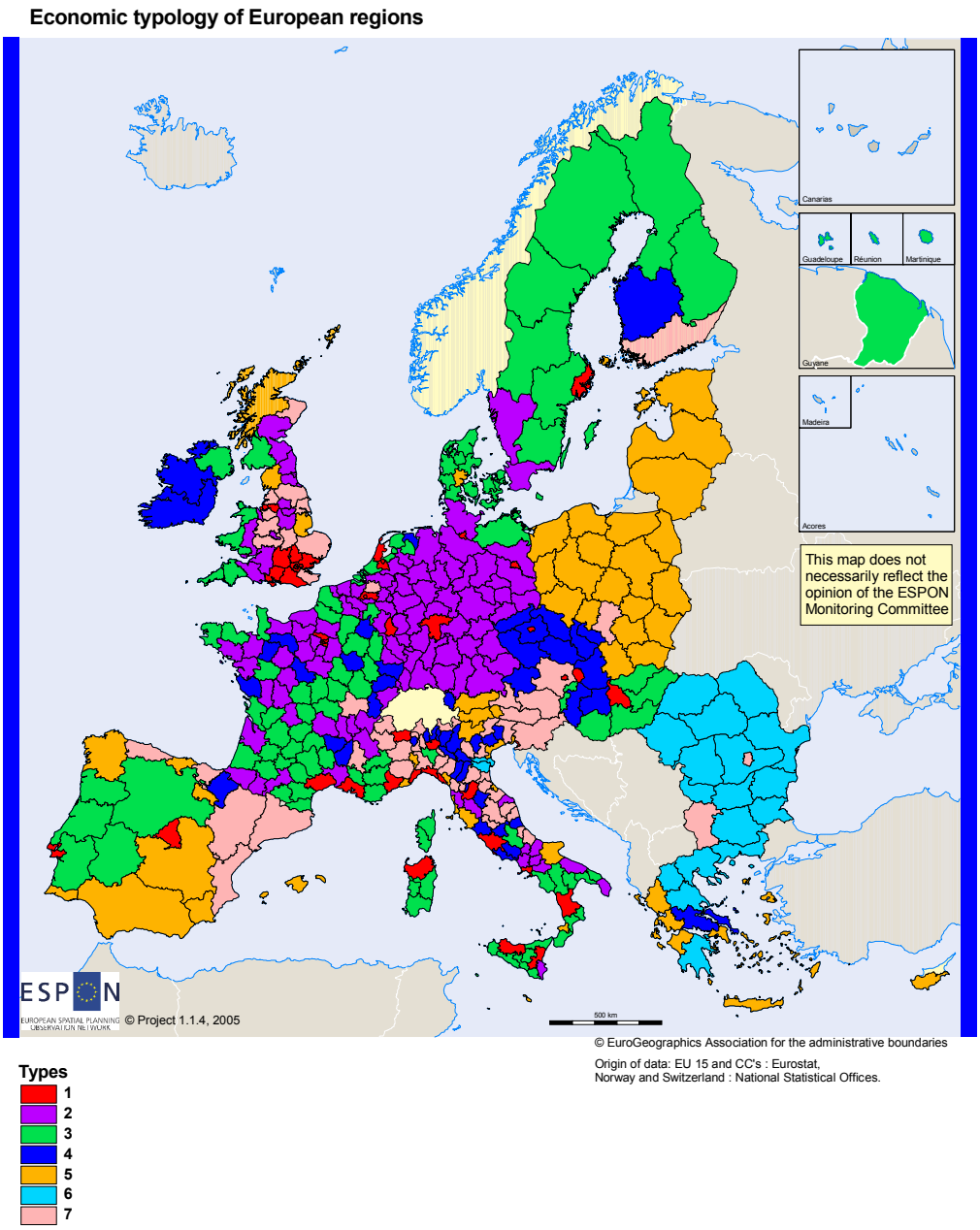

Figure 30 Economic typology of European regions

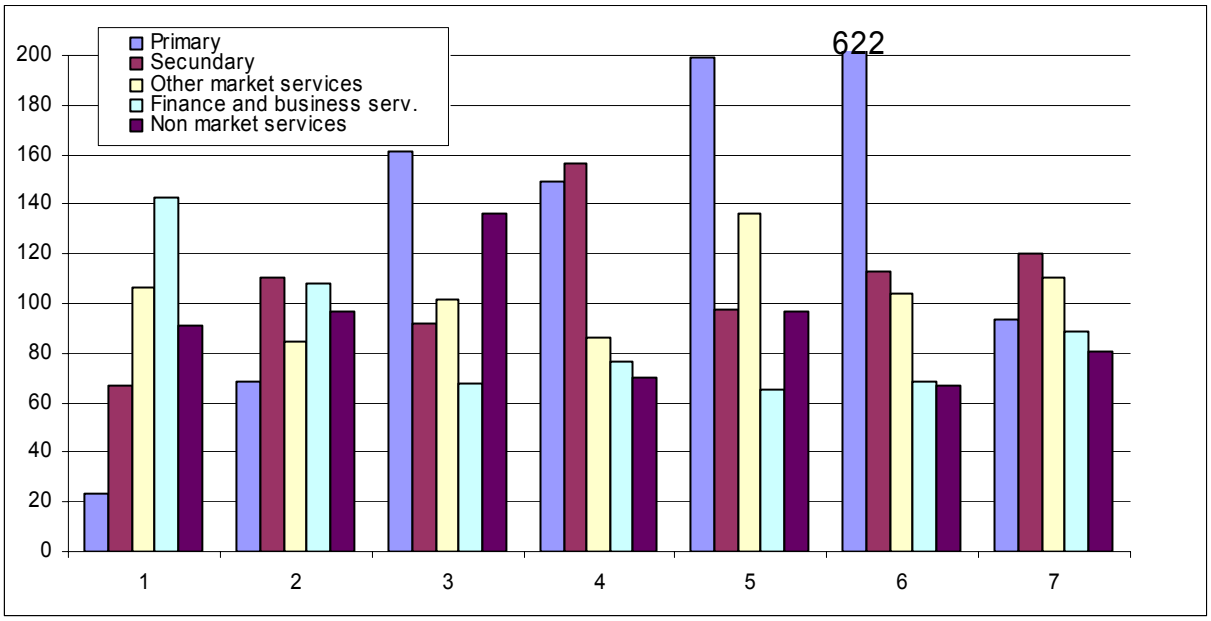

Figure 31 Sectorial Specificity* of the different types. European average = 100

* The specificity is defined as the ratio between the share of the sector in the regional economy and this share for the whole ESPON 27 space (without Switzerland and Norway)

4.7 An example of a typology linking different elements

4.7.1 Introduction and database

In a further step, we intend not only to go more in depth in this structural economic typology (i.e. using as much as possible a more detailed structural classification, for instance in 21 economic sectors, as well disaggregating Spain at the NUTS 3 level), but also to include other dimensions to the classification than pure structural added value data. As much as possible, we intend to include economic dimensions linked to the level of productivity, the rate of growth, the kind of regulation and the location of the capital, some social dimensions like unemployment or social expenses, income inequalities, health indicators and environmental performances. This kind of analysis could probably not be done at a level under the NUTS 2 level, and even for some indicators using only national data (which are the only relevant for such domains relating to the regulation processes).

At this stage, we present a first and yet incomplete methodological attempt for using this methodology at the national level.

4.7.1.1 *Methodology*

Since each dimension is interesting in itself and tells us something about the structure of the countries, we choose in a first step not to synthesize all the variables but to summarize each dimension. In a second step, we will synthesize the different dimensions. Beside the fact that each dimension has a meaning in itself, this way to proceed allows us to give the same weight to each dimension in the general synthesis, considering the fact that some of them have more initial variables than others.

For each dimension, we produce a Principal Component Analysis (PCA) in order to have a synthetic indicator of it. In the PCA, all indicators have been weighted by the population of the countries. Except for the social issues, we kept only the first component of each analysis. For social issue, we keep the two first components because the second one still accounts for 23 % of the information (with six initial variables) and show clearly another aspect of the social issue. The first dimension of the social issue is clearly related to development indicators, while the second is dealing with social inequalities.

The second step of the analysis is to produce a PCA with the different synthetic indicators. In this analysis, the eight initial synthetic variables can be summarized in two dimensions: the first accounts for 56% of the information, while the second for 21%.

4.7.1.2 *Main results*

Figure 32 gives the position of each synthetic variable on the two new components of the analysis.

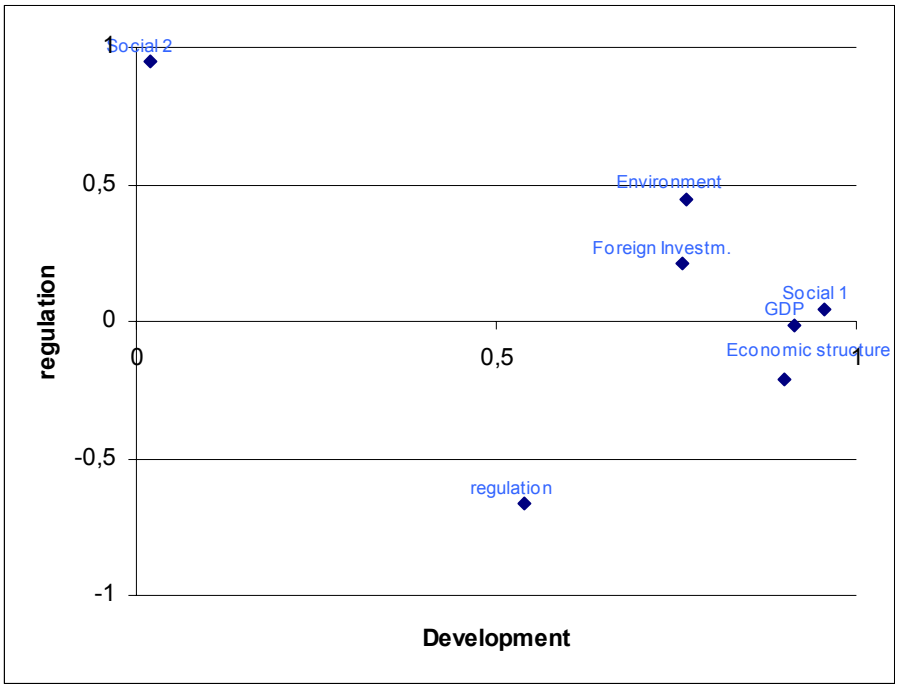

Figure 32 Position of each initial variable on the two first components of the PCA analysis

The first new component can be considered as a development indicator, showing the correlation between global social indicators (life expectancy...), standard of living, the economic structure…. It appears that countries which have the lowest score on this indicator, mainly eastern countries, have the best economic performances for the ten last years. This is why we choose not to keep the indicator of economic performances, because it would strongly influence the position of the countries on the first component on a very ambiguous way: a good economic performance would influence negatively the position on this development component.

The second component could be called state regulation and redistribution: it opposes countries with a high weight of state in the economy and low social inequalities with the countries where the weight of the state and social redistribution are lower.

Figure 33 gives the position of the countries on the two first components. The first component opposes rich countries of Western Europe on the right with poor countries of Eastern Europe on the left. Mediterranean countries such as Spain, Portugal, Malta, Cyprus, Greece and Slovenia have intermediary positions. The left position of Ireland, despite of its

high standard of living is related to some structural weaknesses, relatively bad social indicators and high level of foreigner investments (comparable to those of eastern countries.

The second component clearly opposes Scandinavian countries with high state regulation and low social inequalities, with some western peripheral countries where the weight of state is low and social inequalities are high. While UK and Italy are nearby the second model because of strong deregulation on the last 25 years, especially for UK, France, Belgium, Austria and Germany have kept a relatively strong redistribution system. In Eastern countries, social inequalities remain relatively low but the weight of state regulation has become relatively low especially for Baltic countries, and still with the exception of Hungary.

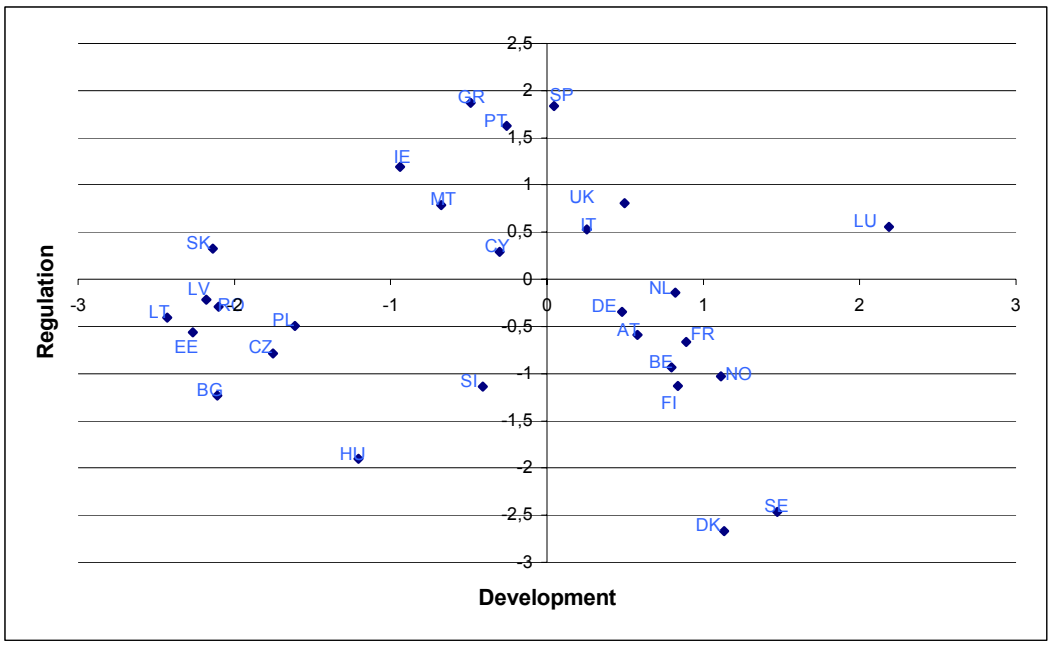

Figure 33 Position of each country on the two first components of the PCA analysis

* The position of Romania, Bulgaria and Norway should be considered as very approximative since some indicators are missing for those countries.

5 Factors of localisation

Location and relocation of firms and enterprises within the European Union

Niklas Hanes and Johan Lundberg (CERUM)

Summary: This section provides an overview of the main results in the so called entry and exit literature. Part of this literature focuses on to what extend local characteristics affect new firm formation (entry) and firm death (exit) within a geographically well-defined area. The results presented here suggest that local demand measured as population or population growth tend to have a positive effect on the formation of new firms. On the job training also tend to have a positive effect on the establishment of new firms. However, the results concerning the effect of formal education measured as the share of the population with a university degree are ambiguous.

5.1 Introduction

One of the more fundamental issues in order to understand regional economic development is to understand why certain types of economic activities locate (or why they re-locate) where they do. That is, to understand what factors are important in the decision to start up new business or close down old ones and why different types of firms tend to re-locate to certain regions? Why do some firms or branches tend to locate within a specific region? Why do some firms or branches not survive within a specific region? Why are some branches not represented within a specific region? The answers to these questions are central in understanding the mechanism behind changes in the regional or local market structure. In a wider perspective, the ability for a region to react and adjust to new economic conditions is central for the growth and welfare within that particular region. One important ingredient in the adjustment process and reallocation of resources is the close-down of unsuccessful businesses, which releases resources that could be used within more successful businesses. Therefore, in order to design a regional policy within the European Union it is of importance not only to understand what mechanisms affect the start-up and location of economic activities but also understand the driving forces behind close-downs.

Part of the existing empirical literature on start-ups of new firms and the close-down of existing ones within a specific region use the so called entry-exit models as their point of departure. These models are based on the work by Bain (1956) who tried to explain the existence of "excess" profits, i.e. why firms do not enter markets where incumbent firms make high profits (which will erode profits and drive consumer prices down) to a larger extent. Bain introduced the concept of barriers to firms to start new businesses (enter) or leave the market (exit) such as economies of scale (i.e. fixed costs), product differentiation advantages, absolute cost advantages, patents, capital requirements, national laws and regulations, and actions taken by incumbent firms in order to prevent new firms to enter "their" market. From the entrepreneurs perspective it is not hard to imagine the effects of

such barriers. The knowledge of the consequences of barriers is of importance from a policy perspective as they affect the market structure. However, part of the literature on entry and exit of firms also focuses attention on a broader set of potential determinants of new firm formation and firm death. Within this literature information on the number of start-ups of new firms (entries) or close-downs of old ones (exits), often normalized by the existing stock of firms or labour force within a specific region, are typically explained by some measure of demand and existing factors of production within the region where the activity is located. Commonly used explanatory variables include income levels, population growth and/or migration, regional unemployment rate, amount of human capital, access of natural resources, and different measures of public policy. This literature is closely related to the literature on localization where features of the spatial dimension are introduced in a more complete manner.

The literature on entry and exit of firms and localization of economic activities brings many important insights when it comes to explaining the market structure and why different economic activities tend to start-up or locate where they do. For instance, many studies support the hypothesis that regional characteristics affect the rate of firm birth within a region (see Audretsch and Fritsch (1994), Berglund and Brännäs (2001), Garofoli (1994), Guesnier (1994), Keeble and Walker (1994)). However, in *some cases* this approach falls short on the *actual* reason why the individual enterprises are located where they are (or why enterprises have re-located). The main reason for this is that these studies are not based on direct questions to those who make the decisions, i.e. company executives. It might seem obvious that one should ask those who have made the decision in order to be able to answer the question of why, for instance, a specific enterprise is located within a specific region. On the other hand, executives are likely to 'defend' their decisions and therefore answer such questions in a way that make themselves look better, i.e. there is a potential problem related to stated versus revealed preferences. Despite these problems, a combination of the knowledge from these two literatures is one way to increase the knowledge and to get a better understanding of why different economic activities tend to locate where they do.

The main purpose of this chapter is to summarize and review the empirical literature on what factors are important determinants of enterprise localization. From the start, the intention was to focus on studies based on enquiries were enterprise executives of European based firms were asked about the main advantages of their enterprises' current location and the reasons for possible relocation? To accomplish this objective the intention was to make use of the nowadays frequently used method of meta-analysis. In particular, we intended to use meta-regression analysis which is a specific statistical method designed to, in a structural way, summarize, evaluate and analyze previous results in empirical research, not only within the field of economics. However, as it turned out, we have not been able to find enough studies in order to conduct a meta-analysis (we will return to the basic features of meta-analysis in Section 2 complemented by a more in debt description of this method in

Appendix A). Therefore, we will complement the review of the literature based on enquiries with a review of the entry-exit literature in order to get a better understanding regarding what factors are important determinants of the localization of firms.

The rest of this chapter is organized as follows. The method of meta-analysis is described in brief in Section 2. Based on economic theory, Section 3 gives a general description of the concept of entry and exit with special attention on barriers to entry and exit. A review of the major findings within the empirical entry and exit literature are discussed and critically reviewed in Section 4. Using the discussion in Section 4 as the point of departure, Section 5 includes a review of the main findings in studies based on enquiries. Final conclusions and policy recommendations are given in Section 6.

5.2 Meta-analysis[15]

The basic idea behind meta-regression analysis is to first collect data from a set of independent (and relevant) empirical studies on a particular subject. In the next step a dependent variable is created based on a common metric, for instance, the parameter estimate, its t-value, or a summary statistic on the variable of interest from each of these studies. This variable is then used as the dependent variable in a regression where the covariates may (among other things) include design, methodology, characteristics of the data set used, publication details (year, journal, etc.) in the different studies. In other words, the result (a parameter estimate or a summary statistic of the variable of interest) from each study become one observation[16] of the dependent variable in the meta-regression analysis while research design, methodology, characteristics of the data set, publication information etc., are used as explanatory variables. This method allows the researcher to analyze a large set of previous studies and to formally test to what extend the results are driven by different research methods, type of data (number of observations, which region), type of industry analyzed, etc. Compared to a narrative literature review, the results of a meta-analysis will put the researcher in a better position to detect trends and to make inference about the existing knowledge as presented in the literature. However, such analysis has to be based on a large set of studies. As we have not been able to find enough studies based on enquiries in order to carry out a meta-analysis, we will instead make a narrative review of this literature complemented by a review of the main findings in studies based on enquiries.

[15] Here, we will only in brief discuss and give the reader an intuition behind meta-analysis. The discussion will roughly follow the steps for meta-regression analysis outlined in Stanley (2001) and Florax *et al.* (2002). For a more technical and deeper discussion regarding the pros and cons of meta-analysis, please see Appendix A and references therein.

[16] In some cases, which are not uncommon, results from different model specifications are presented within one study. Then it is, of course, up to the meta-analysist to decide if only one or several results from this study should be included in the meta-regression.

5.3 Barriers to entry and exit

In a stylized world free of barriers to entry and exit, free flows of capital, goods and individuals between regions, no economies of scale or taxes, economic theory predicts the number of firms within a local market to increase until the firms make zero profits. That is, as long as profits are higher than zero, new firms will enter the market in order to take advantage of these "excess" profits. In such a world, prices are driven down to the firms marginal cost, which give consumers information on production costs. However, in the real world we observe "excess" profits, prices above marginal costs and some times even monopolies. To explain why, Bain (1956) introduced the concept of barriers to entry. He defined barriers to entry as anything that allows incumbent firms to earn "excess" profits without threat of entry. Bain identified four elements of market structure which affect the ability of established firms to prevent "excess" profits from being eroded by new firms on the market; economies of scale, absolute cost advantages, product differentiation advantages, and capital requirements. It is of importance to understand the consequences of these barriers to be able to explain localization patterns as well. To give an example, let say that a specific region has the required characteristics in terms of population density, infrastructure, access to human capital, etc. to attract a certain type of industry, but this does not happen. Why? The existence of barriers to entry could be one explanation. Before we proceed and discuss results based on empirical research, let us in brief discuss the nature of the different types of barriers mentioned above and also add the role of potential actions taken by incumbent firms in order to prevent or obstruct new entries (also recognized by Bain (1956)), and national laws and regulations.

- *Economies of scale (e.g. fixed costs)*

If the fixed costs associated with entering a market are high it means that firms have to take a considerable size of the market in order to make a successful entry. To give an extreme example: the fixed costs within the aircraft industry is much higher than the fixed costs within the hairdresser industry which could be one factor explaining why there are a large number of barber shops while there are only a few number of aircraft manufacturer within the European Union. One may argue that an aircraft manufacturer serve the whole world while the hairdressers market is local. However, even in medium sized towns, the number of hairdressers often outnumbers the total number of aircraft manufacturer in the world. Consequently, there is likely to be a negative correlation between the fixed costs on the one hand and the competitiveness and the number of new firms on the other.

- *Absolute cost advantages*

Established firms may own superior production techniques through experience (learning by doing) or research. They may also have foreclosed the potential entrants' access to crucial inputs, either through exclusive contracts with suppliers or exclusive possession of a crucial natural resource. The tendency within the Swedish food industry of vertical integration (the major national grocery chains tend to purchase suppliers) will probably make it more

difficult for independent grocery shops and international grocery chains to enter the Swedish market. Hence, even though the Swedish Competition Authority argues that grocery prices are too high in Sweden (The Swedish Competition Authority (2002)), the slow process of new entrants could to some extend be explained by absolute cost advantages, in this case through vertical integration.

- *Product-differentiation advantages*

Established firms may have patented product innovation (which of course also could be seen as an absolute cost advantage), or may have cornered the right niches in the product space. Patents are often of great importance within the pharmaceutical market and could be one explanation way it is difficult to establish new firms within this sector. Incumbent firms may also enjoy consumer loyalty through, for instance, advertising or loyalty programs such as frequently flyer programs. When established firms have crucial patents or enjoy consumer loyalty, it is more difficult for potential entrants to enter the market.

- *Capital requirements*

In relation to established firms, entrants may have trouble finding financing for their investments because of the risk to the creditors. One argument is that banks are less eager to lend money to entrants because they are less well known to creditors in relation to already established firms. The potential entrant has no record to show the creditors while established firms may have a long record of creditworthy. This is basically a problem of asymmetric information; the creditor has incomplete information regarding the capability and skills of the new firm; its executives, organization and/or future profits.

- *Potential actions taken by incumbent firms in order to prevent new entries*

In many markets it is likely that incumbent firms react in order to prevent or obstruct entry. This is one factor a potential entrant has to take into consideration before entering a market. For instance, incumbent firms may act strategically and lower prices and even accept periods with negative profits in order to "fight" an entrant. One classical example is the airline business where airlines who already serve a specific route often respond to entrants by lowering prices. This "price war" continues until one has to leave the market, in this case the route. The airline market is often described as a contestable market. That is, given that an airline has made investments in aircrafts and personnel, they are flexible in choosing routes. Hence, even if one airline is the only operator at a specific route, just the possibility that other airlines would start to serve the same route will keep the current operator from charging monopoly prices.

- *National laws and regulations*

There exist a number of markets where entry is restricted by national law and regulations. In some cases and for different reasons, the national law prescribes certain services to be provided only by the public sector. Common examples are courts of law, national security (military forces), and police. Other examples are the Swedish Systembolag who possess the

national monopoly on the sales of liquor and wine, and the Apotek (who experience the same exclusive rights to sale drugs). Consequently, independently of the prices of liquor, wine and medical drugs in Sweden, it should come as no surprise that these markets are operated by only one firm. Another example is the reference price system on medical drugs introduced in Sweden 1993. In this system the reference price is set to the price of the cheapest generic drug with the same (or at least very similar) field of application on the Swedish market plus ten percent. If the drug is more expensive, the customer has to pay the excess price. This system could affect the decision of new generic manufacturers to enter the Swedish market as it could affect potential profits. In an analysis of the Swedish pharmaceutical market, Rudholm (2001) finds evidence in support for this hypothesis.

As mentioned above, in the discussion on firm location, it is of importance to keep these barriers discussed above in mind. It should also be emphasized that these barriers are more or less permanent and can differ between branches, industrial sectors and regions.

5.3.1 Why does entry and exit of firms matter?

Before going into actual literature review, the question needs to be asked why regional variations in new firm formation, firm deaths, and firm relocations actually matter. One reason is that of job growth: it is widely argued - but also contested by some - that net new firm formation is key to employment (job) growth. Another is that new firms are often viewed as being more innovative. Finally, there is the argument that firm 'flux' (births, deaths and relocations) matters for regional structural change and adaptation, a view especially defended in the evolutionary economics literature.

5.4 The empirical entry-exit literature; definitions of entry and exit, potential determinants and main findings

In the entry and exit literature, the level of aggregation ranges from continents to municipalities. They also differ with respect to the explanatory variables included in order to explain firm formation and firm death. In the following we will concentrate on the lower levels of aggregation based on European data which include regional characteristics as explanatory variables.

5.4.1 Different measures of entry and exit, and different data sets

By definition, the number of new plants or firms (henceforth we will use firms as a collective word for firms, enterprises and plants) within a region is the sum of the number of new firms, the number of transfers from other regions and the number of new firms opened and

operated by existing firms. Hence, the number of exiting firms is by the same reasoning defined as the sum of firms who leave the market for good, the number of firms leaving for another region and the number of firms purchased by or merged into other firms. It is in most cases not feasible to compare the actual numbers of new entries or exits of firms as regions differ in size and population, which, in turn, affect the local demand. Therefore, the number of new firms is often normalized either by the labour force (labour market approach) or the existing stock of firms (ecological approach). The labour market approach is based on the theory of entrepreneurial choice by Evans and Jovanovic (1989) which simply says that firms have to be started by someone. Even though this approach is based on the assumption that that some professional experience from the local market is needed before starting a new business, it does not assume labour to be non-mobile between regions. The ecological approach is relevant in explaining why entry rates vary across product markets.

For both theoretical and empirical reasons, Garofoli (1988) argues in favour of the labour market approach, while Audretsch and Fritsch (1994) argue that it depends on underlying assumptions and the question to be analyzed. Whatever the reasons for or against the two, the spatial pattern of new firm start-ups and the econometric results could be totally different depending on the definition. This is clearly demonstrated both by Audretsch and Fritsch (1994) and Keeble and Walker (1994). When Keeble and Walker divide the number of new firms by the existing stock, the new firm formation rates are highest within the London area and south eastern part of the UK. When they divide the number of new firms by the total number of employees in each region, the new firm formation rates are highest in Scotland, Wales, and the South West and London areas. Even though Keeble and Walker report results based on both definitions in order to make the results comparable with other studies, they argue in favour of measuring the number of new firms in relation to the number of employees (the labour market approach). In comparing studies and results it is of importance to keep in mind which definition is used.

Keeble and Walker (1994) analyse variations in new enterprise formation, growth in numbers of small businesses, and business failures in the United Kingdom during the period 1980-1990. Business registration and deregistration is measured at the county level and defined both in relation to the existing stock of enterprises and the number of employees within the county. Other studies who use both the ecological and labour market approach are Audretsch and Fritsch (1994), Garofoli (1994), and Guesnier (1994) while Fotopoulos and Spence (1999) only use the ecological approach. One interesting feature of the data set used by Keeble and Walker is the distinction between small and large business formation, a distinction not always made in the literature. That is, it is reasonable to assume that the start ups of large enterprises are driven by other factors compared to the formation of small businesses.

The result of what factors are important determinants of entry and/or exit is also likely to

be branch specific. This is recognized by, among others, Berglund and Brännäs (2001) who analyse entry and exit of firms at the municipal level in Sweden during the period 1985-1993. Their data include information on the number of entries and exits within eight different branches (agriculture, mining, manufacturing, electricity, construction, commerce, transport, and financing) for all Swedish municipalities which make it possible to analyze different entry and exit patterns for different branches. Even though the insight that different factors may have different impact on the firm formation in different branches is not something new, the ability to divide the data into that many branches over such a long time period and disaggregated level (municipal) is quite unique. To compare with other studies, in their analysis based on firm formation in 75 regions in West Germany, Audretsch and Fritsch (1994) make separate analyses for all branches, only manufacturing, and only the service sector. Other examples are Garofoli (1994) (84 Italian provinces 1987-1991; all branches and manufacturing only), Fotopoulos and Spence (1999) (Greece 1981-1991, national level; consumer goods, intermediate goods, and producer goods), and Hart and Gudgin (1994) (26 regions in Ireland 1980-1990; manufacturing only).

The distinction between different definitions of entry and exit, different time periods and countries are important to keep in mind when we now turn to the discussion of what are found to be the most important determinants of firm formation and firm death. At this stage, we will leave the discussion of firm death and return to this issue in the final report.

5.4.2 Potential determinants of entry and exit

5.4.2.1 *Local demand*

Initially, most new firms serve local or geographically restricted markets which suggest the growth in local demand to be one important factor in explaining the entry of new firms (see Storey (1982)). That is, as the demand within a local market increase, the number of firms increases. The increase in local demand could be due to higher income levels, in-migration or population growth, but could also be driven by increased spending by the public sector. For instance, local government expenditures, intergovernmental grants and regional policy including assistance to new firm start-ups affect the local demand for goods and services. Assistance also affects the supply of new firms. It should be noted that in-migration and population growth affect both the supply of new firms as the number of potential entrepreneurs increase, and the demand for goods and services within the region. Keeble *et al*. (1992) demonstrate a strong relationship between new small firm formation and in-migration in rural areas in the UK.

Independent of the definition of firm start-ups and conditional on a large set of other potentially important determinants of firm formation, Keeble and Walker (1994) report a strong positive correlation between previous population growth and new firm formation.

Similar results are reported by Audretsch and Fritsch (1994) when they define firm formation based on the ecological approach and estimate the model on all sectors (they also present separate results for both manufacturing and the service sector). In particular, they find new firm formation to be positively correlated with population density, population growth and per capita value added. Using the same definition of firm birth but only looking at the manufacturing sector, they find a positive correlation with population density. For the service sector, population growth is reported to have a positive impact on new firm formation. When they use the labour market approach and estimate the model on all sectors, they find population density and population growth to have a positive impact on new firm formation. They also find new firm formation in the service sector to be positively correlated with changes in population density and per capita value added. When the number of new firms is normalized with the active population, the results presented in Garofoli (1994) indicate a positive correlation between new firm formation and population growth. Similar results are reported in Hart and Gudgin (1994) who find, independent of the definition of new firm formation, positive effects from growth in local industrial demand. A contrary result is reported by Fotopoulos and Spence (1999), who find a negative correlation between the net entry rates of firms and the growth rate of the real GDP. It should be noted that they base their results on national data and that their definition of branches differ from the other studies presented in this review so far.

Somewhat contradictory results are reported by Berglund and Brännäs (2001). Their results suggest that local demand, measured as total income within the municipality, has a positive effect on entry within the transport sector while a negative effect on entry within financing. However, they do not find any significant effects from local demand on agriculture, mining, manufacturing, electricity, construction or commerce. In addition, their results suggest the average income level, which could be interpreted as an indicator of local demand, to be negatively correlated with entry within agriculture and transport, while positively correlated with entry within construction, commerce and finance. They also include size in their analysis and find it to have a negative effect on firm formation within construction while a positive effect on firm formation within transport and finance. Another important contribution by Berglund and Brännäs is the inclusion of localization subsidies provided by the national government. However, they do not find any significant effects from such subsidies on firm formation.

5.4.2.2 *Skills*

It is often believed that highly skilled individuals, either measured as formal education or on the job training, have a positive effect on entry and a negative effect on exit. The intuition here is that skilled workers are more likely to possess the competence associated with the shift from being either unemployed or employed to start a new business. A large amount of highly skilled workers may also provide a key source of inputs needed by new firms. Another measure of skills is managerial skills or contacts with others who run their own

business. Such characteristic of a region is often measured as the number of small businesses within a region. The basic idea is that a large share of small businesses within a region will make it more likely that individuals have some relation to someone who run his own business and by this get information and knowledge regarding what it takes to start up a new firm.

This hypothesis is not supported by the results presented by Berglund and Brännäs (2001). They find high education, measured as the number of individuals with at least three years of education at university level in relation to the population aged 16-64 years, to have a negative impact on both entry and survival rates within agriculture, construction, transport and financing. These findings are not supported by Audretsch and Fritsch (1994) who find a negative correlation with the share of unskilled workers and firm formation. Positive effects from on the job training on firm formation are also reported by Guesnier (1994).

In contrast to these findings, Hart and Gudgin (1994) report, independently of the definition of new firm formation, positive effects from the proportion of the population holding professional and managerial occupations. Looking at the manufacturing firm formation separately and independently of the definition of firm formation, Garofoli (1994) finds a positive correlation with his high specialization index which could be interpreted in terms of special knowledge, and firm formation.

5.4.2.3 *Wealth*

Starting a new firm is often associated with a capital investment such as capital stock, office space, machines, computers etc. As discussed above, if the capital market could be characterized as a market with imperfect information, capital requirements could constitute a barrier to entry. However, if the entrepreneur is wealthy and/or in possession of valuable assets such as house ownership, it is reasonable to assume that this barrier will be less significant.

Another measure of wealth is unemployment (or employment) rates. The correlation between the number of new firms and the unemployment rate could go either way. Based on the argument of capital requirements, unemployed may have lower credit ranking compared to employed, which suggests a negative correlation between the number of new firms and unemployment rates. On the other hand, as pointed out by Storey (1991), unemployment does not only create incentives to start a new business, but constitutes a source of labour inputs for new firms. In addition, high unemployment rates tend to have a moderate effect on labour costs (see Evans and Jovanovic (1989) and Evans and Leighton (1989, 1990).

Keeble and Walker (1994) report a strong positive correlation between wealth measured as housing values and new firm formation. They also note that their measure of wealth

correlate with the share of the population with a managerial or professional position which implies that it is difficult to separate the effect of wealth in terms of housing values and skills. In addition, they do not find the unemployment rate to be correlated with new firm formation. Using the ecological approach Audretsch and Fritsch (1994) find a positive correlation with changes in the unemployment rate, a result which does not hold for the manufacturing sector using the labour market approach. The results are mixed when new firm formation is based on the labour market approach. Garofoli (1994) finds the total number of new firms divided by total population to be negatively correlated with the change in unemployment. Opposite results are reported by Guesnier (1994) who finds a positive impact from unemployment rates and a negative impact from changes in unemployment rates on firm formation.

5.4.2.4 *Attitudes towards entrepreneurs*

The local socio-cultural attitude towards entrepreneurs could affect the number of new firms. Socio-cultural attitudes are often difficult to measure. Instead, political preferences revealed in local elections have been used as an indicator of attitudes towards entrepreneurs where the hypothesis is that a large share of socialist voters should reflect a negative attitude towards entrepreneurs. Another measure used is the share of small firms within the region. Here, a large share of small firms is supposed to be positively correlated with a positive attitude towards new firms.

Keeble and Walker (1994) find a positive correlation between the number of new firms and the share of the population voted in favour of the Labour party. They take this as evidence in favour for the hypothesis that socio-cultural attitudes matter for firm formation. However, when they define the number of new firms in relation to the stock of firms, this relationship is reversed. They explain this by the fact that high shares of votes on Labour is found in urban-industrial areas which has high shares of new firms using this definition. The fact that the relationship seems to depend on the definition of new firm rates indicate that the relationship should be interpreted with caution. Moreover, it is not made clear in the paper to what extend the voters of these two parties share the same attitude toward entrepreneurs. Instead of representing a real cause and effect relationship, such an indicator, might, however serve as a proxy for more profound structural factors. Cultural factors, and past indystrial/economic histories play a role here. In the UK case, the North East - an old heavy industrial area, with strong Labourist traditions - has failed to develop a strong enteprenurial culture. This is in contrast to the South East of England - which was never so dominated by heavy industry, was always more economically diversified than the North East, and is near to a large market, London (offering scope for new ventures).

Guesnier (1994) uses the share of small businesses (1-49 employees) as an indicator of attitude and report a positive effect. Similar measure (1-4 employees) is used by Berglund and Brännäs (2001) who find a positive correlation with firm formation within transport and

finance while a negative impact within the construction sector.

5.4.3 Main findings

This literature review highlights the fact that there is no easy and straight forward answer to the question why the number of new firms differs between regions. Regions and countries differ which implies that there are no uniform policy recommendation that will fit all regions.

In addition, there is also the issue of flux and dynamics. Regions that have high rates of new firm formation often also have high rates of firm exits. So there is a need to explain this and relate the two. What ultimately matters of course is regional variations in firm survival rates, and firm expansion rates. In the UK for example, some high firm birth localities fail to grow their firms to any size. To maintain employment dynamism, therefore, such regions rely heavily on their high rates of new firm entry, rather than on firm expansion (Cambridge is one of these). Are there regional variations across Europe in firm expansion rates? Compared to firm expansion rates in the US, much of Europe seems to have low rates. In other words it is not just firm entry and exit that matter, but what happens to surviving firms (and why this may depend on location). However, data is so poor on these issues that it is difficult to proceed to any empirical measurements of these phenomena, especially across a space as large as the ESPON space and at a regional scale.

5.5 What could we learn from the literature based on enquiries?

As the literature review is not yet complete we are not able to at this stage summarize the literature, nor are we able to give any policy recommendations. However, this will of course be included in the final report.

5.6 Final conclusions and policy recommendations

As mentioned above, we are at this stage not yet ready to make any policy recommendations. However, we could here shortly outline how such analysis could be undertaken. In section 5 we will, as the heading suggests, review the main findings within these two literatures. These findings will then be analyzed with respect to the characteristics of different regions displayed in maps. Let us give an example. Let us say that the finding by Guesnier (1994) that firm formation is positively correlated with population density is a general result. Then we will, based on a map displaying population densities across Europe, discuss potential "weak" regions in terms of firm formation. After we have identified "weak" regions in terms of population density, we will look at other characteristics of these regions. For instance, another general result might be that firm formation is positively correlated with unemployment rates. Then we could continue and further analyze the regions with low

population densities and see if these regions also have high unemployment rates. If so, these regions may have potential, if national or regional policies support local creativity and entrepreneurship, helping them to expand their business and enter new geographical markets. However, if we could not find any characteristic that is positively correlated with firm formation for a specific region, then we might suggest that these regions need some other kinds of support.

Appendix A

A1 Introduction

The number of literature reviews based on meta-analysis has increased during the last decades, especially within the fields of medicine and social sciences. The use of meta-analysis within the medical profession has also been supported and encouraged by the American Statistical Association, even when they are based on small samples, i.e. a small number of studies (Hunt (1997), page 96). For instance, meta-analysis has been used to analyze and summarize the efficiency of coronary bypass surgery (Held, Yusuf and Furberg (1989)) and the risk of second hand smoke (He, Vupputuri, Allen, Prerost, Huges and Whelton (1999)). Within the field of economics, meta-analysis has been applied to analyze the relationship between minimum wages and employment of low-wage workers (Card and Krueger (1995)), price elasticities on gasoline demand (Epsey (1998)), and the relationship between years of schooling and earnings (Ashenfelter, Harmon and Oosterbeek (1999)), just to name a few.

Even though the use of meta-analysis is widely accepted as a method to summarize and analyze research results within different fields, the method has limitations. In the following, we will discuss the pros and cons of meta-analysis.

A2 Relevant studies

Irrespective of the form of the review, narrative or meta-analysis, one of the most important issues relate to the selection of studies to be included. One frequently used selection criteria are to include studies published in journals with referee system. The referee system has its obvious advantages; the results are critically reviewed by other researchers in order to detect errors and incorrect interpretations of the results. The use of Internet and online databases such as EconLit (economics) makes it nowadays a relatively easy task to find relevant studies published in referee journals. However, this approach has its limitations as there is a possibility that published studies constitute a biased sample of what has actually been found by researchers. For instance, it might be the case that editors and referees tend to reject insignificant results (see McCloskey (1985) and McCloskey and Ziliak (1996)). This problem could be overcome by including unpublished work in the analysis. Even though such an approach would better represent the knowledge, unpublished working papers and unpublished manuscripts are more difficult to attain. However, the problem of including relevant studies and a representative selection of studies are not unique for meta-analysis but also present in narrative literature reviews.

A3 Heterogeneity of studies

In medicine and the sciences, replication of previous experiments is often used in order to legitimate results. Replicative studies are also often rewarded publication within these disciplines. Economics and the social sciences do not have the same tradition of replication. Instead, studies do in many cases have to be 'original' or 'innovative' in order to be of interest. For the meta-analysist, it is far from obvious how to account for this heterogeneity across studies. In most cases, such heterogeneity is accounted for by the inclusion of fixed or random effects. However, the problem of heterogeneity becomes even more difficult considering the fact that studies differ with respect to quality. As in the problem with including relevant studies, the problem of heterogeneity across studies is not unique for meta-analysis but also present in narrative reviews.

A4 Number of studies in the review

As mentioned above, the expansion of research publications within nearly every field has increased dramatically during the last decades. For the reviewer, this means that in most cases it will be (at least if the review is in the form of an article and not a book) impossible to include and comment all studies within the field. Let us use the excellent review of the empirical growth literature by Temple (1999) to illustrate our point. In his review, Temple tries to pin down what are major findings within the empirical literature on economic growth. In particular, based on previous research, Temple tries to answer 6 questions: 1) How is the world income distribution evolving? 2) Do countries converge to steady state path and, if so, how quickly? 3) How rapidly do returns to inputs like physical capital diminish? 4) Are poor countries poor mainly because they lack inputs, or because of technology differences? 5) Why do growth rates differ over long periods? and 6) What happens in the long run? This is an ambitious task, especially considering the fact that the article is only 40 pages long (the reference list not included).

In relation to the number of publications within other fields of economics, the empirical literature on economic growth since the famous papers by Barro and Sala-i-Martin (Barro (1991) and Barro and Sala-i-Martin (1992)) is probably best describes as a 'big bang'. Searching through EconLit's data base for journal articles on economic growth gives 998 hits. That's empirical papers on economic growth published in journals connected to the EconLit data base between 1991 and 1999! In all, Temples' review includes 138 references divided on 6 different questions, which is quite much for a narrative literature review. However, it would have been nearly impossible to review, comment and critically analyze all 998 studies. Not to mention the difficult task of analyzing and summarize what are the driving factors behind the different results. This is where meta-analysis has it main

advantages; to in a systematic way handle a large set of results from previous studies and formally, using statistical methods, test to what extend the different results are driven by the research method applied, type of data, number of observations, which region etc.. However, it is a cumbersome work for the meta-analysist to read and develop a data base consisting of 998 studies.

A5 Finding a common metric

One of the most delicate issues in conducting a meta-analysis is to find a common metric across studies. Although two different studies fall within the same literature, definitions of key variables are likely to differ. For instance, again using the empirical growth literature as an example, income growth may be measured as the growth rate of average personal income, average household income, Gross Regional Product (GRP), population, new firms etc. Moreover, monetary values in studies based on Swedish data are most often measured in SEK, distance in kilometres and weight in kilograms while monetary values in studies based on U.S. data are likely to be measured in USD, distance in miles and weight in pounds. Another issue is to decide if the size of the effect is of more interest than the significance, or if the review should consider both. If the significance is of main interest, how should significance be measured? Two commonly used measures of the significance of a parameter estimate or mean values are t-statistics and standard deviation, where the first is calculated on the bases of the second. We will return to this issue in more detail when we discuss general econometric issues and model specification. For now we just point at this problem and conclude that this issue deserves serious attention.

A5 The choice of covariates

Finding a common metric is maybe the most difficult task, the choice of covariates is slightly easier even though it also deserves serious attention. It seems natural to include information on the characteristics of the study itself; what kind of data is used (time series, panel data, cross section, what year, number of observations and years, different countries, level of aggregation etc.), what statistical method applied (GMM, fixed or random effects, ARDL, ARIMA, OLS, Maximum Likelihood, spatial effects, parametric or non-parametric etc.), functional form (linear or non-linear) and theoretical methods (is the function to be estimated on reduced or structural form). To test the hypothesis of publication bias (given that the review also include unpublished work), some information on publication status is needed. This could be in the form of a simple dummy variable indicating if the study is published in a journal or is in the form of a working paper. It could also be a set up of different dummy variables or in the form of a continuous impact measure based on a citation index of the study or ranking of the journal.

A6 General econometric issues and specification

We now turn to a more formal description of a meta-regression analysis. Many empirical studies in economics involves a standard regression equation such as

$$Y = X\beta + u$$

where Y is a $(n \times 1)$ vector containing information of the economic variable of interest, X is a $(n \times m)$ matrix of explanatory variables, β is the $(m \times 1)$ vector of coefficients, and u is the random error term. The main issue is to test the hypothesis that one regression coefficient, let's say β_1, is significantly different from some value, most often different from zero. For instance, in the empirical literature on economic growth, many studies focus on the so called convergence hypothesis where a negative and significant correlation between the initial income level (in our case $\beta_1 < 0$ and standard deviation of $s_1 < |\beta_1 / 1.96|$ to make the parameter estimate significant) and the subsequent income growth rate, which is our dependent variable Y, is interpreted in support of this hypothesis.[17] If the size of the parameter estimates is of main interest and comparable across studies, the following meta-regression equation will be applied

(1) $$b_i = \beta + \sum_{j=1}^{J} \gamma_j Z_{ij} + v_i$$

where b_i is the reported estimate of β_1 in study i, β is the value against which β_1 is to be tested (most commonly $\beta = 0$), Z contain information on characteristics of the different studies, γ are the meta-regression coefficients which reflect the biasing effects of particular study characteristics and v_i is the meta-regression error term. However, in many cases the meta-analysist will focus not (only) on the size of the effect but (also) the significance of the parameter estimate of interest. If the significance of the results is of main interest, then following meta-regression equation is more appropriate

[17] However, in a meta-analysis, β_1 could also be some other measure like the first or second moment of the variable of interest.

(2) $$b_i / s_i = \beta / s_i + \sum_{j=1}^{J} \gamma_j Z_{ij} / s_i + v_i / s_i$$

By concentrating on the reported standard deviations (or more correctly, the t-statistic as $t = b_i/s_i$) of the parameter estimates the meta-analysist avoid the potential problems associated with the fact that variables in different studies are most often measured in different units. That is, for instance, monetary values in studies based on Swedish data are most often measured in SEK, distance in kilometres and weight in kilograms while monetary values in studies based on U.S. data are likely to be measured in USD, distance in miles and weight in pounds.

Another advantage with specification (2) compared to (1) is that (2) focus on the significance of a particular effect instead of size. Irrespective of the size of the effect, if it is not significant, we cannot say that the effect is present.

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6 Regional policies and their impacts & case studies

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with the support of Marek Kozak and Maciej Smetkowski for the information on New Members States

6.1 Regional and local economic policies and their impacts

6.1.1 Introduction

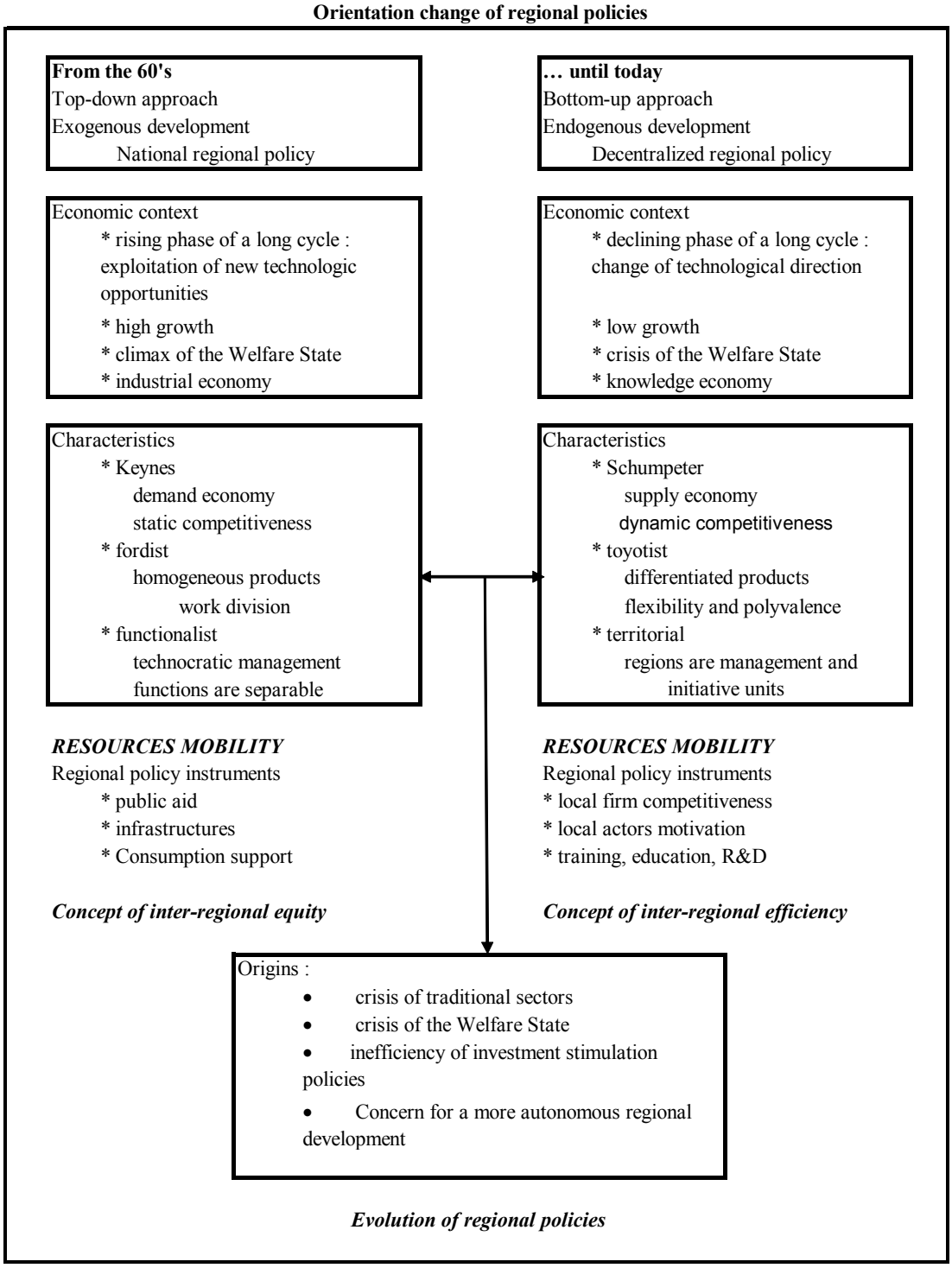
The specific question this section deals with is "what kind of policies are implemented in which type of region and with which results?". If we refer to our common working hypothesis, it is generally claimed that economic activity is becoming more spatially localized, more linked to specific environments offering externalities to companies. Thus, public policy is expected to be more and more oriented towards indirect intervention and less towards direct interventions (such as investment grants). Whether this hypothesis matches reality is the underlying question of this study's section.
This hypothesis of a paradigm shift in public policy is for instance illustrated by Bachtler's (2000) conceptualisation from "traditional regional policy" to "modern regional policy" (see Table 4).

Criteria	Classical	Modern
CONCEPTUAL BASIS	Industrial location theories	Learning region theories
	Key factors are regional attributes e.g. production costs, availability of workers	Key factors are regional capabilities e.g. innovative milieu, clusters, networks
POLICY CHARACTERISTICS		
Aim(s)	Equity or efficiency	Equity and efficiency
Objectives	Employment creation	Increased competitiveness (e.g. Increased investment, entrepreneurship, innovation, skills)
Sphere of Action	Narrow (economic/industrial)	Broad (multi-sectoral)
Mode of operation	Reactive, project based	Proactive, planned, strategic
POLICY STRUCTURE		
Spatial focus	Problem areas	All regions
Analytical base	Designation indicators	Regional SWOT analysis
	Regional exporting	
Key instrument	Incentive scheme	Development programme
Assistance	**Business aid**	**Business environment**
	Hard infrastructure	**Soft infrastructure**
ORGANISATION		
Policy development	Top-down/centralised	Collective/negotiated
Lead organisation	Central government	Regional authorities
Partners	None	Local government, voluntary sector, Social partners
Administration	Simple/rational	Complex, bureaucratic
Project selection	Internalised	Participative
Timescale	Annual budget	Multi-annual planning period
EVALUATION		
Stages	Ex post	Ex ante, interim, ex post
Outcomes	Measurable	Difficult to measure

Source: Bachtler, 2000

Table 4 Conceptualisation of classical and modern regional policy

Other similar conceptualisations also conclude to a shift in the forms of assistance: from "hard" to "soft" infrastructure, from business aid to business environment. Table 5 (Capron, 2002) synthesizes the main characteristics distinguishing the policies implemented between the 50's and 80's with the policies that emerged during the last twenty years.



Source: Capron, 2002

Table 5 Shift in the orientation of regional policies

From the 50's until the 80's, in the context of a "demand-driven" economy, two instruments were favoured by governments: financial subsidies and infrastructure investments. The recovery of underdeveloped regions was only seen possible through the attraction of new investments and the development of infrastructures. Regional and local authorities had a passive role, as the implementer of decisions taken at the national level. The controversy stems from the fact that these policies produced both positive (homogenisation of infrastructures potentials of regions) and negative results (widening the "centre-periphery" gap due to increased mobility of labour and goods, regional dependency, etc.)[18].

The economic crisis that occurred in the mid-70s not only radically changed the structure of economic activities and their location patterns but also lead to profound changes in regional economic policies, as explained in chapter 1. This crisis showed the limits of Keynesian policies, unable to tackle increasing unemployment, partly due to the decline of traditional industrial activities, but mainly to a generalised decrease of productivity..

Hence, the economic crisis caused a new conceptual change affecting three levels: the actors, the instruments and the development philosophy. At the level of actors, regional authorities obtained a higher degree of autonomy regarding the definition and implementation of these policies. Several factors favoured this tendency towards more autonomy. At an institutional level regions had requested more policy autonomy for a long time. In addition, the regional level was seen as better able to react to the fast changes induced by the changing economic paradigm and its consequences such as globalisation (see chapter 1). Policies for innovation, R&D and education became considered as the essential policy instruments. Throughout the last two decades, in the light of continuous regional disparities, exogenous development policies were left for the valorisation of the scientific and technological potential and the training of the workforce in line with business needs.

Our central objective is to verify the extent of this paradigm shift through an overview of regional policies implemented across European regions together with the associated financial efforts. The analysis is based upon the relative financial efforts a region devotes to several selected "drivers of regional competitiveness".

The methodology and results of this analysis are presented after a first theoretical discussion justifying the selection and definition of the drivers of regional competitiveness.

[18] See Vickerman (1999)

6.1.2 Drivers of regional competitiveness[19]

For the last years the concept of "competitiveness" has gained growing influence. Martin (2005) considers that it became a "new conventional wisdom" implying that "nations, regions and cities have no option but to strive to be competitive in order to survive in the new marketplace". "Economists and experts everywhere have elevated "competitiveness" to the status of a natural law of the modern capitalist economy".

At the same time, there is an overwhelming academic agreement that, as part of the process of accelerating globalisation, regions are the primary spatial unit (perhaps even displacing nation states) of wealth production and economic governance (see for example, Ohmae, 1995), although this is still very far from empirical reality as shown by the analysis in section 4.1.3.2.

The European Commission is one of many institutions anchoring its analysis into the "regional competitiveness" concept. Indeed, the improvement of regions' competitiveness is at the core of the Cohesion policy. In its "third report on economic and social cohesion", the European Commission points to the wide disparities in terms of output, productivity and employment which persist between EU member states and regions. According to the report (EC, 2004) "these disparities stem from structural deficiencies in **key factors of competitiveness** – inadequate endowment of physical and human capital (of infrastructure and skills), a lack of innovative capacity, of effective business support and a low level of environmental capital (a blighted natural and/or urban environment)".

The same report states that "countries and regions need assistance in overcoming these structural deficiencies and in developing their **comparative advantages** in order to be able to compete both in the internal market and outside". "Strengthening the **regional competitiveness** throughout the Union and helping people fulfil their capabilities will boost the growth potential of the EU economy as a whole to the common benefit of all".

What exactly is the precise meaning of "regional competitiveness"? For many, "competitiveness" remains a contentious concept (Martin, 2005) that is not well understood. While "regional competitiveness" is indeed a key notion that should be a policy priority, it is also still a complex issue with no consensus regarding its precise meaning or the underlying determinants.

The concept of "competitiveness" has received considerable amount of criticism. Krugman denounces it as a "dangerous obsession" (Krugman, 1994). He argues that it is wrong to draw an analogy between individual firms and the national economy, and that if competitiveness has any meaning then it is simply "productivity". Even Michael Porter,

[19] The discussion is mainly based on the work of Martin (2005)

whose work played a key role in transferring the notion into economics and public policy (Martin, 2005) prefers the notion of "competitive advantage" instead, and also claims that "true competitiveness is measured by productivity".

However, it appears that increased productivity is a necessary but not sufficient condition for "true" competitiveness. "Only a high-road to competitiveness, based on high productivity achieved through constant innovation in products and processes, investment, and a high-skilled labour force, is consistent with high wages and a high standard of living" (Martin, 2005).

These considerations come close to the **European Commission's definition of competitiveness** as "the ability to produce goods and services which meet the test of international markets, while at the same time maintaining high and sustainable levels of income or, more generally, the ability to generate, while being exposed to external competition, relatively high income and employment" (EC, 1999, p.4). This definition could be improved by adding to the ability to meet the "test of international market", the test of local and national markets.

The notion of competitiveness applied at the regional level is equally contentious (Martin, 2005). A region is neither comparable with a firm as an economic actor (no organisational identity or unity) nor with the national economy (no fiscal or monetary policy). However, unlike with nations, regional trade may well approach a zero-sum game. Indeed, regions with similar profiles of economic specialisation compete with each other. And within the national context, regions compete for the same labour force, capital and even public investments.

It is worth mentioning that for Krugman (2003) it may well be more meaningful to talk about competitiveness at the regional level than at the national level. According to him, at the national level what matters is "comparative advantage", but interregional growth rates are much more sensitive to differences in efficiency. A region with a high productivity will have a competitive advantage in attracting capital and labour from other regions, and will thus tend to reinforce the region's productivity even more.

Per capita GDP, Gross Value Added per worker or employment rate are all measures of the overall regional competitiveness, but are themselves the outcome of the complex interactions of various factors. When comparing different regional performances, what really matters is their dynamic measured for instance by their comparative growth.

As observed by Martin (2005) for the UK: even over the long-run, high productivity growth regions do not necessarily enjoy high employment growth (e.g. London). Actually, over the period 1980-2003, only one region (South-East) among 12 has recorded above average growth of both productivity and employment. Four regions even recorded above average

employment growth associated to below average productivity growth. In summary, productivity is not the equivalent of regional competitiveness (as for Porter and Krugman).

Economic theory might help us to approach the underlying determinants of regional differences regarding competitiveness. It is possible to extract some "key factors" or "drivers" of regional competitiveness from the various and often overlapping set of economic theories. Generally, the literature identifies the following set of determinants: (1) productive capital (inherited economic and business structure, soft and hard infrastructures), (2) human capital, (3) knowledge capital and (4) social capital.

Forms of capital	**Nature**	**Content**	**(Intervention means)**
Natural Capital	Public	Natural resources and environment	Subsidies to businesses Public investment
Productive Capital	Private Public	Business investments Infrastructures investments	Subsidies to businesses Public investment
Knowledge Capital	Private Public	R&D private spending R&D public spending	Subsidies to businesses Universities Public Research Centres
Human Capital	Private	Knowledge and skills of the workforce	Subsidies to businesses Education, trainings
Social Capital	Public	Depth and extent of interactions between business networks, public organisations, associations, etc.	Economic, technologic and social animation

(Capron, 2002)

Table 6 Forms of capital – base for regional development

Drivers of regional competitiveness are also at the core of businesses concerns. In an attempt to improve its understanding of the broad range of factors which shape a region's competitiveness, the European Commission published a survey (IFO, 1990). It covered around 9000 companies located in (1) regions suffering from lagging development (Objective 1), (2) regions facing industrial decline (Objective 2) and in (3) ten more-favoured regions. The survey questionnaire listed 37 determinants of competitiveness and asked business managers to identify the three determinants with the highest priority for improvement. The 37 determinants are grouped into 9 main categories:

- Financial markets
- Educational system
- Labour market
- Macroeconomic outlook
- Infrastructure
- National policies and institutions
- Regional policies and institutions
- Regional economic structure

- Social facilities

In lagging regions, the determinant "cost of credit" was mentioned most frequently, indicating that interregional disparities in interest rate appear to remain significant, as confirmed by the literature. The other most important determinants are common to all three types of regions. They include a lowering of income and corporate tax rates; an increase of qualified labour supply; a decline of indirect labour costs; a deregulation of the labour market; and a higher rate of national growth. The high ranking of this last factor illustrates once again the importance of the national macro-economic environment.

The survey gives a good indication of what drivers were given the highest priority by business managers in the beginning of the 90's. The "cost of credit" can be clearly identified as a specific driver that could be renamed "financing" (capital and credit). A question is whether the order of priority would have changed today, in addition to the fact that certain major determinants, such as innovation, were not clearly stated as possible choice in the survey (except in "industrial policy).

6.1.3 Are Regional policies really modern? Competitiveness drivers analysis

Benchmarking of regions is a rather tricky exercise since regions have different characteristics and face different challenges. Therefore the suggested approach analyses the current actual weight of policies strengthening regional competitiveness. Assuming that regions do actually focus on regional competitiveness two questions need to be considered. First, how does this focus show up in the budgets or accounts of regional authorities? Second, how does it translate in terms of public expenditure?

6.1.3.1 *Selection of drivers of regional competitiveness*

This section aims at compiling an overview of regional policies implemented across European regions together with the associated financial efforts. These policies are classified into the seven types of "drivers of regional competitiveness" listed in table 7.

This list of competitiveness drivers is based on the preceding theoretical discussion over regional competitiveness. It aims at being both exhaustive and synthetic and proposes categories that seem the most relevant for public policy action. Drivers of regional competitiveness are defined as the region's endowments determining the level of competitiveness measured by the relative growth of its productivity, employment rate and GDP per head.

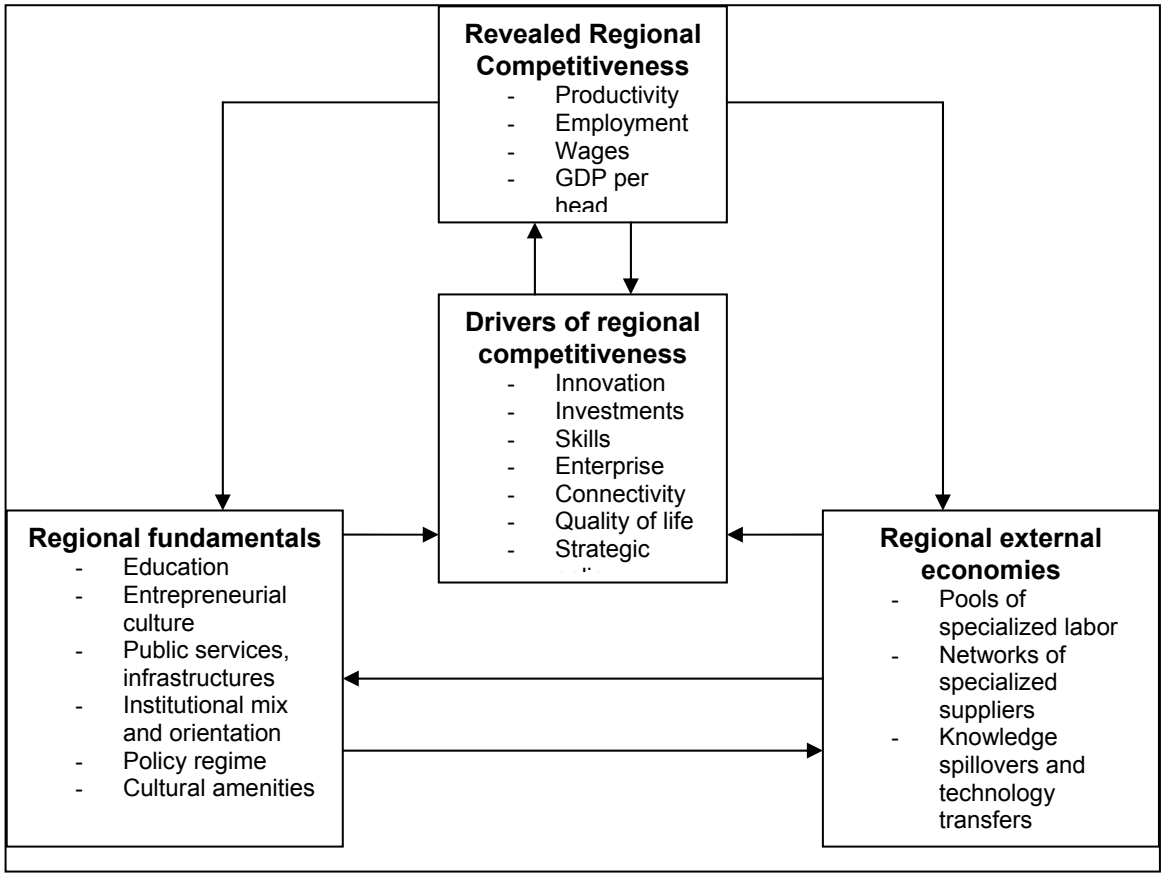
Drivers of regional competitiveness	*Definitions*
Hard or Tangible Infrastructure	Transport networks; industrial sites; communication systems; energy supply network; waste disposal and sewage systems; etc.
Social Capital	The networks of relationships among persons, firms, and institutions in a society, together with shared norms of behaviour, values and understandings (trust, cooperation, coordination, reciprocity, etc.) that enable a society to function effectively. Measurement of social capital is very difficult as it includes subjective elements ("trust", etc.). Here, we focus on the public efforts to structure networks enabling cooperation and information flows (mainly through institutional capacity building) (based on OCDE definition).
Human Capital	Skills and competencies of individuals which are mainly acquired through learning and experience. Some aspects of motivation and behaviour, as well as attributes such as the physical, emotional and mental health of individuals are also regarded as human capital. Here, we account public measures increasing individuals' skills or stimulating to the recruitement of unemployed people through wage subsidies. The latter measure is mainly seen as a tool to compensate the depreciation of human capital caused by lengthy periods of unemployment (based on OCDE definition).
Fiscal and Financial Interventions (Investment)	Public direct aid aimed at decreasing the cost of capital investments, mainly through grants and fiscal incentives.
Financing (Capital and Credit)	Compensating the high cost, shortage, rigidity and lack of access to financing means. Supply of capital, credit, credit guarantees.
Innovation (Knowledge Capital)	(Based on the Canadian Centre for Innovation Studies) While "invention" is the creation of a new idea or concept, "innovation" is turning the new concept into commercial success. Innovation is primarily an economic and social, rather than exclusively a technological term. "Technological innovation" is an innovation with significant performance content (as opposed to a fashion). Here, we focus on the public institutions which contribute to the development and diffusion of new technologies in a region and public spending for R&D (universities, firms).
Amenities / Quality of Life	Amenity is defined as "An enhancement to a piece of property that is not essential to the property's use, but may increase the property's value. Examples include a swimming pool, tennis courts, scenic view, access to a body of water, etc.". In terms of economic regional development amenities can for instance be the activities of soil or "architectural" decontamination in industrial areas, the building of sport and cultural facilities in under-developed remote areas to attract investments, etc.

Table 7 Drivers of regional competitiveness

From a theoretical point of view, these "drivers" of regional competitiveness are extracted from the various and often overlapping set of economic theories. Indeed, as explained earlier, there is no single economic theory providing a generally accepted definition of regional competitiveness and its determinants (or "drivers"). For instance, the endogenous growth theory and neo-Schumpeterian theories focus on the human capital and technological progress as the key sources of regional competitiveness. Cluster-based theories (Martin, 2005) closely associated with Michael Porter's Diamond model emphasise the role of localised clusters of specialised export-oriented industries, and associated supporting suppliers and institutional networks. Other set of theories focus on the role of various "soft" factors, such as the "thickness" of a region's institutions or even the cultural diversity and tolerance of a region (Florida, 2002).

The proposed list of seven drivers could also be seen as a mix of drivers of competitiveness with regional fundamentals, in the sense of Krugman (2003). According to him there are two sources of regional "competitive advantage": *regional fundamentals* and *regional economical externalities*. "Fundamentals" are rooted in a region's characteristics; they are "non-tradable" endowments that are immobile between regions. "External economies" are themselves a consequence of a region's pattern of economic development and specialisation. Fundamentals would be a well educated local population, a local culture of entrepreneurship, natural resources, public infrastructures, sustained public policy differences, etc. External economies are "the spillovers that result from regional concentrations of industry, and therefore explain the snowball effect of virtuous circle of growth". For instance, knowledge spillovers result from personal contact among people working on related project.

Martin (2005) proposes a model were regional competitiveness is a structured but circular model interlinking "regional fundamentals", "regional external economies", "drivers of regional competitiveness" and finally the "revealed regional competitiveness" (see table 8).



Source: Martin, 2005

Table 8 Regional competitiveness as a structured but circular process

Martin argues that what matters is how these "drivers" are supposed to interact within a regional setting and that "regional competitiveness is probably best seen as an evolving complex circular process, in which some outputs themselves become inputs, and thus influence future outputs".

The drivers identified in Table 7 capture most of drivers and fundamentals of Table 8. For instance, "Connectivity" is included in Hard Infrastructure; "Entrepreneurial culture" is part of the "Social Capital"; etc.

6.1.3.2 *Methodology*

The analysis is based on the relative financial efforts a region devotes to each driver. Indeed, when looking for example at the "Economy" budget of a given region, it contains several instruments that potentially affect different competitiveness drivers.

This work is ongoing for a dozen of European regions. At this stage we will present the results for two Belgian regions, Wallonia and Brussels. Other results will be integrated inside the final report.

The methodology of the estimation of financial means devoted to regional competitiveness drivers is presented and then illustrated with the example of Belgium and one of its three Regions, the Walloon Region. The methodology covers the following steps:

- Identification of the Region(s) to be covered by the analysis
- Identification of the budgets of the different levels of authorities spent in a given territory
- Filling the total regional budget
- Filling the table of regional competitiveness drivers

Identification of the Region(s) to be covered by the analysis

Each country has its own governance structure. The spatial level corresponding to regional economic policies varies from one country to the other. The relevance of this spatial level depends on the decision autonomy of the administrative authority and the concentration of economic development means. For instance, in France the more relevant spatial unit for regional economic policy is the NUTS 2 "Région"; in Germany the NUTS 1 "Länder" or NUTS 2 "Regierungsbezirke"; in Sweden the NUTS 3 "Län".

In Belgium, following several waves of State institutional reforms "Regions and Communities" have progressively received large responsibilities. They determine independently the allocation of their resources. They are responsible for most policies dealing with economic development (the Federal State is still responsible for core policies such as taxation and wages).

The choice to carry out our analysis at the NUTS 1 level for Belgium was pretty spontaneous as it matches the institutional framework of Belgium. The "Regional" level in Belgium is the most relevant for our analysis as Regions are responsible for the definition and implementation of most policies dealing directly with economic development. Moreover the Regional budgets provide the total amount of funds disbursed within the limits of the regional territory whether those funds originate from the Federal State (for example for wage subsidies), the Region itself or the European Union (programmes FEDER, URBAN, etc.).
In Belgium, Regions are responsible for:

- land settlement
- environment, natural resources and water
- housing
- economy
- energy
- employment
- equipments, infrastructures et transports
- agriculture and fishery

- scientific institutions
- external trade
- organization of local authorities ("communes", "provinces")

And Communities are responsible for[20]:

- Education and Research
- Social Action and Health
- Culture and Sports
- International relations and cooperation
- Etc.

Identification of the budgets of the different levels of authorities spent in a given territory

The aim is to evaluate the main budget allocations affected to the economic development of a specific region. Indeed, a given investment program or service might be financed and managed by different levels of institutional authorities (local, regional, national, EU). It is necessary to identify all sources of funding that are spent within the selected region.

In Belgium: Flanders (Flemish Community Government); Wallonia (Walloon Region Government; French Community Government)[21]; Brussels (Brussels Region Government, French Community Commission; Flemish Community Commission)[22]. These territorial entities correspond to the NUTS 1 level. We do not take into account the spending of the NUTS 3 level ("Arrondissements").

Federal State contributions are included within these regional budgets. The same is true for European Structural and Cohesion Funds. The possibility of distinguishing the different contributions' weight varies with each region's standards of budget presentation.

Filling the total regional budget

The scope of the research is limited to the following traditional policies and budgets: Economy, Employment (if it affects the skills of job seekers or reduces the cost of labour to foster the hiring of unemployed people), Vocational Training, Infrastructures, Transports, Innovation, Research and Technology.

[20] Transfers might occur for reasons linked to financial difficulties of certain entities. For example, the French Community transferred its competence in Social Action and Health to the Walloon Region.

[21] German Community is not accounted. In the case of Wallonia, the French Community does not intervene in economic development. However, in Brussels, vocational training budgets are managed through the two Communities Commissions.

[22] We consider that the spending of the French Community are localized inside Wallonia, although in reality they cover the inhabitants of Wallonia (80%) and the French-speaking inhabitants of Brussels (20%). The problem is the same for the spending of the Flemish Community towards the Flemish-speaking community of Brussels but in much smaller proportion (97% - 3% ratios).

However, according to each regional context, other relevant instruments could be highlighted. For an old industrial region such as Wallonia, this is especially the case for the rehabilitation of industrial brown field area. Education is only considered in its "vocational training" dimension in opposition with University, Secondary Education, etc. In a similar way, scientific research is only taken into account as far as it is concerned with applied research (not fundamental research).

The information relative to other categories of budgets (Agriculture, tourism, housing, etc.) is interesting as a matter of getting the "full picture" of the regional policy landscape.

We are thinking in terms of means for actions rather than in terms of means of payment. Thus, at the level of the Budget lines, we take into account the credits that must be utilized within the budgetary year ("Crédits non dissociés") and the credits engaged for multiyear programmes ("Crédits d'engagement"). We also take into account the so-called limited "variable credits".

Regional Budget (2005)	in 1000 EUR
Regional economic development means	**2.068.209**
Equipments, Infrastructures and transports	790.505
Economy	300.504
Employment and Vocational training	820.370
Innovation, Technology and Research	156.830
Other regional development means	**1.815.687**
Agriculture and fishery	146.800
Tourism	40.292
Housing	240.933
Land settlement and patrimony protection	99.249
Environment and natural resources	168.574
Energy and water	20.462
External/international relations	71.372
Administration and government	670.663
Debt services	357.342
Total Regional budget	**3.883.896**
Specificities to the Walloon Region	
Provisions for European cofinancing 00-06 (FEDER, FES, etc.)	146.069
for Economy and Employment	17.163
for Vocational training	15.134
for Research, technology, relex	770
for Equipement and transport	57.160
Transfers to Local authorities (communes)	1.272.475
Economic and Rural "boost" fund	62.500
Social action and health	669.031
Total Official Regional Budget	**6.033.971**

Table 9 Wallonia Regional Budget structure

Even though our intention is not to compare regional budgets we have to correct some of the budget allocations to ensure the comparability of financial efforts devoted to the drivers.

Indeed, regarding the budget presentations, each region has its own particularities and accounting rules.

Filling the Table of Regional Competitiveness Drivers

For a given region, the total volume of Regional Economic Development Means is then distributed between the seven drivers of regional competitiveness. Let us look at the following example: allocating the Economy budget division of the Walloon Region among the Regional Competitiveness Drivers (see Table 10). In the Economy division, we filter out all budget lines that do not have a clearly identifiable impact on competitiveness drivers.

Economy budget (EUR 1000) year 2005	**Elimination**
Program 1: economic expansion (investment grants, tax exemption, regional bank guarantee, cluster policy)	- Expenses for studies, publication, Region's representation, etc. - Special budget line for the dismantling of a nuclear reactor
Program 2: Reorganization and development (Regional investment fund)	- Council for the reorganization of enterprises (operation costs) - Intervention in the cost of the take-over of enterprises facing difficulties (bankruptcy, ...)
Program 3: Industrial parks	
Program 4: Policy definition and evaluation, Coordination, Information	- Studies, participation to conferences, welcoming of European delegations, etc. - Maintenance of web sites and data bases (information over public aid, etc.)
Program 5: Foreign Direct Investments promotion	
Program 6: SMEs and Independents	- Studies, experts services, participation in exhibitions, etc.
Program 7: Coordination of projects related to the Structural Funds (studies, evaluation, promotion, etc.)	- All budget lines
Total budget = 317.667 (including 17.163 EU fund)	**Total = 22.610**
Adjusted economy budget = 295.057	

Table 10 Analysis of Wallonia Economy Budget

Then, each budget line included in the EUR 295.057.000 (Adjusted economy budget) is allocated to a specific driver. Although some budget lines might affect more than one driver, we look at the primary objective of the action and affect the associated budget line to the targeted driver. This work relies on the researcher's own judgement and requires a thorough reading of the budget justifications.

Allocation of the adjusted Economy budget (year 2005) to the competitiveness drivers (EUR 1000)	
Hard infrastructure	32.660
Social capital	26.383
Human capital	3.600
Fiscal and financial interventions	176.914
Financing	54.150
Innovation	1.350
Amenities	0
Total	**295.057**

Table 11 Wallonia Economy budget and drivers of competitiveness

The same process is followed for each division of the budget that was considered as contributing to the "Regional economic development means" (in Table 9).

The Employment division is a particular case. It is worth noting the important difference between the Employment budget and its adjusted version. Indeed, we only consider the budget lines that influence the competitiveness drivers either through an improvement of the skills of the workforce (i.e. training for unemployed people) or through a decrease of labour cost as an incentive for private firms to hire unemployed.

Thus, many programs of the Employment budget are not accounted for. For instance, the subvention to "Social insertion" enterprises (EUR 2.549.000), which aims at social and professional integration of much weakened job seekers is not considered. Another example is the wage subsidies for young workers. The amount dedicated to the private sector (EUR 5.700.000) is taken into account but not the amount related to the public sector (EUR 1.500.000). Similarly, only the part of the budget dedicated to training activities (EUR 120.383.000) of the regional Public Agency for Employment and Training (FOREM) are accounted for (EUR 79.680.000 for other operational costs are not considered).

Finally, for each identified instrument the origin of the financial means (budget division name) is indicated as well as the various levels of governance involved in funding (Regional/National/Europe). For example, the Federal State is involved in the funding of employment measures such as wage subsidies associated with the recruitment of unemployed. The EU is involved through Structural Fund programs such as "Objectif 2 for the district of Meuse-Vesdre (Liège)" or "Objectif 1 phasing out for Hainaut".

See Appendix for detailed tables of financial means allocated to competitiveness drivers for the Walloon Region.

Results for two Belgian regions: Wallonia and Brussels

In Wallonia, economic activities were traditionally dominated by heavy industries, coal and steel. For the last decades, the regional problem has been primarily associated with the sharp decline of these sectors. The usual criticism addressed to policy makers is their failure to support the reorientation of the Region's economic base. Between 1996 and 2002, the GDP/capita of Wallonia has decreased from 74% to 72% of the Belgian average and from 87,4% to 84,3% of the EU-25 average (in Purchasing Power Parities). Between 1992 and 2002, the unemployment rate in Wallonia increased from 9,8% to 10,5% while the EU-25 average unemployment rate decreased from 8,9% to 7,8% (using Eurostat data). Moreover, in 2002, long-term unemployed accounted for 58,6% of the total Walloon unemployed against 40,2% in the EU-15.

Brussels Region is characterized by a strong dichotomy. On the one hand, it is by far the richest Belgian region, and a top ranking European region, in terms of GDP/capita. On the other hand it has the highest unemployment rate of the three Belgian regions. Between 1996 and 2002, the GDP/capita of Brussels has decreased from 206% to 201% of Belgium average and from 243,8% to 234,5% of the EU-25 average (in Purchasing Power Standards; Eurostat data). Despite this decrease Brussels' level of GDP/capita remains very high. However, between 1992 and 2002, the unemployment rate of Brussels sharply increased from 9,3% to 14,5%. As in Wallonia, the proportion of long-term unemployed in Brussels region, 55,1% in 2002, is much higher than the EU-15 average. This is a typical example of a metropolitan region whose production is redistributed to adjacent regions, mainly through commuting.

The situation seems even bleaker when looking at the data of the Belgian Ministry of Labour, which better captures real unemployment. The unemployment rate (total number of unemployed / Active population 15-64 years old) in January 2005 was 18,2% in Wallonia, 20,9% in Brussels and 8,5% in Flanders, with a Belgian average of 12,7%.

year 2005	Wallonia	Brussels
Hard or tangible infrastructure	*54%*	81%
Social Capital (Supporting networking, cooperation, coordination, information circulation)	*6%*	5%
Human Capital (skills and competencies; cost of labour incentives)	15%	8%
Fiscal and financial interventions (investment grants, tax exemption, etc.)	*12%*	2%
Financing (supply of capital, credit, bank guarantees)	*4%*	0,3%
Innovation support (R&D support, technologies diffusion, etc.)	*9%*	3%
Amenities (quality of life, entertainment, culture, etc.)	1%	(…)
TOTAL (1000 EUR)	**1.507.255**	**736.729**
EUR per head	444	732
Total Regional budget	6.033.971	2.773.497
EUR per head	1777	2755
% Regional economic development means in total budget	25%	27%

Table 12 Financial efforts towards drivers of competitiveness, Wallonia and Brussels

The allocation of the identified economic development means between drivers of regional competitiveness enables to draw a few observations:

As already visible in its Regional budget, the weight of infrastructure spending is particularly heavy in the Brussels region (around 1/3). When restricted to its economic development means, infrastructures spending for roads network and public transports reach 81% of the total. Needless to say, that the remaining few financial means cannot allow any significant public support for innovation or human capital. In Wallonia, obvious efforts are made towards innovation (9% of total means). However, the traditional instruments of investment grants and other financial interventions still account for an important 12%.

Results for other regions

At this stage the collected information is not yet as detailed as for the two Belgian regions. However some elements of information relative to regional policies in the New Member States (NMS) can be inferred from our survey and from Euroreg's study over NMS' investment schemes (see Appendix p. 181).

For historical reasons, New Member States do not yet present a structured regional level of governance. This level is gradually being built in most NMS belonging to the Eastern-Europe area (Baltic countries, Poland, Hungary, Slovenia, Czech Republic, and Slovakia). The limitd size of Malta and Cyprus do not call for regional levels of governance.

NMS countries all try to attract FDI in order to foster economic growth. They designed investment schemes that reflect regional development concerns. All of them have to respect the EU State Aid Regulations. Generally, investment aid schemes of national authorities offer rates that vary according to the region's unemployment rate.

Poland and Latvia have Special Economic Zones (SEZ); Lithuania has Free Economic Zones. In Poland, the first SEZ was established in 1995. In 2001, it counted 14 SEZ. In 2001, the 14 SEZ covered 6,000 hectares, for a total of 685 companies and 47,075 jobs. Around half of invested capital is coming from the EU. Interestingly, although the central aim of the SEZ is to attract FDI, they only accounted for an estimated 3,5% of FDI flows in Poland between 1996 and 1998. Companies investing in SEZ benefit from a corporate tax exemption. Moreover, the maximum intensity of aid is 50% of the investment cost in most of Poland territory, except in Krakow (40%), Warsaw and Poznan (30%).

Today, SEZ are situated in ten of the sixteen Provinces (new "voivodships"). The concentration of SEZ does not however appear to be really linked to the regional level of GDP per head. The Dolnoslaskie region alone counts 3 SEZ and is one of the richest Polish regions (in 2002: 112% of the national average GDP (in PPP) per head. Eurostat data). At the opposite three of the relatively poorest regions account for 6 SEZ (Podkarpackie, Warminsko-Mazurskie, Swietokrzyskie). However, most SEZ appear to be settled in regions presenting unemployment rates higher then the national average (average between 2003 and 2004 of 19,8%), with Swietokrzyskie (19,9%); Pomorskie (20,4%); Warminsko-Mazurskie (23,1%); and Dolnoslaskie (25,5%).

In Latvia's four SEZ the basic incentive package include 80 to 100% rebate on real estate tax and 80% rebate on corporate income tax. Moreover, there is no VAT on trade within the zone and no custom taxes on imports and exports.

In the Czech Republic, tax incentives and financial aid offer different conditions in regions presenting high unemployment rate. For instance, the minimum level of investment to be eligible for a tax relief is lower in these regions. Grants for job creation and trainings range from zero in areas with unemployment rate below the national average to EUR 8,000 per employee in areas with unemployment over 14% above of the national average.

Finally, in Slovenia, the Osrednjeslovenska region, which is the richest of the country has a lower rate of investment incentive (35% against 40% in the rest of the country). These grants are available for investments in industry, some strategic services and R&D.

Moreover, municipalities may also offer different forms of incentives negotiated on a case-by-case basis (i.e. local taxes exemption, access to industrial sites, etc.).

Latvia and Slovenia provide interesting examples about the current building of regional governance levels.

Latvia has five NUTS 3 planning regions. Every region has a Council with elected councillors and an Agency for Regional Development. Councils currently do not have any proper budget but can decide on the following issues: development strategy; spatial planning; concepts of sector development; budget of the Agency for Regional Development. The Agency for Regional Development has to implement the Council's decisions. The Agencies are also allowed to participate in different INTERREG projects and other EC initiatives.

The national and municipal levels (NUTS 5) are the only two acting administrative authorities in Slovenia. Several attempts to introduce a regional level of authority, as indicated in the Constitution, have so far failed. However, some regional initiatives and cooperation do exist (NUTS 3). Regional Development Councils bring together representatives of the municipalities, employers, workers unions, NGOs, etc. These Councils decide on regional development programs and priority projects. They prepare regional spatial planning (in cooperation with national authorities). Although regional budgets do not formally exist, financial sources for regional activities are allocated by national budgets, municipal budgets and EU funds.

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6.2 Guidelines for case studies

While section 6.1 attempts to answer the question: "What kind of policies?", this section goes a step further and deals with the rest of the question: "…in which type of regions and with which results?".

The selection of the case study areas is based on a regional typology, the selection of regions within the typology's categories and the identification of issues to be investigated.

6.2.1 Regional typology

In its response on the First Interim Report, the ESPON Coordination Unit recommends to make use, as far as possible, of indicators and typologies provided by other ESPON projects. After checking through these existing typologies, it was decided to use the typology developed by the current project, which is more adequate with our field of investigation. Furthermore, this choice increases the overall coherence of the current project.

Project 342 is developing an update of Pr. Vandermotten's typology (see FIR, p. 71) extended to the new member states. At the current stage of the Second Interim Report, this update was not yet finalized. Hence, this working package uses the former typology based on 1990 data.

The methodology and details of this typology are explained in chapter 4. In brief, Vandermotten (2000) proposes an economic typology of European regions, which highlights a centre-periphery structure. The EU 15 Member States, Norway, Iceland and Switzerland are divided into 484 territorial units (NUTS 3 and 2). The typology is built upon the structure of these units' Added Value (19 sectors of economic activity, data of 1990) and takes into account the GDP in relation to the population and surface. The typology, which in total identifies 37 kinds of regions, provides the following main types and subtypes:

1. The Centre, composed of:
    a. Metropolitan regions
    b. Non metropolitan central regions
        i. Divided into three categories (degree of industrial specialization)
    c. Sub central regions

2. Intermediate regions
    a. Divided into three categories (industrial base intensity)

3. The periphery

a. Divided into two categories (rich and poor)

As the ten new member states were not included in the former Vandermotten's typology, an existing ESPON typology has been used to operate the selection of the regions. The "potential oriented typology" of new member states developed in ESPON 2.2.2 "Pre-Accession Aid Impact Analysis" appeared as the most relevant for our study.

The ESPON 2.2.2 typology includes five kinds of potentials: labour market potential; innovation potential; regional market potential and geographic position; urbanisation and localisation advantages; institutional potential. These potentials are evaluated on the basis of several indicators. Cluster analyses resulted in a differentiation between ten groups of regions that can be aggregated into three categories.

Types	Categories	
10	high potential endowment	Capital city regions and growth poles;
9		
8		
7	medium potential endowment	Western border, centrally located rural and old industrialised
6		
5		
4		
3	low potential endowment	Eastern peripheral and rural regions.
2		
1		

Table 13 Potential Oriented Typology – New Member States (ESPON 2.2.2)

6.2.2 Selection of regions

The following four types constitute the categories for the selection of regions inside the EU15 space: Metropolitan regions; Non metropolitan central regions; Intermediate regions; the Periphery. Two regions are selected in each category: the most and the less successful one. "Successful" should be understood as "competitive", such as discussed previously. However, for reasons of resource limits, only one region will be selected in the Central regions category. Two more regions will also be selected in the "Potential Endowment" typology for New Member States.

Here, competitiveness is defined as a combination of positive evolution of two indicators:

- Increase of the Gross Domestic Product per inhabitant (in Purchasing Power Parity) during the last 8 years (data: 1995-2002);
- Decrease of the unemployment rate during the last 10 years (data: 1995-2004).

The most successful region must outperform all regions of the same type, and the less successful one must show the exact opposite trend. In each type, regions are given a ranking in terms of GDP/head growth rate and in terms of job creation (decrease in the level of unemployment rate). Then, each region obtains a final ranking that is equal to the arithmetic mean of the two previous rankings.

However, the unemployment data (Eurostat) leads to surprising rankings. As the reliability of these data was not considered completely satisfactory (instability of data over time; instability of data comparability between countries), the GDP/head ranking alone was used for the selection of regions. The unemployment ranking was kept as an indicator only.

Moreover, given that the members of the research team are likely to have more in-depth knowledge and better access to information in their own country, the second, third or following most successful region might be selected for the case study analysis instead of the first most successful region.

In total 7 regions (3 pairs of regions and one region alone) will be analysed through case studies. In addition, two more regions belonging to the New Member States will also be studied.

Types of regions	**Number of records (total=192)**	**List of regions (NUTS 2, 3)**	***VAR GDP*** (increase rate of GDP (PPP)/head between 95-2002)	*VAR UNER* (decrease rate of unemployment rate between 95-2004)	final ranking
Metropolitan regions	25	1. Most successful 2. Less successful			
Non metropolitan central regions	33	3. Successful			
Sub-central regions	36	No			
Intermediate regions	49	4. Most successful 5. Less successful			
The periphery	49	6. Most successful 7.Less successful			

Table 14 Selection of regions within a typology

This approach enables a meaningful comparison. Ideally, best practices could be inferred from best performing regions and failure factors from the poor performing ones.

6.2.2.1 *Notes about data availability and definition*

247 territorial units were identified and each of them has been associated with one type, and GDP/head and unemployment rate values. For reasons of data insufficiencies, 55 territorial units are not considered.

NUTS level:

For most countries, the NUTS 2 level was used, given that comparison is the easiest at this level of spatial division. However some exceptions need to be highlighted. In Belgium, NUTS 1 level was used, since the three institutional regions are quite homogenous. For instance, the Walloon region (NUTS 1) is composed of 5 "Provinces" (NUTS 2); 4 presenting the same sub-type (Sub-central with public services support). Although the most relevant political regional level in Germany could have been the "Länder" (also NUTS 1), it was not possible because of the diversity of their economic structure. For instance, the "Land" Bayern (NUTS 1) is composed of seven "Regierungsbezirke" (NUTS 2) ranging from Metropolitan, Non metropolitan central; Sub- central and Intermediate regions.

In Denmark and Sweden the NUTS 3 level was used as it is certainly the most relevant level for regional governance. Moreover, Denmark does simply not provide data for the NUTS 2 level. Finland was finally not studied because of the difficulty caused by substantial changes in the country's NUTS definitions.

GDP and unemployment data:

The regional data we used come from the EUROSTAT database. The variables taken into account are: Gross Domestic Product per inhabitant (in Purchasing Power Parity) between 1995 and 2002; unemployment rate between 1995 and 2004. Unfortunately, some data were not available for these years. In the case where data were only missing for a few years, we made simple estimation. But if data were lacking for too long periods of time, the regions were not included in the analysis.

For instance, since unemployment data were not available for "Inner London" and "Outer London" (UK) from 1995 until 1997, simple estimations have been performed to fill the gap. However, for the four French overseas territories, no unemployment data were available between 1995 and 2001. These regions had to be excluded.

Other data were available for different time series. In this case the regions were still included in the analysis. For the three Belgian regions unemployment data are for 92-2002; in France, unemployment data of "Corse" are for 92-2002; unemployment data in the UK are for 1996-2002. Finally, in Sweden, NUTS 2 level data, between 96 and 2004, were used as approximation of NUTS 3 unemployment.

6.2.2.2 *Selection*

For each type of region, a selection of two regions for case studies is proposed. However, this selection might be modified. Any modification would stay within the limits of performance classes. In all the following tables, these performance classes are highlighted by the coloured lines.

Metropolitan regions:

Country	**Regions**	**Sub-types**	***VAR UNER***	***VAR GDP***	rank gUNER	**rank gGDP**
UK	Berkshire, Bucks and Oxfordshire	METRO III CENTRAL	-10%	64%	16	1
UK	Inner London	METRO III CENTRAL	-37%	59%	5	2
UK	Gloucestershire, Wiltshire and North Somerset	METRO III CENTRAL	-44%	58%	2	3
UK	Surrey, East and West Sussex	METRO III CENTRAL	-37%	58%	7	4
UK	Bedfordshire, Hertfordshire	METRO III CENTRAL	-33%	55%	9	5
Spain	Comunidad de Madrid	METRO III CENTRAL	-61%	53%	1	6
Nederland	Utrecht	METRO III CENTRAL	-31%	50%	11	7
Greece	Attiki	PERIPH METRO	-18%	47%	14	8
…	…	…	…	…	…	…
France	Île de France	METRO III CENTRAL	-5%	37%	18	18
Germany	Oberbayern	METRO II CENTRAL	26%	36%	22	19
Belgium	Région Bruxelles-capitale	METRO III CENTRAL	56%	34%	25	20
Italy	Lazio	INDUSTRIEL LEGER, METRO PERICENTRAL, METAL TYPE III	-35%	33%	8	21
Denmark	København og Frederiksberg Kommuner	METRO PERICENTRAL	-12%	32%	15	22
Austria	Wien	METRO III CENTRAL	71%	30%	26	23
Germany	Hamburg	METRO II CENTRAL	47%	30%	24	24
Italy	Lombardia	METAL-LEGER, INDUSTRIEL LEGER, INTALPIN CENTRAL, METRO II CENTRAL	-32%	29%	10	25
Germany	Darmstadt	METRO II CENTRAL	40%	29%	23	26
Germany	Berlin	METRO II CENTRAL	80%	11%	27	27
Number of records	**27**					

Best performance region: Gloucestershire, Wiltshire and North Somerset (UK)
Worst performance region: Berlin (DE)

Central regions:

Country	**Regions**	**Sub-types**	***VAR UNER***	***VAR GDP***	rank gUNER	**rank gGDP**
Luxemburg	Luxemburg (Grand-Duché)	BANKING	66%	65 %	32	1
Spain	Illes Balears	TOURIST CATALAN	-20%	50 %	9	2
Spain	Cataluña	LIGHT METAL, TOURIST CATALAN, INT METAL TYPE 1	-41%	46 %	3	3
France	Rhône-Alpes	METAL TYPE 2, INT METAL TYPE 2, INT FRANCE EXTERNAL, INT ALPINE WESTERN	-14%	36 %	11	4
Belgium	Vlaams Gewest	LIGHT INDUSTRY, CHEMICAL PORTS	0%	36 %	13	5
Austria	Vorarlberg	LIGHT INDUSTRY	21%	34 %	21	6
Italy	Toscana	LIGHT INDUSTRY	-37%	33 %	6	7
Germany	Bremen	METAL TYPE 2	42%	32 %	28	8
…	…	…	…	…	…	…
Germany	Düsseldorf	NORTH RHINELAND	13%	25 %	19	24
Germany	Mittelfranken	CHMETAL TYPE 1	42%	25 %	29	25
Germany	Schwaben	CHMETAL TYPE 1	49%	25 %	31	26
Germany	Oberfranken	METAL TYPE 2	70%	23 %	33	27
Germany	Arnsberg	NORTH RHINELAND	26%	23 %	24	28
Germany	Rheinhessen-Pfalz	METAL TYPE 2	5%	21 %	14	29
Germany	Köln	NORTH RHINELAND	8%	20 %	16	30
Germany	Detmold	METAL TYPE 2	46%	20 %	30	31
Germany	Münster	METAL TYPE 2	21%	20 %	22	32
Germany	Hannover	METAL TYPE 2	30%	15 %	27	33
Number of records	**33**					

In the case of central regions only one region will be analysed: Rhône-Alpes (France). This was included for the interest of including the centralized French regional model in the case studies.

Intermediate regions:

Country	**Regions**	**Sub-types**	***VAR UNER***	***VAR GDP***	rank gUNER	**rank gGDP**
Spain	Pais Vasco	INT METAL TYPE 1	-49%	56%	3	1
Spain	Comunidad Valenciana	INT VALENCE	-43%	52%	6	2
Spain	Comunidad Foral de Navarra	INT METAL TYPE 1	-47%	50%	5	3
Spain	Aragón	INT METAL TYPE 1, PERIPH IBERIAN	-58%	49%	1	4
Sweden	Uppsala län	INT SCANDINAVIAN	-29%	43%	11	5
Austria	Burgenland	INT METAL TYPE 2	100%	41%	49	6
Denmark	Ringkøbing amt	INT SCANDINAVIAN	13%	40%	43	7
Denmark	Viborg amt	INT SCANDINAVIAN	-5%	40%	36	8
France	Bretagne	INT FRANCE EXTERNAL	-26%	40%	21	9
France	Limousin	INT FRANCE EXTERNAL	-13%	40%	30	10
…	…	…	…	…	…	…
Germany	Oberpfalz	INT METAL TYPE 2	22%	29%	45	41
Germany	Niederbayern	INT METAL TYPE 2	26%	29%	46	42
Denmark	Bornholms amt	INT SCANDINAVIAN	0%	29%	38	43
Austria	Salzburg	INT ALPINE CENTRAL	19%	29%	44	44
Sweden	Örebro län	INT SCANDINAVIAN	-29%	29%	13	45
Sweden	Södermanlands län	INT SCANDINAVIAN	-29%	26%	14	46
Sweden	Västmanlands län	INT SCANDINAVIAN	-29%	25%	15	47
Denmark	Vestsjællands amt	INT SCANDINAVIAN	2%	22%	39	48
Italy	Valle d'Aosta	INT ALPINE WESTERN	-49%	18%	2	49
Number of records	**49**					

Best performance region: Ringkøbing amt (Denmark)
Worst performance region: Valle d'Aosta (Italy)

Periphery regions:

Country	Regions	Sub-types	*VAR UNER*	*VAR GDP*	rank g(UNER)	rank g(GDP)
Ireland	Southern and Eastern	PERIPH IRISH	-65%	90%	1	1
Greece	Voreio Aigaio	PERIPH GREEK	90%	84%	48	2
Ireland	Border, Midlands and Western	PERIPH IRISH	-57%	69%	3	3
Greece	Peloponnisos	PERIPH GREEK	51%	66%	44	4
Greece	Ipeiros	PERIPH GREEK	53%	64%	45	5
Greece	Notio Aigaio	PERIPH GREEK	78%	62%	46	6
Spain	Cantabria	PERIPH IBERIAN	-40%	57%	10	7
Greece	Kentriki Makedonia	PERIPH GREEK	33%	57%	40	8
Spain	Región de Murcia	PERIPH IBERIAN	-42%	56%	9	9
…	…	…	…	…	…	…
Italy	Abruzzo	PERIPH ITALIAN, LIGHT INDUSTRY	-11%	29%	33	40
Sweden	Kalmar län	PERIPH SCANDINAVIAN	-35%	29%	22	41
Sweden	Gotlands län	PERIPH SCANDINAVIAN	-35%	27%	23	42
Sweden	Dalarnas län	PERIPH SCANDINAVIAN	-28%	26%	27	43
Sweden	Västernorrlands län	PERIPH SCANDINAVIAN	-43%	24%	7	44
Sweden	Västerbottens län	PERIPH SCANDINAVIAN	-36%	21%	15	45
Sweden	Norrbottens län	PERIPH SCANDINAVIAN	-36%	21%	16	46
Sweden	Jämtlands län	PERIPH SCANDINAVIAN	-43%	19%	8	47
Sweden	Hallands län	PERIPH SCANDINAVIAN / INT SCANDINAVE	-37%	17%	14	48
Sweden	Gävleborgs län	PERIPH SCANDINAVIAN	-28%	16%	28	49
Number of records	**48**					

Best performance region: Border, Midlands and Western (Ireland)
Worst performance region: Norrbottens län (Sweden)

6.2.2.3 *Selection results inside New Member States space*

Country	**Region**	Type (99)	NUTS	**VAR GDP**	**ranking**
Slovakia	Kosický kraj	4	3	66%	1
Hungary	Nyugat-Dunántúl	6	2	66%	2
Slovakia	Banskobystrický kraj	4	3	65%	3
Poland	Wielkopolskie	5	2	64%	4
Hungary	Közép-Dunántúl	6	2	60%	5
Slovenia	Podravska	6	3	58%	6
Slovenia	Zilinský kraj	4	3	58%	7
Slovenia	Osrednjeslovenska	6	3	57%	8
…	…	…	…	…	…
Slovenia	Pomurska	6	3	39%	30
Poland	Lubuskie	4	2	38%	31
Hungary	Dél-Alföld	6	2	36%	32
Cyprus	Cyprus	6	2	35%	33
Czech Rep.	Jihovýchod	5	2	33%	34
Poland	Opolskie	5	2	31%	35
Czech Rep.	Severovýchod	5	2	31%	36
Czech Rep.	Jihozápad	6	2	28%	37
Czech Rep.	Střední Morava	5	2	23%	38
Czech Rep.	Moravskoslezko	4	2	19%	39
Czech Rep.	Severozápad	5	2	13%	40
Number of records **40**					

Two regions are selected within the "Medium Potential Endowment" type (grade 4 to 7), as presented above in section 1). In total, the "Potential Endowment" typology contains 65 recorded regions (7 "high"; 40 "Medium"; and 18 "Low").

Best performance region: Nyugat-Dunántúl (Hungary)
Worst performance region: Opolskie (Poland)

Regions were ranked according to the growth of GDP/head (in PPP between 1995 and 2002).

6.2.3 Issues to be investigated - Guidelines

The structural changes of the economy during the last decades have affected all parts of Europe. Based on previous research (i.e. "Regional Innovation Systems", Cooke, 1998) it can be assumed that the most successful regions are those which have revealed the best adaptive capability to overcome economic mutations. The search for this adaptive capability is the red thread of the case studies.

- A) INTRODUCTION

Provides relevant historical background about the region's economy (i.e. Wales was a cradle of the industrial revolution. In the beginning of the 90's it had become a key centre of high-skill automotive components production in Europe; etc.)

- B) DESCRIPTION of the CONTEXT

  - **Territorial unit of the analysed region**

Unit type: NUTS 1, 2 or 3?

At first glance, fixing the level of comparison to NUTS 2 level seems the best spatial approach. It is also the main operational level of the European Regional Policy (i.e. Structural funds). However, in particular in Scandinavian countries, with strongly decentralized regional policy, NUTS 3 level is the most relevant.

  - **Governance Structure**

ESPON 3.2 ("Spatial Scenarios and Orientations in Relation to the ESDP and EU Cohesion Policy") provides a useful common language to describe each region's institutional framework, levels and system of governance (see TIR, Vol. 2, Governance scenario base).

Typology of State Structures:
- Federal States
- Regionalized Unitary States
- Decentralized Unitary States
- Centralized Unitary States
- New EU Member-States and candidate countries

Typology of Regionalization:

- Administrative Regionalization
- Regional Decentralization
- Regionalization through the existing Local Authorities
- Regional autonomy (Political Regionalization)
- Regionalization through the Federate Authorities

ESPON 2.3.2 ("Governance of Territorial and Urban Policies from EU to Local Level") also provides typologies of countries according to devolution of powers for spatial planning.

- **Fundamental data of the regional economy**

Harmonized data at a regional or local level are usually very difficult to obtain. Therefore, comparing the regional case studies on the basis of quantitative data is not the first aim of this exercise. Rather, the aim is to understand the major socio-economic trends of a given case study on the basis of this region's data. The most important features of the regional economy should be highlighted. However, data definitions always have to be very carefully explained.

Although all case studies will at least use data from 1995 until 2004, trends in economic performance and structure should also be provided, if possible, on the basis of retrospective data (i.e. longer time series from national statistical source).

The issue of net creation rate of firms, or entry-exit analysis, is connected to chapter 5, and some of the information here might serve as empirical support to that part of the project.

(use Eurostat, Espon data. Otherwise give precise source and definition of data)	Comments	2004 2003 ... 1995
Population		
Surface in km2		
Number of inhabitants		
in % of country		
Population Density		
% Population age over 60		
% Population age below 20		
Production		
GDP (in 1000 EUR) (current prices)		
GDP (in 1000 EUR) (constant prices. Base year = 1995)		
in % of country	(precise which index is used)	
GDP (constant prices) / capita (in EUR)		
growth rate		
Economic structure		
Gross value added at constant prices (mio euro)		
Agriculture	nace a_b	
Industry	nace c_d_e	
Construction	nace f	
Wholsale, transports, etc.	nace g_h_i	
Financial services, etc.	nace j_k	
Public administration, etc.	nace l_to_p	
% Gross Value Added or		
Employment by sector		
Agriculture		
Industry		
Etc...		
% Gross Value Added or		
Employment by sector for		
Country		
Exports (in EUR 1000)		
growth rate		
Gross fixed capital formation	(provide details over sector and country origin)	
- **Foreign Direct Investments** (in EUR 1000)		
% of country		
- **Indigenous investments**		
Productivity	(GVA / employed active population)	
Net creation of firms	Per Size class of firms (or other available info)	
Number of new firms	self-employed	
	(2-49)	
	(50-199)	
	(200 and over)	
Number of shutdowns	self-employed	
	(2-49)	
	(50-199)	
	(200 and over)	
% of employment	the 4 classes...	
% of units	4 classes	
% of employment for country	4 classes	
% of units for the country	4 classes	
Labour market		
Employment rate	(employed active population / population)	
Unemployment rate	(total unemployed / active population)	
R&D spending		
Public		
Firms		
% GDP		

Table 15 Fundamental economic data of the region

- **Link with other ESPON projects/classifications**

Making a link with other ESPON projects allows to gather information over the analysed region but also to check the coherence of the case study findings.

Espon projects	Topic	Results
1.1.1	Functional Urban Areas (FUAs) (3 types) - NUTS 3	?
1.1.2	Urban-Rural Typology (6 types) - NUTS 3 level	?
1.1.4	Population change (6 types) - NUTS 3 level	?
2.1.2	R&D and innovation capacity (5 types)	?
2.2.1	Structural Fund spending and regional performance (9 types) - NUTS 2	?

- **Explanatory factors**

The key question to be answered here is what explains the relative good or bad performance of the analysed region. Is it its particular economic structure in terms of sector of activities, with specific leading sectors, **industrial clusters**? Is it its structure in terms of firms' size, etc. Explanations factors linked with public policies can also be proposed, but their analysis should be conducted later, in section C).

- **Other possible themes**

(i.e. Environmental situation? Pollution treatment needs? Norms and control? Danger? Industrial risks? Etc.)

- **Policy strategy**

What are the problems of the region? What is the policy strategy officially stated by public authorities?

- C) IDENTIFICATION OF REGIONAL POLICIES

Identifies the regional policies implemented by the various levels of governance (EU, national, regional) following the methodology developed in section 6.1. Policy instruments should be classified in function of the drivers of competitiveness they affect. If possible, financial means associated to policies affecting drivers of competitiveness will be provided.

Regional Budget (2005)	in 1000 EUR
Regional economic development means	
Equipments, Infrastructures and transports	
Economy	
Employment and Vocational training	
Innovation, Technology and Research	
Other regional development means	
Agriculture and fishery	
Tourism	
Housing	
Land settlement and patrimony protection	
Environment and natural resources	
Energy and water	
External/international relations	
…	
Administration and government	
Debt services	
Total Regional budget	
Specificities to the Region?	
Provisions for European cofinancing (FEDER, FES, etc.)	
for Economy and Employment	
for Vocational training	
for Research, technology, relex	
for Equipement and transport	
Transfers to Local authorities	
Other…	
Total Official Regional Budget	

Table 16 Example of table to collect budget data

year 2005	Instruments	Explanations about instruments	(Total budget)	(Budget division)	Level of governance
	Instruments correspond to the actions pursued within the regional economic policy. (Instruments should be linked to specific budget lines).	Give brief information in order to understand what is the content of the instrument	in EUR 1000	Source of the budget allocation according to the Region	Several level of governance can finance the instrument (Local/Regional/National/EU structural funds
Hard or tangible infrastructure					
Social Capital (Supporting newtorking, cooperation, coordination, information circulation)					
Human Capital (skills and competencies; cost of labour incentives)					
Fiscal and financial interventions (investment grants, tax exemption, etc.)					
Financing (supply of capital, credit, bank guarantees)					
Innovation support (R&D support, technologies diffusion, etc.)					
Amenities (quality of life, entertainment, culture, etc.)					
TOTAL					

Table 17 Example of table to collect information related to drivers of regional competitiveness

In addition, this snapshot of the present should be put in perspective with the evolution of past regional economic policies.

- **Regional Innovation System**

A particular focus should be put on the innovation system of the region. The linear model, dominant from the 50s until the 70s, views innovation as a straightforward path from the laboratory directly through the marketplace. By contrast, some regions are characterised by an integrated innovation and production system with flexible linkage, feedback and looping relations between actors.

The key features of the regional innovation system that need to be analysed are:

- Basic research (and education system)

- Applied research
- Channels of technological transfer

For this last feature, are there specific public agencies, intermediate institutions? What is the extent of inter-firm cooperation and cooperation between universities and regional firms? Finally, what are the forms of intervention of public authorities (financial assistance; financing; information; training; infrastructures; etc.)?

- **Coherence of regional policies**

This section should evaluate the coherence of the different policy instruments and levels of governance (according to the subsidiary principle) and identify possible "perverse" effects.

Policy Coherence breaks down into a horizontal and a vertical dimension. **Vertical coherence** of policy deals with the various levels of governance. An incoherence example is the research policy in the Walloon Region, where fundamental and applied researches are managed by different regional levels (the Region and the Community). However, this is diametrically opposite to the gradual evolution during the last decades from the linear model of innovation to the integrated and networking model according to which these two strands should be seen as integral part of a whole.

It is worth noting that one of the sections of ESPON 2.2.1 "The territorial effects of structural funds" already covers "the relationship between national regional policies and the structural funds policies". In order to achieve effective structural policies, national and European policies need to be coordinated. ESPON 2.2.1 built a typology of interrelationships between National Regional Policies (NRP) and European Regional Policies (ERP). The degree of coherence is indicated by the extent to which NRP are, as with the Structural Funds, based on cross-sector, multi-annual programmes, with strategies emerging from the bottom-up, partnership-based elaboration of policy needs and priorities. The overall strategic approach of the EU Member States' NRP and its interrelationship with ERP is then classified as: Separated; Coherent; Coincident. A same categorisation is made in relation to policy content (Equity like ERP; Mixed; Efficiency); spatial targeting; and policy instruments.

Horizontal coherence deals with the coherence of the policies implemented by the different Ministries within a regional entity. It also deals with the coherence of the policies implemented by different regions at the same level of governance within a country but also between neighbour regions of different countries (i.e. issue of cross-border regional cooperation). An example of incoherence could be the lack of integration between the ESF (human capital) and ERDF (hard infrastructure, R&D, investments) European funds.

- D) IMPACTS of REGIONAL POLICIES

This section should provide comprehensive information about the estimated impacts and results of the policies implemented in the region.

- **Synthesis of existing studies and evaluation**
  - Impact of regional policy or program on aggregate employment or revenue trends (e.g. regression analysis)
  - Impact of regional policy on the location of FDI (e.g. distribution of FDI in the country in function of the level of assistance)
  - Etc.

- **Integrated Analysis**

Data collected in section B) and C) could be used to build indicators linking economic performance (section B) and regional economic policies (section C). A time dimension could be added by collecting aggregated information over regional public policy spending.

Regional policy spending would include three main aggregates:

- Total
- Regional economic development means (see methodology WP 3.1)
- R&D and innovation spending

- F) CONCLUSION

What are the conclusions of the case study? What policies are connected to economic success and what others to failure? The compilation of all case studies' conclusions will enable us to formulate policy recommendations taking into account the different types of regions.

Methods of investigation mainly rely on the compilation and analysis of documents published by regional public bodies, scientific reviews and research centres. In a second stage, the findings are discussed for validation with a few key responsible officials in the selected region. An average of 15 days of work is spent on each case study.

Appendix: Financial means spent on drivers of regional competitiveness – Walloon Region (based on 2005 regional budget)

year 2005	Instruments	Explanations about instruments	Budget	Budget division	Level of governance	Means (% total)
	Instruments correspond to the actions pursued within the regional economic policy. Instruments should be linked to specific budget lines.	Give brief information in order to understand what is the content of the instrument	in EUR 1000	Source of the budget allocation according to the Region budget structure (Economy, Equipments, etc.)	Several level of governance can finance the instrument (Local/Regional/National/EU structural funds	
Hard or tangible infrastructure	Industrial parks	Acquisition and equipment of land and buildings to host economic activities	32.660	Economy	Region/FEDER	2,2%
	Telecommunications (i.e. optic fiber network)		13.447	Equipment and transports	Region	0,9%
54%	Roads network		201.752	Equipment and transports	Region	13,4%
	Water canals network		63.498	Equipment and transports	Region	4,2%
	Electrical, electromechanic and IT equipments of roads (and water canals)		62.387	Equipment and transports	Region	4,1%
	Public transports (bus, regional airports, etc.)		433.749	Equipment and transports	Region	28,8%
Social Capital (Supporting newtorking, cooperation, coordination, information circulation)	Economic and social council		4.267	Administration and government	Region	0,3%
	Promotion of entrepreneurship "spirit"		2.070		Region	0,1%
	Subsidy for projects promoting SME's development (focus on wood, stone, food)	Subsidies go to associations, foundations, industry pooling, federations, etc.	2.022	Economy	Region	0,1%
6%	Social economy subsidy	Subsidies to Consultancies in Social Economy, Social Economy cooperatives, information actions	1.600	Economy	Region	0,1%

year 2005	Instruments	Explanations about instruments	Budget	Budget division	Level of governance	Means (% total)
	Wallimage (promotion of cinema production in WR)		800	Economy	Region	0,1%
	Local Development Agencies	Multitude of small institutions (public or in partnership) providing business support services ("intercommunales", and associations). This credit partially covers the operational costs of 52 LDA	2.763	Eco/Empl	Region	0,2%
	Exports and FDI promotion (AWEX and OFI)		57.965	Economy/ Comex	Region	3,8%
	Promotion of innovation and sciences (i.e. Museum of Scientifical Adventures PASS)		6.000	Research and Technology	Region	0,4%
	Clustering promotion (awareness rising, expenses supporting animation of the cluster) (150000 EUR/cluster)		2.093	Economy	Region	0,1%
	Impulsing network economy / cluster support	The objective is to strenghten the SMEs economic and social environment, through the development of services: Information, guidance, cluster animation, ICT utilization, etc.	11.981	Economy / Provisions for European Cofinancing	Region / Phasing out objectif 1 / Objectif 2 / Interreg / Leader+	0,8%
	Business network venture capital	Two networks exist: WaBAN and BAMS			Region - FEDER	0,0%
	Annual symposium over SME's financing				Region	0,0%

year 2005	Instruments	Explanations about instruments	Budget	Budget division	Level of governance	Means (% total)
Human Capital (skills and competencies; cost of labour incentives)	Consulting subsidies (SME's)	Subsidies for technological transfers, e-business, etc.)	3.600	Economy	Region	0,2%
	Wage subsidies for young workers (Contrat de premier emploi, "first job convention")	Decrease in the social contributions of EUR 400-1000/quarter. Young (<26) and unqualified job seeker (lower than secundary school degree)	7.500	Employment	Region / Federal	0,5%
15%	Wage subsidy for job seeker / specific SME project development	Project development in sustainable environment, energy, new technological processes, etc.	2.304	Employment	Region	0,2%
	Voucher for training - entreprise creation (chèque création)	Enables the job-seeker to follow trainings in relation with his entrepreneurial project	600	Vocational training	Region	0,0%
	Subsidies for Professional trainings through operators (135) and entreprises		25.044	Vocational training	Region	1,7%
	References centres (19)	Each training centre is specialized in a particular sector and benefits from the collaboration of several partners (Region, Universities, E.U, Firms, etc.)	5.473	Vocational training	Region	0,4%
	Equipment, extension or construction of References centres and training centres		15.134	Voc Training / Provisions for European Cofinancing	Region/FEDER (Objectif 1 phasing out, Objectif 2, URBAN)	1,0%
	Training activities of FOREM, operational costs (Public Agency fo Employment and Training)		120.383	Vocational training	Region	8,0%
	Agricultural training centres		1.025	Vocational training	Region	0,1%
	Training institutions for independants and SMEs		33.968	Vocational training	Region	2,3%
	Equiping schools with computers (Cyberschools and Cyberclasses programmes)		12.104	Equipment and transports	Region	0,8%

year 2005	Instruments	Explanations about instruments	Budget	Budget division	Level of governance	Means (% total)
Fiscal and financial interventions (investment grants, tax exemption, etc.)	Decrease of Regional fixed asset taxes (décret 22 Octobre 2003) (revenue loss)	Impact estimated is 1,150 EUR of revenue loss	1.150	Economy	Region	0,1%
	Investment grants for environment and energy	Incentives for energy saving or environmental-friendly investments	2.000	Economy	Region	0,1%
12%	Invesment grants for Large Enterprises		37.300	Economy	Region	2,5%
	Investment grants for buildings and land	Support to the Industrial parks policy	21.800	Economy	Region	1,4%
	Wage subsidies for Small Enterprises	For each new job created by a SME, it can receive a EUR 3250 premium. Limited to 9 new jobs.	16.660	Economy	Region	1,1%
	Grants for individuals' project study phase	Support the very first steps of innovative projects	1.600	Economy	Region	0,1%
	Investments grants for SME's		96.054	Economy	Region	6,4%
	Incentives for using water canals transports (boats, transshipment points, etc.)		1.500	Economy	Region	0,1%
Financing (supply of capital, credit, bank guarantees)	Fulfilment of regional guarantees underwriting credits taken by firms	Since 1991, only firms located in Development Zones can benefit from the Region's guarantee to take out credits	1.150	Economy	Region	0,1%
	"Invest" (funds dedicated to spin-off)	Public investment funds (Capital participations)	5.000	Economy	Region	0,3%
4%	SOWALFIN (Regional Investment Fund) / SMEs	Provides subodinated loans, venture capital and bank guarantees to SMEs. Sowalfin's total assets is around EUR 1 billion.	12.500	Economy	Region	0,8%

year 2005	Instruments	Explanations about instruments	Budget	Budget division	Level of governance	Means (% total)
	SOWALFIN (Regional Investment Fund.)	Provides credits and capital to companies facing reorganization or for their development	35.000	Economy	Region	2,3%
	Quality and certification subsidies (SME)	For SMEs implementing Quality Assurance Systems	500	Economy	Region	0,0%
Innovation support (R&D support, technologies diffusion, etc.)	Incentives for E-business and ICT integration in SMEs		1.350	Economy	Region	0,1%
	Research centres (including technologic advising for businesses)		8.171	Research and Technology	Region/FEDER/ Eureka	0,5%
9%	Subsidies to Universities		43.281	Research and Technology	Region/FEDER/ Eureka	2,9%
	Subsidies to SMEs		5.500	Research and Technology	Region/FEDER/ Eureka	0,4%
	Subsidies to Enterprises	FIRST program	61.952	Research and Technology	Region /FEDER /Objectif 1 / Eureka	4,1%
	Walloon Technological Agency (AWT) - enterprises services		765	Research and Technology	Region	0,1%
	Fund for research and technologies	The fund is financed through revenues generated by the Region's action in research and technology. Financing the transfer of firms' research results into market products.	9.000	Research and Technology		0,6%
	Technological innovation and research support		4.301		Region/FEDER	0,3%
Amenities (quality of life, entertainment, culture, etc.)	Renovation and decontamination of disused industrial sites	subsidies to firms, public companies (CAW) and municipalities	14.126	Land settlement	Region / phasing out objectif 1 / objectif 2	0,9%
1%						
TOTAL			1.506.849			

7 Impacts of macro (EU-wide) policies

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7.1 Analysis of regional impacts of EU-level macro-economic policies

7.1.1 Introduction

The previous chapter has dealt with issues of regional policy. However, they are not the only economic policies that influence regional development. In the light of the overarching objective of territorial cohesion, it is, therefore, important to understand what impacts macro-economic policies – which at their origin are not thought as regional development policies – have on the territorial structure of Europe's economy and on the economic development of individual regions.

The chapter consists of three parts; in the first part we discuss the characteristic of macro-economic policies as a evaluation problem. Some general methodological problems will be discussed. The section might be of value before going into details of impact assessment. It is important to understand the limitations of different empirical methodologies. In the second part a literature review is presented in connection to a brief theoretical discussion of the underlying processes driving regional effects of macro-economic policies. In the literature review we more precisely wish to address questions such as to what extent has the common market affected regional growth and production structures? How has economic integration affected population movements? What are the effects of tax harmonisation? What are the main regional effects of the single currency and common monetary policy? However, such a literature review would be extensive as regional effects of macro-economic policies may be studied by almost every discipline within economics. Thus, it is necessary to concentrate on some of the most relevant areas.

Generally, the discussion is mainly concerned with "economic integration" and its regional effects. The question of whether or not the regional development is characterised by convergence or divergence is central in the literature. In this perspective, as developed in other chapters of this report, the predictions from neo-classical growth and trade theory are different from more recent theories of endogenous growth and the new economic geography.

The literature review should be seen as an attempt to point out some of the theoretical frameworks that can be the starting point for the discussion of EU-level macro-economic policies and their impacts on regional development. We also intend to review some of the empirical literature in order to collect some indication what effects of EU-level macro-economic policies have already been measured.

The third part contains an attempt to empirically investigate regional sensitiveness to macro-economic policies. In the final report this is done by analysing regional sensitiveness to changes in the monetary policy performed by the ECB.

7.1.2 The nature of macro-economic policies as an evaluation problem

As was mentioned above, macro-economic policies are not thought of as regional development policies. Nevertheless, the EU-level policies may have significant impacts on regional development. Before going into details of impact assessment, it is necessary to discuss the specific nature of macro-economic policies as an evaluation problem but also to specify what policies should be regarded as macro-economic policies.

In order to qualify as an EU-level policy in this literature review, the policy should to some extent "treat all regions equally". The monetary policy performed by the ECB is a good example; the monetary policy treats the regions the same way, e.g. through a common interest rate. However, the outcome in regions may differ, e.g., due to different production structures and how sensitive regions are to asymmetric shocks. Regions may also differ in financial structures that make the money supply endogenous at the regional level. The main question is what regional characteristics determine the economic outcome in the regions. Another policy example is the Single Market Programme (e.g., free movements of goods, capital and persons). The Single Market raises the question of how political and economic integration affects regional development.

The distinction of a policy that "treats all regions equally" is an introduction to the methodological problems that are associated with the evaluation of EU-level macro-economic policies and their impact on regional development. The main question is how it is possible to relate a specific policy to an actual regional outcome, i.e. what would we have observed without the policy. In a statistical perspective the problem may be explained as there is no natural counterfactual or control group. This problem is present in many of the empirical studies that are mentioned later on this chapter, e.g., the effect of economic integration (after the implementation of the single market programme) on regional industry structures are studied for a period after the policy implementation. The problem is intuitive: how can we actually relate the outcome in the regions to the implemented policy when all regions in the study are affected by the policy? Martin (2001) briefly discusses this methodological problem in his study of convergence and divergence across European regions. He points out that an alternative procedure often found in empirical studies is to study regional development in other economic and monetary unions, e.g. the case of regional development in the U.S. However, it far from obvious how to generalise effects found in the U.S. in order to predict trends in the EU.

Although natural experiments are rarely observed in social sciences, we have to identify some counterfactual or control group. For example, if one wants to study regional effects of the common currency, a possible control group is nations (and regions) which have chosen not to participate in the final stage of the monetary union, i.e. the common currency and

the common monetary policy. If one is interested in the regional effects of the common currency it may be possible to compare regions within the euro zone with regions outside the euro zone.

However, counterfactuals that are not the outcome of a natural experiment introduce the problem of selection. For example, a majority of the voters in Sweden voted against the common currency in the referendum. Regions in Sweden could therefore constitute a control group if one aims at comparing regional effects of the monetary union. The problem is that it is likely that factors determining the outcome of the referendum may also affect other policies and hence regional and national development.[23] Thus, if differences between regions are found and these differences can be related to the implementation of the common currency we can not determine whether the differences are the effect of factors determining the outcome of the referendum and economic development or if the observed differences are actually a consequence of the common currency. This methodological problem is possible to control for, one approach is to first study the determinants of the policy choice (e.g., yes/no in the referendum). However, in order to really "identify" the policy effect it is necessary to at least find one explanatory variable that can explain the choice of the policy but at the same time does not affect the outcome of the policy. This is known as the identification problem in the evaluation research (see e.g., Maddala, 1983).

Another problem associated with the evaluation of EU-level macro-economic policies is whether or not the explanatory variables in the analysis are to be considered as exogenous. One example is the inclusion of population or migration in growth equations. Migration may be determined by income levels in the regions, but migration may also affect income growth. This problem necessitates the use of methods such as using pre-determined variables, e.g. using lagged (previous) levels of the interest rate or using two stage estimation methods where predicted values (from a first step) are used as instruments.

Further methodological problems are concerned with the interdependency between the EU, national, and regional policies. Theoretical models may give the support to the hypothesis that economic integration affects the national and regional industry structures. If this is the case it is also reasonable that national policies may be implemented in order to support specific industries and regions in response to the effect caused by economic integration, e.g. the single market programme. Thus, it is difficult to separate the effects from the EU-level policy from the effect of the national policy. In a similar way, regional policies may be implemented by both nations and the EU as a response to effects that may arise from EU-level policies, e.g. the common monetary policy. The obvious consequence is that the effect of the EU-level policy is difficult to identify. The role of expectations in the economy may also introduce a methodological problem in the analysis of macro-economic policies. The problem is that most policies are not introduced as shocks in the economy. Thus, the policies may be anticipated long before they are implemented, e.g. the implementation of the common currency was anticipated before 1999 meaning that actors in the economy,

[23] Barrios et al. (2003) discuss a similar problem in their analysis of business cycle fluctuations among regions in the UK and in the Euro zone. We will discuss their study later in the literature review.

both public and private, may have adopted changes in their behaviour according to the policy. This introduces the problem of when to expect the effects of a policy to be observed.

A related problem concerns the time lag of the adjustment process and of the underlying process determining the regional outcome. A more practical problem with the evaluation of macro-economic policies is that we are foremost interested in long run effects of the policy, at the same time comparable data is not available on the regional level for periods long enough to capture long run effects, and to test for time lags.

These methodological problems are important to bear in mind when considering the empirical literature on regional effects of EU-level macro-economic policies. Different empirical methodologies have their limitations which affects the possibility to draw general conclusions. However, it is also important to remember that these methodological problems are present in most evaluation research.

7.1.3 The regional effects of EU-wide policies

As mentioned above, the literature in this field is vast and complex, as the issue can be addressed from many different perspectives, be it in the definition of macro-economic policies, or the types of impacts studied. We have, therefore, decided to select those issues that seem the most relevant in regard to territorial development, i.e. economic integration (Single Market), tax harmonization and the European Monetary Union. We also discuss state aid and effects of tax harmonisation.

7.1.3.1 *Economic integration and production structures*

Before discussing empirical evidence within this area, we briefly introduce some of the theories that can explain integration effects. The discussion is based on neo-classical trade theory and more recent trade theories within the new economic geography. Theories within the new economic geography differ from traditional spatial analysis in that they are general equilibrium models. Since the predictions from these models may be based on quite complex theoretical models we have chosen to only discuss some fundamental mechanisms.

The issue of economic integration and regional effects is very extensive and may capture several macro-economic policies. The main focus is on the Single Market Programme and its impact on regional development. Some of the discussion concerning production structures in this section is not explicitly related to macro-economic policies; however, it is important to consider this literature when discussing the regional effects of the EMU in section 7.1.3.4.

A highly debated issue is whether or not economic integration increases regional disparities. As pointed out in the First Interim Report, in this report, the theoretical predictions on this topic are ambiguous. Furthermore, empirical results do not show any clear pattern of convergence or divergence. However, one conclusion is that previous patterns of convergence have become weaker in empirical growth studies. In this section we do not

intend to discuss the convergence issue any further, instead we focus on economic integration and regional specialisation.

According to the neo-classical trade theory, economic integration is supposed to increase regional specialisation when production structures change due to the comparative advantages. Convergence in factor prices and product prices are predicted by the neo-classical trade theory. This convergence may result from trade or mobility of production factors. The economic activity is supposed to be dispersed across regions. Several factors may change this prediction, e.g., an uneven distribution of natural resources or technology, which could result in complete specialisation.

More recent trade theories (e.g., new economic geography) incorporate other aspects in trade theory describing centripetal and centrifugal forces of geographic concentration. Krugman (1998) discusses some of these forces; among centripetal forces we find market size effects, "thick" labour markets and external economies. Among the centrifugal forces we find immobile production factors, land rents and external diseconomies. Krugman (1998) argues that scale economies and market size effects on the one hand and immobile production factors on the other hand is a natural way of summarizing the character of the new economic geography.

In its simplest form, models of the new economic geography starts with an economy consisting of two production sectors, one sector providing a homogenous good under constant returns to scale (often assumed to be agriculture) and one sector providing non-homogenous goods at increasing returns to scale (manufacturing). Production factors are immobile in the former sector and fully mobile in the latter sector. The mobile production factor is the driving force in the agglomeration process. In most models, transportation costs constitute the balance between centripetal and centrifugal forces.

Very high transportation costs are an obstacle for competition in the markets. Furthermore, immigration of labour force causes production increases but also price competition effects within the region reducing real wages. On the other hand, very low transportation costs also drives price competition effects, enhancing deglomeration. One implication of low transportation costs is that scale economies can be realised independently of location. However, medium sized transportation costs may create an environment enhancing agglomeration processes and core-periphery patterns in the two industries (see Krugman and Venables, 1995). In practice, we observe several industries, many regions and different degrees of scale economies in the different sectors. This means that theoretical models describing this environment become complex and the predictions from the models less clear. In these cases it becomes more relevant to discuss changes in industry mix between different regions. Strong agglomeration forces will create clusters of industries with increasing returns to scale.

Basic trade theories and the new economic geography are naturally concerned with economic integration and its impacts on the economic structure in nations and regions. Theories within urban economics are explicitly concerned with agglomeration effects and

industry specialisation. Although the effect of economic integration is not explicitly addressed in these theories, a relatively high degree of integration, or low transportation/transaction costs, are assumed in order to allow for an evolution of the urban system. However, the effects of integration and transportation costs are likely to follow the general predictions from the new economic geography. To what extent specialisation occurs in the urban theories depends upon basic assumptions. In the classic model presented by Hendersson (1974) scale economies are assumed to be industry specific while diseconomies of scale are assumed to be external. Thus, models within this tradition predict a very high degree of specialisation. Later theories are based on more sophisticated assumptions allowing for urban systems which are specialised as well as diversified. A natural conclusion from these models is that high internal scale economies imply large cities in the optimal solution. The evolution of urban systems follows from cities growing larger than the optimal size, giving place for a new city. However, several factors may constitute an obstacle for the new city and theoretical models present different assumptions for allowing new cities to emerge. Models within urban economics provide some interesting links between population growth, formation of human capital and the size distribution of cities. Thus, in connection to the economic integration of European regions it is also of great interest to follow the evolution of the urban system in Europe.

To summarize this very short presentation of some general mechanisms within the economic geography and urban economics, it is important to point out that although the theories present some general conclusions on economic integration and regional specialisation, empirical evidence from numerous studies is needed in order to verify the hypotheses. Unfortunately, there are few empirical studies on regional specialisation; the natural explanation is lack of relevant data. In the next section we present some of the empirical studies that can be found within this area.

Previous empirical literature

There are numerous studies analysing industrial specialisation and concentration at the national level, e.g. Aiginger and Pfaffermayr (2004) study industry concentration among European members for the period 1985-1998. Their analysis is based on 14 member countries and data on 99 industries. Although their study is not concerned with regions, their results indicate that geographic concentration actually declined during the period 1992-1998, i.e. the post-Single Market period.[24]

Marelli (2004) analyses the development of employment structures among European regions. The empirical analysis is based on 145 European regions for the period 1983-1997. Marelli finds that regional specialisation has decreased over time. One explanation according

[24] The final report of ESPON project 1.1.3 considers specialisation patterns across Euroepan regions. Similar to other empirical studies, the analysis in project 1.1.3 is based on a relatively short time period (1995-2001). Furthermore, they only consider three sectors.

to Marelli is the shrinking of agriculture and manufacturing in those regions were these sectors initially were strong.[25]

Paluzie *et al.*(2001) study integration effects on industry specialization in Spain for the period 1979-1992. The empirical analysis is based on data for 50 regions (NUTS 3) and 30 industrial sectors. They found no evidence of specialization among Spanish regions. They argue that one explanation could be that concentration was relatively high before the entry to the EU. Furthermore, they conclude that scale economies are the most important factor determining the economic geography in Spain. They also state that neo-classical trade theory is not able to explain the patterns of industrial concentration in Spain.

Although the empirical research in this area is relatively scarce, empirical results indicate that U.S. industries are more concentrated in some regions compared to Europe. This may be due to lower transaction costs in the U.S. (notably through the lack of language and culture barriers) If this a correct conclusion, then further integration in Europe will lead to a higher degree of concentration of industries. However, due to the lack of regional data on European regions and that much more empirical research on European regions is needed, it may be far fetched to draw any strong conclusions from the results that have been presented so far.

Besides the literature that is based on neo-classical trade theory and the new economic geography, there is an interesting research field concerning urban economics and city growth. As was mentioned in the previous section this literature is not explicitly concerned with economic integration and the effects on regional specialisation. Furthermore, most of the empirical literature within this field concerns the evolution and structure of cities in the U.S. Several interesting empirical studies on production structures, industry location and city growth can be found for the U.S.; see e.g., Black and Henderson (1999), Dobkins and Ioannides (2001), Ellison and Glaeser (1997), Beardsell and Hendersson (1999), Glaeser *et. al.*(1992). Some of the empirical results that have been found are worth mentioning in this section. One result is that rank-size distribution of cities does not seem to change when the population grows which means that small and large cities show similar growth rates. A further result that seems relatively robust is that many studies find evidence for the rank-size rule which means that the population in the second largest city is approximately half the size the largest city.

Unfortunately, there are few studies on the evolution of European cities. However, some studies can be found. Eaton and Eckstein (1997) develop a theoretical model where localization economies and human capital accumulation constitute centripetal forces. The centrifugal forces in the model are congestion and transportation costs. In this theoretical model presented by Eaton and Eckstein, relative populations between cities reflect differences in total factor productivity across regions. The model predicts that human capital, rents and wages are higher in larger cities. In the empirical analysis Eaton and

[25] A shortcoming with several studies is the lack of a narrow sectoral division. Since specialisation may take place at a lower level, integration effects on specialisation may not be observed.

Eckstein study city growth in France and Japan using data on 39 urban agglomerations in France for the period 1876-1990.They found that while the urban population has increased significantly, the population distribution among different urban areas has not changed to any large extent. Furthermore, the growth of urban population has not given rise to new cities. Eaton and Eckstein conclude that the mechanisms driving industrialization are present in proportion to the cities initial population size.

It is difficult to draw general conclusions from the empirical studies. However, it does not seem controversial to state that increasing returns to scale are important in the empirical growth and trade literature. Empirical research indicates that regional specialisation is lower in Europe compared to the U.S. Furthermore, the process of regional specialisation, if there is one, seems to be relatively slow. There is a need for further studies on regional specialisation among European regions and cities.

7.1.3.2 *Tax harmonisation and foreign direct investment*

It may be in place to more explicitly discuss different aspects of the Single Market, e.g. the effects of tax harmonisation among EU members. This topic may be discussed in connection to foreign direct investments since much of this tax literature is focused on the behaviour of multinational firms. So far we have not been able to look through this literature. See e.g. Gorter and De Mooij (2001) for a review of literature concerning tax harmonisation and foreign direct investments. Another area that might be of interest to discuss is the impact of tax harmonisation on regional risk sharing through the fiscal system.

The literature review on tax harmonisation is not completed.

7.1.3.3 *State aid*

State aid is an important tool for the politicians in order to support national industries. State aid has often been targeted towards industries that have not been able to compete on the international market. In this way, state aid decreases the incentive for restructuring of the economy. Thus, in the long run state aid may be harmful for the welfare of the citizens. State aid has been a very common source of international trade conflicts. The Lisbon strategy states that targeted state aids to specific industries should be minimized in order to enhance competition. State aid should instead focus on all-embracing goals such as research, human capital, infrastructure, etc.

For the final report it remains to review both the theoretical and the empirical part of the literature. Our intention is to review the literature that considers industry structures and regional development but also recent literature that connects state aid and national tax systems.

7.1.3.4 *The European Monetary Union and its impact on regional development*

The single currency and the common monetary policy are probably the most known EU-level macro-economic policies. Much of the debate has concerned effects on the national economy. However, there is an increasing interest in regional effects of monetary shocks. There is fear that the single currency and the common monetary policy might increase regional disparities. The following discussion is therefore focused on monetary shocks and different mechanisms that could affect regional disparities. In this section we have chosen to concentrate on two areas: i) regional productions structures and asymmetric shocks ii) regional differences in financial structures.

There is an extensive literature concerning the common monetary policy in the EU and "optimal currency areas". This framework is well suited for this analysis due to the fact that the theories focus on national and regional differences in economic structures, e.g. production structures and mobility of production factors. Labour mobility is a key factor. We also intend to review some research concerning different financial structures and their regional effects, e.g. post-Keynesian theories where the money supply is assumed to be endogenous.

The most common theoretical framework for analysing regional effects of the monetary union is the theory of optimal currency areas which can be traced back to the seminal work by Mundell (1961). In an open economy with flexible exchange rates, macro-economic shocks may be absorbed by the exchange rate. A general conclusion is that when exchange rate flexibility is no longer an option among members in the currency area, economic flexibility is required in other dimensions. The model presented by Mundell states that an optimal currency area requires geographical mobility in production factors or the possibility to implement extensive redistribution schemes and regional policies. Another option is that nominal wages and prices are flexible. This flexibility is necessary in order to deal with asymmetric shocks among regions. Theoretically, a sufficient condition for the implementation of a common currency is that at least one of the criteria is fulfilled. A fundamental question for the EU is to what extent these criteria are fulfilled. This question is not easily answered. However, it does not seem controversial to state that prices and wages are not flexible. As a consequence, much of the discussion whether or not EMU is an optimal currency area has been concerned with labour mobility across European regions. Since the EMU is a reality, it is natural to shift the focus from whether or not EMU is an optimal currency area to the question of regional effects of monetary shocks.

Much of the discussion concerning the common monetary policy in the EU is concerned with asymmetric shocks and regional effects. Regional effects of monetary shocks are explained by differences in economic structure, e.g., industry-mix and different responses to interest rates. Some authors argue that this research is to some extent misleading due to the underlying assumptions that have been made. As pointed out by Dow and Rodriguez-Fuentes (1997) there is a lack of financial variables, such as the money supply, within regional economics. A common assumption in regional economics is money neutrality, i.e.

the analysis only focus on real variables. An alternative approach is to assume perfect capital mobility which implies an endogenous money supply. However, the capital flows are determined by regional differences in real variables and do not affect real variables. Thus, monetary variables are considered to be determined exogenously, at the national level, and not affecting regional variables. An implication of this assumption is that if these regional differences did not exist, it would not be possible to observe any regional effects of monetary policy. On the other hand, Dow and Rodriguez-Fuentes argue that macro-monetary economists neglect the significance of the regional dimension in their models.

In order to understand regional effects of monetary policy it may be important to also consider financial structures and their implications for regional effects of a uniform monetary policy shock to the economy. A uniform monetary policy shock may have different regional effects due to differences in the transmission mechanism. The transmission effect of monetary shocks, work through the financial markets and the aggregate demand (consumption and investments). Thus, the transmission effect of monetary polices differ between regions due to disparities in the markets mentioned above. One obvious way of explaining the transmission mechanism is the interest rate effect on the demand for investments and consumption. Another channel for the monetary shocks is the exchange rate.

More recent theories of the transmission mechanism focus on market failures and especially asymmetric information. The so called post-Keynesian theories consider the money supply at the regional level to be endogenous. Although the money supply is exogenous at the national level the supply of money at the regional level is determined by demand and willingness of banks to supply credit. The supply of bank lending is affected by monetary policies and different regional impacts are a consequence of the availability of bank credit in the region. In this aspect, the regional banking development is a central factor. The money supply is foremost determined by banks and borrowers liquidity preferences and not the intervention by the central bank (Dow and Rodriguez-Fuentes, 2003). Important regional differences in financial structures are for example, the share of small banks, the development of the bank sector, and substitutes for bank-lending.

Some empirical findings

Carlino and Delfina (1998) study how sensitive EMU countries are to monetary policy shocks. Carlino and Delfina define three different groups of nations with respect to how sensitive they are to asymmetric shocks, e.g. they find that Finland, Ireland and Spain are most sensitive to shocks. They argue that the asymmetric response is due to the industry mix and the degree of banking concentration. Obstfeld and Peri (1998) argue that EMU is not an optimal currency area, one argument is that price and factor mobility is low and that public transfers is a more important adjustment mechanism.

There are numerous studies on labour mobility and there are several reasons for this interest in mobility, e.g., real wages do not easily adjust downwards and capital is relatively mobile. However, the importance of labour mobility is dependent upon how sensitive the regions are to asymmetric shocks; a high degree of production specialisation within a region increases the demand for labour mobility in the case of asymmetric shocks. Another question is whether or not the monetary union affects production structures; from a theoretical point of view, Krugman (1993) argues that EMU will enhance regional specialisation. A similar conclusion can also be found in the empirical analysis by Midelfart et. al. (2003), however, they argue that the effect is likely to be small.

Bentivogli and Pagano (1999) study to what extent regional differences within EU stimulate labour mobility. They find that migration in the U.S. is more influenced by income differences than migration in Europe (obviously because of barriers more or less inexistent in the U.S. such as language and culture). Bentivogli and Pagano concludes that the fact that migration in Europe is less sensitive to regional differences makes it difficult to rely on labour mobility in order to compensate asymmetric shocks. This is particular troublesome if European integration enhances regional specialisation. Then, it is necessary to rely on other adjustment mechanisms, which is a conclusion that is found in several studies.

The impact of asymmetric shocks on nations and regions have been studied empirically, e.g. by Fatas (1997). He studies the correlation in national and regional business cycles for 12 EU members for the period 1966-1992. He finds an increase in the correlation between regions across nation's borders but also a decrease in correlation between regions within countries. As an example he points out that regions in the northern part of Italy are more correlated with regions in Germany compared to the regions in south Italy. Fatas concludes that the result is partly an effect of increased trade causing regional cross-border links instead of specialisation at the national level. Another explanation according to Fatas is that coordination of economic policies has increased cross-country correlations.

Barrios et. al. (2003) study business cycle correlations among UK regions and six euro-zone countries for the period 1966-1997. They conclude that the business cycle in the U.K. is out of phase with the euro-zone countries. Furthermore, they state that the trend is towards less correlation. They also find that the cyclical correlation within U.K. regions is high. An important conclusion made by Barrios et. al. is that they can not rule out the possibility that the asymmetric cycles have its origin in divergent macro-economic policies and that policy coordination through EMU would yield more symmetric cycles.

There are some empirical evidence that European regions are more sensitive to asymmetric shocks than regions in the U.S. (see, e.g., Bayoumi and Eichengren, 1993). One explanation is that Europe is more separated between periphery areas and centres. In this perspective it is also of interest to consider studies of migration patterns and regional disparities.

Costa-i-Font and Tremosa-i-Balcells (2003) study how different Spanish regions respond to the common currency. Among the results they find that large, diversified and open regions

are best prepared for the common currency. They also find that real exchange rate differences may be large between regions. A policy implication is that if production factors and prices remain relatively rigid and the pattern found in Spain applies to other countries, then the most important policy for regional asymmetric shocks will be fiscal redistribution.

Arnold (2001) finds that the regional industry mix (share of industrial employment) is important for the transmission of the monetary policy. One explanation for the regional differences in policy impacts is varying sensitiveness in the demand for the products. Furthermore, he argues that between-country variation in regional effects is not larger than within country variation. Arnold concludes that the present regional differences are not likely to restrain the monetary policy within the EMU.[26]

The review of the empirical literature on regional differences in financial structure is not completed. The final draft of the WP will contain a more stringent discussion (and more structured, the present review is somewhat fragmented). An important area, to some extent mentioned above, is whether or not output variability is larger at the regional level than at the national level. Furthermore, there is need for a short critical discussion concerning the different empirical methods that have been used (and the data samples). The use of different methods and data samples may explain why the conclusions differ between different studies. It is also important to link this section to previous chapters concerning regional policies. One conclusion often found in the empirical literature of regional effects of the EMU is that fiscal redistribution may be an important tool for handling regional disparities.

7.1.3.5 *Summary of the literature review*

In the final report we will summarize the literature review in this section. The main question is whether or not the regional effects of EU-level macro-economic policies indicate a clear pattern, i.e. is it the same region type that benefit from the different policies? This question is obviously also closely connected to regional and local policies, a link which we will attempt to analyse in the case studies. A common theme in most areas is regional specialisation and concentration. The predictions on specialisation and concentration are very different when comparing neo-classical theories and more recent theories such as endogenous growth models and the new economic geography. However, factor mobility is crucial within both theories. Labour mobility is also a very important aspect of the monetary union. Thus, it might be of interest to look more specifically on economic integration and specialisation on the one hand and labour mobility on the other hand in upcoming reports.

[26] The empirical analysis in Arnold (2001) is based on the NUTS1 level.

7.1.4 An empirical study the regional effects of changes in the monetary policy

In the previous sections we have presented some general frameworks for analysing regional effects of EU level macreconomic policies. We have also discussed some of the results that have been found in the empirical literature. This section contains the empirical part of the WP. Upon demand of the ESPON monitoring committee, an empirical analysis is conducted. The scope of the analysis must be viewed in the light of the time constraint of the WP and the difficulties of conducting this kind of analysis. In the final report, potential methodologies for analysing EU-level policies will be discussed. We will focus on quantitative (econometric) methods and different types of data that is needed. Today, lack of data, and uniform data, is a problem when conducting empirical analysis of economic development and structure among European regions.

Introduction

The purpose of this section is test a methodology analysing if EU-level macro-economic policies affect European regions differently. In section XXX we present a different approach using the MASST model developed by ESPON project 3.2. We have chosen to focus on the regional impacts of monetary policies. The main purpose of this section is to illustrate how regions might respond differently to changes in the monetary policy implemented by the ECB. The literature on the effects of monetary policy is quite extensive. Many studies are based on aggregated national data due to the lack of regional data. Recently, regional effects of monetary policy changes have been studied for European regions (see the literature review in section XXX). In the present study we will continue this work on regional effects of monetary policy. We also intend to analyse whether or not regional effects might differ between regions in the euro zone and regions outside the euro zone.

Theoretical framework

The effect of changes in the interest rate work through the so called transmission mechanism. One channel for the transmission mechanism is through the demand of consumption goods and investment goods. There are several explanations why the transmission mechanism differs between regions. One is that industries may differ in how sensitive they are for changes in the interest rate. Monetary policy also works through the exchange rate as the interest rate affects the exchange rate which in turn affects the net export from the region. Thus, the question of monetary effects is also closely related to the issue of integration effects in general in the EU. The impact of integration on industry structures will affect future patterns of monetary policy effects. Other channels (also briefly described in the literature review) are the regional financial markets. The monetary policy also works through the money supply of banks. The possibility to use substitutes for bank loans may also differ significantly between regions and industries. As was mentioned before, the money supply may also be affected by asymmetric information in the regions. The effects that work through the regional financial markets are difficult to study due to lack of data.

In the final report we will present a more thorough theoretical discussion.

Empirical model

Our intention is to study the effect of changes in the monetary policy on regional GDP data using both time-series techniques and cross section analysis. In the first step GDP growth is regressed on changes in the interest rate. In a second step, the regional effects of interest rates and the relation to regional industry structures are analysed in a cross-section approach.

The first step contains a regression of regional GDP growth on changes in the interest rate and lagged growth rate of GDP growth. The interest rate is first differenced in order to avoid problem with unit roots. Including lagged GDP growth is supposed to capture auto-correlation in the growth series. One way of obtaining the parameters is to use a "seemingly unrelated regression" model (SUR) (see, e.g. Greene, 2003) on a pooled data set. In the SUR model the different equations are linked by the error term.[27] In the model we can control for fixed effects and cross-section specific effects. In the second step, we use a cross-section regression, where the parameter for interest rate in the first regression (one parameter for each region is obtained) is regressed on a variable capturing the structure of the industries in the regions and dummy variables for the countries. The dummy variables are included to control for country specific effects that may affect the transmission effect of monetary policy. We will be able to compare the effects between regions inside the euro zone with regions outside the euro zone. This may be a contribution to the existing empirical literature within this field. One further contribution is that we will also try to consider existing ESPON typologies in the analysis, e.g. accessibility and types of urban regions.

Data

The analysis of regional development among European regions and policy impacts suffer from poor data. Thus, the empirical approach is often limited by the data. In this analysis we use yearly GDP data for European regions (NUTS1 or NUTS2) and data on the interest rate set by the ECB (and other national central banks). We will also use data describing the industry structure in the regions and some national characteristics. Data will be obtained from Eurostat, the ESPON database and the central banks.

[27] It may be possible to include a more specific structure between equations, e.g., spatial auto-correlations.

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7.2 Quantitative territorial assessment of macroeconomic policies: the MASST model

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The MASST (Macroeconomic, Social, Sectoral and Territorial) model is an econometric model useful for measuring the impacts of both natural economic tendencies and normative interventions on economic growth rates of Europe as a whole, of EU27 Countries (NUTS0) and of NUTS2 level areas[28].

In ESPON 3.4.2. the MASST model becomes a useful tool for analysing the impact of particular macroeconomic policies on regional growth, keeping all other things equal.

The different policies that can be taken into consideration concern:

a) *restrictive vs. expansive fiscal policies*;
b) *exchange rate policies*;
c) *cost competitiveness policies*.

The MASST model provides for each policy option the absolute growth rate of European NUTS2 regions at 2015, and for the same year the NUTS2 regional growth compared to a baseline scenario. The baseline scenario is defined as a vision of Europe in 2015 built on the assumption that all present macroeconomic, institutional and social tendencies at work will continue in the future, and that no external shocks will intervene and influence the present trend at work.

a) Fiscal policies

For what concerns fiscal policies, the MASST model will provide:

- GDP growth rates at NUTS 0 and NUTS 2 in 2015 under the assumption that a *restrictive* fiscal policy in all EU 27 Countries of Europe will take place, and a comparison of GDP growth rates in this situation compared to the baseline scenario will be provided;
- GDP growth rates at NUTS 0 and NUTS 2 in 2015 under the assumption that an *expansive* fiscal policy in all 27 EU Countries of Europe will be put in place. Also I this case a comparison with the baseline scenario will be provided, as well as with the restrictive policy.

For both restrictive and expansive fiscal policies, NUTS0 winners and losers can be identified. By winners an losers we mean Countries having the in 2015 a higher GDP per capita than the EU27 average.

[28] At present, the MASST model works for the EU15 Countries plus the New10 and Bulgaria and Romania. Switzerland and Norway cannot be taken into account.

b) Exchange rate policies

The MASST model will provide a quantitative impact of:

1) a devaluation policy of all European currencies (euro as well as the still existing National currencies) with respect to non-European currencies;

2) a revaluation policy of all European currencies vis à vis the non-European currencies;

For each of these options, the MASST model can provide:

- GDP growth rates at NUTS 0 and NUTS 2 in 2015;
- GDP growth rates at NUTS 0 and NUTS 2 in 2015 in comparison to EU average;
- Winners and losers.

c) Cost competitiveness policies

What MASST will do in the field of cost competitiveness policies is to measure the impact of a change in real unit labour cost on real GDP growth rate.

In this field, therefore, MASST can provide:

- GDP growth rates at NUTS 0 and NUTS 2 in 2015 under the assumption that EU countries lose competitiveness since *unit labour cost* increases;
- GDP growth rates at NUTS 0 and NUTS 2 in 2015 under the assumption that EU countries increase competitiveness since *unit labour cost* decreases.

As usual, for each of these options, the MASST model can provide:

- GDP growth rates at NUTS 0 and NUTS 2 in 2015;
- GDP growth rates at NUTS 0 and NUTS 2 in comparison to EU average;
- winners and losers.

Next steps

At present, the estimates of the MASST model have been done. The next steps towards the macroeconomic policy impact assessments are:

- the translation of the qualitative policy impacts into quantitative assumptions for the model;
- the run of the simulation steps;
- the analysis of the results and he comments on them.

The variables that will be used for the different policies are:

- public expenditure growth rates - for fiscal policies;
- exchange rate – for exchange rate policies;
- percentage change in unit labour cost for cost competitiveness policies.

Annex 1. National and regional incentives in 10 New Member States and 2 accession countries.

Marek Kozak and Maciej Smetkowski (EUROREG)

Country	Major economic data	Taxation incentives	Other incentives	Bussines climate	Commentary
Cyprus	**2005** GDP growth 3,8% GDP per capita (dollars) 21,600 US $ Inflation rate 2,3% Export 1237 bn $ f.o.b. Import 5552 bn $ f.o.b. FDI inflow 904 mil $ (2003) **Taxes** **CIT** 10 % (earlier - on-shore companies 20 and 25 % , offshore - 4.25 %.) **VAT** is 15 %, **Social security**: employer's 8% of the salary. employee's 6.3% of the salary.	Foreign Direct Investment The general advantages offered by Cyprus are enhanced by considerable tax incentives such as: -Low corporation tax with a maximum of only 25 percent -Significant initial investment and annual depreciation allowances -Exemption from customs and excise charges for operations in the Industrial Free Zone -Taxation of expatriates employed in the Industrial Free Zone at half the rates applicable to locals. The major fiscal incentives offered to **offshore enterprises** are as follows: -Offshore companies as well as offshore branches managed and controlled from Cyprus are taxed at only 4,25 percent of their profits -Offshore branches which are managed and controlled from abroad and offshore partnerships are totally exempt from corporation or income tax -The beneficial owners of offshore companies, branches and partnerships are not liable to additional tax on dividends or profits over and above the amount paid or payable by the respective legal entities - Expatriate employees of offshore enterprises living and working in Cyprus are taxed at half the rates , applicable to locals ie from 0 to 20 percent -Expatriate employees of offshore enterprises living and working outside the island are exempt from income tax if they get paid through any bank in Cyprus or are taxed at , one tenth of the rates applicable to locals if they get paid directly abroad	Foreign investors can also take advantage of other incentives. These include: industrial training schemes; export promotion services; bonded warehouses, and industrial estates which offer plots at very low rentals. Investors from the European Union may have access to the EC International Investment Partners Scheme (ECIP). This scheme offers financial support for joint ventures in Cyprus.	Cyprus is an ideal place to set up a holding company which will be able to receive dividends free of any deductions, or at a lower rate, by taking advantage any one of the numerous conventions which Cyprus has negotiated to prevent double taxation, or the European Directive concerning the commercial fiscal regime applicable to mother companies and subsidiaries of different member states. This company may also be exempted from deductions or capital gains taxes payable in Cyprus. Dividends may finally be expatriated free of any supplementary tax for the company.	

		-No capital gains tax is payable on the sale or transfer of shares in an offshore company -No estate duty is payable on the inheritance of shares in an offshore company. Those eligible for relief are: - Offshore enterprises operating continuously from fully-fledged and fully-staffed offices which are open during normal working hours and separate from private residences; -full-time expatriate employees of the above enterprises who live and work in Cyprus during most of the year and whose remuneration exceeds CYPounds 6.000 per annum. -An eligible expatriate may acquire a second duty free car for the use of his family if his salary, as declared to the Department of Inland Revenue, is more than CYPounds 10.000 per annum. **Shipping Bussiness** Shipowners are initially attracted to the Cyprus Register by the inexpensive registration and annual fees and the excellent sernices offered. Other important incentives are: - No tax on profits from the operation of a Cypriot registered vessel or on dividends received from a shipowning company - No capital gains tax on the sale or transfer of a Cypriot registered vessel or the shares of a shipowning company - No estate duty on the inheritance of shares in a shipowning company - No income tax on the emoluments of officers and crew - No stamp duty on ship mortgage deeds or other security documents.			

Czech Republic	**2004** GDP growth- 4.0 % GDP per capita (USD, PPP) - 18,500 Inflation rate (%) - 2.8 Exports 78.37 bln $. (2005 est.) Imports 76.59 bln $(2005 est.) FDI inflow 2583 mln $ FDI cumulative 36 bn $ (2003) **Taxes** **CIT**- 26% for tax periods ending in 2005 and 24% for tax periods ending in 2006 and thereafter. **VAT** - 19%, 5%, 0% **Social security:** Employer-35%. Employee- 12.5%.	**Manufacturing** The tax incentive has two forms. If a new company (legal entity) is established for the investment project, the new company is eligible for corporate tax relief for up to ten years. If the investment is made as an expansion or modernisation project within an existing Czech company (legal entity), the company is eligible for partial tax relief for up to 10 years. The tax relief is terminated when the company has exceeded the maximum level of eligible state aid – see the section below on compatibility of incentives with European Union regulations. **Eligibility Criteria** -The investment must be made into a manufacturing sector and at least 50% of the production line must consist of machinery listed on a government-approved list of high-tech machinery. - The investment must be made into the launch of new production or into the expansion of existing production or modernisation. - The investor must invest at least CZK 200 million (approx $8 mil.) within three years. This limit is reduced in regions with high unemployment to CZK 150 million or CZK 100 million, depending on the unemployment rate. - Half of the investment minimum (above) must be covered by the investor's own equity. - At least 40% of total investment must be made into machinery. - The proposed production must meet all Czech environmental standards	**Manufacturing** *Job creation and training and retraining grants* The size of the job creation grant depends on the unemployment rate in the district where the investment is made, and ranges from zero in areas with unemployment below the national average to a maximum of CZK 200,000 per employee in districts with unemployment more than 50% higher than the average. The same applies to training and retraining grants, which range from zero to a maximum of 35% of total training and retraining costs. *Site support* This incentive is available on a national basis subject to availability of suitable sites, and the site should be selected prior to submitting the application for investment incentives. The incentive is granted by the government to the municipality and/or the private developer in the form of subsidies for development of site infrastructure and the transfer of land from state ownership to the municipality at an advantageous price. From 1998 to 2003, the incentive resulted in the creation of 80 industrial zones where sites are readily available to investors. **Bussines support services and technology centres** **Subsidy for business activity** Paid yearly up to 50% of eligible business expenses (either wage or capital expenditures on tangible and intangible assets); Paid during a period of maximum 10 years, up to the ceiling of state aid (calculated	**Investment protection** The Czech Republic is a member of the Multilateral Investment Guarantee Agency (MIGA), an international organization for protection of investment belonging to the World Bank-IMF group. The country has signed a number of bilateral international treaties which support and protect foreign investments, for example with the United States, Germany, UK, France, Austria, Switzerland, Italy, Belgium, Luxembourg, Netherlands, Finland, Norway and Denmark.	

			using either the employees' two-year average wages within the first 3 years or using expenditures on tangible and intangible assets within 5 years). **Subsidy for training and re-training** Paid yearly at a level of 35% (30% in Prague) of special training costs and 60% (55% in Prague) of general training costs. Special training refers to training through which employees gain knowledge and skills that can be used only within the investor's project and cannot be easily transferred to other companies. General training refers to training by which employees gain general knowledge and skills that can be used also outside the investor's project; Paid during the period of maximum 3 years (or 5 years if the investor creates more than 100 new jobs) Maximum level of training subsidy is CZK 100 000 per employee (or CZK 150 000 per employee if the investor creates more than 100 new jobs) **Eligibility criteria** Type of project Technology Centres, Software Development Centres, Expert Solution Centres, Headquaters - min investment – 15 mil. CZK - min Newy created jobs – 15 Amount recipient must finance with own resources - CZK 7.5 mil. Call Centres, High-tech Repair Centres, Shared Services Centres (exept Headquarters) - min investment – 30 mil. CZK - min Newy created jobs – 150 Amount recipient must finance with own resources - CZK 15 mil.		

			Job Cration Support Programme for Regions Worst Affected by Unemployment *Financial support for new job creation* Granted at the rate of CZK 200,000 per each newly created job up to 50% of total eligible costs actually incurred (total gross wages and salaries paid out over two years to employees in new jobs created by the project); *Financial support for employee training or retraining* Granted at the rate of 35% of eligible costs actually incurred for employee training or retraining, but to a maximum of CZK 30,000 per each newly created job. **Eligibility criteria** The investment must be made into new production or the provision of specific services (customer support centres and shared service centres) or the expansion of existing production or the expansion of the provision of existing specific services. - The project must be located in a region with an average unemployment rate exceeding 14%. - The investor must invest at least CZK 10 million into tangible and intangible fixed assets (except leases). - Half of the investment minimum, i.e. CZK 5 million, must be covered by the investor's own capital. - At least 10 new jobs must be created. - All above conditions must be fulfilled within two years of the date the support agreements are concluded.		
Estonia	**2004** GDP growth**:** 7.8	Estonian fiscal incentive for investors is competitive tax system	**Imporving Infrastructure** Companies (SME), can apply grants for the	**Industrial Parks** The recent trend in	

	% GDP per capita: EUR 6,679 Inflation (CPI): 3.0% Exports: 4.7 bn Euro Imports: 6.7 bn Euro FDI inflow 676,5 mil Euro FDI cumulative 838 milions Euro **Taxes** **CIT** - flat 23% rate (which wil be reduced to 20% by the year 2009) **VAT**: 18%; **Social security:** (state pension and health insurance): 33%; - unemployment insurance tax: 0.3% employer + 0,6% employee; **Land tax** - 0.1% and 2.5% of the assessed value of the land. The council of the local authority is authorised to establish the rate of land tax.		construction of technical infrastructure outside the capital city area. Projects supported include the construction and repair of arterial roads, power and communication networks, water and sewage networks. The projects have to be directly related to the development and expansion of the company and include the creation of new jobs. The limits of the grant are 25%-50%. Grants for Creating a skilled Workforce All companies established in Estonia can apply for financial support for the following employee training projects: - improving the qualifications for employees - professional training of new employees in connection with the expansion of business activities of a company - acquisition of new specialties and skills required for modernizing production activities The rate of the grant depends on the size and location of a company, the nature of the training, and can be no more than 70% of the cost of the training project. **Research and Development Grants** - provide up to 25% of product development costs directly related to a project - provide up to 50% of industrial research costs directly related to a project	industrial property market are industrial parks. There is less and less industry in central city of Tallinn, manufacturing companies and factories are moving to the more suitable locations in outskirts or even farther. Tallinn and its immediate vicinity has three areas under development for manufacturing facilities and warehouses: Peterburi road, Pärnu road in Laagri and Tartu road between the city boundary and Jüri. The biggest industrial parks in and around Tallinn are Jüri Industrial Park, Tänassilma Technological Village, Dvigatel Industrial Park, Keila Industrial Park and Muuga Industrial Park. The total areas of the parks vary from 30 to 80 hectares and companies can purchase grounds with areas from 2000 up to 23 000 square meters with purchase price around 22-25 EUR per square meter. Besides Tallinn also Tapa Industrial Park and Tartu Science Park	

				are the most promising projects.	
Hungary	**2004** GDP growth - 4.0% GDP Per capita (ppp): 14.900 USD Inflation rate -3.7% (2005 est.) Exports -$61.75 billion f.o.b. (2005 est.) Imports - $64.83 billion f.o.b. (2005 est.) **Taxes** **CIT** 16% **Social security**: Employee -pension contribution 8.5% - in 2005 the basis of the contribution cannot exceed HUF 16440 per day (annual maximum HUF 6 000 600) health care contribution (4%) -unemployment contribution 1 % Employer -social security 29% -unemployment contribution 3 % -contribution to state training fund 1.5%	Rate of tax benefit: maximum the intensity ratio defined in EU regulation less all other direct subsidies. **Maximum intensity ratios are:** Defined by regions: - 35% in Budapest - 40% in Pest County - 45% in Western Transdanubia (except 6 less developed small regions in the area) - 50% in all other regions of Hungary Defined by size of investment: - Up to EUR 50 million worth of investment – no further restriction in addition to regional preferences is applicable - Between EUR 50-100 million worth of investment – 50% of the regionally allowed intensity ratio is applicable - Over EUR 100 million worth of investment – 34% of the regionally allowed intensity ratio is applicable Example: Maximum intensity ratio for an EUR 135 million investment in Budapest (35%): 50 million * 35% + (100-50 million) * 35% * 50% + (135-100 million) * 35% * 34% Defined by sectors: Sensitive sectors are described in accordance with EUregulations, for which further decreased state subsidies or no subsidies at all are granted. **For tax incentives:** - Investment amount is HUF 3 billion (cca. EUR 12.1 million) anywhere in Hungary OR HUF 1 billion (cca. EUR 4.03 million) in priority regions of the country or in an area handled by a higher education institution or the Hungarian Academy of Sciences, with the purpose of carrying out basic research, applied research or experimental development - Realizing job creating investments, if investment involves the creation of new facilities or expanding existing capacities, and is operated for five years after the start up of investment.	**Economic Competitiveness Operative Programme** Its objects: - Incentive for investment is the first priority. Business enterprises with Hungarian headquarters may apply for non-refundable grants (e.g. for building up production capacities for modern high-tech products, the introduction of environmentally friendly, less-polluting technologies and procedures, and the establishment of Central and East European or European regional corporate centres in Hungary). - Development of small and medium enterprises is another important priority. - Research and development, innovation is also of primary importance. Grants for applied cooperative research and technology development activities, as well as the strengthening of corporate R&D capacities and innovative skills are available. **Special Package for Large Investors** **Conditions for eligibility:** - Manufacturing projects of min. EUR 50 million - Regional service centre established with a total investment of min. EUR 25 million - Min. 100 new jobs created **Eligible costs:** - Purchase of machines and equipment - Site acquisition and the cost of related infrastructure - Intangible assets needed for the project - Wage cost of new employees for the first 24 months (services) **Project Evaluating Criteria**	Hungary provides full-range **protection against expropriation, nationalization and any arbitrary** acts. The law forbids expropriation. Such action is executable only in case of acute national concern. Hungary has entered into several bilateral and multilateral **investment protection treaties** with strategically important investor countries. No investment permit of any kind is needed in Hungary for foreign investors, but business entities must be registered with the local court. Apart from the registration and reporting requirements, no licenses or permits are needed for the establishment and operations of foreign businesses. Some exceptions, however,	

	-health care tax HUF 3,450 per month per employee (as from November 1, 2005 HUF 1950) **Simplified Entrepreneurial Tax (EVA)** EVA is a flat tax paid on sales revenue. Only private entrepreneurs and those business entities can opt for this form of taxation that have been in business for at least two years, with an annual income (including VAT) that does not exceed 25 million HUF (approx. 94,000 EUR), where all of the owners are individuals, does not hold shares in any other corporations (with the exception of publicly traded shares) and which have no EU tax number. Tax rate is 15% **VAT:** 25%, 5%, 15%	- Length of tax benefit: maximum 10 years (from the first year after the activation of the investment plus the subsequent nine years, or – upon request of the taxpayer – from the year of activation of the investment plus the subsequent nine years) - Utilisation of tax benefit: maximum 80% of the payable tax can be tax benefit each year. -Application for tax benefit: application should be submitted at the Ministry of Finance, which will approve and authorize the tax benefit if applicant meets all the requirements meet the criteria of relevant laws described above. Decision is made within 60 days upon receipt of application,	- Size of investment - Number of created new jobs - Proportion of Hungarian suppliers - Level of technology and innovation - Proportion of training costs - Skill level of employed labour force - Environmental impacts - Financial impact on the Hungarian economy	exist in case of privatization of state-owned assets or certain foreign exchange transactions, when the Hungarian Privatization and State Holding Company, in the former case, or the National Bank of Hungary, in the latter case, are competent and authorized to negotiate or issue licenses.	

Latvia	**2004** GDP growth 7,8% GDP per capita 4 215 EUR (12 800dol) Inflation rate 2,9% Exports: $5.749 billion f.o.b. (2005 est.) Imports $8.559 billion f.o.b. (2005 est.) FDI cumulative 2,3 bn USD FDI inflow 981 milons USD **Taxes** **CIT** 15%(since 2005) **VAT** 18%, 9%, 0% **Social security** -Employer - 24.09%. -Employee - 9%.	**Corporate Income Tax rebates are applied in the following cases**: - Companies carrying out large, state-supported investment projects (more than LVL 10 million (EUR 15.6 million) within a three year period) receive a tax allowance equal to 40% of the total investment; - Carry-forward of losses for 5 years is allowed for tax purposes; - Relief for losses within a group of companies maybe utilised by tax group companies. - Double declining depreciaction rates up to 70% are applied for technological equipment. - Corporate income tax may be reduced by the amount of corporate tax paid in foreign countries. The reduction may not exceed the amount of tax calculated in Latvia on the income gained abroad (not more than 25 per cent of the foreign source income) - Corporate income tax relief for agricultural companies - Corporate income tax relief for employment of convicted persons In addition, local authorities can grant support of up to 90% Property Tax reductions for investment projects conforming to their local/regional development strategies and zoning requirements. **There are four special economic zones (SEZ) across the country.** The basic incentive package available for companies establishing within these zones includes the following: -80 or 100% rebate on real estate tax -80% rebate on corporate income tax on income derived within the zone -80% rebate on withholding tax for dividends, management fees and payments for use of intellectual property -VAT at 0% for most goods and services supplied in within free zones, including storage -VAT, excise tax and customs duty exemption on	**Support for the development of new products and technologies** Under the programme, support is provided for the development of new and/or significantly improved and /or improved existing products, services, or technological processes - Financial support remaining as of 1 November, 2005, in LVL: 8,5 milions - Applicant entitled to Aid: An enterprise registered in the Commercial Registry of the Register of Enterprises of the Republic of Latvia (SMEs and Large enterprises) - All sectors can be covered by support excluding the following: ▪ Retail and wholesale trade; ▪ Transportation; ▪ Agricultural production; ▪ Fishing industry production. - Upper limit of the financial support available for a particular project, in LVL: 150 000 - Support intensity: SMEs – 45% Large enterprises – 35% **Support for modernisation of business-related infrastructure** Under the programme, support is provided for developing new laboratories and improvement of the existing ones. Financial support remaining as of 1 November, 2005, in LVL: 3,3 milions - Applicant entitled to Aid: An enterprise registered in the Commercial Registry of the Register of Enterprises of the Republic of Latvia (SMEs and Large enterprises) - All sectors can be covered by support excluding the following: ▪ **Steel industry;**	Latvia is ranked among the top countries worldwide in terms of business start-up time, according to the recently published World Bank report Doing Business 2005 (Oxford University Press), which analyses business regulation in approximately 130 countries across the globe According to the Commercial Law and the Civil Codex of Latvia, any enterprise with foreign capital, as a legal entity, is entitled to the same rights and duties as any local entity. For the last six years Latvia's Government has been cooperating successfully with the Foreign Investors Council in Latvia (FICIL) – a non-government organisation which unites the largest businesses from different countries and sectors that have made significant investments in	

		import in free zones from foreign countries and on export to free zones abroad -expatriates who pay social insurance in their home countries may pay social insurance on a fixed amount, currently 15 minimum monthly salaries per annum	▪ **Artificial fibre production;** ▪ **Retail and wholesale trade services;** ▪ **Transportation sector;** ▪ Agricultural and fishing industry production - Upper limit of the financial support available for a particular project, in LVL: 1 500 000 - Support intensity: SMEs – 65% Large enterprises – 50% **Support for consulting and participation of enterprises in international exhibitions and trade missions"** Under the programme, support is provided for participation of enterprises in international exhibitions, fairs, and trade missions. Financial support remaining as of 1 November, 2005, in LVL: 2,85 milions - Applicant entitled to Aid: Small and medium-size enterprises (SMEs) registered in the Commercial Registry of the Register of Enterprises of the Republic of Latvia - All sectors can be covered by support excluding the following: ▪ Agricultural production; ▪ Fishing industry production; ▪ Hunting. - Upper limit of the financial support available for a particular project, in LVL: 10 000 - Support intensity: 50% **Subprogramme "Consulting services" of the programme "Support for consulting and participation of enterprises in international exhibitions and trade**	Latvia's economy. Five foreign Chambers of Commerce in Latvia have also joined FICIL. The mission of FICIL has been to improve the business environment in Latvia by way of an active dialogue with the government.	

			missions" **Under the programme, support is provided for the following kinds of consulting services:** **- Implementation of the Latvian and European Union standards according to the requirements existing in areas of work safety, environment and consumer rights protection;** **- Working out preliminary designs in construction;** **- Drawing up marketing strategies, development programmes and plans;** **-Carrying out market research;** **- Analysis and audit of accounting and management systems;** **- Protection of the intellectual and industrial property rights (obtaining and protecting production licences or patents).** Financial support remaining as of 1 November, 2005, in LVL: 2,1 milions - Applicant entitled to Aid: Small and medium-size enterprises (SMEs) registered in the Commercial Registry of the Register of Enterprises of the Republic of Latvia - All sectors can be covered by support excluding the following: ▪ Agricultural production; ▪ Fishing industry production; ▪ Hunting. - Upper limit of the financial support available for a particular project, in LVL: 10 000 - Support intensity: 50%		
Lithuania	**2004** GDP per capita 5219 Euro GDP growth 6,7% Inflation rate 2,9% Exports 10,95 bn	The standard profit tax rate applied to legal entities is 15%. Small enterprises with an annual income not exceeding LTL 500,000 and an average number of employees not exceeding 10 are subject to a 13% profit tax rate, moreover, a company (individual company or partnership) with an average number of employees not exceeding 10 and the income not	During the negotiations for EU accession, Lithuania achieved a 7-year transition period with respect to the acquisition of agricultural land by foreigners, and if necessary, this restriction may be extended for another 3 years. A review of the transition period instruments is performed in the third year after the accession.	The Law on Investment provides for the following types of foreign investment in the Republic of Lithuania: 1.Establishment of an	

	USD Imports 13,33 bn USD (est. 2005) FDI cumulative – 4,7 bn Euros **Taxes** CIT- 15%. A company that produces agricultural products is taxed at 0%. **VAT** 18%; 9% 5% **Social security:** The employer deducts 3% from the employee's gross salary as the social insurance contribution paid by the employee. Social insurance contributions are not deducted while computing the employee's income tax, which is deducted from the gross salary. The employer must also pay social insurance contributions equal to 31% of the gross salary.	exceeding LTL 1 million (approx. EUR 289,620) per tax year has a right to apply zero income tax rate to the amount of LTL 25,000 (approx. EUR 7,240) and a 15% profit tax rate to the remaining amount of profit. **Free economic zones** At present, Kaunas FEZ and Klaipeda FEZ are operating according to the laws of the Republic of Lithuania. Siauliai FEZ is subject to the Law on Liquidation of Siauliai Free Economic Zone. Lithuanian and foreign enterprises may develop their business in free economic zones**. FEZ enterprises may enjoy the following incentives**: - If investments reach the amount of EUR 1 million, and at least 75% of the company's income during the tax period that the limit of EUR 1 million was reached in consisted of income from manufacturing, processing, warehousing activities performed within the zone, from wholesale of goods warehoused within the zone or provision of services related to the activities carried out on the territory of the zone, the company is granted exemption from profit tax for the first 6 tax periods (years), whereas in the subsequent 10 tax periods (years) it is subject to a 50% reduction in profit tax. - Exemption from VAT, road tax, and real estate tax may be applicable irrespective of the amount of the investment in a FEZ. **Small enterprises** An enterprise with gross income below LTL 500,000 (EUR 144,810) during a tax year and with an average number of employees not exceeding 10 has the right to apply a 13% profit tax (the standard rate is 15%), or a company (individual company or partnership) with an average number of employees not exceeding 10 and the income not exceeding LTL 1 million (approx. EUR 289,620) per tax year has a right to apply zero income tax rate to the amount of LTL 25,000 (approx. EUR 7,240) and a 15% profit tax rate to the remaining amount of profit.	Upon the Commission's proposal, the Council may unanimously resolve to shorten or terminate the transition period.	undertaking, acquisition of capital or a part thereof of an undertaking registered in the Republic of Lithuania. 2. Acquisition of any type of securities. 3Building, acquisition of fixed assets or increase of their value. 4Lending funds or other assets to undertakings where the investor owns a part of the capital entitling it to control the undertaking or exert a considerable influence upon it. 5Conclusion and implementation of concession and leasing contracts. Lithuania signed bilateral agreements on the promotion and protection of investments. The Agreement on use of Local Currency and the Agreement on Legal Protection for Guaranteed Foreign Investments between the Multilateral Investment Guarantee Agency (MIGA) and Lithuania are in force. Repatriation of profits	

				derived from currency earnings (in both foreign and local currency) is not restricted. There are guaranteed rights to withdraw profits, royalties and interest in convertible currencies.	
Malta	**2005 est**. GDP - growth: 1.4% GDP - per capita: ppp - $18,800 Inflation rate (consumer prices): 2.8% Exports: $2.744 billion f.o.b. Imports : $3.859 billion f.o.b. FDI cumulative 3222.0 mln USD FDI inflow 333.0 mln USD **Taxes** **CIT** 35% (2005) **VAT** 18%, 5% **Social security**: Employer 10% Employee 10%	Enterprises introducing **back office operations**[29] may be entitled to tax credits according to the eligible expenditure incurred on pre-approved projects. These tax credits consist of a deduction from the tax payable on profits derived from back office operations. The applicable tax credit is based on the type of investment: - immovable property - 0.35% Multiplied by the number of individuals engaged as additional employees The total tax credit may not exceed the following percentage of total expenditure: - for SMEs 50% - for large enterprises 40% **E-business tax credits** encourage and support the development and uptake of e-commerce as a means to promote a modern and dynamic business environment as part of Malta's regional development. The applicable tax credit is based on the type of investment: Information Technology (Hardware and Software) - 17.5 %	**The Business Promotion Act (BPA)**[30] replaces the Industrial Development Act and has been in force since 2001. It introduces greater scope and flexibility to the incentives available for the promotion of business, and covers a wider range of qualifying sectors and activities than before. The BPA provides incentives for those industries demonstrating growth and employment potential that are engaged in manufacturing (including software development), repair, improvement and maintenance activities. The incentives available under the Business Promotion Act and Regulations may be subdivided under two categories namely, tax related incentives (1) and non-fiscal related incentives(2) **Ralated tax Incentives (1)** **Reduced Rates of Income Tax** -This incentive applies only to qualifying companies engaged in those particular activities listed under the Business Promotion Regulations. These activities include pharmaceuticals, plastics, biotechnology, electronic and electrical equipment. -Such qualifying companies benefit from a	Malta has concluded tax treaties with a number of countries (mainly European but including Canada and Australia), which enhance the incentives provided by Maltese domestic legislation. Most of these treaties ensure that profits generated in Malta are either exempt from tax in the country of residence of the investor, or that such a country will provide a tax credit for the Malta tax spared as a consequence of the incentives Malta provides.	

[29] Back Office Operations refers to those activities whereby a company provides services to enterprises established outside Malta within an outsourcing agreement.

[30] Business Promotion Act contains both fiscal and non-fiscal incentives. It is places in this column for clarity and differentiation from regular tax incentives for ivestors

		Related capital expenditure (for projects that provide an enabling platform for other enterprises to perform electronic transactions) - 10.5 % **Professional Capacity Building** These tax credits encourage specialisation in the fields of science and technology and facilitate the employment of highly qualified and specialised personnel Tax Credits are available to support enterprises financing the studies of employees at a post-graduate level and also to individuals who embark on such personal development on their own initiative. The applicable tax credit is based on the type of investment: Tuition costs and wages of employees having their studies financed by the enterprise. – 17,5% The company's share of the employee's social security contribution for the first 36 months of employment when recruiting additional highly qualified employees holding approved qualifications in a relevant post -. 100% **Research and Development** In order to stimulate **R&D** in Malta, enterprises carrying out R&D may be entitled to various tax credits according to the nature of the specific investments. The applicable tax credit is based on the type of investment -Wages of personnel employed in R&D activities 35% -Instruments and equipment 35% - Land and premises 14 - External consultants 35 - External consultants engaged in an application for EU funds 17,5 - Overheads and other R&D expenses 10,5	highly favourable tax rates, valid up to 31/12/2008. The applicable taxable rates are 5%, 10% or 15%. **Investment Tax Credits** This incentive, in terms of which the tax payable is reduced and even eliminated, may be availed of only by those qualifying companies that are entitled to benefit from reduced rates of income tax. Investment tax credits are calculated as follows: Either (a) 50% of investment on capital equipment; Or (b) 50% of the first 2 year wage costs of new jobs created. Note: For SMEs the applicable percentage is increased to 65%. Tax credits unutilised during a particular year are carried forward to the following year and increased by 7%. The combination of the above incentives would normally result in minimal or no taxes being paid for a number of years. This incentive will continue to be available after the 31st December 2008. **Value Added Incentive Scheme** This incentive is applicable to those qualifying companies that are not eligible for reduced rates of income tax, and consists of a scheme whereby such companies benefit from reduced rates of income tax related to the increase in value added derived from their activities. The applicable rates being of 5%, 10% or 15%. The reduced rates of tax apply to part or indeed a multiple of the increased profit when compared to a base period. For new companies, since the base period would be Nil, all the profits in the initial three years would be taxed at the reduced rate of 5%. This incentive will no longer be available after the 31st December 2008. **Investment Allowances** Tax deductions in addition to normal tax		

		- Wages and tuition expenditures leading toward an R&D relevant qualification 17,5 - Employer's social security contribution in respect of each R&D qualified personnel 100 - plant and machinery - 1.75% multiplied by the number of individuals engaged as additional employees	depreciation are provided as follows: • Plant and machinery - 50% of the investment; • Industrial buildings or structures - 20% of the investment. **Reduced Rates of Tax on Reinvested Profits** The tax on profits that are reinvested in projects approved by Malta Enterprise is reduced by 19.25% from 35% and by 17.5% from 35% in the case of hotel operations. **Incentives for Job Creation** The creation of new jobs for particular persons (e.g. persons unemployed for more than two years, disabled persons etc), would entitle a company to an additional tax deduction based on the wage cost of such persons. **Non-fiscal Related Incentives (2)** **Provision of Immovable Property** Malta Enterprise approves the allocation of industrial buildings at competitive rates of rent. **Soft Loans** Qualifying companies may be assisted by low interest rate loans covering up to 75% of the qualifying expenditure undertaken by the company. **Loan Interest Rate Subsidies** Alternatively, companies may qualify for a subsidy on the interest rate payable on loans taken up from licensed financial institutions to acquire additional assets. **Loan Guarantees** Malta Enterprise may guarantee up to 75% of loans taken up by qualifying companies to finance the acquisition of assets. **Training Assistance** Qualifying companies may benefit from substantial training assistance. Depending upon whether a company is classified as a large enterprise or an SME, such assistance may vary from 35% to 80% of costs incurred on training.		

			Work Permits Indefinite work permits are granted to shareholders (or their nominees) holding more than 40% of the equity. Definite work permits for specialists are granted according to company requirements. The business support available to foreign and local companies also includes a **host of export marketing services** which in effect allows companies to benefit from: • A range of overseas promotional activities • Participation in Business Missions and Trade Fairs abroad • Access to market research and business information services **SMEs e**mploying up to 100 employees may benefit from a **Loan Guarantee** of up for up to 50% of a bank loans required to finance capital expenditure. Loan guarantees will be issued for a maximum of 10 years, never exceeding Lm150,000 but usually up to Lm50,000. The aim of this support measure is to facilitate access to Finance for SMEs undertaking investment in Capital Expenditure.		
Slovakia	GDP per capita - 6100 USD GDP growth in stable prices (%) – 5,3 (III q 2004) Inflation rate (%) 7,5 Export 27,8 bn $ Import 29,2 bn $	**State aid may be provided in favour of a project in the following forms:**[31] A. Indirect forms - Tax relief on the income tax of legal persons - Transfer of a real estate title from the state or municipality at a price lower than the market value B. Direct forms - Financial grant to cover Investment costs for type	**Slovak territory is divided into 3 zones:** *Green zone*: regions with an unemployment rate above 15% (in the period from 10/2004 – 9/2005 there are 29 regions) *Yellow zone:* regions with an unemployment rate from 10% to 15% (in the period from 10/2004 – 9/2005 there are 24 regions) *Red zone*: regions with an unemployment	Slovakia signed Double Taxation Prevention Treaties	

[31] To learn more: www.sario.sk/upload/docs/Rules_state_aid_provision_AJ.pdf

[32] Primarily in Act No. 565/2001 Coll. on investment incentives and on the changes and complements of some laws as amended, Act No. 595/2003 Coll. on income tax as amended, and Act. No. 366/1999 Coll. on income taxes as amended

	FDI (mil USD) - 11 464,5 **Taxes** **CIT** 19%. (effective since January 1st 2004) **VAT** 19%(effective since January 1st 2004) **Social security:** Employer 35,20% Employee 13,40%	C projects (thereinafter as FG), - Allowance for newly created jobs - Training allowance. In the event that the Investor applies for tax relief, he has to meet, as well as the essential terms defined within rules, criteria stated within particular legal regulations[32]. **On the date of the adoption of these rules, these are mainly the following criteria**: (i) Investment costs must be of a minimum amount of 400 million SKK, (ii) The investor must contribute at least 200 million SKK of Investment costs from his equity capital. If the Investor carries out a project within a region where the unemployment rate is at least 10 % according to the statistics register of the Centre of Labour, Social Affairs and Family (Green and yellow zone), as of the last day of the preceding calendar half year, then the amounts described in (i) and (ii) above are decreased by half. **Max limit of tax relief** *Bratislava region* Red zone: A 0%, B 20%, C 20% *Other regions* Red zone: A 0%, B 33%, C 44% Green zone: A 44%, B 49,5%, C 50% Yellow zone: A 38,5%, B 44%, C 50%	rate up to 10% (in the period from 10/2004 – 9/2005 there are 26 regions) **There are 3 prefered types of investments as well:** *Type A* - Processing industry: Investment Projects introducing new production and the assembly of components as well as final products, eventually repairs. - Distribution and logistics centres: Centralized handling in the area of service activities. *Type B* - Strategic investments in high-tech sectors with network externalities (information and communication technologies - ICT, biotechnology, nanotechnology, etc.): this concerns projects which will markedly contribute to the development of the high-tech sector, which bring about network externalities (i.e. a situation when the productivity of a given subject is increased by the close proximity of other subjects or businesses, universities, research institutions, and so on, alternatively where the presence of the given subject increases the productivity of other businesses). It mainly concerns sectors with a large technological component, for example information technology, nanotechnology, and biotechnology. - Centres of strategic services: Centres of shared services (centralization of support activities, for example, human resources, ICT, sales, and so on), customer centres and technical assistance centres, call centres (centres ensuring customer service by means of telephone, fax, e-mail, internet).		

			Type C - Research and development centres, technological centres, centres of technological development: Research and development activity that is not directly attached or linked to industry or another commercial activity, or the development of new products, processes and services that will lead to a significant improvement in existing products, processes and services. **Regional aid** **% of project cost** red zone: A – O%, B 20%, C 20% greek zone: A 40%, B 45% C 50% yellow zone: A 35%, B 40%, C 50% **Regional aid** **% of real estate price lower than market value** A (green+yellow zone) 3% (red) 0% B (all zones) 6% C (all zones) 15% **Allowance provision for newly created jobs** The intensity of the maximum allowance amount for newly created jobs will depend on the location of the project realization in the Slovak Republic as well as on the project type. In all cases, assistance will be provided to a maximum of 30 % of labour costs per annum for every created job and in any case an absolute maximum amount of assistance per job will be defined. Assistance will be granted as follows: • **Green and yellow zone**: Assistance will be granted for project types A and B where a minimum of 30 % of employees will be		

			appointed from among registered job applicants. The absolute maximum amount of assistance for one job is 125 thousand SKK. If, among employees from among registered job applicants, a minimum of 10 % of disadvantaged job applicants is appointed, then the maximum allowance for one job is 150 thousand SKK. In the event of the realization of Projects A and B within regions with a registered average unemployment rate of more than 20% and completion terms according to first and second clause, the absolute maximum allowance per single job is 200 thousand SKK. • **Red zone**: An allowance will only be provided for type B projects where a minimum of 10 % of employees must be appointed from among registered job applicants. The absolute maximum allowance per single job is 100 thousand SKK. **Large investments** In conformity with the Multi-sector framework of the regional aid for large investment projects, it is necessary in the case of investments exceeding 50 million EUR (hereinafter only „large investments“) to further limit the amount of state aid as follows: **Limit of the aid amount for large investments** Acceptable amount of aid equals to: R% out of (50 million EUR +0,5* B + 0,34*C) R= regional maximum limit (for Bratislava region – 20%, for other regions in the Slovak Republic – 50 %)		

			B = sum of eligible costs exceeding 50 million EUR but not exceeding 100 million EUR C = sum of eligible costs exceeding 100 million EUR		
Slovenia	**2004** GDP growth 4.2 % GDP per capita 13,103 Euros Inflation rate 3,6 % Exports 12,587 mln Euro Imports 13,878 mln Euro FDI inflow 5,633 mil Euro FdI cumulative 4 bn Euro **Taxes** **CIT** 25% The standard rate of **VAT** in Slovenia is 20%. There is a reduced rate of 8.5%. **Land tax** 2% **Social security**: The employer's contribution to national insurance is 16.1% and that of the employee - 22.1%.	**Relieves for capital investments** 1. A taxpayer may reduce the tax base by 10% (20% in 2004 and 2005) of the amount invested in equipment (except for investments in passenger cars, furniture and office equipment) and intangible fixed assets up to the amount of the tax base and only for investments made in Slovenia. 2. A taxpayer may reduce the tax base by further 10% of the amount invested in equipment for research and development (20% in equipment and intangible long-term assets in 2004 and 2005) up to the amount of the tax base. 3. The taxpayer may reduce the tax base over a five-year period for the fiscal period arising from the unexercised right to a tax relief. **Relieves for additional employment** 1. For taxable persons who within the financial year employ on a permanent basis and for at least two years: • trainees or other workers who conclude their first employment contract, • workers registered with the employment service for at least 6 months prior to concluding the employment contract, • workers who hold a doctorate (Ph.D.) and were not employed in any company before that, the taxable base is lowered by an amount equal to 30% of the wages paid to these employees, for a maximum period of the first 12 months of their employment. 2. For taxable persons who employ disabled persons the taxable base is lowered by an amount equal to 50% of the gross wages paid to the	**Government FDI Cost-Sharing Grant Scheme for 2005** Foreign companies making direct investments in Slovenia may apply for financial grants. The purpose of the Invitation for Applications is to boost attractiveness of Slovenia as a location for foreign direct investment by lowering entry (start-up) costs to the investors whose investment will have a positive impact on new employment, knowledge and technology transfer, facilitation of balanced regional development, and will foster alliances between foreign investors and Slovenian companies. Grants are available for **investments in industry, strategic services** (Customer Contact Centres, Shared Services Centres, Logistics and Distribution Centres, Regional Headquarters) **and R&D**. Incentives are eligible for up to 40% (35% in Osrednjeslovenska region) cost of infrastructure and utility connections, cost of construction or purchase of buildings, as well as purchase of new machinery and equipment. In the year 2005, there are allocated approx. EUR 3,75 million. These investment projects and new jobs shall remain located in the Republic of Slovenia for no less than 5 years. **Local Incentives**	According to the **IMD World Competitiveness Yearbook**, which defines the environment for bribery and corruption according to six survey indicators, listed under “Government Efficiency” and “Business Efficiency”, Slovenia is gradually improving. The extent of the black economy and corruption in the public sphere are the greatest hindrances to Slovenia’s progress in this area. According to IMD World Competitiveness Yearbook 2005, Slovenia ranks 52nd among 60st the most competitive countries.	

		disabled persons. For taxable persons who employ disabled persons with a disability of 100% and deaf and dumb persons the taxable base is lowered by an amount equal to 70% of the wages paid to these persons. **Depreciation Allowance** Expenditure on plant and machinery generally qualifies for annual writing-down allowances. The depreciation allowance on buildings and equipment are quite favourable. Depreciation may not exceed the level arrived at using straight-line depreciation methods and the set annual depreciation rates. The highest annual depreciation rate for building projects is 5%, equipment, vehicles and machinery 25% (passenger cars 12.5%, computer and computer equipment 50%), other investments 20% (goodwill 10%). **Loss Carried Forward** A taxpayer may carry forward the loss incurred in one accounting period by reducing the tax base for the following five years, but only up to the amount of the tax base for the fiscal period. **Allowance for Employing** A taxpayer may claim a reduction of the tax base at the rate of 30% of the salary for the employees who were never employed or who were registered with the Employment Office of Slovenia for 12 months or they hold a doctorate (Ph.D.) and were not employed in any company before that. The workers have to be employed for at least 2 years. The total cumulative allowances may not exceed the amount of the tax base.	**Municipalities** may offer different forms of incentives, which are negotiated **on a case-by-case basis**. These incentives may include easy access to industrial sites, utility connections and holidays from local taxes. **Employment Incentives** The **Employment Service of Slovenia** carries out a series of measures for encouraging employment, through which it advises and finally supports employers that employ **new workers**. Employers who intend to hire unemployed persons may apply for **free training and retraining** provided by local employment offices through Slovenia.		
Romania	**2004** GDP growth –	**FREE ZONES** The present free zones are: Sulina, Constanta Sud,	**Direct investment** 1. Exemption from the payment of custom duties	Romania signed Agreements on	

	8,3% Inflation rate – 9,3% Exports 18935 mln Euro Imports 24258 mln Euro FDI inflow 5,183 mln Eur, FDI cumulative15,040 mln Eur **Taxes** **CIT** 16%, (became effective as of January 2005) **VAT** - 19 %, 9% **Social security:** *emploee* - Social Security contributions - 9.5% - Health Fund Contribution – 6.5% - Unemployment Fund Contribution – 1% *employer* - Social Security contributions: 31.5 % - 41.5 % (- Health Fund: 7 % - -	Basarabi, Galati, Giurgiu, Braila and Curtici. 1. Exemption from payment of custom duties for carrying the goods from one free zone to another. - All financial transactions carried out in hard currency for the activities developed in the free zones. - The state owned goods and the related services that are in the administration of the Free Zones may be subject to concession upon concluding a Concession Agreement for up to 49 years. The above-mentioned assets that are in the administration of the Free Zones may also be leased based on a Lease agreement concluded with the Free Zone Administration. - For the investments within the Free Zones, the operators may benefit from a state aid up to 65% of the value of the investment. - Exemption from paying VAT for: a. imported goods that are introduced into the Free Zone for the sole purpose of being stored in the Free Zones b. trade operation inside the Free Zones or between merchants inside and outside the Free Zone c. exit of imported goods from the Free Zone d. services in connection with the above activities. 2. Investors that develop activities within a free zone, that started their investments with a value exceeding USD 1 mil., before July 1, 2002, in manufacturing industry, benefit from exemption for paying tax on profit until December 31, 2006. The investors that have changed their shareholding structure with more than 25% within a year do not benefit from the above-mentioned incentive. 3. 5% tax on profit until December 31, 2004. Companies operating in **industrial parks** benefit from the following incentives, reinforced by the Fiscal Code: 1. Exemption from payment of taxes for modifying the land destination or land withdrawal from the agricultural use for the industrial park's land	for the technological machinery, installations, equipment, measuring and control apparatus, automation equipment and software products purchased from Romania or abroad, necessary for achieving the investment, which are according to the list approved by joint Order of the Minister of Development and Prognosis and Minister of Public Finances, providing the goods are new, respectively they have been produced 1 year at most prior to their bringing to Romania and they have never been utilized. As well, starting from January 1, 2002, Romania abolished the custom duties for the industrial goods imported from the EU on the basis of the European Agreement ratified by Law No. 20/1993 - reinforced by the Fiscal Code; 2. Carrying forward the fiscal loss during the following 5 years from the taxable profit - reinforced by the Fiscal Code; 3. The use of accelerated depreciation, according to the specific legislation in force, with no obligation for a prior approval from the local fiscal authorities - reinforced by the Fiscal Code; 4. Other incentives that can be granted by the local authorities - reinforced by the Fiscal Code **Compliance condition** 1. Are done after the coming into force of the Law, natural or legal persons, subjects of private law 2. The contribution to the direct investments with significant impact on economy consists only in liquidities in lei or convertible foreign currency 3. Are completely finalized within 30 months at the latest as of their statistic registration with the Ministry of Development and Prognosis 4. Do not infringe the environmental protection legislation 5. Do not violate the interests of security and national defense of Romania 6. Do not harm public order, health or morality. In order to benefit from the incentives provided	Promotion and Protection of Investment and Arrangements Preventing Double taxation	

	Unemployment Fund: 3% - National Insurance Fund for Labour Accidents and Professional Diseases: 0.5 % - 4 % - Labour Chamber commission: 0.25 or 0.75 %	2. Deduction of 20 % of the value of the investments made in the industrial parks by December 31, 2006 for constructions, building rehabilitation, internal infrastructure and connection to the public utility network 3. Tax exemption for the land and buildings within the industrial parks 4. Tax deduction granted by the local public administration authorities for the real estate used by the industrial park 5. Other incentives that can be granted by local authorities For their establishment and operation, the **scientific and technological parks** benefit from the following incentives: 1. Tax reduction granted by the local authorities for the fixed assets and land given to the park for its use, as well as other incentives, which may be granted according to the law, by the public local authority; 2. Exemption from payment of taxes for modifying the land destination or land withdrawal from the agricultural use for the land used in the scientific and technological parks; 3. Deferred payment of VAT for materials, equipment and connecting to the public utilities during the investment period until the opening of the park; 4. Development programs for infrastructure, investment and providing equipment granted by the central and local public administration, private companies and foreign financial assistance; 5. Donations, concessions and structural funds for development. The companies operating in the scientific and technological parks benefit from the following incentives: 1. Favorable location conditions and infrastructure and communication use, by payment on installment basis, ensured or facilitated by the administrator for a determined functioning period 2. Tariff reduction or free of charge services offered by the administrator.	by this law, the investors should make a registration of their investment project, only from the statistical point of view at the corresponding Regional Development Agency. New direct investments, qualifying as being of major importance to the national economy, shall be also presented to the Department for the Relation with the Foreign Investors. **SMEs** 1. Possibility to carry forward the fiscal loss during the following 5 years from the taxable profit; 2. The SMEs have priority access to the assets of the Regies Autonomes, companies or National Companies and state owned companies; 3. The use of accelerated depreciation, according to the specific legislation in force, for machines, installations, equipment and know-how providing that the enterprise does not register losses; 4. The SMEs have priority access to the public acquisition of goods, benefiting of 50% discount. **Compliance Conditions** In order for the companies to benefit from the incentives provided by this Law, they must comply with the following conditions: 1. Have a medium annual number of employees less that 250 2. Make an annual turnover up to 8 million EURO or the result of the annual balance sheet does not exceed 5 million EURO. 3. To be independent, meaning that they are not owned more that 25 % by another company or group of companies that can be qualified as SMEs.		

Bulgaria	**2004** GDP growth – 5,6% GDP per capita 9000$ (2005 est.) Inflation rate – 6,1% Exports f.o.b. 11,67 bn $ Imports f.o.b. 15,9 bn $ FDI inflow 2487,5 mln $ **Taxes** **CIT** - 15% (2006 expected rate: 12%) **VAT** 20%, 0% **Real estate tax** - 0.15%.	**Tax credit for investment in depressed regions** Companies investing in depressed regions enjoy **reduction of the corporate tax by 10%** of the amount invested in acquisition, modernization or reconstruction of fixed assets including buildings, equipment, transmitters, electricity networks, telecommunication lines, machines, production facilities, transportation facilities, (excluding personal cars), road cover, computers and peripheral devices, software and the right to use software. The cost of intangible assets should not accede 25% of the acquisition costs of the fixed assets. The acquired assets could not be disposed for a period of 5 years, except in cases of reorganization of the company. The tax credit can be used for a period of 5 years.	The new **Encouragement of Investment Act** regulates the terms and procedures for investing in Bulgaria. The law equally applies to Bulgarian and foreign investors. The value thresholds are set forth in the Rules on the Enforcement of the Encouragement of Investment Act as follows: 1. first class - investment over BGN 70 million. 2. second class - investment from BGN 40 million to BGN 70 million, and 3. third class - investment from BGN 10 million to 40 million; General preference applied to all classes of investment is shortening the time limits for provision of administrative services to certified investors for realization of their investment plans. On presentation of a certificate for investment class, central and territorial executive authorities, and local self-government authorities shall provide administrative services within time limits by one third shorter than the ones provided for in the legislation. For **3rd-class** investment InvestBulgaria Agency provides information services to investors as follows: - pre-developed information materials; - information about potential partners in the country; - information about all administrative procedures concerning the implementation of the investment project. For **2nd-class** investment InvestBulgaria Agency provides investors with: - information services as mentioned above; - individual administrative servicing with respect to all central and regional bodies of	International Treaties Convention for the establishment of Multilateral Investment Guarantee Agency; Convention for the establishment of International Center for Settlement of Investment Disputes; Convention for the establishment of the World trade organization; Bilateral investment promotion and protection treaties; Double tax treaties.:	

			the Executive. Investors have the opportunity to authorize officials of the Agency to obtain from the corresponding competent bodies on investors' behalf and on investors' account any documents necessary for implementation of the particular investment project as may be required under the existing legislation. For **1st-class** investment, the InvestBulgaria Agency assists investors as follows: - individual informational and administrative services - assistance with real estate "titling" issues infrastructure building support		
Poland	**2004** GDP growth 5.4% GDP per capita 12,700 $ Inflation 3.5%. Imports 87.9 bn $ Exports 73.8 bn $ FDI inflow 7858 mln $ FDI cumulative 84 477 mln $ **Taxes** **CIT** 19%, **VAT** - 22%; 7% or 3%; 0%. **Social security**: Employer 19.8%-22.7% Employee 18.71%	There are 14 SEZs in Poland - Katowicka, Kamiennogórska, Kostrzyńsko - Słubicka, Krakowska, Legnicka, Łódzka, Kielecka, Pomorska, Słupska, Starachowicka, Suwalska, Tarnobrzeska, Wałbrzyska, Warmińsko - Mazurska. **Corporate income tax exemption**, related to income from activities conducted in SEZs under the permit, is considered to be regional aid granted under the Act on SEZs. **Amount of admissible state aid** The admissible amount of aid cannot exceed the *maximum intensity of aid* for a given region, as stipulated in the state aid regulations. The intensity indicates the allowable share of regional aid in costs (investment outlays), which qualify for being covered by such aid. The intensity of aid allowed on the majority of Poland's territory is 50%, except for: • Kraków (a part of the Kraków SEZ), Wrocław and the Gdańsk-Sopot-Gdynia agglomeration - 40% • Warsaw and Poznań - 30% The 50% intensity means that when investing in a zone, entrepreneurs may obtain aid not exceeding 50% of the investment outlays. For small and medium enterprises, as defined by the Economic Activity Law, the index is		Poland signed Arrangements Preventing Double Taxation	

		increased by 15 percentage points (to 65%, 55% and 45% respectively). **Small enterprise -** shall mean an entrepreneur who in at least one of the two recent financial years: - had an average annual employment of less than 50, and - showed an annual net turnover from sales of goods, products and services and from financial operations of no more than a zloty equivalent of 10 million Euro, or a balance-sheet assets total, as at the end of either of these two years, of no more than a zloty equivalent of 10 million euro. **Medium-size enterprise** - shall mean an entrepreneur who in at least one of the two recent financial years: - had an average annual employment of less than 250, and - showed an annual net turnover from sales of goods, products and services and from financial operations of no more than a zloty equivalent of 50 million Euro, or a balance-sheet assets total, as at the end of either of these two years, of no more than a zloty equivalent of 43 million Euro. For small and medium-sized enterprises (SMEs) the maximum aid intensity is increased by additional 15 percentage points. For **large investment** projects the aid level is reduced. The admissible amount of aid for a large investment project (qualifying expenditures exceeding EUR 50 million) will be calculated according to the formula: Maximum amount of aid = R × (50 + 0,50B + 0,34C) *Where:* R is the maximum aid intensity allocated to the given area; B is the qualifying expenditure between EUR 50 million and EUR 100 million; C is the qualifying expenditure above EUR 100 million. The maximum intensity of aid in the automotive sector granted to projects that involve an amount of aid exceeding EUR 5 million, is reduced to 30% of the corresponding regional aid intensity.			

		Conditions: Investments may benefit form regional aid on the following conditions: - business activity related to the particular investment should be conducted for a period of at least 5 years since date of the completion of the investment project, - in case of aid for job creation newly created jobs should be maintained for at least 5 years from the date of the completion of the investment. Every case of regional investment aid must be notified to the European Commission if the aid proposed for the project exceeds the maximum admissible aid that an investment of EUR 100 million may obtain under the rules described above (for Poland the figure generally stands at EUR 37.5 million). Proposed aid scheme cannot be put into effect before the Commission takes a decision authorizing such aid. Individually notified projects will not be eligible to investment aid in either of the following two situations: a) the aid accounts for more than 25% of the sales of the product concerned before the investment or will, after the investment, account for more than 25%; or b) the capacity created by the project is more than 5% of the size of the market measured using apparent consumption data of the product concerned, unless the average annual growth rate of its apparent consumption over the last five years is above the average annual growth rate of the European Economic Area's GDP.			

Sources of information:

COUNTRY	NAME OF ORGANISATION	WEB
BULGARIA	Bulgarian Foreign Investment Agency	http://investbg.government.bg/
CYPRUS	Cyprus Centre for International Business	www.cosmosnet.net/azias/cyprus/bus-main.html
CZECH REPUBLIK	Investment and Business Development Agency	www.czechinvest.org
ESTONIA	Estonian Investment Agency	www.investinestonia.com
HUNGARY	Hungarian Investment and Trade Development Agency	www.itd.hu
LATVIA	Latvian Investment and Development Agency	www.lda.gov.lv
LITHUANIA	Lithuanian Development Agency	www.lda.lt
MALTA	Malta Enterprise	www.maltaenterprise.com
POLAND	Polish Information and Foreign Investment Agency	www.paiiz.gov.pl
ROMANIA	Romanian Agency for Foreign Investment	www.arisinvest.ro
SLOVAKIA	Slovak Investment and Trade Development Agency	www.sario.sk
SLOVENIA	Slovenian Trade and Investment Promotion Agency	www.investslovenia.org
ALL	CIA the World Factbook 2005	www.cia.gov/cia/publications/factbook/geos/