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Ex post evaluation of Cohesion Policy programmes 2007-2013, financed by the ERDF and CF

Work Package 4: Support to large enterprises

First Interim Report

PART A

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List of acronyms

Abbreviation	Long form
AT	Austria
CF	Cohesion Fund
CZ	Czech Republic
DE	Germany
DG REGIO	Directorate-General for Regional and Urban Policy
EAFRD	European Agricultural Fund for Rural Development
EC	European Commission
ERDF	European Regional Development Fund
ES	Spain
ESF	European Social Fund
EU	European Union
FDI	foreign direct investments
GDP	gross domestic product
HU	Hungary
ICT	Information and communications technology
IT	Italy
NACE	European Classification of Economic Activities
NIW	Niedersächsisches Institut für Wirtschaftsforschung (Lower Saxon Institute of Economic Research)
NUTS	Nomenclature of Territorial Units for Statistics
OECD	Organisation for Economic Co-operation and Development
PL	Poland
PT	Portugal
R&D / R+D+I	Research & development; research & development & innovation
SME	Micro, small and medium enterprises
ToC	Theory of Change

1	Introduction	6
1.1	Scope and objective of the First Interim Report	6
1.2	General approach	6
1.3	Reference to the Tender Specifications	7
2	Taking stock of direct support for large enterprises	8
2.1	Key findings	8
2.2	Methodology of taking stock of support	10
2.3	Large enterprise support from EU budget	14
2.3.1	Key project level figures	17
2.3.2	Characteristics of the supported large enterprises	19
2.3.3	Further implications based on data analysis	24
3	Enterprise policy and effects of large enterprise support – results from a literature review	30
3.1	Key findings	31
3.2	Role of large enterprises and their effects on regional economic development	34
3.3	General evidence on large enterprise support in the European Union	36
3.3.1	Overview of potential impacts and intended changes through large enterprise support	37
3.3.2	Empirical evidence on the effects of enterprise support for large enterprises	39
3.4	Current evidence on large enterprise support in the eight case study countries	51
4	Theories of change on large enterprise support in the eight case study countries	66
4.1	Key findings	66
4.2	Theoretical background	68
4.2.1	Theory-based approaches, Contribution Analysis	68
4.2.2	Approach to capture Theories of Change	73
4.3	Theories of change on large enterprise support in the eight countries	76
4.3.1	The process of reconstructing Theories of Change	76
4.3.2	Links between rationale of support and broader enterprise strategies	78
4.3.3	The identified theories in the 8 countries	80
4.3.4	Classification of country-level theories	85
4.3.5	The five generalised theories in the 8 countries	87
5	Annex	92
	Annex 1: Literature Review Framework (including explanation)	92
	Annex 2: Literature review sources	94
	Annex 3: Excursus: Regional Growth Theories informing Cohesion and Structural Policy	104
	Annex 4: List of interviews with Managing Authorities and other responsible bodies	107

Table of figures

1. Figure: Large enterprise support from total budget, from total enterprise spending and from direct support to enterprises on codes 05, 07, 08.....	14
2. Figure: Operational programmes supporting large enterprises.....	15
3. Figure: GDP per capita compared to large enterprise support per capita.....	16
4. Figure: Breakdown of committed large enterprise support to ERDF and national contribution	16
5. Figure: Aid intensity of relevant supported projects.....	17
6. Figure: Concentration of large enterprise support by measure	18
7. Figure: Concentration of support by region	18
8. Figure: Number of supported large enterprises and average support.....	19
9. Figure: Distribution of the number of large enterprises by employment category.....	20
10. Figure: Distribution of committed support to large enterprises by primary NACE code	20
11. Figure: Distribution of supported large enterprises by sectoral categorization	21
12. Figure: Average support per project by sectoral categorization	22
13. Figure: Distribution of the number of supported large enterprises by geographical scope.....	23
14. Figure: Distribution of supported large enterprises by country of origin of foreign multinational companies in the eight countries.....	24
15. Figure: Distribution of employment categories by geographical scope in the countries subject to this analysis	25
16. Figure: Distribution of supported large enterprises by employment category and country in the countries subject to this analysis.....	26
17. Figure: Average project size and average number of projects by employment category in the countries subject to this analysis.....	26
18. Figure: Average aid intensity by employment category (based on project level Italian and Hungarian aid intensities).....	26
19. Figure: Number of enterprises with at least one-five projects in the countries subject to this analysis.....	27
20. Figure: Sectoral classification of multiple-granted enterprises compared to the overall distribution in the countries subject to this analysis	28
21. Figure: Distribution of multiple granted enterprises by employment category compared to the overall distribution in the countries subject to this analysis.....	28
22. Figure: Average support and average number of projects per large enterprise by type of ownership in the countries subject to this analysis	29
23. Figure: Type of enterprise ownership by sectoral classification in the countries subject to this analysis.....	29
24. Figure: Overview of our approach	72
25. Figure: An example for Theory of Change from Poland (Support for development and implementation of R&D projects to promote growth of companies („First research then invest”))	75
26. Figure: links between rationale of support and broader enterprise strategies	78
27. Figure: Austria’s Theories of change fitting into the broader enterprise strategy of the region.....	80
28. Figure: Czech Republic’ Theories of change fitting into the broader enterprise strategy of the region.....	81
29. Figure: Germany’s Theories of change fitting into the broader enterprise strategy of the region .	82
30. Figure: Spain’s Theories of Change fitting into the broader enterprise strategy of the region.....	82

- 31. Figure: Hungary’s Theories of Change fitting into the broader enterprise strategy of the region.. 83
- 32. Figure: Italy’s Theories of Change fitting into the broader enterprise strategy of the region..... 84
- 33. Figure: Poland’s Theories of Change fitting into the broader enterprise strategy of the region 85
- 34. Figure: Portugal’s Theories of Change fitting into the broader enterprise strategy of the region.. 85
- 35. Figure: High level classification of theories 86
- 36. Figure: theory “LE1”, large-scale investment to increase employment 87
- 37. Figure: theory “LE2”, investments to improve the least developed areas 88
- 38. Figure: theory “LE3”, technology-driven investments to stimulate growth and export 89
- 39. Figure: theory “LE4”, innovation-driven investments to stimulate „smart” growth 90
- 40. Figure: theory “LE5”, R&D investments to promote growth, innovation and quality jobs 91



1 Introduction

1.1 Scope and objective of the First Interim Report

This is the First Interim Report of “Ex post evaluation of Cohesion Policy programmes 2007-2013, financed by the ERDF and CF, Work Package 4: Support to large enterprises”. The evaluation considers large enterprise spending only under the spending codes 05, 07 and 08¹ from ERDF in eight selected countries (Austria, Czech Republic, Germany, Spain, Hungary, Italy, Poland, and Portugal).

Our objective is to summarise the results of Task 1 (Taking stock of support) and Task 2 (Literature review), in line with the Tender Specifications and the revised Inception Report.

1.2 General approach

The evaluation applies theory-based approach, featuring the re-construction and testing of identified Theories of Change. We follow the method referred to as “**Contribution Analysis**”, applying causal process design combined with case study approach. Further details of the method are provided in the section on “Theories of Change”.

Key challenges of Task 1 and Task 2 have been the conceptual foundation of the engagement, the identification of data on large enterprise support, the review of the available literature and the reconstruction of the main Theories of Change in the 8 countries. The report explains the results and the potential limitations encountered.

The report is composed of three main parts: Part A , Part B and Part C. Part A summarises the outcomes of Task 1 and Task 2, and is composed of three main sections: Taking stock of direct support to large enterprises; Literature review and Theories of change on large enterprise support. Each section starts with the list of key findings, synthesising the evidence presented in the respective section. Part B includes the detailed country fact sheet documents and the reasoning for case study selection for the eight countries. Finally, Part C presents the 27 country-level theories of change, and the 5 generalised, broad theories of change.

1.3 Reference to the Tender Specifications²

For each evaluation task, section 3.5 of the Tender Specifications sets out the requirements on expected results to be presented by the evaluators. The following table indicates which section in the

¹ 05: Advanced support services for firms and groups of firms; 07: Investment in firms directly linked to research and innovation (...); 08: Other investment in firms

² Some concepts and definitions have been clarified since the drafting of the Tender Specifications: “rationale and intervention logic” are captured through Theories of Change, Contribution Analysis uses “contribution story” interchangeably with Theory of Change.

current report provides information on these criteria for the current evaluation phase (covering Task 1 and Task 2).

Section	Document reference
Task 1: Taking stock of support	
<i>Outline the rationale underlying large enterprise support – and how it fits in the broader enterprise strategy for the region</i>	Section 3 (literature review) Section 4 (Theories of Change)
<i>Outline how much support and in what main forms/packages of support (including significant non-financial support, i.e. not giving money directly to the firm). What were they supported to do? What kind of large enterprises are targeted (e.g. foreign direct investment vs indigenous, sector, how large, etc...)</i>	Section 2 (taking stock of support)
<i>Quantify the support (number of enterprises, nature and conditions of support, total investment, total approved public support broken down into ERDF/national/etc., payments to end 2013, etc.) broken down by the main forms of support (grant, loans, non-financial support, etc.) and by whether the enterprise was foreign direct investment or already present in the region. Set out other descriptive statistics as available, including monitoring indicators and achievements reported</i>	Section 2 (taking stock of support)
<i>The contractor should propose one case study programme from each of the eight countries above – the Commission will make the final decision. Case studies should be proposed on the following criteria: 1. The programme provides significant support to large enterprises; 2. The forms/packages of support and rationale are broadly representative of large enterprise spending at the national level; 3. The extent to which data is available for the tasks to be carried out in the case studies, availability of counterfactual impact evaluations for comparison (see below)</i>	Part B, Section 2 (case study selection)
Task 2: Literature review	
<i>Contractors should examine the existing literature (including evaluations) for examples of where and why support to large enterprises works and doesn't work.</i>	Section 3 (literature review)
<i>In each case, the theory of change and contribution stories should be made explicit, including what support, for whom, how it works, the context and the results that would be expected. The aim is to provide the main theories of change and contribution stories – and then use the case studies to assess evidence for and against each one.</i>	Section 4 (Theories of Change)
<i>However, a particular concern is that counterfactuals so far have not tended to favour support to large enterprises. The review should therefore include an examination of counterfactual studies where available: where this covers a case study country, the study should be compared with context evidence gathered in task 1 to throw further light on the findings and whether they are likely to generalize elsewhere. In particular, the following counterfactual studies should be reviewed: Denmark: Centre for Economic and Business Research, Denmark (2010); Italy: Martini and Bondonio (2012); Poland: Trzcinski (forthcoming – due early 2014); Portugal: Mamede (2013); UK: Criscuolo, Martin, Overman and Van Reenen (2012)</i>	Section 3 (literature review)

2 Taking stock of direct support for large enterprises

2.1 Key findings

- TS 1. Monitoring systems of the selected eight countries do not provide explicit information on large enterprise support.**

Responsible authorities do not indicate in their monitoring system whether the supported enterprise falls into the large enterprise category. However, typically they do indicate small and medium-sized enterprise status which enables conclusions to be drawn on the status of large enterprises. .

- TS 2. Total (ERDF/CF/ESF) support for the eight countries was EUR 232 billion, of which 15% (EUR 35 billion) was total enterprise spending.**

The total support (ERDF/CF/ESF/IPA) for the 28 current member states was EUR 347 billion in the 2007-2013 programming period, of which 10% was the amount of total enterprise spending (EUR 35 billion). The eight countries represent both 67% of the total budget, and of the total enterprise spending.

- TS 3. Direct large enterprise support amounts to EUR 4.6 billion in the eight countries, which is 13% of their total enterprise spending, and 2% of their total budget (ERDF/CF/ESF).**

Large enterprise support in the eight countries in million EUR (with the share in total enterprise spending indicated in brackets) is as follows: Poland: 1,153 (13%), Portugal 1,134 (21%), Germany 704 (13%), Czech Republic 467 (20%), Hungary 453 (11%), Italy 243 (5%), Spain 311 (8%) and Austria 133 (35%).

- TS 4. Total investment induced by large enterprise support is estimated to exceed EUR 19 billion in the eight countries.**

The aid intensity for large enterprises varied across programmes. The majority of them provided higher aid intensity for small and medium-sized enterprises than for large enterprises.

- TS 5. The form of support was mainly non-refundable grants. In addition, refundable support was provided in Italy, Portugal and Spain. Evidence was found on the use of non-financial packages of support.**

In most of the countries, financial instruments were only provided for small and medium enterprises based on the prior gap analyses. In Italy, Portugal and Spain loans were provided as refundable support; however, its amount is marginal compared to the non-refundable support. As an example for the non-financial package of support, large enterprises were provided fast track administration and VIP client management in Hungary.

- TS 6. More than half of the ERDF financed operational programmes supported large enterprises.**

80 out of 140 operational programmes financed from ERDF supported large enterprises to some extent in the eight countries.

TS 7. The national co-financing rate is 15% in the new member states, while it is significantly higher (20-45%) in the EU15.

EU funds co-finance 85% of the support for the Central and Eastern European countries, which is considerably lower in Western Europe (56-78%).

TS 8. Altogether 4,517 projects were committed³, the average project size was EUR 1 million.

The number of projects committed by large enterprises in the eight countries is as follows: Spain 1,269; Germany 763; Poland 539; Czech Republic 520; Italy 419; Hungary 409; Portugal 407 and Austria 194.

TS 9. Around 2,800 individual large enterprises were supported, implementing 1.6 projects and receiving EUR 1.6 million support on average.

The 4,517 projects were committed by 2,787 large enterprises in the eight countries.

TS 10. Most of the supported large enterprises employed less than 250 people.

Around 13% of the large enterprises had more than 1,000 employees, while 43% of large enterprises had less than 250 employees. While the latter are sized as small and medium-sized enterprises, their character classifies them as large enterprise (size of turnover, size of balance sheet, linked or partner status of the company). These 'small' large enterprises are more characteristic for Germany and Austria.

TS 11. More than 70% of the supported large enterprises operate in the manufacturing industry.

34% of all large enterprises are active in high- and medium-high technology manufacturing.

TS 12. The share of supported national (indigenous) companies averages 40%, domestic multinational companies take 29% while foreign multinational companies 31% of the support.

Territorial difference can be observed between the new member states and the EU15 countries. Austria, Germany, Portugal and Italy equally support all types of large enterprises. In Spain total domestic multinational companies, while in Poland national companies dominate. Hungary and the Czech Republic supported no domestic multinational companies.

TS 13. Where evidence was available⁴, 7% of the supported projects were identified as foreign direct investment-type projects.

Foreign direct investment could be identified in four countries: 155 projects were considered foreign direct investment-type projects, which is 7% of the number of the supported large enterprise projects.

³ For Poland information on contracted support is used, as committed data recorded by the Managing Authorities is not complete.

⁴ Czech Republic, Hungary, Italy and Poland

TS 14. Multiple-granted enterprises are larger in terms of employment and they are more likely to be active in high- and medium-high-technology manufacturing.

42% of the multiple-granted large enterprises are high- and medium-high-technology manufacturers, compared to their overall share of 34%. 19% of the multiple-granted enterprises employ more than 1000 persons, while the overall share of companies falling into this employment category is only 13%.

TS 15. Domestic multinational companies tend to invest in the most projects on average, and the average support per project is the highest in case of foreign multinational project owners.

Domestic multinational companies implement 2.1 projects compared to the overall average of 1.6 projects. Foreign multinational enterprises receive more support per project than national companies by EUR 0.4 million.

TS 16. Foreign multinational companies are more represented among high- and medium-high technology manufacturers, while national companies tend to be more active in services.

46% of high- and medium-high-technology manufacturers are foreign multinational companies, while 48% of more basic service providers are national companies. This distribution seems to significantly differ from the overall distribution of foreign / domestic multinational and national companies.

2.2 Methodology of taking stock of support

Cut-off date

The cut-off date for taking stock of support is 31. December 2013.

Data sources

All country teams collaborated with the Managing Authorities (or other concerned authorities) during the elaboration of a beneficiary database used for taking stock of ERDF support to large enterprises. Most Managing Authorities were interested in the topic of this evaluation, and as they received detailed information on the goal of this project, they could substantially contribute to the data gathering phase.

The source of most of the project level data (e.g. requested, committed, contracted, paid support; name of the project) is the monitoring and information system managed by the Managing Authorities. Otherwise we have indicated the different source. It is a common statement for most of the beneficiary databases that the Managing Authorities do not keep records of non-project related information on the supported enterprises, e.g. the number of employees. To prepare meaningful descriptive statistics, which feed into the theories of change, several other supplementary sources were used. The company databases, press releases complete the picture, which is outlined from analysing the beneficiary database.

Selecting large enterprises

In order to select large enterprises from the whole pool of beneficiaries we have applied two approaches based on the extent of information on hand at the Managing Authorities:

- If the Managing Authorities do have information on which beneficiaries are large enterprises – based on the supported entities’ self-declaration, then that categorisation is used with the exclusion of
 - non-for-profit enterprises;
 - intermediary organisations that further distribute funds to small and medium-sized enterprises;
 - central and local government-owned companies.
- If the Managing Authorities do not keep record of the small and medium-sized enterprise and large enterprise status, then the implicit large enterprise definition of the Commission Recommendation 2003/361/EC is used, i.e. large enterprises are firms that have
 - more than 249 employees; OR
 - turnover equalling to or above EUR 50 million AND a balance sheet total of EUR 43 million or above.
- If there was a call explicitly inviting large enterprises, beneficiaries of the call were classified as large enterprises.

Total enterprise spending

Throughout the report large enterprise support on 05, 07 and 08 expenditure codes is referred to as simply large enterprise support or large enterprise support on the relevant codes. Large enterprise support is usually compared to ‘total enterprise spending’ and only in the main summary table (1. Figure) to direct enterprise support on 05, 07 and 08 expenditure codes. Total enterprise spending is defined as a sum of ERDF/CF support on the following expenditure codes as defined in Annex IV of Council Regulation (EC) No 1083/2006:

- 03: technology transfer and improvement of cooperation networks between small and medium-sized businesses (SMEs), between these and other businesses and universities, post-secondary education establishments of all kinds, regional authorities, research centres and scientific and technological poles (scientific and technological parks, technopoles, etc.)
- 04: assistance to R&TD, particularly in small and medium-sized enterprises (including access to R&TD services in research centres)
- **05: advanced support services for firms and groups of firms**
- 06: assistance to small and medium-sized enterprises for the promotion of environmentally-friendly products and production processes (introduction of effective environment managing system, adoption of use of pollution prevention technologies, integration of clean technologies into firm production)
- **07: investment in firms directly linked to research and innovation (innovative technologies, establishment of new firms by universities, existing R&TD centres and firms, etc.)**
- **08: other investment in firms**
- 09: other measures to stimulate research and innovation and entrepreneurship in small and medium-sized enterprises
- 14: services and applications for small and medium-sized enterprises (e-commerce, education and training, networking, etc.)
- 15: other measures for improving access to and efficient use of ICT by small and medium-sized enterprises
- 68: support for self-employment and business start-up

The source of total enterprise spending is the AIR2013 ERDF/CF raw database on project selection provided by John Walsh (DG Regio).

Breakdown of ERDF and national contribution

The breakdown of overall public support to ERDF and national contribution is based on the operational programme level co-financing rates, which are already set out during the programming phase.

Total investment is considered as the total project value, which is the sum of national and ERDF support and the own contribution of the beneficiary. The share of the required own contribution of the enterprises is an average among the measures or calls for proposal within the relevant operational programmes. The total investment is estimated based on the average or the maximum aid intensity of the measures or the total project size, if relevant information was available. For the purpose of this evaluation, aid intensity is defined as the share of ERDF and national public support within the total project value.

Requested, committed, contracted and paid support

Requested, committed, contracted and paid support are not always interpreted in the same way in the respective country terminologies. Besides, several Managing Authorities do not keep records on the requested support, as their monitoring system considers the commitment or the contracting as the start of the project monitoring. In four cases (Austria, Czech Republic, Germany and Italy) there is no difference between commitment and contracting. As committed support is available and considered to be reliable by the evaluators, it is the basis for most of the project level statistics. However, the Polish Managing Authorities are not obliged to keep records on the committed support, in case of Poland contracted support is the subject of the evaluation.

Regional distribution

Regional distribution is measured on NUTS2 level and in the case of Germany on NUTS1 level. In some countries the regional distribution is also summarised from the aspect of their convergence region status. There are also cases where data was available below NUTS3 level (e.g. economically disadvantaged areas in Hungary).

Employment in supported large enterprises

A significant proportion of the supported large enterprises employ less than 250 people. The reason for that is the inverse definition used for the purpose of the evaluation, deeming large enterprises as firms that are not small and medium-sized enterprises. For the purpose of this evaluation enterprises with less than 250 employees are referred to as 'small' large enterprises.

Sectoral classification of supported large enterprises

To better understand the activity of the beneficiaries both their primary NACE and a summarised sectoral classification were used. In order to spare unnecessary amount of detail, only the main sections (indicated with a capital letter) are shown in the figures. The more concentrated sectoral classification is based on the following two pillars:

- manufacturing enterprises are classified in line with Eurostat's aggregations of manufacturing based on NACE Rev. 2, where the originally four categories are regrouped into three (by merging high-technology and medium-high technology into high- and medium-high technology and keeping medium-low technology and low-technology);
- based on Applica's proposal specifically for the purpose of this evaluation, service provider enterprises are grouped into more advanced (information and communications; financial and insurance activities; real estate activities; professional, scientific and technical activities);

administrative and support service activities; public administration; education activities; human health and social work activities) and more basic services (all of the others);

- agriculture, mining and quarrying, public utilities and construction form the “all of the others category”.

Character of origin of supported large enterprises

Leadership and geographical coverage of companies is the basis of distinguishing between foreign and domestic multinational companies as well as national companies. National companies are the firms which do not operate outside of their country of origin. Multinational companies operate in more than one country. Domestic multinational companies are the ones whose headquarter is located in the concerned country; while foreign multinational companies are headquartered abroad from the perspective of the concerned country. Multinational companies are further divided into two subcategories:

- operating in a large number of countries;
- operating in a small number of countries.

We considered foreign and domestic multinational companies as global ones, if they operate in more than three countries. When distinguishing between the multinational and national nature of companies, it has not been the official location of the actual supported legal entity that has been the decision factor, but instead the mother company's origin. In the case of almost all supported multinational companies the actual beneficiary has been a separate legal entity from the headquarters entity. If a supported company belongs to a multinational group, it has been considered as a foreign or domestic multinational company regardless of its separate legal entity.

The main countries of origin are decided based on the location of the headquarters. The determination of the country of origin has been determined in parallel with the national-multinational distinction.

Foreign direct investments

Addressing foreign direct investment projects has been a particular challenge. In most of the countries foreign direct investment was not the explicit goal of the case study programmes. This resulted in records of information not being kept in the monitoring systems. On the other hand, some of the projects could be classified as “foreign direct investment-type project”. We have considered a project as foreign direct investment if it results in

- a foreign company entering the market for the first time, with no history in the country before; or
- a foreign company, which may already be present in the country performs a greenfield investment.

Based on the above, ‘simply’ upgrading to a newer technology by replacing a machine or enlarging existing facilities would not be handled as foreign direct investment. Several methods were considered, which may result in being able to identify foreign direct investment projects:

- Calls for proposal may be targeted at enterprises entering the market or performing a greenfield investment. If we can identify such calls, the projects awarded can be analysed one by one.
- Based on the title of the individual projects, the potential pool of foreign direct investment projects can be narrowed down from the whole project list.

After narrowing down the list of projects using one of the two methods above, press releases, company websites and newspaper articles were analysed. If a new factory, plant, etc. is built or its establishment published shortly after the award date of the project, then the particular project was considered as foreign direct investment.

Due to the lack of detailed data in the beneficiary databases, or their fragmented nature, in several cases the foreign direct investment projects could not be identified yet. In two countries (Germany and Austria) additional information request from the Managing Authorities has been deemed to be inevitable in addressing potential foreign direct investment projects. The results of the process will be included in a later phase of this evaluation.

2.3 Large enterprise support from EU budget

The Total EU budget (ERDF/CF/ESF/IPA) for the 28 member states under the Cohesion Policy 2007-2013 was EUR 347 billion. From this amount EUR 232 billion of ERDF/CF/ESF funding has been budgeted for the eight considered countries. Around 15% of this amount was allocated to enterprise spending. **Large enterprises were granted EUR 4 598 million which is 13% of total enterprise spending and nearly 2% of the total budget.** The largest recipient of the Cohesion Policy programme was Poland where EUR 67 billion has been budgeted. The least support has been budgeted to Austria, with EUR 1.4 billion, however, the share of large enterprise support from this amount is the largest here, at 10%, which is five times more than the average of the eight countries. The lowest share of large enterprise support is seen in Spain, with EUR 311 million, which is less than 1% of the total budget of EUR 35 billion.

1. Figure: Large enterprise support from total budget, from total enterprise spending and from direct support to enterprises on codes 05, 07, 08

	Countries								
	AT	CZ	DE	ES	HU	IT	PL	PT	SUM
Total budget (EUR billion)	1.4	26.7	26.4	35.0	25.3	28.8	67.3	21.5	232.4
Total enterprise spending (EUR million)	385	2 359	5 343	4 026	4 018	4 526	8 967	5 321	34 944
Share of total enterprise spending from budget (%)	28%	9%	20%	12%	16%	16%	13%	25%	15%
Direct enterprise support on 05, 07, 08 expenditure codes (EUR million)	283	1 491	3 200	2 543	2 581	2 034	6 591	4 145 ⁵	22 868
Share of direct enterprise support on 05, 07, 08 expenditure codes from budget (%)	20%	6%	12%	4%	10%	7%	10%	19%	10%
Large enterprise support on 05, 07, 08 (EUR million)	133	467	704	311	453	243	1 153	1 134	4 598
Share of large enterprise support on 05, 07 and 08 from total enterprise spending (%)	35%	20%	13%	8%	11%	5%	13%	21%	13%
Share of large enterprise support from direct enterprise support on 05, 07, 08 expenditure codes (%)	47%	31%	22%	12%	18%	12%	17%	27%	20%
Share of large enterprise support from total (%)	10%	2%	3%	1%	2%	1%	2%	5%	2%

⁵ Source: John WALSH REGIO: SFC07_06: projectselection_AIR_Raw data REGIO 2013 (20141006) LE scan

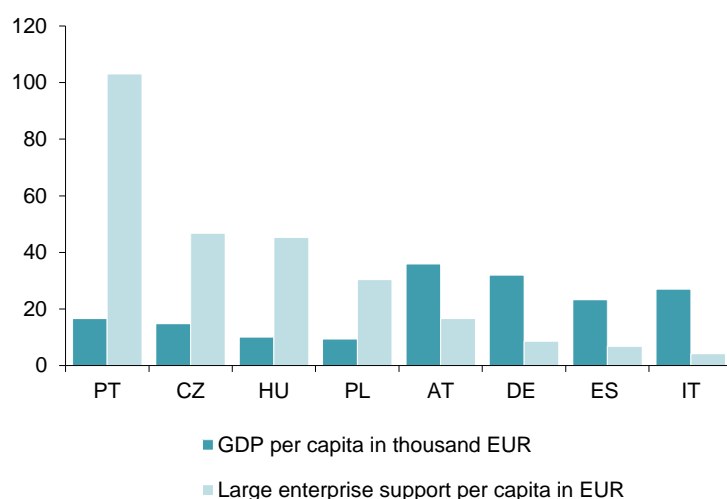
The support granted to large enterprises by operational programmes varied by country. 80 out of 140 operational programmes financed from ERDF supported large enterprises. The greatest dispersion can be seen in the case of Austria where most of the ERDF operational programmes supported large enterprises. The most concentrated country is the Czech Republic where one operational programme supported large enterprises.

2. Figure: Operational programmes supporting large enterprises

Number of operational programmes	Countries								SUM
	AT	CZ	DE	ES	HU	IT	PL	PT	
Total number of Operational Programmes	11	17	36	45	15	66	21	14	225
Number of operational programmes financed from ERDF	9	16	18	26	13	28	20	10	140
Operational programmes supporting large enterprises	7	1	11	18	8	13	16	6	80
Share of operational programmes supporting large enterprises from operational programs financed by ERDF (%)	78%	6%	61%	69%	62%	46%	80%	60%	57%

The distribution of support shows that the three new member states receive a far greater volume of large enterprise support per capita. Portugal is an outlier as it has the highest amount of large enterprise support, despite being a moderately developed country. Furthermore, it received more than twice as much large enterprise support per capita than the Czech Republic or Hungary.

3. Figure: GDP per capita compared to large enterprise support per capita



Generally we can state that EU funds co-finance around 85% of the support for the new Member States, while support from European funds is lower for the old Member States. The case of Austria clearly stands out as an example, as Austrian regions are all well developed, except one, thus the contribution of the EU was 56% from the total support provided to large enterprises.

4. Figure: Breakdown of committed large enterprise support to ERDF and national contribution

EUR million	Countries								
	AT	CZ	DE	ES	HU	IT	PL	PT	SUM
ERDF	133	467	704	311	453	243	1 153	1 134	4 598
National contribution	106	82	399	88	80	142	203	584	1 694
Total funding	239	549	1 103	399	533	385	1 356	1 718	6 282
Proportion of co-financing	56%	85%	64%	78%	85%	63%	85%	66%	73%

The total investment could reach around EUR 19 billion in the eight countries, since the average aid intensity was between 14-40%. In most of the countries small and medium-sized enterprises received 10-20% higher aid intensity than large enterprises.

5. Figure: Aid intensity of relevant supported projects

%	Countries					
	AT	DE	HU	IT	PL	PT
Aid intensity ⁶	14%	28%	25%	29%	37%	32%

The form of support was mainly non-refundable grants: in most of the countries financial instruments were only provided for small and medium-sized enterprises based on the prior gap analysis. Refundable support was provided in Italy, Portugal and Spain where loans were also available for large enterprises.

Non-financial packages of support were only available in Hungary: large enterprises were provided with fast track administration and VIP client management.

2.3.1 Key project level figures

In three out of the four countries (Czech Republic, Hungary, Italy and Poland) where the requested amount was available, almost every large enterprise which requested funding from the ERDF has

⁶ The calculation method of the average aid intensity differs by country due to the different depth of data available. In the table only countries with actual aid intensity numbers are included, but not the ones where a maximum aid intensity was only available. For the total investment numbers maximum aid intensity is used in the cases where project level data was not available. The basis of calculation by country is the following:

- Austria and Germany – average of aid intensities of relevant projects;
- Hungary – average of aid intensities of relevant projects;
- Italy – average of aid intensities of relevant non-refundable projects financed from the National Operational Programme Research and Competitiveness;
- Poland – average of aid intensities of relevant projects financed from the five most relevant measures (4.1-4.5 and 6.5) within the Operational Programme Innovative Economy;
- Portugal – average of aid intensities of large enterprise projects on 05, 07 and 08 expenditure codes within all relevant operational programmes.

become a beneficiary. One exception is Poland where just over half of the requested amount and number of projects were committed.

Altogether across the 8 countries 4,520 projects were committed with the amount of EUR 4.6 billion.

Taken together, 70% of the committed amount has been contracted. The largest differences are in Spain and Hungary. In Spain this amount is around 50%, while on the other hand in Hungary the share of contracted support is 96%.

Available data for three countries (Czech Republic, Hungary, and Italy) also shows that on average half of the requested amount was paid. Furthermore, this ratio is evenly distributed as it is not significantly different from the average on an individual country level.

Large enterprise support was concentrated by measure in the selected countries; however, there are significant differences by country. One measure covered more than half of the support in the Czech Republic, in Hungary and in Poland, and two measures covered 80% of the support except for Spain.

6. Figure: Concentration of large enterprise support by measure

Categorization by measures	Countries					
	CZ	ES	HU	IT	PL	PT
Number of measures supporting large enterprises	3	23	15	15	22	11
Number of measures covering 50% of the support	1	2	1	2	1	1
Amount of support (EUR million)	329	161	335	154	641	1092
Share of supported measures	33%	9%	7%	13%	5%	9%
Number of measures covering 80% of the support	2	5	2	4	2	1
Amount of support (EUR million)	415	260	366	198	980	1092
Share of supported measures	67%	22%	13%	27%	9%	9%

Large enterprise support was also concentrated regionally. The highest concentration was in Italy where 23% of the regions accounted for 80% of the support. The least concentrated are Czech Republic and Austria where 57% percent of the regions covered 80% of the support.

7. Figure: Concentration of support by region

Regional distribution of support	Countries							
	AT	CZ	DE	ES	HU	IT	PL	PT
Number of regions	7	14	11	17	7	13	16	7
Regions covering 50% of the support	2	4	2	2	1	2	4	2
Amount of support (EUR million)	83	260	411	161	117	161	672	762
Share of supported regions	29%	29%	18%	12%	14%	15%	25%	29%
Regions covering 80% of the support	4	8	4	5	2	3	8	3

Regional distribution of support	Countries							
	AT	CZ	DE	ES	HU	IT	PL	PT
Amount of support (EUR million)	120	379	616	261	201	205	943	1045
Share of supported regions	57%	57%	36%	29%	29%	23%	50%	43%

In the case of Hungary, further classification of regions by their economic status was defined below NUTS 3 level⁷: designating economically disadvantaged micro regions. Only 4% of the large enterprise support was granted to such regions. Furthermore, not only was the average support less in economically disadvantaged regions, but there were only 19 projects supported, whereas 390 projects were implemented in regions that were not economically disadvantaged.

2.3.2 Characteristics of the supported large enterprises

There were altogether 4,517 supported projects in the eight countries implemented by approximately 2,800 large enterprises. On average 1.6 projects were implemented by a large enterprise, receiving on average EUR 1.6 million support.

8. Figure: Number of supported large enterprises and average support

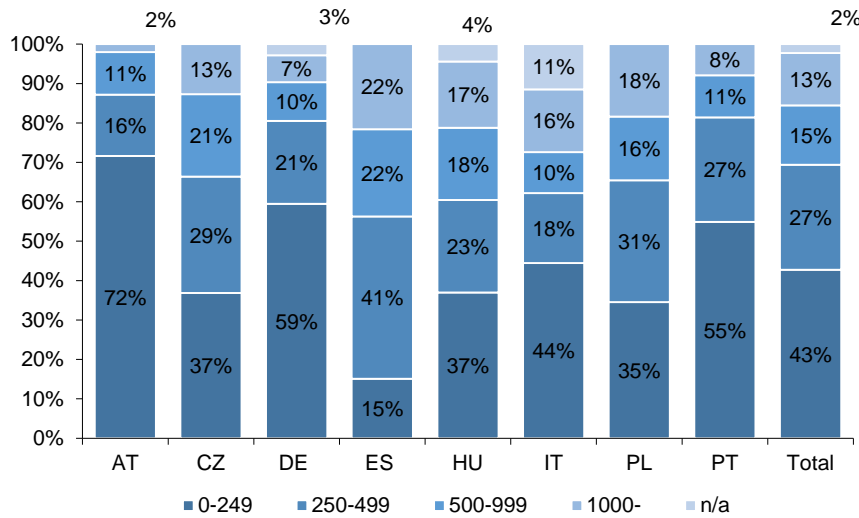
	Countries								
	AT	CZ	DE	ES	HU	IT	PL ⁸	PT	SUM
Number of supported projects	194	520	763	1 269	409	416	539	407	4 517
Number of supported large enterprises	148	339	632	398	273	270	408	319	2 787
Average number of supported projects/ large enterprise	1.3	1.5	1.2	3.2	1.5	1.5	1.3	1.3	1.6
Average amount of large enterprise support/ enterprise (EUR million)	0.9	1.4	1.1	0.8	1.7	0.9	2.8	3.5	1.6

Further analysis reveals that on average 43% of large enterprises had less than 250 employees, although they were still categorized as large enterprises. Around 13% of the large enterprises had more than 1000 employees. Spain is above this average as 22% of the large enterprises employed more than 1000 people.

⁷ In Hungary this type of classification is determined by the 244/2003. (XII. 18.) Government regulation

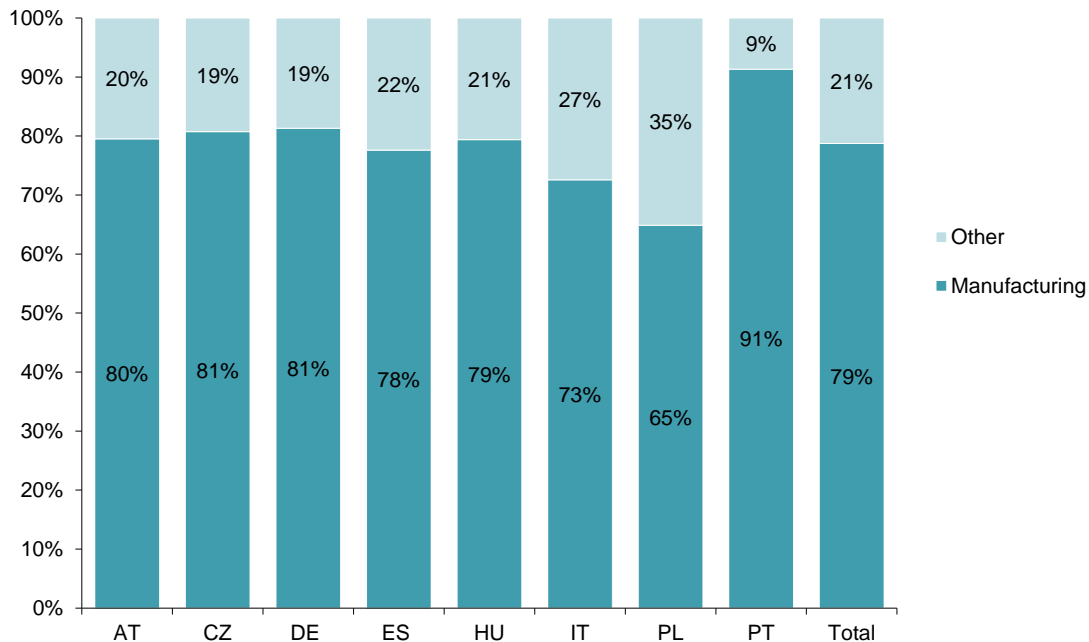
⁸ In Poland the managing authority is not required to keep records on the committed support, thus committed data is not complete. For taking stock of support we used contracted data, which is considered to give a more whole picture on support than by using committed data.

9. Figure: Distribution of the number of large enterprises by employment category



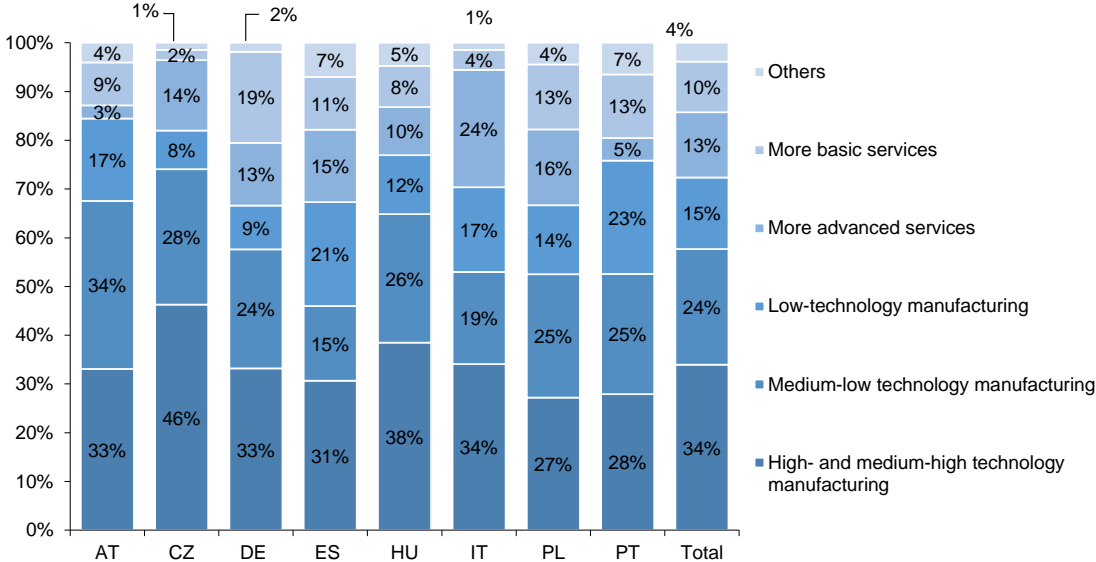
Industrial classification of large enterprise support shows a high concentration in the manufacturing industry. Around 79% of the support was granted to this sector. Although four out of the eight countries exceed this share of manufacturing, their combined average is around 83%: the total average is reduced by Poland and Italy where the share of manufacturing is 65% and 73%, respectively. In Portugal the share of manufacturing is the highest with 91%.

10. Figure: Distribution of committed support to large enterprises by primary NACE code



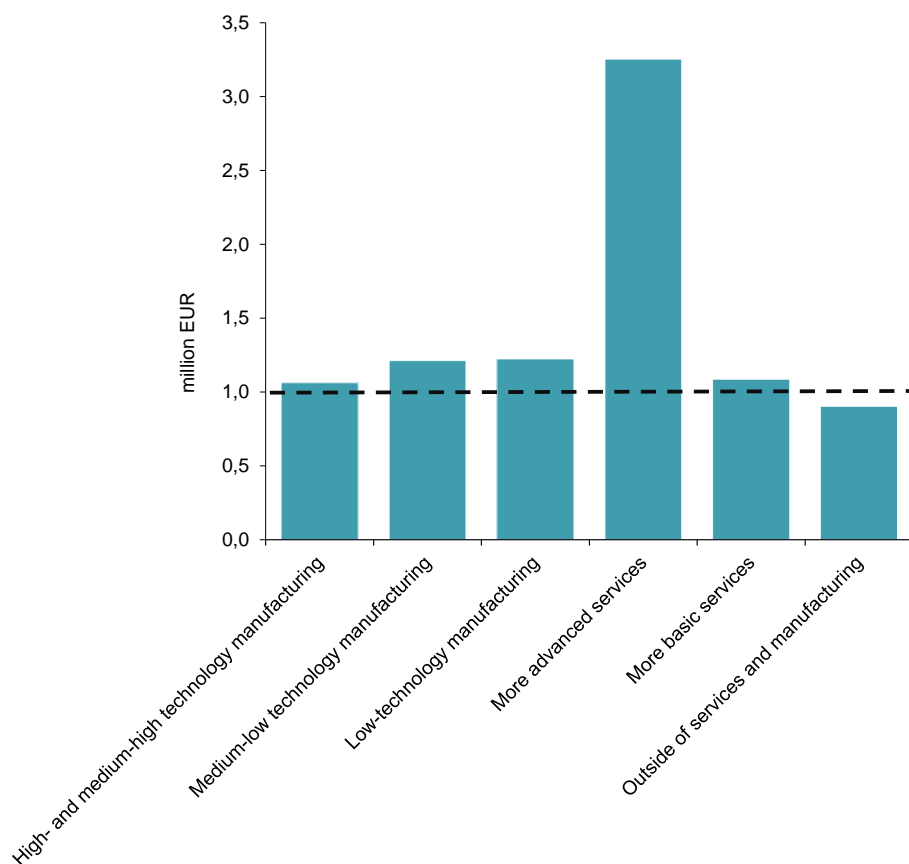
The role of manufacturing industry is not only reflected by the amount of support but also by the number of large enterprises supported, as more than 73% of supported large enterprises operate in this industry. This is even higher in countries such as Austria and the Czech Republic where the share is close to 80%. Furthermore, more than one third of the large enterprises are active in high- and medium-high technology manufacturing, while in comparison the share of the service providers is only 23%.

11. Figure: Distribution of supported large enterprises by sectoral categorization



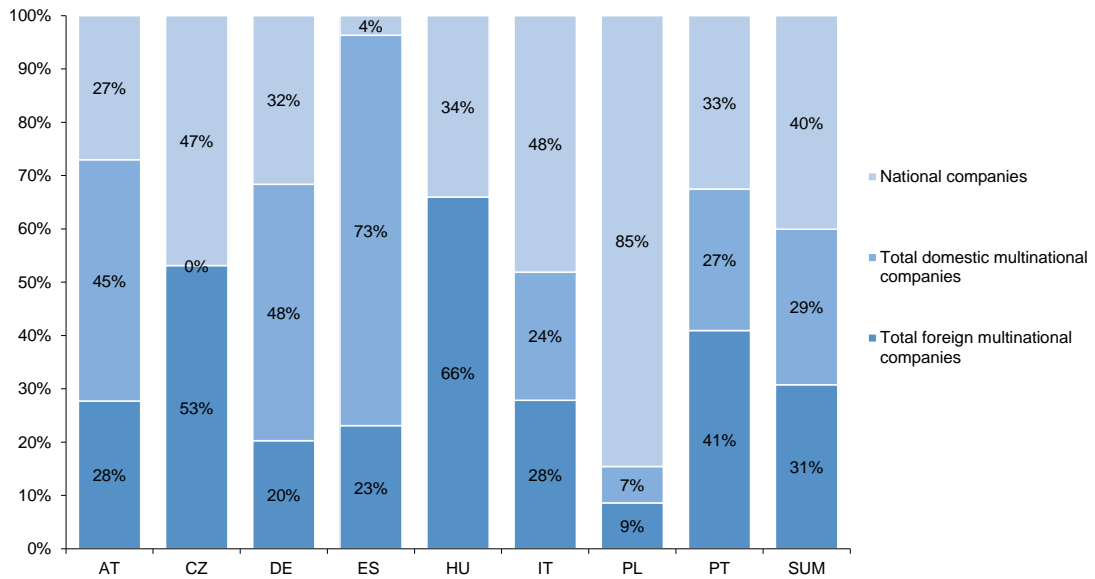
Most of the projects received around EUR one million support on average, except more advanced service projects which received 3.3 million on average. This high average is caused by Portugal, where three major projects received around EUR 60 million.

12. Figure: Average support per project by sectoral categorization



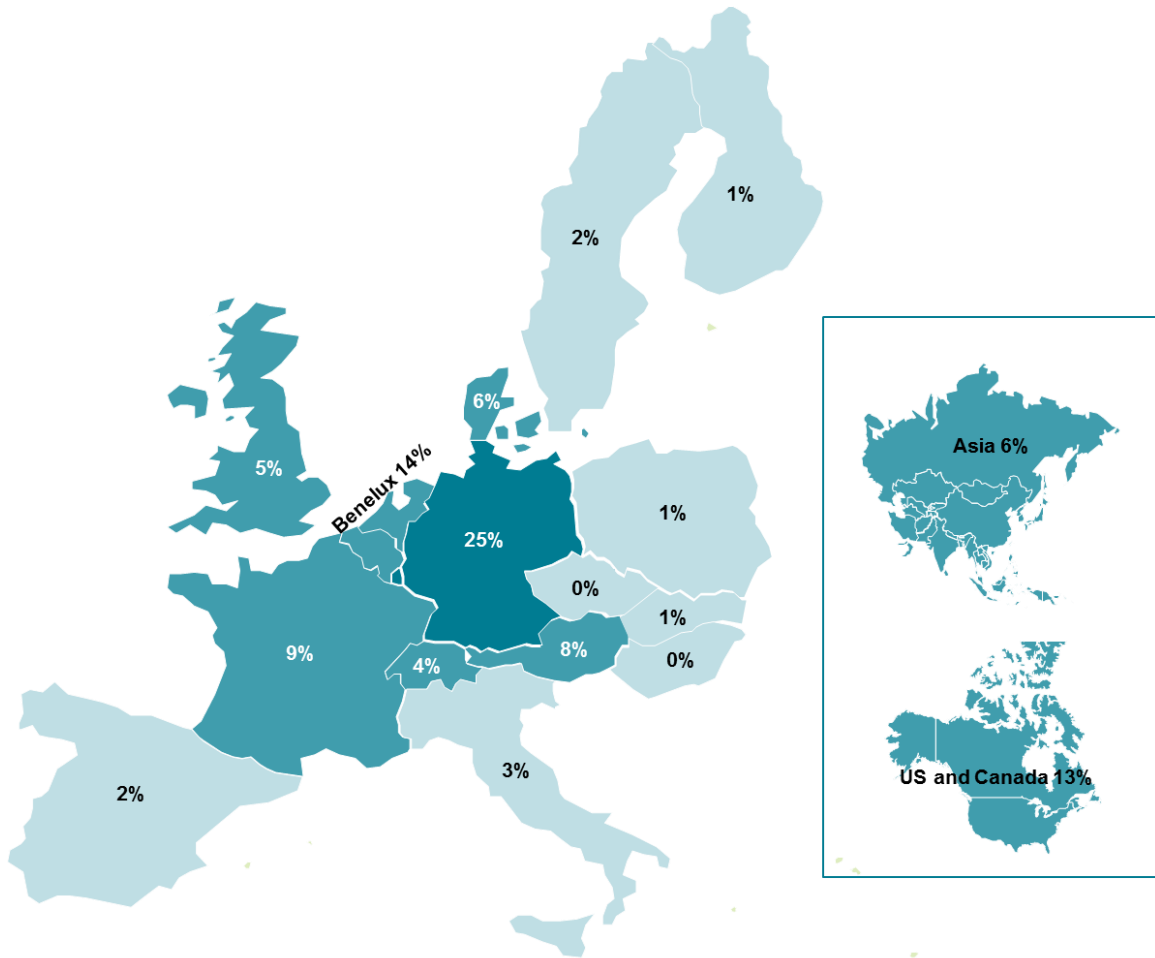
The geographical scope of the large enterprises in the Central and Eastern European countries is mainly either multinational with foreign origin or purely national: there are no domestic multinational companies among the supported enterprises. Poland is an exception where the number of national companies is the highest compared to both Central and Eastern European and Western European countries and in Poland domestic multinational companies also received support. In the Western European countries domestic multinational companies are more frequent among supported firms than their foreign-based competitors.

13. Figure: Distribution of the number of supported large enterprises by geographical scope



From the supported foreign multinational companies one fourth originate from Germany. The other main countries of origin are the Benelux, the United States and Canada, Austria, France, Switzerland, Denmark, the United Kingdom and the countries of the Asian region. A fraction of companies are headquartered in another European country. It also becomes clear that Eastern European countries have fewer or almost no active foreign multinational large enterprises and thus large amount of support is being transferred to Western European large enterprises.

14. Figure: Distribution of supported large enterprises by country of origin of foreign multinational companies in the eight countries



Foreign direct investments could be identified in four countries (Czech Republic, Hungary, Italy and Poland)⁹: 155 projects were foreign direct investment projects which is 7% of the number of the supported large enterprise projects.

2.3.3 Further implications based on data analysis

By removing the 'country' as a permanent grouping variable (used in all of the above statistics), other combinations of project or enterprise level characteristics can be analysed. The subjects of further analysis have been the 'small' large enterprises (i.e. the ones with less than 250 employees), enterprises which implemented more than one project (multiple-granted enterprises) and the type of company ownership and scope (i.e. foreign and domestic multinational companies and national companies).¹⁰

⁹ Information on Austria, Germany, Spain and Portugal are not yet available. This topic will be further addressed during the Case study phase.

¹⁰ The basis of the following analysis is a merged database containing all projects and enterprises among seven out of the eight countries in scope. Poland is excluded because of the limited usability of the contracted database on hand.

'Small' large enterprises

During the inception phase of this project one of the basic methodological questions was the definition of large enterprises. A lot depends on this definition, as it defines the scope of the analysis: if the scope is too tight, then relevant enterprises may be left excluded; but if too broad, several small and medium-sized enterprises may be falsely added to the pool of assessed enterprises. As the European Commission gives a clear definition on small and medium-sized enterprises, but no specific definition on large enterprises, we have decided to consider companies as large enterprises, which are not classified as small and medium-sized enterprises. As formerly described in the methodology section, we accepted the classification of the Managing Authorities, where applicable, who usually use this type of inverse definition, as they classify small and medium-sized enterprises based on the Commission Recommendation 2003/361/EC.

'Small' large enterprises (i.e. the ones, which employ less than 250 persons) may be classified as large enterprises for the purpose of this evaluation, if one or both of the following scenarios occur:

- an enterprise employs less than 250 persons but its annual turnover exceeds EUR 50 million and their annual balance sheet total exceeds EUR 43 million;
- the enterprise in question is a partner or linked enterprise to other enterprises, whose employment and financial data needs to be calculated jointly following the rules set out in Commission Recommendation 2003/361/EC.

The former allows a relatively small enterprise to appear as large even if it is an 'autonomous enterprise' (i.e. it does not have partner or linked enterprises), while the latter allows an enterprise to be considered as large regardless of its size, if it jointly falls outside of small and medium-sized enterprises with their partner or linked enterprises in terms of the headcount and financial results. This particularly happens when considering subsidiaries and their parents: enterprises within their own legal name have few employees and moderate financial results but are classified as large with their linked or partner enterprises. These appear only with their own data in our database.

The below distribution of the 'small' large enterprises shows, that nearly 60% of them may be classified as a large enterprise because of their linked or partner status, as 60% of the 'small' large enterprises are multinational companies. The remaining 40% may be classified as large enterprises based on their financial results.

15. Figure: Distribution of employment categories by geographical scope in the countries subject to this analysis¹¹

Geographical scope of the enterprise	Employment category				
	0-249	250-499	500-999	over 1000	average
Domestic multinational companies	29%	38%	36%	35%	33%
Foreign multinational companies	30%	32%	40%	53%	35%
National companies	41%	30%	24%	12%	32%

In Austria, Germany and Italy the majority of supported large enterprises employ less than 250 persons. In Spain; however, there is a considerably high share of enterprises falling into the largest employment category, i.e. over 1000.

¹¹ Based on the data of approximately 2 100 supported large enterprises.

16. Figure: Distribution of supported large enterprises by employment category and country in the countries subject to this analysis

Employment category	Countries							average
	AT	CZ	DE	ES	HU	IT	PT	
0-249	72%	36%	61%	15%	39%	50%	49%	45%
250-499	16%	29%	22%	41%	25%	20%	26%	27%
500-999	11%	21%	10%	22%	19%	12%	10%	15%
Over 1000	2%	13%	7%	22%	18%	18%	15%	13%

Larger enterprises in terms of employment category tend to implement larger and more projects than their smaller peers. The average project size does not significantly differ amongst the enterprises with less than 1000 employees. The average number of projects per supported large enterprise however tends to be increasing if the number of employees is increasing as well.

17. Figure: Average project size and average number of projects by employment category in the countries subject to this analysis

Employment category	Average project size (m EUR)	Average number of projects per large enterprise
0-249	0.9	1.3
250-499	0.7	1.8
500-999	0.8	2.0
Over 1000	1.2	2.0
Total	1.0	1.6

Project level aid intensities in Italy and Hungary suggest that large enterprises with more than 1000 employees receive a lower share of support compared to the total project value, than the enterprises falling into smaller employment categories. That means, that aid intensities vary not only between small and medium-sized enterprises and large enterprises but also among the different employment categories of large enterprises.

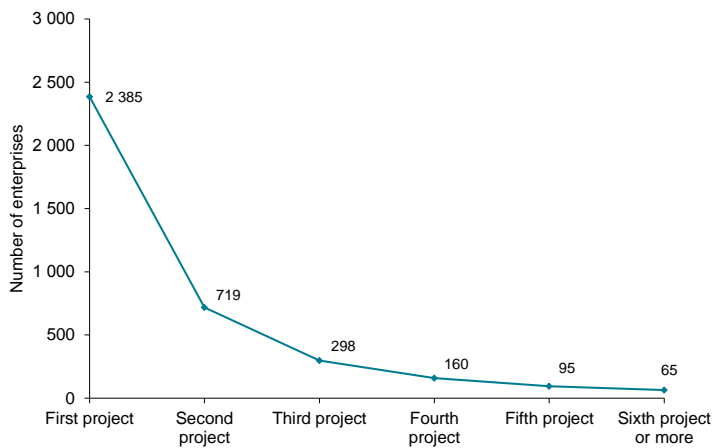
18. Figure: Average aid intensity by employment category (based on project level Italian and Hungarian aid intensities)

Employment category	Aid intensity
0-249	50%
250-499	52%
500-999	67%
Over 1000	39%

Multiple-granted enterprises

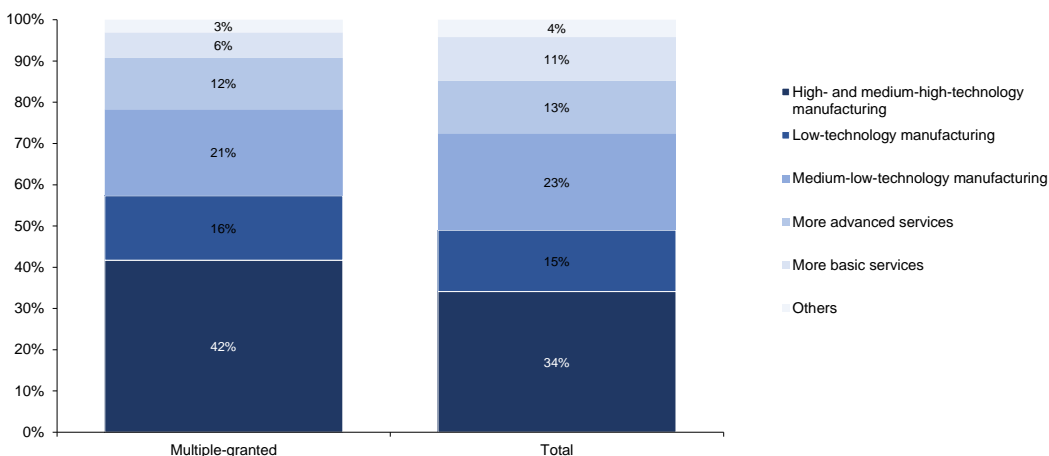
As previously stated, one supported large enterprise has implemented 1.6 projects on average. When looking beyond this average in detail, we can see that a third and even a fourth project does not count as extraordinary in case of the individual large enterprises. In Spain we can see that a few enterprises implemented even more than fifteen projects. These operations are very small ones (may not even exceed EUR 100) compared to the average 'normal' project size. The initial hypothesis for these small, repeated operations is, that the export incentives included in the Spanish operational programmes supported the presence of enterprises at international fairs, workshops and only covered administrative costs related to these events.

19. Figure: Number of enterprises with at least one-five projects in the countries subject to this analysis



We find, that a higher share of enterprises, which are multiple-granted, operate in the high- and medium-high-technology manufacturing sector, compared to that if we look at the same share among the supported enterprises overall. 21% of the multiple-granted enterprises are active in services, while the overall share of services among the supported enterprises subject to this analysis is 28%.

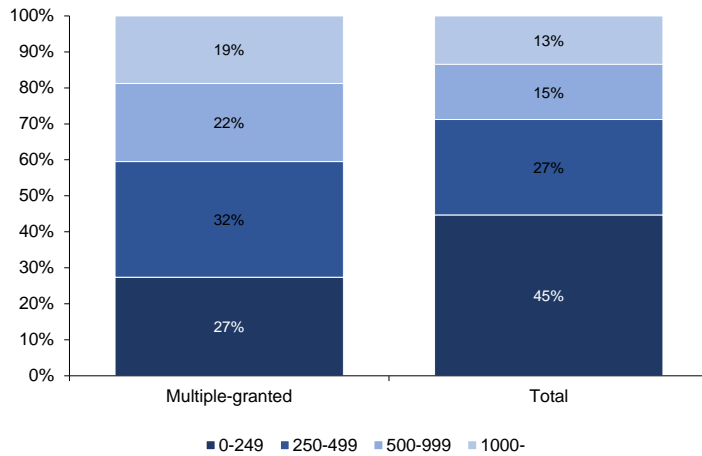
20. Figure: Sectoral classification of multiple-granted enterprises compared to the overall distribution in the countries subject to this analysis



There appears to be a connection between multiple grants and the ownership and scope of the enterprise. More than 71% of multiple-granted enterprises are multinational companies (foreign or domestic), while only 68% of the overall enterprises in scope of this current analysis are multinational ones.

Multiple-granted enterprises tend to be larger in terms of employees: only 27% of them count as a 'small' large enterprise in comparison with the overall 45% (based on the enterprises in scope of this analysis).

21. Figure: Distribution of multiple granted enterprises by employment category compared to the overall distribution in the countries subject to this analysis



Enterprise ownership and scope

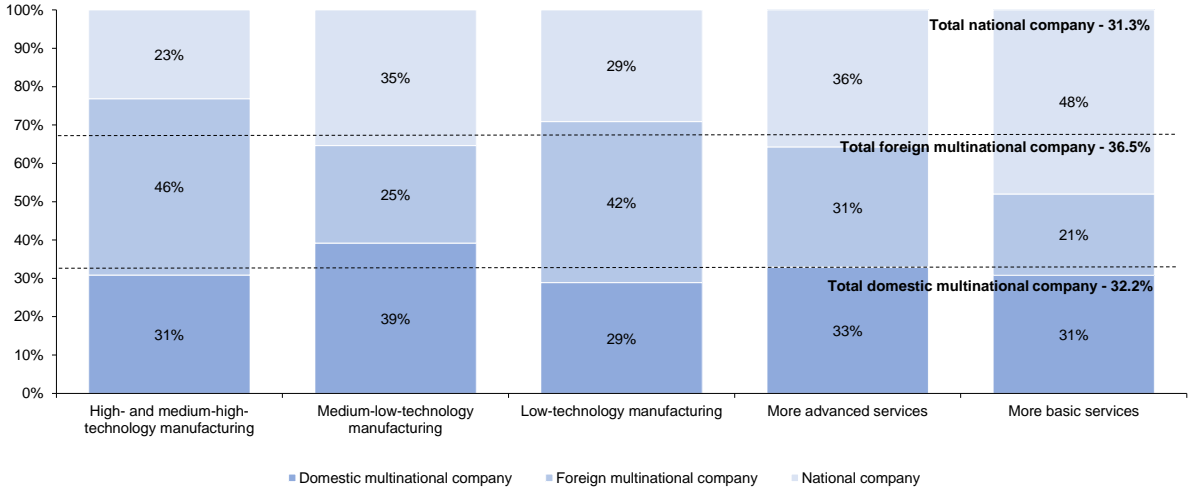
The number of projects per enterprise and the average support seems to depend on the type of enterprise ownership. Domestic multinational companies tend to invest in more, smaller projects, while projects implemented by foreign multinational companies are larger than the ones implemented by domestic multinational and national companies.

22. Figure: Average support and average number of projects per large enterprise by type of ownership in the countries subject to this analysis

Type of ownership	Average support (m EUR)	Average number of projects per large enterprise
Domestic multinational companies	0.8	2.1
Foreign multinational companies	1.2	1.5
National companies	1.0	1.3
Total	1.0	1.6

Supported foreign multinational companies are more represented in high- and medium-high-technology manufacturing and low-technology manufacturing than in other sectors, while national companies tend to be more represented among services (especially more basic services) than in manufacturing.

23. Figure: Type of enterprise ownership by sectoral classification in the countries subject to this analysis



3 Enterprise policy and effects of large enterprise support – results from a literature review

Enterprise policy is seen as an important component in the policy spectrum to support growth and employment within the EU. Generally, an integrated enterprise policy encompasses a full range of EU policy elements, including competition and trade, innovation, energy and EU regional policy. Enterprise policy, be it as part of competition or regional policy, is closely linked to industrial policy, which has seen a recent revival of interest among policy makers around the world, particularly in Europe. In particular, the global economic and financial crisis, competitive pressures in industry from emerging markets, and reductions in industrial capacity in many EU economies have all contributed to this development. Cohesion Policy alone provided the largest amount of EU direct support to enterprises, primarily small and medium-sized enterprises, with a total volume of EUR 25 billion in the financial period 2007-13, covering all phases of business creation and development.¹² Today, as part of the Europe 2020 strategy, the EU is “redrawing its policy to ensure a strong, diversified, resource-efficient and competitive industrial base to meet the challenges of the global market.”¹³

This **literature review on EU enterprise policy and effects of large enterprise support** – primarily from ERDF in the funding period 2007-2013 and before – serves as a baseline for understanding the effectiveness of large enterprise support. Based on existing evaluation evidence and, particularly with a focus on the country investigations in the eight case study regions, it provides a basis for systematically developing representative theories of change on large enterprise support. The underlying question to be answered is: to what extent, where and why does support to large enterprises work or not work.

Literature and documents, including policy reports, evaluation studies and scientific papers, were collected for all case study countries and, additionally, comprise a review of important studies on larger enterprise support in general. All in all, over 100 documents have been reviewed, comprising many studies only available in the national language of the country in question. The literature review followed a systematic process utilising an Excel-based framework for data collection and interpretation (see Annex 1) in order to ensure consistency among all review teams. The key components of the framework and major building blocks on what is summarized in this Interim Report are:

- Effects of ERDF and other enterprise policy interventions with regard to large enterprises
- Intervention strategies of ERDF programmes with regard to large enterprises
- Influential factors on programme performance (2007-2013; mainly at country level)

To start with, key findings will be summarized which will serve as an important baseline for developing hypotheses to be tested alongside our Theories of Change in the case study analysis. In what follows, a short contextualisation of the role of large enterprises in regional economies is given, serving as a

¹² European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. A stronger European Industry for Growth and Economic Recovery. Industrial Policy Communication Update, 10 October 2012, COM(2012) 582 final.

¹³ EUR-Lex (2014), “Summaries of EU Legislation. Enterprise”, available online at: http://eur-lex.europa.eu/summary/chapter/enterprise.html?root_default=SUM_1_CODED=19,SUM_2_CODED=1902&obsolete=false [last accessed: 14.09.2010].

baseline not only for understanding potential impacts of large enterprise support but for understanding the rationale of programme developers when designing measures for their support. Next, key findings from the literature review on large enterprise support in general are presented, followed by evidence on large enterprise support from ERDF / CF funds in the eight case study countries.

3.1 Key findings

As result of the literature review of relevant evaluation studies identified, the following **ten key findings** can be derived. These cover **six general findings** on the direct support of large enterprises and **four country-specific findings** for the eight case study countries.

The analysis and synthesis was mainly performed by the Core Team, utilising both insights from the external experts and the country teams. Local research teams were guided in the process by using an Excel-based framework for data collection and interpretation (see Annex 1). Thereby, consistency among all review teams was ensured while being able to integrate local context knowledge and evaluation studies in the respective national language.

General findings

LR 1. Direct enterprise support (in particular investment subsidies) generally shows a positive treatment effect at the firm level.

Evaluation evidence on the direct enterprise support in the EU overwhelmingly supports its positive impacts at the firm level, stating that investment subsidies act as a stimulus to investment behaviour, and / or an increase of employment and value added for assisted firms and, in a number of studies, a positive productivity effect. Particular mention is warranted to a recent evaluation on the Regional Selective Assistance scheme in the UK, which reports that a 10% investment subsidy caused a 7% increase in employment at the firm level. However, the overall positive finding (LR 1) holds only for evaluations that either do not differentiate between small and large enterprises (i.e. in the case of mixed samples, overall positive effects are largely or even entirely driven by smaller firms) or that are looking at small enterprises only.

LR 2. Positive treatment effects of direct enterprise support are largely confined to smaller firms.

A number of evaluations confirm that investment subsidies are generally less important for firms with large overall turnover, and direct additionalities from support are typically not identified. Regarding employment effects, it is found that large enterprises that received direct support would have increased employment numbers also in the absence of the direct support.

Even for larger enterprises, however, direct support can relax the overall financial situation. Thus, even if these firms do not expand employment at treated plants it is still possible that their total employment increases through expansion at non-treated plants. This finding is particularly relevant when reflecting on large enterprise support of multi-plant firms in structurally-weaker regions of the EU.

LR 3. Higher degree of deadweight can be expected for larger enterprises.

Deadweight effects, i.e. the degree to which the project would have been carried out without public support, can be identified for all firms receiving direct enterprise support. If deadweight effects are large, subsequent changes (e.g. enterprise growth, increase of employment) are not seen as relevant as the project or investment would have been generated without the subsidy as well.

Regarding firm size the following was found: the likelihood of zero deadweight effect is significantly dependent on the characteristics of the subsidised firm, the characteristics of the investment project, and the location of the firm. More precisely, the investment-bearing capacity of the supported enterprise, i.e. the ratio of enterprise turnover over project costs, seems to determine the deadweight effect rather than the mere size of the firm. Nevertheless, this evaluation evidence indicates that a higher degree of deadweight can be generally expected for larger enterprises.

LR 4. Evidence on the durability of operations and stability of locations of large enterprises that receive support is scarce.

Regarding the durability of operations only qualitative evidence from individual cases could be identified. For instance, ERDF support in Spain targeted specifically at large enterprises successfully contributed to safeguarding existing jobs and stopped relocation plans.

Likewise, evidence on the issue of location or relocation is scarce. In some cases it was found empirically that direct enterprise support and overall Cohesion Policy contributed positively to attracting (foreign) multinational enterprises, or even to the scale and nature of their operations.

LR 5. Effects of direct support to R&D investments are mostly confined to smaller enterprises. Lower effects are identified for large enterprises; however, it can often be due to measurement issues.

For direct R&D support it was found that, even though Cohesion Policy and other measures successfully induce innovation with their support, these effects are mostly confined to smaller enterprises. Hence, various studies find that the additionality of direct R&D support is greatest for small firms, and, moreover, for firms in relatively low-technology sectors and firms in lagging regions.

Yet, as some authors have suggested, the lower effects from direct R&D support identified for large enterprises can often be due to measurement issues. These are mostly linked to the vast number and variation of success parameters in larger firms that can affect key performance indicators measured in evaluations.

LR 6. There is little evidence on the effectiveness of cluster and network measures on large enterprises – but their role as focal actors in publicly supported clusters is highlighted.

When discussing the support for large enterprises, the funding of cluster and network measures play a crucial role as large companies are often identified to be important players in this setting.

Whilst evidence differentiating enterprise sizes is rare, it was found that cluster support in general can induce positive impacts and that large enterprises often possess a vital function for the progress and integration of the cluster in global knowledge flows and induce positive spillovers to small and medium-sized enterprises. For example, evaluation evidence on the “Leading Edge Cluster Competition” policy in Germany shows that innovation spillovers are often actively induced by large enterprises and those firms were often directly addressing other small and medium sized enterprises and research institutions to start co-operations.

Country-level findings

LR 7. Evaluation evidence, in particular with regard to counterfactual impact evaluations, varies greatly across the eight case study countries.

The evidence base that could be used for the country-level analysis in the eight case study countries varies greatly. While in some countries a number of evaluation reports could be identified, some of which even across differentiating enterprise sizes (e.g. in Italy, Germany,

Poland), in others the evidence base was less informative (e.g. Spain, to some degree Czech Republic). In particular, regarding counterfactual impact evaluations for the 2007-2013 funding period this is not surprising as it is too early in many cases to detect impacts materialising from Cohesion Policy support (time-lag effect).

However, in all countries it was possible to identify a number of reports that were presenting insights on large enterprise support from ERDF 2007-2013 or other national measures. Yet, those (counterfactual) impact evaluations available have focused largely on first cohorts of beneficiaries. As there were sometimes considerable changes in Operational Programmes across the EU (e.g. regarding selection criteria) not all of the conclusions derived from these evaluations focusing on “early beneficiaries” should be generalised.

LR 8. Limited number of funding strategies are directly targeting large enterprises.

In most cases, direct investment support and other support measures under Cohesion Policy were targeted at both small and medium-sized enterprises and large enterprises. The number of funding strategies targeting large enterprises directly is low. Typically, the most relevant interventions identified for the case study countries (i.e. direct investment support, direct support to R&D, as well as support to qualification / training or clusters and networks), were addressed to both small and medium-sized enterprises and large enterprises. Particularly in Operational Programmes in Germany (with the exception of Thuringia), Austria and Italy, no explicit reference to large enterprises was identified, sometimes even despite their role in the actual numbers of supported enterprises.¹⁴

Nevertheless, a number of countries were using dedicated strategies for large enterprises as part of their Operational Programmes. For instance, the Spanish regions of Castilla y León and Valencia used support schemes directly targeting large enterprises, mostly foreign multinationals. Likewise, for Portugal it appears that under the Operational Programme Competitiveness direct investment support for R&D and innovation activities was directly targeting large enterprises with the aim to safeguard employment and to promote and upgrade qualification levels. Moreover, countries like Czech Republic, Poland and Hungary made some reference in their Operational Programmes indicating that large enterprises were to be among the target groups.

LR 9. In practice, reverse logic is used to justify large enterprise support: while its direct support is not an explicit goal, it is not prohibited either.

Closely related to [LR 8], the number of programme strategies specifically mentioning large enterprises as key target group is quite low. Nevertheless, it appears that Operational Programmes in most of the investigated countries, including Germany, Austria, Czech Republic or Hungary, highlight the crucial role of large enterprises for their (regional) economies and likewise for the development of small and medium-sized enterprises (in particular through various spillover channels ranging from productivity to knowledge spillovers).

LR 10. Findings on the effectiveness of large enterprise support in the eight case study countries are mixed.

In the eight case study countries, evaluation evidence on the effectiveness of large enterprise support is mixed. Despite the fact that some is in line with the general findings presented above, other findings are more challenging.

¹⁴ However, it is important to note that in some of the countries it was nevertheless possible to identify more specific information on large enterprise support when analysing additional material on state funding, e.g. funding guidelines, project calls or information material by regional development authorities.

Whilst for Portugal, Spain and for some German Federal States, evaluation evidence reported positive effects of large enterprise support, the findings for Italy and Hungary are much more negative. A mixed picture was detected for Poland, Czech Republic and Austria, where positive contributions of large enterprise support were either only identified for some measures / Operational Programmes (as in the case of Poland) or evaluation evidence, reporting positive contributions, was insufficient for generalising findings.

3.2 Role of large enterprises and their effects on regional economic development

Large enterprises, in particular large multinational companies, are key actors in the knowledge driven economy, as they are widely considered as innovation architects, system integrators, and platform leaders important to the creation of new knowledge, even in an increasingly vertically disintegrated innovation set-up.¹⁵ Data from UNCTAD (2007)¹⁶ and the World Bank (2007)¹⁷ shows, that the 78,000 multinational companies operating in the global economy account for approximately USD 4.8 trillion or 10.7% of global value added and USD 4.7 trillion worth of exports (approximately 1/3 of global exports). The 700 largest multinational companies account for roughly 46% of all global R&D expenditure or USD 310 billion of the overall USD 677 billion spent in 2002 (of which some USD 450 billion is for global private R&D). Over 50% of these 700 multinational companies belong to the automotive, pharmaceutical/biotechnology, and IT hardware industries, with over 80% of these firms having their headquarters in the United States, Germany, Japan, the United Kingdom, or France.¹⁸

International business scholars have developed a prolific literature emphasizing the increasing internationalization of value creation activities of large enterprises, including influential works by Dunning (1977) and Kuemmerle (1999).¹⁹ The eclectic or OLI paradigm proposed by Dunning was an attempt to offer a unified framework for determining the extent and the pattern of foreign-owned activities, assuming that multinational activities are driven by three distinctive advantages: (1) firm-specific advantages related to resources owned by the firm (Ownership; O), which are mostly associated with the size of the firm (e.g., economies of scale, product diversification, financial resources); (2) location-specific advantages (Location; L), displayed by the factor endowments of a nation (e.g., size of the market, labour productivity, input cost advantages, and competitive environment), and (3) internationalization advantages (I), replacing (potentially) imperfect external markets by internal markets within the multinational company. Kuemmerle (1999), on the other hand, has presented a taxonomy for analysing the foreign direct investment strategies of multinational companies in regard to innovation activities and distinguished between home base-exploiting and home base-augmenting foreign direct investment strategies. While home base-exploiting foreign direct investment strategies involve a rather modest form of R&D internationalization, concentrating on the adaptation of existing products to the needs of the local market and of technical support to foreign manufacturing plants, home base-augmenting foreign direct investment strategies strive to extend the

¹⁵ Cantwell J. and Iammarino S. (2003) *Multinational Corporations and European Regional Systems of Innovation*. Routledge, London; Narula R. and Zanfei A. (2005) *Globalization of Innovation - The role of MNEs*, in Fagerberg J., Mowery D. and Nelson R. (Eds.) *The Oxford Handbook of Innovation*, pp. 318-345. Oxford University Press, Oxford; Christensen J.F. (2006) *Whither core competency for the large corporation in an Open Innovation world*, in Chesbrough H., Vanhaverbeke W. and West J. (Eds.) *Open Innovation: Researching a New Paradigm*, pp. 35-61. Oxford University Press, Oxford.

¹⁶ UNCTAD (2007), *World Investment Report: Transnational Corporations, Extractive Industries and Development*, United Nations Conference on Trade and Development, United Nations, New York.

¹⁷ World Bank (2007), *2007 World Development Indicators*, World Bank, Washington D.C.

¹⁸ McCann P. (2008) *Globalisation, Multinationals and the BRIICS Countries*, Report to the OECD, Paris, available online at: www.oecd.org/dataoecd/49/34/40665323.pdf. [last accessed: 14.09.2010].

¹⁹ Dunning J. (1977), *Trade, location of economic activity and the MNE: A search for an eclectic approach*, in OHLIN B., Hesselborn P. and Wijkman P. (Eds.) *The international allocation of economic activity*, pp. 395-418. Macmillan, London; Kuemmerle, W. (1999), *The drivers of foreign direct investment into research and development: an empirical investigation*, *Journal of International Business Studies* 30, 1-24.

core competencies of the large enterprises by broadening their knowledge base through investment in innovative regions. More recently, there has been a growing awareness in the management and international business literature that large enterprises are increasingly using their global network to augment competitive advantages and / or create new advantages by tapping into geographically dispersed sources of knowledge within regional systems of innovation²⁰, thus reflecting the importance for large enterprise international networks of evolving from closed to more open systems to enable the evolution of the different innovation-related business units into explorative and creative activities.

At the same time, the economic geography literature has developed a sound understanding of the economies of agglomeration²¹, Regional Innovation Systems, and clusters²², as well as localized knowledge creation and accumulation.²³ Large enterprises are seen to be important drivers of knowledge creation within regions, as through their technological efforts, regions in a globalized economy are linked with other locations beyond the national boundaries. This linkage provides access to streams of knowledge developed elsewhere and may generate spillovers²⁴. Moreover, a significant contribution of the total regional R&D expenditure in most top-performing regions in Europe comes from the large global players and industry leaders. As Kroll and Stahlecker (2009) show, the increase in the business enterprise expenditure on R&D between 1995 and 2003 in Europe can to a considerable extent be attributed to an increase in R&D expenditure by the top private R&D investors.

3.3 General evidence on large enterprise support in the European Union

Recent reports question the increasing shares that large enterprises absorb from Structural Funds programmes across the European Union, perceiving them as “one-off payments” that show free-rider and deadweight effects.²⁵ Particularly, as argued by a paper of the High Level Group reflecting on Future Cohesion Policy on “Aid to Large Enterprises” (2011)²⁶, there are reported to be a number of

²⁰ Cantwell J. and Iammarino S. (2003) *Multinational Corporations and European Regional Systems of Innovation*. Routledge, London; Revilla Diez J. and Berger M. (2005) The role of multinational corporations in metropolitan innovation systems: empirical evidence from Europe and Southeast Asia, *Environment and Planning A* 35, 1813-1835; BOUTELLIER R., Gassmann O. and Von Zedtwitz M. (Eds.) (2008) *Managing Global Innovation: Uncovering the Secrets of Future Competitiveness*. Springer, Berlin; Mudambi R. (2008) Location, control and innovation in knowledge intensive industries, *Journal of Economic Geography* 8, 699-725.; Cantwell J. and Piscitello L. (2009) The influence of business network openness on MNC sub-units evolution, Paper presented at the Conference “Organizing for Internal & External Knowledge Creation”, Copenhagen Business School, Copenhagen.

²¹ See, e.g., Krugman P. (1991) *Geography and Trade*. MIT Press, Cambridge; Maskell P., Eskelinen H., Hannibalsson, I., Malmberg A. and Vatne E. (1998) *Competitiveness, localised learning and regional development: specialisation and prosperity in small open economies*. Routledge, London.

²² Revilla Diez J. (2002) *Betriebliche Innovationserfolg und räumliche Nähe: Zur Bedeutung innovative Kooperationsverflechtungen in metropolitanen Verdichtungsräumen. Die Beispiele Barcelona, Stockholm und Wien*. Lit Verlag, Munster.; Cooke P., Heidenreich M. and Braczyk H.-J. (Eds.) (2004) *Regional Innovation Systems: the role of governance in a globalized world*. Routledge, London.

²³ Saxenian A. (1994) *Regional advantage: culture and competition in Silicon Valley and Route 128*. Harvard University Press, Cambridge; Audretsch D. and Feldman M.P. (2005) The Geography of Innovation and Spillovers, in Henderson V. and Thisse J.F. (Eds.) *Handbook of Regional and Urban Economics: Cities and Geography*, pp. 2713-2739. North-Holland and Elsevier Science Publisher, San Diego.

²⁴ Iammarino S. and McCann P. (2010a) The Relationship between Multinational Firms and Innovative Clusters, in Boschma R. and Martin R. (Eds.) *The Handbook of Evolutionary Economic Geography*, pp. 182-204. Edward Elgar, Cheltenham.

²⁵ See, for instance, a recent article by Financial Times and the Bureau of Investigative Journalism (2010), URL: <http://www.thebureauinvestigates.com/2010/11/29/top-story-4/> (last access: February 22nd, 2015).

²⁶ DG Regional Policy and DG Employment (2011), “High level group reflecting on future cohesion policy”, Performance orientation for cohesion policy, Meeting No.9, 7 April 2011, Brussels.

disincentives regarding the provision of Structural and Cohesion Funds support to large enterprises, namely:

- Lack of economic impact (risk of “deadweight” cost);
- Relocation (risk of “incentivised relocation” of firms from Single Market; opposed to Preamble 42 / General Regulation);
- Durability of operations (risk of – if at all – short-term effects and undue advantages; opposed to Preamble 61 / General Regulation).

This observation is directly focused on “productive investment support” given to large enterprises, i.e. investments in fixed capital to be used for the production of goods and services thereby supporting enterprise and employment growth.²⁷ According to Article 3 of the ERDF regulation in the 2007-2013 funding period the scope for productive investments is defined as follows:

“Productive investment which contributes to creating and safeguarding sustainable jobs, primarily through direct aid to investment primarily in small and medium-sized enterprises (SMEs)”.

On the other hand, other research²⁸ shows that the role of large enterprises and their support should not be evaluated in terms of direct benefits on the recipient-firm level only, but should also analyse the indirect and wider effects that are generated e.g. through linkages to local small and medium-sized enterprises or improvements of regional factor endowments.

Against this background, in the following section an overview of potential positive and negative impacts of large enterprises and their support is presented on both the firm and regional level (Chapter 3.3.1) followed by findings from empirical investigations on the effects of large enterprise support through EU and policies (Chapter 3.3.2).

²⁷ Compare report of DG Regional Policy and DG Employment (2011), “High level group reflecting on future cohesion policy”, Performance orientation for cohesion policy, Meeting No.9, 7 April 2011, Brussels.

²⁸ See e.g. Narula & Guimon. (2009), Basile et al. (2008) or Novotny & Jaburkova (2012).

3.3.1 Overview of potential impacts and intended changes through large enterprise support

When analysing the regional economic role of large enterprises and evaluating the impact of enterprise support from Cohesion & Structural Funds to these firms, it is helpful to consider different dimensions, i.e. direct changes on the enterprise level (both positive or negative) and indirect changes through large enterprise support at the regional economy level, also called wider effects (both positive and negative). From the literature, support of large enterprises through enterprises policy, including Cohesion & Structural Funds, can generally lead to three different **forms of changes or effects**²⁹:

- **Direct effects** = relate to effects materialising within the local facility of the supported large enterprise (e.g. employment growth, direct output or new plant in case of foreign direct investment)
- **Indirect effects** = relate to effects created by the local presence of the facility of the supported large enterprise (e.g. purchasing linkages of large enterprises, local spending of wages by their employees etc.)
- **Wider effects** = relate to further effects of large enterprise support on the regional economy through changes in strategy, practices and competitive advantage of domestic firms / small and medium-sized enterprises (e.g. productivity improvements, presence of sophisticated customers, improved factor conditions, efficiency gains through demonstration of new management approaches / introduction of new process technologies etc.). A “geographical proximity effect” is seen as increasing the effectiveness of some or even all of the mechanisms mentioned above.

While research has found direct and indirect effects to be rather static, i.e. contributing mainly to production capacity, **wider effects seem to have a more dynamic effect on the competitiveness of places**, e.g. through technology transfer or increasing production efficiency of domestic small and medium-sized enterprises etc.³⁰

A list of key “**intended impacts**” and “**changes**” linked to the support of large enterprises, both indigenous and exogenous (through foreign direct investment), is presented in the following table. While some effects are limited to the enterprise level only, other effects create an impact on the regional business ecosystem. Moreover, while some effects are perceived as positive, other effects that might result from support to large enterprises can also be negative. Although this is only a list presenting key dimensions, it is able to highlight the complexity and diversity of changes that have to be considered.

²⁹ Compare Potter, J. et al. (2002) The wider effects of inward foreign direct investment in manufacturing on UK industry. In: Journal of Economic Geography Vol. 2, pp. 279-310; UNCTAD (2001) World Investment Report 2001: Promoting Linkages, United Nations Conference on Trade and Development: New York, Geneva; Blomström, M.; Kokko, A. (1998) Multinational corporations and spillovers, In: Journal of Economic Surveys Vol. 12 (2), S. 1-31

³⁰ Potter, J. et al. (2002) The wider effects of inward foreign direct investment in manufacturing on UK industry, in: Journal of Economic Geography Vol. 2, pp. 279-310.

List of potential 'impacts / changes' (positive / negative)
(indigenous & exogenous enterprises) (indigenous & exogenous enterprises)

Enterprise Level	
Positive	Negative
Continued and expanded production	Labour shedding
Increased labour productivity	Disinvestment and downsizing of production (displacement effect)
Access to investment capital	Transfer of R&D abroad (displacement effect)
Access to worldwide sale and distribution networks	Transaction costs (incl. costs of bureaucracy, procedures)
Transfer of technology and know how	
Growth of real income and value added	
Improved competitiveness	
Increased R&D	
Regional Economy Level	
Positive	Negative
Saving of existing jobs, creation of new jobs	Local dependency on large enterprises or foreign capital
Spillovers to local economy (productivity spillovers, market access spillovers, knowledge spillovers)	External control of local economies (esp. in case of exogenous multinational companies)
Increased wages	Attracting skilled and semi-skilled workers from local companies
Growth of real income and value added	Suppression or destruction of local firms unable to compete with firms supported by government investment incentives and benefiting from transfer pricing
Increased export base	Branch plant syndrome
Increased tax base and access to capital	De-skilling
Investment in physical infrastructure, R&D labs etc. and provision of social services to local communities	Regional specialisation in low-skilled, labour-intensive production
Strengthened competitive environment: Labour training, technological base, business services, absorptive capacity of regional economy, global signalling effects / visibility etc.	Suppression of the development of new indigenous enterprises
Increased opportunities for local companies to supply to foreign-owned companies (demand for local components)	Distorted market equilibrium

Evaluators, 2014 based on Cantwell & Iammarino (2003), Holm et al. (2003), Potter et al. (2002), Blomström et al. (1998).³¹

These findings are to be seen as a baseline for evaluating the effects of enterprise support to large enterprises in a holistic way.

³¹ Cantwell, J.; Iammarino, S. (2003) Multinational Corporations and European Regional Systems of Innovation. Routledge: London, New York; Holm U., Malmberg A. and Sölvell Ö. (2003) Subsidiary impact on host-country economies – the case of foreign-owned subsidiaries attracting investment into Sweden, Journal of Economic Geography 3, 389-408; Potter, J. et al. (2002) The wider effects of inward foreign direct investment in manufacturing on UK industry, in: Journal of Economic Geography Vol. 2, pp. 279-310; Blomström, M.; Kokko, A. (1998) Multinational corporations and spillovers, IN: Journal of Economic Surveys Vol. 12 (2), S. 1-31.

3.3.2 Empirical evidence on the effects of enterprise support for large enterprises

Public support to enterprises in business creation and development represents a pivotal component of EU Cohesion and Structural Policy and has seen a recent revival with the rediscovery of industrial policies across Europe and many OECD countries.³² However, evaluation evidence on large enterprise support from enterprise policy in Europe is still scarce, in particular rigorous and systematic evaluation efforts are missing. Nevertheless, as part of this literature review it was possible to identify a number of evaluation studies which explicitly or implicitly shed light on the effectiveness of large enterprise support from various measures in the EU (and beyond).

Evidence base

Overall, roughly 35 articles have been reviewed comprising scientific articles, policy evaluations (including meta-evaluations) and a limited number of project reports. Altogether, only one discussion paper³³ directly focuses on large enterprise support from EU regional funds, another three scientific papers look at the overall contribution of EU Cohesion Policy to multinational corporations alongside of a number of more recent papers focusing on industrial policy (often discussing the issue of enterprise sizes).³⁴

Evaluation methods utilised for the reviewed studies vary, covering production function models, logit and probit analysis (e.g. on location choice), regression discontinuity designs, difference-in-difference approaches (e.g. looking at participant-control differences in the acceleration of growth, rather than just growth differences), panel analysis utilising plant level data or social network analysis on the basis of questionnaire data. Thus, some elements of counterfactual analysis were covered in many studies and some additional insights adding to the meta-study on enterprise support of Mouque (2014) can be identified.³⁵

Mostly the reports covered focused on one country only, whilst a few studies provided evidence on greater regions (e.g. New EU Members States in Eastern Europe) or selected regions within a given country (e.g. Eastern Germany).

Types of large enterprise support

Based on the screened literature a broad range of **types of interventions** can be identified, the most analysed one, however, was “**direct investment support**” “to both small and medium-sized enterprises and large enterprises. Direct investment support measured covered here were defined as subsidies to induce additional investment and employment in the support firms and regions. These include mainly non-repayable measures, such as one-off support grants, tax and interest reductions. However, some were also repayable, such as low interest loans and equity.³⁶ Additional direct enterprise support measures reported cover the promotion of new investments by foreign-owned multinationals and indigenous-owned multi-plant groups using large grants (e.g. in the UK, using the

³² Compare e.g. Warwick, K. and A. Nolan (2014), “Evaluation of Industrial Policy: Methodological Issues and Policy Lessons”, OECD Science, Technology and Industry Policy Papers, No. 16, OECD Publishing. <http://dx.doi.org/10.1787/5jz181jh0j5k-en>

³³ Novotný, O.; Jabůrková, M. (2012) Large Enterprises in the European Economy and their Role In Regional Support Programs, Prague.

³⁴ Basile, R., Castellani, D., & Zanfei, A. (2008), “Location choices of multinational firms in Europe: The role of EU cohesion policy”, *Journal of International Economics*, 74(2), 328-340. The Contribution of Multinational Enterprises to the Upgrading of National Innovation Systems in the EU New Member States: Policy Implications; Breuss, F., Egger, P., & Pfaffermayr, M. (2003), “Structural funds, EU enlargement, and the redistribution of FDI in Europe”, No. 195, WIFO.

³⁵ Mouqué, D. (2012), “What are counterfactual impact evaluations teaching us about enterprise and innovation support”, *Regional Focus*, 02/2012.

³⁶ GEFRA / IAB (2010), „Ex post evaluation of Cohesion Policy programmes 2000-2006 financed by the European Regional Development Fund. Work Package 6c: Enterprise Support – an exploratory study using counterfactual methods on available data from Germany. Final Report, Münster: 5.

largest Regional Selective Assistance grant offers)³⁷ or the promotion of outward foreign direct investment.³⁸

In addition to this, from the literature review the **direct support for business investment in R&D** also emerged as an important field of action, e.g. supporting large enterprise R&D through grants or loans and loan guarantees to induce greater R&D activity and contribute to a socially optimal supply of privately funded R&D in the region. This can include support for individual research projects, support for financing R&D staff or grants for directly financing contract research.

Finally, policy packages such as the **support to clusters & networks** were identified as a relevant field of support, often involving large enterprises as target groups in this context. Support here relates to networking measures, joint R&D projects in clusters or support to human capital development or retention in cluster regions. For instance, in Germany as part of the “Leading-Edge Cluster Competition” large enterprises were major participants in regional cluster initiatives receiving support from both the German Federal Ministry of Research and Education and ERDF support from Operational Programmes of the individual Federal States.

All in all, these reported intervention types should not be taken as broadly representative because a selection bias could be existing due to the key focus of identifying evaluation evidence on large enterprises. Nevertheless, from the literature reviewed here these types of intervention emerge as very common and will be reflected on below.

Contribution of policies / programmes supporting large enterprises

At the heart of most evaluations on (large) enterprise support stands the question of what difference the programme made in direct economic terms. In other words, did the programme induce an additional economic effect on the supported enterprise which can be causally linked to this intervention (causal relationship)? In what follows, results from the literature review in the following **impact dimensions** will be presented:

- General economic impacts of large enterprise support
- Deadweight effects / costs of large enterprise support
- Effects on the durability of operations / stability of location
- Effects of direct support to R&D investments on large enterprises
- Effects of support to large enterprises in cluster & network measures

³⁷ Devereux, M. P., Griffith, R., & Simpson, H. (2007), “Firm location decisions, regional grants and agglomeration externalities”, *Journal of Public Economics*, 91(3), 413-435.

³⁸ Bannò, M., & Sgobbi, F. (2010). Firm participation in financial incentive programmes: The case of subsidies for outward internationalisation. *Journal of Policy Modeling*, 32(6), 792-803.

General economic impacts of large enterprise support

A number of studies have addressed the direct economic impacts of enterprise support schemes, including insights on support to large enterprises.

Generally, as results from meta-evaluations of Mouque (2012) and GEFRA / IAB (2010) show, investment subsidies from ERDF show a positive impact at the firm level. These positive impacts of investment subsidies are typically linked to a stimulus to investment behaviour and / or the increase of value added for assisted firms as well as, in majority, positive but typically modest productivity effects. Similarly, Atzeni and Carboni (2006) and Albareto et al. (2008) for Italy, using a difference-in-difference estimator, find that investment subsidies caused additional investments in assisted firms. For Spain, Duch et al. (2009), using a propensity score model, report that subsidisation of firms led to a higher value added growth on average than in non-assisted firms. Evidence on positive employment effects, however, are less clear, irrespective of enterprise size.

Criscuolo et al. (2012) shed some new lights on this, presenting evidence on direct enterprise support and its effects stemming from an investigation of the Regional Selective Assistance scheme in UK.³⁹ In fact, they present some new insights on key performance indicators and the causal impact of policies on them as well as highlighting important differences as regards to enterprise sizes. Overall, they discover a large and statistically significant average effect of direct enterprise support to both investment and employment. As reported there, a 10 % investment subsidy caused a 7 % increase in employment on the treated; roughly half of this in growing incumbent firms and half due to greater net entry in the region.⁴⁰ Findings on productivity, though, are different than reported by GEFRA / IAB (2010), highlighting that the overall evidence base on this indicator is less clear. Hence, Criscuolo et al. (2012) indicate that there “appear to be no additional effects on productivity after controlling for investment effects and, since less productive plants receive more subsidies, this implies that the programme lowers measured aggregate productivity because it increases the employment share of low productivity firms” (p. 18).

Yet, they show that the overall **“positive treatment effect” on investment and employment is confined to smaller firms with typically fewer than 150 employees. For large enterprises, on the other hand, they do not identify a direct additionality from support.** More precisely, they find that large enterprises that increase employment when a plant receives direct support from Regional Selective Assistance would have increased employment number also in the absence of the programme.⁴¹ However, as this support is likely to relax the overall financial situation of enterprises – including large enterprises – the authors still see it as possible that “even if larger firms do not expand employment at treated plants it is still possible that their total employment increases through expanding employment in untreated plants” (Criscuolo et al. 2012, p. 19).

These findings on differences in effects according to enterprise size are generally confirmed by other evaluations focussing on direct enterprise support schemes, while not addressing enterprise size directly in all cases. For instance, Haapanen et al. (2005) using a probit model and micro level data from Finland to understand the conditions under which the receipt of an investment subsidy is a necessary requirement for investment, show that the relevance of investment subsidies vary significantly depending on individual investment projects.⁴² Regarding enterprise characteristics they highlight that **investment subsidies are generally less important for firms with large overall turnover**, indicating that large enterprises are less dependent on these subsidies. However, they also show that the relevance of investment subsidies increases significantly with the size of the investment

³⁹ RSA, i.e. the Regional Selective Assistance, is an investment grant scheme with employment conditions given to enterprises in Great Britain located in “depressed areas”. It is open to both small and medium-sized enterprises and large enterprises with the condition to all recipients of support to create or safeguard employment in these areas.

⁴⁰ As Criscuolo et al. (2012) point out, these effects are underestimated if endogeneity is ignored, as the target group of the RSA scheme are firms and areas who would otherwise perform badly.

⁴¹ Criscuolo, C., Martin, R., Overman, H., & Van Reenen, J. (2012), “The causal effects of an industrial policy”, (No. w17842), National Bureau of Economic Research (p. 18).

⁴² Haapanen, M.; Tokila, A.; Ritsilä, J. (2005): “When are investment subsidies crucial for investments?,” ERSA conference papers ersa05p466, European Regional Science Association.

project and intensity of aid.⁴³ Duch et al. (2009) for Spain report that **diversified, central, and exporting firms** receiving support for direct enterprise support show **higher growth rates for value added** than non-supported enterprises, these characteristics, however, are only weak proxies indicating different enterprise sizes.⁴⁴ Finally, analysing supported and non-supported firms in East Germany using the Heckman selection model, Ragnitz (2003) shows that capital subsidies have a higher effect of approximately three times on the investment level (per employee) of supported firms compared to non-supported firms. But what also emerged is that these **results vary strongly by industry, as well as by firm characteristics such as age of the firm, ownership structure, and international orientation of sales.**

Finally, it should also be noted here that **other authors question the direct investment support to enterprises at all**, even to small and medium-sized enterprises. For instance, as Forstner and Koester (2014)⁴⁵ argue both theoretically and empirically, single-firm investment support does not address its core cause, i.e. the promotion of high employment, and is likely to result in great inefficiencies due to difficulties in monitoring and project selection.⁴⁶ Using evidence from the support of enterprises in the field of agriculture they overall find small effects. For Austria, for instance, it was found that farms with and without subsidies did not differ in key performance indicators such as changes in productivity and effectiveness. Similarly, in a synthesis of ex-post evaluations of the European Agricultural Fund for Rural Development (EAFRD 2000-2006), it was found that even though the measures supporting the competitive ability of firms seemed to have positive effects on the income level of the recipients, overall “significantly fewer positive impacts were found in the sector as a whole due to windfall gains, displacement and other effects” (IfLS and Kantor, 2011 cited in Forstner & Koester, 2014b, p. 3).⁴⁷ Although the empirical findings reported in this paragraph are referring to enterprise support in the field of agriculture only and are likely to differ in industry or services sectors⁴⁸, the main point made here is that even on the support of small and medium-sized enterprises the academic literature reports varying positions.

Deadweight effects / costs of large enterprise support

As argued by the High Level Group reflecting on Future Cohesion Policy⁴⁹, the risk of “deadweight” effect or costs, i.e. the degree to which the project would have been carried without public support, is specifically apparent in the case of large enterprises. This investigation is crucial, as a sole focus on the impacts of subsidised projects on enterprise behaviour or regional growth needs to consider, if there was an initial deadweight effect of the support scheme / subsidy. Generally, the imperative is: if a deadweight effect is large, the subsequent changes, such as enterprise or employment growth, are not relevant as the project or investment of the supported enterprise would have been implemented or generated without the subsidy as well.⁵⁰

⁴³ Interestingly, Haapanen et al. (2005) also find that investment subsidies are much more crucial for firms in distant regions compared to central locations, which can be relevant in analysing large enterprise support in the eight case study countries.

⁴⁴ Duch, N.; Montolio, D.; Mediavilla, M. (2009), Evaluating the impact of public subsidies on a firm's performance: a two-stage quasi-experimental approach, *Investigaciones Regionales*. 16 – Páginas 143 a 165.

⁴⁵ Forstner, B.; Koester, U. (2014a), EU-Investitionsförderung für kleine und mittlere Unternehmen in Südeuropa: empfehlenswert?, *Wirtschaftsdienst* 2014 | 9.

⁴⁶ The authors also argue from a methodological standpoint that only using firm-level evaluation approaches (e.g. difference-in-difference approaches) is not likely to deliver reliable evidence on the effectiveness of enterprise support as sectoral or macro-economic conditions are to be considered. Thus, net effects, e.g. in terms of employment, income, value added, could not be captured.

⁴⁷ Forstner, B.; Koester, U. (2014b), EU investment support for small and medium-sized enterprises in southern Europe: to be recommended?, *IAMO Policy Brief* No. 17.

⁴⁸ Indeed, as shown for instance by Prognos / Prof. Bade (2010) using a counterfactual impact analysis for the evaluation of direct enterprise support in the ERDF OP Bavaria 2007-2013, direct enterprise support has a significant effect on SMEs in terms of employment and enterprise growth (p. 238 ff.).

⁴⁹ DG Regional Policy and DG Employment (2011), “High level group reflecting on future cohesion policy”, Performance orientation for cohesion policy, Meeting No.9, 7 April 2011, Brussels.

⁵⁰ Compare Tokila et al. (2008) Evaluation of investment subsidies – When is deadweight effect zero?, in: *International Review of Applied Economics*, 22 (5), p. 585-600.

Stierwald and Wiemers (2003) report that while the analysed investment support scheme in Germany had a positive influence on investment of assisted firms they also found a deadweight effect of about 35 % with regard to investments per employee or of 28 % with regard to investments per turnover unit. Furthermore, a lot of research on deadweight effects has been performed by Tokila et al.⁵¹, using Finnish data on enterprise support. Generally, Tokila et al. (2008) and Tokila & Haapanen (2012) show that the **likelihood of zero deadweight effect is significantly dependent on the characteristics of the subsidised firm, the characteristics of the investment project and the location of the subsidised firm**. Hence, they find that the probability of zero deadweight is lower in lagging and peripheral regions.⁵² Moreover, they show that deadweight effects are generally smaller for new firms than for old ones, and that this effect declines with the size of the investment project.⁵³ Most importantly for the cause of this evaluation, Tokila et al. (2008) show that the **investment-bearing capacity** of the supported enterprise, i.e. the ratio of turnover to project costs, determines the deadweight effect of the investment subsidy **rather than the mere size of the firm**. Alongside with findings from earlier evaluations on EU funding a higher degree of deadweight can be detected for larger enterprises.⁵⁴ The given explanation is, that these firms are more likely to have access to other sources of funding such as bank loans.

Effects on the durability of operations & stability of location

The durability of operations and stability of location of supported enterprises is an important factor to consider when evaluating the contribution of enterprise support, be it from ERDF programmes or other measures. Both factors are closely linked as both are looking at the long-term benefits to regions where the supported enterprise is located.

In regulatory terms, the **durability of operations** is linked to Preamble 61 of the General Regulation which states: *“To ensure the effectiveness, fairness and sustainable impact of the intervention of the Funds, there should be provisional guaranteeing that investments in businesses are long-lasting and preventing the Funds from being used to introduce undue advantage”*.

Stability of location, on the other hand, is linked to Preamble 42 of the General Regulation: *“When appraising major productive investment projects, the Commission should have all necessary information to consider whether the financial contribution from the Funds does not result in a substantial loss of jobs in existing locations within the European Union, in order to ensure that Community funding does not support relocation within the European Union.”*

Unfortunately, the **existing evidence base from evaluations is scarce on both subject matters**, particularly in respect to evidence from the support from EU Structural Funds. To the knowledge of the evaluators, no study explicitly focussed on these topics while some evidence is presented from case studies or individual examples. For instance, with respect to large enterprises it was found for Spain (see also Chapter 3.4.8), that ERDF support targeted specifically to large enterprises in Castilla y

⁵¹ Tokila et al. (2008) Evaluation of investment subsidies – When is deadweight effect zero?, in: International Review of Applied Economics, 22 (5), p. 585-600; Tokila, A., & Haapanen, M. (2009). Evaluating project deadweight measures: evidence from Finnish business subsidies. Environment and Planning C: Government and Policy; Tokila, A., & Haapanen, M. (2012). Evaluation of deadweight spending in regional enterprise financing. Regional Studies, 46(2), 185-201.

⁵² In fact, the analysis by Tokila & Haapanen (2012) reveals regional differences in deadweight spending in proportional and, particularly, in monetary terms. As stated above, this deadweight spending is dependent on many firm-, project-, and regional-level factors, which also largely account for regional differences. However, they also find some regional variation in deadweight spending that originates from differences in the subsidy processes among regions. Interestingly, in monetary terms deadweight spending is on average highest in Assisted Area 1 (lagging region) and lowest outside the so called Assisted Areas in Finland. They find that this difference is not explained by the variation in the degree of deadweight (in %) but rather is due to difference in sizes of subsidies and projects in monetary terms. They conclude that allocating more resources to developed areas would therefore would not decrease wasted spending.

⁵³ Interestingly, Tokila et al. (2008) show that the industry dummy variables imply that deadweight effects differ by industry. The analysis suggests that deadweight spending is smaller for projects in wood manufacturing, transport, storage, communication and financial intermediation.

⁵⁴ European Commission (1997), Evaluation EU Expenditure Programmes: A Guide, Ex Post and Intermediate Evaluation, Budgetary Overview and Evaluation XIX/02, DG Budgets; Wren, C. (1998), Subsidies for job creation: is small best? Small Business Economics 10, 273-281.

León worth EUR 19.7 million contributed successfully to a safeguarding of existing jobs and even creation of new ones. Furthermore, the support encouraged the supported companies to remain in the region and not to delocalise factories out of the region or country.⁵⁵

Similarly, in terms of the durability of operations, one study could be identified that can help to shed some (indirect) light on this subject matter, including evidence differentiating by firm size. Nulsch (2014), using a new data set reporting all enterprises that have received rescue and restructuring aid from the EU in 2000 to 2010, finds that overall firms which received rescue and restructuring aid⁵⁶ show a higher probability to survive than firms in comparable difficulties which were not supported.⁵⁷ Interestingly for the purpose of this evaluation on large enterprise support is the following finding: although the overall effect of government support was positive, **smaller enterprises were found to have a higher chance to survive than larger enterprises** – even though the statistical evidence on this variable was not as strong as on others ones.

Regarding the issue of **location / relocation** only piecemeal evidence can be presented at this stage. For instance, Girma et al. (2008), using an econometric model for Ireland, show that while subsidies led to job additionality for “larger firms” in the manufacturing sector, i.e. job increases over and above the level that would have prevailed in the absence of grant payments, those grants did also play a role in **attracting foreign multinational companies** as well as influencing the scale and nature of operations within Ireland.⁵⁸ However, it must be noted that the study did not investigate the country of origin of the foreign multinational enterprise, i.e. relocation effects within Europe cannot be excluded, and, the authors defined large enterprises by employment perceiving firms with > 20 employees as large firms.⁵⁹ Moreover, they also found differences in the employment response to these subsidies: domestic owned-plants created more additional jobs per Euro of grant payment than foreign-owned plants.

Furthermore, Breuss et al. (2010) found that **EU Cohesion Policy was effective in attracting multinational companies** due to its support to more favourable conditions for investment in Peripheral Regions (esp. through funding training, infrastructure and R&D activities), thereby counteracting agglomeration forces which lead to a concentration of economic activities in Core regions.⁶⁰ Similarly, in another study on location choices of multinational companies in Europe Basile et al. (2008) shows that EU cohesion policy plays an important role in Eastern Europe. In fact they show that Structural and Cohesion Funds allocated by the EU to “laggard regions” in Eastern Europe have **contributed to attracting multinational companies** to these regions, while controlling for the role of agglomeration economies and a number of other regional and country characteristics as well as allowing for a very flexible correlation pattern among location choices.

Finally, first empirical evidence for Spain indicates that ERDF support also prevented large enterprises to delocate production facilities thereby safeguarding jobs.⁶¹

⁵⁵ El Norte de Castilla (2010), “Renault, Bridgestone and other nine companies from the region (Castilla y León) receive 19,7 millions € on grants” (“Renault, Bridgestone y otras nueve compañías de la región reciben 19,7 millones en ayudas”).

⁵⁶ Rescue and restructuring aid is seen as “one of the most distortive forms of aid” (European Commission 2006, p. 28). Hence, this type of aid “may in exceptional circumstances be justified by the countervailing benefits” (ebenda, p. 29).

⁵⁷ Nulsch, N. (2014) Is subsidizing companies in difficulties an optimal policy? An empirical study on the effectiveness of state aid in the European Union, *IWH Discussion Papers No. 9*, IWH Halle.

⁵⁸ Girma, S., Görg, H., Strobl, E., & Walsh, F. (2008). Creating jobs through public subsidies: An empirical analysis. *Labour economics*, 15(6), 1179-1199.

⁵⁹ While this definition is surprising, it indicates that the definition of large enterprises varies to a great extent depending on the country of investigation. While in Germany a firm with 20 or slightly more employees will be considered a very small firm, a firm with 1000 employees still counts for the “Mittelstand” and not as large enterprise. On the other hand, in countries like Hungary, Austria or Ireland, the definition for large indigenous enterprises seem to differ greatly.

⁶⁰ More specifically, Breuss et al. (2010) find that regions receiving a larger overall amount of Structural Funds and those belonging to countries eligible for the Cohesion Fund have been more attractive to foreign investors.

⁶¹ El Norte de Castilla (2010), “Renault, Bridgestone and other nine companies from the region (Castilla y León) receive 19,7 millions € on grants” (“Renault, Bridgestone y otras nueve compañías de la región reciben 19,7 millones en ayudas”).

Effects of direct support to R&D investments on large enterprises

Direct support measures to R&D investments have also been found to be an important intervention in respect to large enterprise support and also play an (increasingly) important role in EU Structural Funds. Generally, most evaluation evidence on direct support focuses on input additionality (i.e. the extent to which the support has induced new business spending on R&D), while less attention has been given to the effects on outputs, including innovation, employment and productivity.

Warwick & Nolan (2014) provide an in-depth review on direct support to R&D investments which presents the baseline here. Hence, as recent research from the OECD shows the direct support, i.e. subsidies, can induce additional business R&D. Interestingly, this result is only robust for data after 2000 and is explained largely by an increase in the effectiveness of direct R&D support, particularly the focus of subsidies on commercial R&D activities and involving a greater use of matching grants.⁶² These findings at the firm level can also be confirmed for Cohesion Policy support to innovation and research. For Czech Republic and Germany, Czarnitzki et al. (2011) using a difference-in-difference estimator, show that **firms receiving direct support to R&D and innovation activities from EU Cohesion Policy were able to increase their innovation activity** proxied by patenting activity and R&D intensity. Hence, this evaluation does not disentangle differences in effects regarding firm size of the recipients. For Germany, however, it was found that “firms benefitting from Cohesion Policy programme grants are more likely to introduce product innovations, are less likely to abandon innovation projects, spend more on R&D and innovation in general when compared to the counterfactual situation...” (Czarnitzki et al., 2011, p. 49)⁶³ – using a sample consisting of 21,849 observations⁶⁴, out of 11,443 were innovative firms and 623 received a public R&D subsidy from the EU Cohesion Policy. Another recent evaluation from 2014 on the Innovative Economy Operational Programme and the Infrastructure & Environment Operational Programme in Poland, focusing on large enterprises solely, finds positive impacts of EU-support.⁶⁵ In particular, projects focussing on improving large enterprise innovativeness were successful in increasing sales volumes, employment and total factor productivity.

Yet, only a few studies specify the distribution of impacts – often due to the great variation of programme designs – and, thus, Warwick & Nolan (2014) note that the given evidence on the distribution of impacts generally shows considerable skew. For instance, examining a sample of Spanish manufacturers, González et al (2005) estimate that “almost half of **large non performing firms** could be induced to perform innovative activities by financing less than 10% of their R&D, and one out of three small non-performing firms by financing up to 40% of their expenses”. On the other hand, Kuhn (2010) find for the Danish Innovation Consortium Scheme, that when including large firms in their sample, no potential programme effects can be identified.⁶⁶ When only looking at the sample including small and medium-sized enterprises, positive potential effects of the programme on gross profit and employment were found. More precisely, positive potential gross profit effects were found for enterprises with a gross profit below EUR 20 million, and a positive potential employment effect for enterprises with less than 150 employees (both in the year before programme). Kuhn (2010) concludes that “**for the largest participant firms, any effects of the programme are small relative to these firms’ large variations in the success parameters...**” (p. 6). At the same time, however, the author finds that the difficulty of “finding potential effects for large firms is likely to be due to a measurement issue, **and should not be taken as evidence of ICs having no effect for large firms.**” (p. 41). Thus, as the study of González et al (2005) indicates, also for large enterprises from the manufacturing sector direct R&D support is able to induce innovation activities, but the type of the large enterprise supported and the type of support must be taken into consideration.

⁶² Westmore, B. (2013), R&D, Patenting and Productivity: The Role of Public Policy, OECD Economics Department Working Paper, OECD, Paris.

⁶³ Interestingly, for Germany it was also found, that Cohesion Policy acted, due to its specific programme features, complementary to existing national funding schemes for R&D and innovation.

⁶⁴ Out of the 21,849 firms, 2,915 had 250 or more employees.

⁶⁵ PAG Uniconsult/ Ministry of Infrastructure and Development (2014): Effects of Cohesion Policy Support Targeted at Large enterprises in Poland.

⁶⁶ Kuhn, J. (2010), An analysis of firm growth effects of the Danish Innovation Consortium Scheme, Danish Agency for Science, Technology and Innovation.

The existing evaluation evidence on output additionality, i.e. an additional increase of productivity, innovation, employment and the introduction of new products, is not as clear. This is mainly due to the fact that output additionality is to a much greater degree influenced by a combination of factors, including firm-level capabilities, the direct R&D support and the availability of other forms of support. Thus, for the purpose of this evaluation it can be concluded that the **“influence on output additionality of firm-size, location, industry and other firm characteristics is less evident than with input additionality”** (Warwick & Nolan 2014, p. 14).

Like in direct business support measures, also for direct R&D support the question of **deadweight** effects and additionality of support is important, particularly when looking at large enterprise support. Here evidence varies on the extent to which public support substitutes for private R&D. As Warwick & Nolan (2014) argue, part of this variation is explained by study methodology as substitution effects are found more often in firm-level rather than industry or macro-level studies. For instance, in a meta-evaluation of 74 studies, Garcia-Quevado (2004) found that in 38 cases a complementarity between public support and private R&D was identified (in 17 studies = substitution effects, in 19 studies = insignificant results). Econometric studies can help to explain these findings, because many supported enterprises receive public funding precisely because they intend to undertake R&D. In fact, Guellec and van Pottelsberghe de la Potterie (2003) find that public and private R&D are indeed complementary, but become substitutes after a subsidisation rate of 20%. While the overall evidence from evaluations on direct R&D support is inconclusive, for the purpose of this evaluation an interesting finding seems to be quite robust as **various studies find that the additionality of direct R&D support is greatest for small firms as well as for firms in relatively low-technology sectors and firms in lagging regions.**⁶⁷ Thus, this direct support is also likely to relieve financing constraints of younger and smaller firms to a greater extent than of large enterprises.

Effects of support to large enterprises in cluster & network measures

Policy initiatives which aim is to foster the “clustering” of firms; i.e. a geographical concentration of companies in closely related business areas, are widespread and commonly used by policy makers in the EU. Despite its frequent implementation, cluster policies are often lacking comprehensive evaluations as the topic demands for a complex methodology. Nevertheless, a meta-assessment of available evaluations revealed that policy impacts for the clusters programs in general seem to be rather moderate and that studies which are considering long term impacts are almost not existent.⁶⁸

When discussing the support for large enterprises, the funding of cluster & network related projects also plays a crucial role as large companies are often identified to be important players in this setting as for instance illustrated by a study of Rothgang et al. (2014). The authors assess the impact of the “Leading Edge Cluster Competition” policy in Germany which is often co-supported by ERDF-funding in the respective Federal States for a limited period of time. In the 15 supported German leading edge clusters, around 40% of the companies were large enterprises with shares ranging from 19 to 93%. The authors highlight that **large enterprises are central actors of these supported clusters;** e.g. by using a network analysis they show their central role in regional innovation networks and outline their importance for regional innovation processes due to the global channels into knowledge networks. In fact, by analysing the network-related setting of the enterprises the authors stress that innovation spillovers were actively induced by large enterprises as they were often directly addressing other companies and research institutions to start co-operations. Due to support in the framework of the Leading Edge Cluster Competition-cluster, **companies were significantly increasing their R&D-activities.** However, as reaction to the support, **small and medium-sized enterprises were amplifying their R&D-expenditure much more than large enterprises** which lead to a leverage effect for small and medium-sized enterprises of 1,36 of the funding amount.⁶⁹ The explanation given for lower leverage effects for large enterprises was that these enterprises typically have fixed R&D-

⁶⁷ Cunningham, P., A. Gök and P. Laredo (2013), The Impact of Direct Support to R&D and Innovation in Firms, NESTA Working Paper, No.13/03.

⁶⁸ Warwick, K. and A. Nolan (2014), “Evaluation of Industrial Policy: Methodological Issues and Policy Lessons”, OECD Science, Technology and Industry Policy Papers, No. 16, OECD Publishing.

⁶⁹ Including all firms of the sample, i.e. SMEs and large enterprises, the average leverage effect equals approximately one; That is, even in this setting the support of the cluster initiatives led to increasing R&D efforts.

budgets (at least in the short run) which, even after successfully acquiring public support, cannot be extended beyond the amount of direct R&D support – whilst the likelihood of receiving public support might be anticipated. All in all, with regards to the positive effects of the cluster-funding, the authors recommend an involvement of both enterprise types in the supported cluster initiatives to stimulate regional innovation dynamics.

Also Cantner et al. (2013) investigated the impacts of the Leading Edge Cluster Competition policy in Germany and, like Rothgang et al. (2014), they found that most of the analysed clusters showed a “stronger orientation towards a few central actors”, i.e., larger enterprises. Interestingly, interviewed stakeholders were emphasizing that these developments were especially important for small and medium-sized enterprises which **“in general struggle with difficulties to get in contact with large firms”**. Hence, the integration of large enterprises in cluster initiatives helped small companies to get in touch with larger firms and consequently got a better chance to become a significant part of their value chain.

For Denmark, the Danish Agency for Science, Technology and Innovation (2011) was conducting an impact assessment of cluster policy for innovation clusters with data covering more than 1200 firms. The overall impacts of the policy were assessed to be positive as the innovation networks increased the companies' ability to innovate and collaborate on R&D. With regard to large enterprises, the authors revealed that larger companies⁷⁰ were over-represented in participating in innovation networks and reasoned their findings with the better absorption capacities of large enterprises and hence, higher probabilities to benefit from a participation in R&D and innovation networks.

Positive effects of cluster policy have also been found for the French case: Martin et al. (2011) for instance were one of the first authors analysing the **effect of cluster-policies on the firm-level** and found out that at least in the short run cluster policies led to productivity gains mainly through localization economies. The **firms benefiting the most** from the policies, though, were firms from **declining industries in regions with low income-levels and those already receiving more subsidies** than other companies. Unfortunately, the study does not differentiate with regard to the impact on the size of the company.

With regards to the presentation of results given in this chapter, often revealing rather positive effects of cluster-support, it has to be mentioned that there are also many studies which results are not so straightforward or positive: Warwick and Nolan (2014) for instance note that clustering might lead to the increase of land prices or congestion effects and hence, could become “self-defeating” and Nishimura and Okamuro (2011) found out that the analysed cluster-policy in Japan would not affect the R&D productivity.

In sum, even though there seem to be no studies which directly show the impact of cluster-support to larger enterprises, **it can be noted that cluster support in general can induce positive impacts and large enterprises often possess a vital function for the progress and integration of the cluster in global knowledge flows and induced positive spillovers to small and medium-sized enterprises.**

Discussion of current findings

Overall, the indication that the **effectiveness of direct enterprise support declines with firm size** is very much in line with what Mouque (2012) identified in a meta-evaluation on innovation and enterprise support in the EU. As he highlights, direct subsidies to small and medium-sized enterprises appear to be more effective than for large enterprises – a finding that consistently emerged for different policy instruments, in different context situation (i.e. different countries).⁷¹ In fact, findings from this literature review show that **general economic impacts on the enterprise level are generally lower for large enterprises while deadweight effects are much higher**. Evaluation evidence on the durability of operations and stability of location of supported enterprises, however, is much less clear, currently only giving indications that Cohesion Policy support overall is able to increase regional framework conditions, thereby attracting multinational companies to the regions (particularly in the new Member States in Eastern Europe). Yet, first empirical evidence for Spain indicates that ERDF support also prevented large enterprises to delocate production facilities thereby safeguarding jobs.

Likewise, for **direct R&D support** it was found that – even though Cohesion Policy successfully induced innovation with its support – it was **mostly confined to smaller enterprises**. However, as some authors find the lower effects from direct R&D support identified for large enterprises can often be due to measurement issues which are mostly linked to the vast number and variation of success parameters in larger firms that can affect key performance indicators measured in evaluations. As similar finding can be reported from evaluation evidence on cluster and network policies as regard their effects on large enterprises. Whilst overall evidence differentiating enterprise sizes is rare, it was found that **cluster support in general can induce positive impacts and large enterprises often possess a vital function** for the progress and integration of the cluster in global knowledge flows and induce positive spillovers to small and medium-sized enterprises.

Overall, explanations given in the literature, in particular on low economic effects and high deadweight costs, primarily focus on the **behaviour of large enterprises** and their utilisation of public funds. In addition, Bannò & Sgobbi (2010) find that "firms with higher managerial skills and firms with past successful applications to the same programme are more likely to obtain an incentive", a statement that is very likely to correlate with enterprise size and, thus, can serve as a proxy for large enterprises.⁷² Even more direct, Criscuolo et al (2012) conclude that "...this [lack of impact for large enterprises] is due to larger firms being more able to 'game' the system and take the subsidy without changing their investment and employment levels, possibly combined with financial constraints for smaller firms" (p. 7).

Moreover, it is important to specify clearly the **focus of analyses** behind the majority of studies that reach this conclusion, i.e. **direct enterprise support looking at direct effects at the firm level**. On the one hand, as Forstner & Koester (2014) argue from a methodological standpoint, evaluations only using firm-level approaches (e.g. difference-in-difference approaches) are not likely to deliver reliable evidence on the effectiveness of enterprise support as sectoral or macro-economic conditions are to be considered. In other words, with these approaches, net effects in terms of employment, income, value added, could not be captured in the first place.

On the other hand, the evaluation of direct support to large enterprises – to provide a holistic picture – also needs to **investigate the indirect and wider benefits** of their support. Currently, a very limited number of evaluations presents evidence on these impact dimensions. This can largely be explained by the focus of these evaluation reports, often investigating effects at the enterprise-level only, thus not covering impact chains that would enable one to detect these indirect and especially wider effects, or studying measures that are not specifically targeting at creating these indirect and wider benefits.

⁷¹ Please also see the country reports in Chapter 2.3 that have included some of the evaluation reports cited by Mouque (2012; e.g. Bondonio and Martini 2012 for Italy).

⁷² Bannò, M., & Sgobbi, F. (2010). Firm participation in financial incentive programmes: The case of subsidies for outward internationalisation. *Journal of Policy Modeling*, 32(6), 792-803.

Some indication can be found in Criscuolo et al (2012), however, focusing on **wider effects at the regional economic level**. They find that support to large enterprises, i.e. enterprises with more than 150 employees, had a statistically insignificant and even negative impact on regional employment and the number of firms in the region. However, while regional employment levels can be linked to both, the development of larger enterprises with high employment shares and their support, and the development of the number of other enterprises in the region could be influenced by large enterprises (e.g. both negatively or positively) it is important to acknowledge here that the Regional Selective Assistance measure studied by Criscuolo et al (2012) is targeting depressed areas with major structural deficits in their regional economy.

What clearly emerges from the literature review, both from general evaluation evidence and from country-reviews, is the **great diversity of findings regarding the effectiveness of large enterprise support**. In particular empirical findings that the effectiveness of direct enterprise support (including direct support to R&D investments) tends to vary strongly by industry and firm characteristics (e.g. age of the firm, ownership structure, international orientation of sales) or that the likelihood of zero deadweight effect is significantly dependent on the characteristics of the subsidised firm, the characteristics of the investment project and the location of the subsidised firm, **clarify the need for further evaluation evidence**. In addition, more in-depth assessments on the underlying factors leading to these differences in findings and conditions for the interventions to be effective need to be conducted.

All in all, this highlights the **need for a differentiated assessment and interpretation** of direct enterprise support targeted at larger firms. As the review of general evaluation evidence shows, whilst for direct effects of large enterprise support there seems to be quite prolific quantitative evaluation evidence (at least when looking at micro-level effects only), more insights on the “effect packages”, including indirect and wider effects, of large enterprise support are needed alongside with in-context assessments on the underlying factors that determine the effectiveness of this support.

To conclude, a few **limitations** of this literature review should be noticed: whilst limitations of the reviewed literature sources and evaluations were collected systematically, no overarching judgement on their soundness, robustness or liability can be easily presented due to the variety of sources studied here. Nonetheless, throughout the literature review presented here limitations of specific studies, such as differences in underlying definitions of large enterprises, problems of representativeness of findings or restrictions of “final conclusions” due to time-lag effects, were reported. Furthermore, by including a great number of peer reviewed or highly-cited articles, particularly in the general section of the literature review, the problem of soundness of findings is at least to some degree counterbalanced.

3.4 Current evidence on large enterprise support in the eight case study countries

Below, the key findings of the literature review on the country level are reported. For each of the eight case study countries the **following findings will be presented**:

- Description of the available evidence base on large enterprise support (including counterfactual impact evaluations)
- Summary on the types of interventions, contribution of programmes, underlying impact chains and examples on large enterprise support (if applicable)
- Description of major context factors that influenced programme performance in the eight countries (where relevant)

Overall, this evidence serves as an important baseline for the country case studies, alongside with the Theories of Change, which have been developed upon these findings from the literature review and selected background interviews with key stakeholders.

3.4.1 Austria

The literature review on enterprise policy and effects of large enterprise support of Austria is mainly based on policy and programme documents as well as on programme evaluations and one scientific article. The reviewed literature accounts for the period 2007-2013, apart from the scientific article which analyses data from 2000-2006. Counter-factual impact evaluations could not be found, and hence are not included in the review. Methods such as model simulation, expert reviews and qualitative interviews with key stakeholders were applied. The analysed literature addressed large enterprises as well as small and medium-sized enterprises. The **funding of large enterprises** seemingly plays a considerable role in Austria. In recent years around 80 % of total ERDF allocation has been granted to “enterprise environment”.⁷³ In 2011, 45 % of the enterprise funding support was absorbed by large enterprises.⁷⁴ In 2013 around 3,200 enterprises took part in supported projects of which 25 % were large companies.⁷⁵

Based on the screened literature a broad range of **types of interventions** are implemented to foster small and medium-sized enterprises and large enterprises, however, the most frequently mentioned were “direct investment support” and “R&D-infrastructure”. According to the evaluation on the performance of Cohesion Policy, innovation related investment projects in companies were the second most important interventions in financial terms in 2013 and 2012. 30 % of the support was granted to large enterprises.⁷⁶ Among the further types are: business infrastructure, network & clusters, consulting services/advisory services, qualification/training and environmental innovation and infrastructure as well as start-up support.

⁷³ See Andreas Resch, Isabel Naylor (2014): Expert Evaluation Network Delivering Policy Analysis on the Performance of Cohesion Policy 2007-2013. Year 3 - 2013, Andreas Resch, Isabel Naylor (2013): Expert Evaluation Network Delivering Policy Analysis on the Performance of Cohesion Policy 2007-2013,

Task 2: Country Report on Cohesion Policy. Year 2 – 2012, Andreas Resch, Isabel Naylor (2012): Expert Evaluation Network Delivering Policy Analysis on the Performance of Cohesion Policy 2007-2013,

Task 2: Country Report on Cohesion Policy. Year 1 – 2011, Andreas Resch (2010): Expert Evaluation Network Delivering Policy Analysis on the Performance of Cohesion Policy 2007-2013, Task 2: Country Report on Cohesion Policy.

⁷⁴ Österreichische Raumordnungskonferenz (ÖROK) (2012): STRAT.AT Bericht 2012 - Strategischer Bericht Österreichs gemäß Artikel 29 AV-VO (EG) 1083/2006, Vienna, p. 22.

⁷⁵ Compare Resch & Naylor (2014), p. 23

⁷⁶ Compare Resch & Naylor (2014). p. 27 and Resch & Naylor (2013), p. 18.

Direct investment support and R&D-infrastructure is mainly **targeted** to improve regional competitiveness and create innovative regional structure by tackling problems such as lack of research institutions, lack of technological transfer structures or lack of innovative awareness as well as fostering new (high-tech) technologies and fields of growth and gathering know-how – targeting both large enterprises and small and medium-sized enterprises. The overall **desired final changes** are, among others, to be described as follows: creating new jobs, increasing the intensity of innovation R&D in companies, creating an attractive business location/attract strong technology-based companies, opening up new markets and adaptation of companies to structural change.

Most papers stated as programme **outcomes** the successful creation of new jobs or maintenance of jobs. Some literature states that the ERDF generated an increase in national gross value added for Austria or with respect to regional net product, e.g. in Burgenland by EUR 65.7 million.⁷⁷ Moreover, Eurostat statistics indicate that regional R&D expenditure has risen continuously in Austrian regions over the period 2002 to 2009.⁷⁸ As described above, innovation related investment projects play a major part in the invention strategy for Austrian companies including large enterprises. By 2013 about 220 innovation related investment projects were approved and 155 implemented, and hence new products and innovative technologies created. Further, the evaluation of the (regional) impact of funding support for innovative investment projects in a leading large enterprise in Carinthia using an input-output-analysis, shows that the development of the region was directly linked to the growth of the company and that there were large spill-over effects as regards supply chains, cooperation, research and further education and training (e.g. the investment of EUR 509 million resulted in a gross production value in Carinthia of EUR 679 million which amounts to 3.6% of the Carinthian gross production value).⁷⁹ Additionally, according to the evaluation on Cohesion Policy an important funding support with respect to large enterprises is to be ascribed to advanced support, covering e.g. company organisation and use of technologies and innovation. About 6,600 “soft projects” (i.e. advisory services covering company organisation, environmental management, use of technologies and innovation) had been approved and 6,300 implemented by the end of the year 2012. About 17 % of the services were introduced in large enterprises. A comparison of enterprises in Lower Austria shows that those enterprises that had received the Technology and Innovation Partners support service had achieved 10% growth in turnover whereas in those not supported turnover had grown by 1% two years after participation.⁸⁰

Different underlying **impact chains** are described in the literature, such as innovation-oriented or know-how based strategies as well as export-based strategies. In line with innovation-based/know-how based strategies, improvement of innovation structure is a key element to economic competitiveness in Austria. To achieve competitive advantages it is argued that new investments in machines and facilities or replacing old structures will result in more/additional production capacity and/or a cheaper production process. Furthermore, an expansion of R&D and innovation capacities creates a basis for research. This ought to result in the development of new technological sectors and gathering of know-how, and thus market-relevant innovations are developed. Export-based strategies focus on expanding activities in foreign markets, which with respect to Austria are mainly Eastern and Southern Europe. Due to export activities regional growth can be induced, thanks to additional earnings, which in turn may increase local production and income.

The applied strategies and interventions are to be analysed with respect to the **national economic context** in recent years. Like many other (European) countries, Austria was effected by the global economic crisis, although slightly less than the EU-28 as a whole. Subsequently, the impact of the crisis leads to constraints in production and a decline in investment from enterprises. Furthermore, because of the need of fiscal consolidation, the capacity of government regarded public investment

⁷⁷ Austrian Institute of Economic Research (2009): Erste Analyse der Wirkungen der EU-Regionalpolitik in Österreich and Regionalmanagement Burgenland GmbH (2011): EU-Förderungen im Burgenland - Umsetzungsbericht. Programmperiode 2007-2013.

⁷⁸ See Resch & Naylor (2014), p.

⁷⁹ See Resch & Naylor (2013), p. 17 and Clemens Habsburg-Lothringen et al. (2013): EU-Förderprogramm für Kärnten 2007–2013 - Das Jahr 2012. Kärntner Wirtschaftsförderungsfond and JOANNEUM RESEARCH, p. 96

⁸⁰ See Resch & Naylor (2014), p. 23.

declined. While the Austrian economy recovered relatively rapidly compared to other (European) countries, it is suffering from the overall weakening of the EU economy. Thus, a lack of export driven demand and a constantly growing competition and innovation pressure due to the difficult economic situation developed. Moreover, changes in the European structure of business location due to frontier opening towards Eastern Europe increased the competitive pressure. The crisis and the national fiscal situation have an impact on the implementation of ERDF funding. Given the reluctance of the enterprises – caused by the crisis and despite the economic recovery – to invest in large, risky projects, which are the focus of the ERDF programmes (grants are the key form of interventions for enterprises), funding applications declined.

3.4.2 Czech Republic

The information about enterprise support in Czech Republic is based on 10 different documents which are often policy reports or evaluations referring to the 2007-2013 period. Whereas the evaluations have no focus on large enterprises and consider only enterprises as a whole, one short report is entirely focussing on the impact of large enterprises on the Czech economy. However, one shortcoming for our investigations is that the report does not focus on ERDF-funding. Further evidence on large enterprise-funding can be found in a working paper released by the Prague faculty of economics, giving a specific example of successful large enterprise-support in the Brno City Municipality. Additionally, the results of the country report on achievements of cohesion policy have been taken into account.

In most of the considered examples, the **type of intervention** was related to R&D-infrastructure. For instance, in the operational programme it is mentioned that LEs could get support mainly via priority axis 2 which focuses on the development of firms and intends to increase the competitiveness of companies through the implementation of new production technologies and furthermore by intensifying the ICT-technologies. In addition, for large enterprises also technology axis 4 (Innovation) which intends to strengthen innovative activities of firms in general is important. Hence, the **target of the intervention** was often the sluggish innovation performance of the industry and service sectors with the aim to bring it closer to the level of leading industrial EU member states. Additionally, the actions were seeking to improve the lack of ICT solutions and to foster job creation in the tertiary sector.

Novotný and Janburková⁸¹ refer in a case study to the example of large enterprises support in Brno City Municipality which experienced a decline in employment and growth mainly due to the collapse of the manufacturing industry in the 1990s. The respective investment scheme set up by the municipality was focussing on the attraction of mainly large investors, offering them inter alia investment support. Nowadays, the overall impact of the large enterprise-support is assessed to be positive as the economy of the Brno City Municipality is completely restructured according to the authors of the paper.

A paper which is not focussing on the support but on the general impacts of large enterprises on the Czech economy, is the study of Damborský and Hornychová⁸² putting forward the important role of large enterprises as drivers of economic development and innovation. The latter aspect is linked to the ability of large enterprises to actually fund research and consequently to create a demand for research in research institutions, their role in attracting and establishing high skilled workers and hence, contribute to the transmission of knowledge. Furthermore the document shows that in the Czech Republic, the investment support (often through tax incentives) is dominated by large enterprises as illustrated by the given figures: The highest volume of investments for small and medium-sized enterprises was only about 6,1% of the total supported investments (in 2006) whereas for large

⁸¹ Novotný, O. and Janburková, M. (2012), "Large enterprises in the European Economy and their role in regional support programs", Working paper Faculty of informatics and statistics, University of economics Prague & Confederation of Industry of the Czech Republic.

⁸² Damborský, M. and Hornychová, T. (2014): "The impact of large enterprises on the economy of the Czech Republic".

enterprises it was 93,9%. Referring to several projects conducted by large enterprises in the Czech Republic, the authors additionally emphasize their social and environmental impacts in the context of corporate social responsibility actions and its wider consequences for the communities, society and infrastructure.

A study of the Berman group⁸³ confirms the important position of large enterprises in the Czech economy – besides their impacts on growth, with regard to job creation, large enterprises would be twice more successful than small and medium-sized enterprises. Another report of the same institution emphasizes the important links with small and medium-sized enterprises: In Czech Republic, the cooperation between small and medium-sized enterprises and large enterprises would be often symbiotic and smaller enterprises would benefit from the increased business activities of large enterprises.

Another point which is mentioned in the study of Damborský and Hornychová is the fact that due to global pressure, there exist a lot of relocation tendencies of large enterprises which might be able to embark with investment support.

Although the crisis had almost no impact on the implementation of Cohesion policy support for transport and environmental infrastructure, this could not be confirmed for the Operational Programme Enterprise and Innovation (**context situation**). As a consequence, several re-allocations have been made. For instance in 2013, the Commission approved the shift from indirect business support in favour of direct support to businesses.

3.4.3 Germany

Information about large enterprise support in Germany was mainly taken from the relevant funding guidelines and policy evaluation studies in the periods 2000-2006 and 2007-2013. In total, about 15 documents have been analysed. The evaluation studies mostly discussed the impact of enterprise-funding in general whereas the specific discussion of large enterprise support was rarely specifically featured - rather there was a focus on small and medium-sized enterprise-funding. The **methodological scope** contained data analysis, interviews and two counterfactual analyses (both of them were for Western Germany and not differentiating between large enterprises and small and medium-sized enterprises). As the support of large enterprises in Germany was concentrated on projects located in Eastern Germany, mainly federal states situated in the respective area are in the focus of the country case studies of this report.

The ERDF-support for large enterprises was mostly combined with national funding under the Joint Agreement for the Improvement of Regional Economic Structures or granted under guidelines specifically focussed on the support of R&D-related investments. With regards to the **types of intervention**, large enterprises were mainly supported with non-refundable grants provided for investment projects such as the establishment or extension of plants, diversification of the production or equipment and material linked to science-related projects - depending on the particular guidelines of the federal state. Besides the expenditure for tangible assets, spending for wages or contract research were often also considered as eligible costs. The **interventions were primarily targeting** the low employment rates, the relatively limited capital stocks or the low level of R&D activities.

Hence, the **desired final changes** of the funding in general were often the creation and safeguarding of jobs and a strengthening of the capital stock as well as to increase the R&D activities. However, the funding of large enterprises' projects was frequently linked to the condition to have a significant national interest with regard to the federal state and to have an incentive-effect⁸⁴. Consequently, with

⁸³ Berman Group (2010): „Analysis of material priorities and needs of different areas of MIT for the targeting of support from the EU Structural Funds in the next programming period (2014 +)“.

⁸⁴ Thüringer Staatsanzeiger (2012): Guideline: Firm-specific technology-support.

the *support of large enterprises*, policy-makers often expected larger leverage effects with regard to investments and hence a stronger stimulation of growth and employment compared to smaller companies. A thematic evaluation of research, development and innovation-support in Saxony-Anhalt for instance revealed that the supported large enterprises made the highest contribution to job creation and were responsible for 70.6% of the overall employment growth.⁸⁵ Similar results were found in an evaluation of the enterprise-funding (Joint Agreement for the Improvement of Regional Economic Structures in combination with ERDF) in Lower Saxony in which the supported 4% large enterprises were responsible for 30% of investments and 20% of created jobs (in the 1998-2006 period).⁸⁶

In several federal states, large enterprise support was considered as a way to establish a healthy economic structure and the supported large enterprises were mentioned as a systematic component in a wider regional context. In Saxony for instance, three of the supported large enterprises are considered as exceptionally research-orientated companies which are an integral part of the innovation system in Central Saxony. In Thuringia, about nine of the supported large enterprises are part of the leading edge cluster *cooptics* which aims to establish the region as a driver for innovation in the optical industry.

Besides the expected larger leverage effects due to size and financial resources, large enterprises were also often linked to their innovative capabilities based on own in-house R&D facilities. Hence, the higher intensity of R&D-activities is seen as a source for innovation in the region, letting local small and medium-sized enterprises and research partners benefiting from knowledge-spill overs and contribute to the regional innovation capacity and employment growth in the long-run like for instance stated in the Operational Programme of the Free State of Thuringia.

The ERDF-funding was also used to attract large global and multinational firms. A subsidiary of a large manufacturer of tractors and farm equipment from the United States acquired the premises of an insolvent company in Germany. For the construction and renovation work as well as the purchase of new machinery and equipment, the company is initially invested approximately EUR 16.7 million. Almost three million of them stem from the Joint Agreement for the Improvement of Regional Economic Structures /EU-funding.

Despite a great catch-up over the recent years, most regions of Eastern Germany are still lagging behind their Western counterparts with regard to economic indicators such as growth and employment rates. Other important **context factors** are the demographic developments and external migration which are expected to have aggravating effects in the future. This might be especially constraining for the realisation of positive effects expected from R&D-related support as the availability of qualified labour force is crucial. In addition, the economic and social landscape of Eastern Germany has a lower stock of industrial companies in the area of high and cutting-edge technologies and is often characterized by larger disparities across regions. In several reports, the small-scale corporate structure (in Saxony-Anhalt for instance around 95 percent of businesses employ less than 50 employees) is made responsible for the alleviated economic success compared to Western Germany and might explain why the attraction of large enterprises has given higher priority. However, as Germany as a whole recovered quite quickly after the crisis, development policies or the actual development of the regions were not affected according to the country report on achievements of cohesion policy in Germany.

85 Ramboll (2011): Thematic evaluation of the Research, development and innovation-support. European Structural Funds Saxony-Anhalt 2007-2013.

86 Prognos AG/ NIW/ Bade (2010): Enterprise-level performance review of firm support from GRW and ERDF 1998-2008: Growth and employment effects for Lower Saxony:164.

3.4.4 Hungary

In Hungary several data sources have been available: Policy evaluations, scientific articles, project reports as well as policy & programme documents. In these sources, **various methods** have been used such as econometric analysis (for example regression with a control group (pairing model), difference in difference type of regression), database analysis and case studies.

Next to direct investment support, R&D-infrastructure, qualification and training and environmental infrastructures have been supported. According to this wide range of **intervention types**, several **targets** have been attempted such as the development of corporate research infrastructure related to the creation of new research places as well as improving the firms' investments and thereby their competitiveness. Furthermore, the development of sub-regions and the reduction of economic disparities among the regions as well as the development of environmental infrastructure, an increase in energy efficiency and environmental protection for sustainability are mentioned as targets of interventions.

Desired final changes for large enterprises can be described as follows:

- expansion of capacity through further development of research centres, maintaining and providing jobs
- strengthening of R&D activities of enterprises, developing infrastructure, developing new R&D capacities and research centres
- facilitate the implementation of innovative ideas and a special focus on the cooperation between large enterprises and small and medium-sized enterprises
- increase in employment, competitiveness, investment, income production capacity
- increase in GDP per capita in disadvantaged regions, reduction of disparities among regions

Interesting empirical results for Hungary could be achieved. In order to attract R&D capacities and to develop already existing research centres as well as to promote the market entry of newly developed products, all in all eight large enterprises were granted. One finding is that R&D development would also have happened without the support of large enterprises. Nevertheless, positive employment effects could be achieved. Furthermore, the support entailed a number of intended and non-intended effects, like commitments towards development, improvement of image among the partners and on the markets and in some cases scientific recognition⁸⁷. A further study addressed the resource allocation mechanism of the first National Development Plan in Hungary and focused on experiences of the seven sub regions. One finding is that larger and already developed regions were more successful in applying for support and that large enterprises were more successful than small and medium-sized enterprises in obtaining development funds.⁸⁸

The argumentation of an **impact chain** starts at a still low level of R&D investments, low activity of enterprises on research and innovation and discrepancies between the sectoral and regional distribution of R&D. Based on this starting point, support granted for R&D shall lead to a higher activity level of enterprises and a reduction of regional inequalities. Hence, granting support for enterprises may lead to an increase in economic performance (employment, competitiveness, income production capacity, investment) and may attract foreign direct investment, which could make the region able to compete with national and foreign regions. In addition, investments in developed infrastructure may increase regional cohesion, energy efficiency and a reduction of energy dependency and thereby increase national competitiveness. This will in the end also support the need to fulfil the requirements of the Zeus Lisbon strategy.

The most important influential **context factor** has been the economic crisis. Due to that, the number of successful applicants in the Economic Development Programme decreased. In general, the amount

⁸⁷ KPMG (2010): The evaluation of ECOP 3.3 measure; evaluation report.

⁸⁸ Csengődi et al. (2006): Resource allocation mechanism of the I. National Development Plan: Experiences of the seven sub regions.

of support granted to enterprises by the government (EU and government support) was showing a decreasing trend till 2009 when extra support was given to ascertain that companies can tackle the effect of the crisis. After 2010 the amount of support measured by percentage of GDP dropped back to its pre-crisis level.⁸⁹

3.4.5 Italy

The analysis for Italy is based on policy evaluations of cohesion policy in the periods 2000-2006 and 2007-2013. Mainly these papers addressed the support for both types, large enterprises and small and medium-sized enterprises. Different **methodological approaches** and econometric techniques were used, such as counterfactual and panel analysis as well as document analysis.

All analysed cases in Italy have in common that direct investment support (non-refundable support, interest rate subsidies, credits, guarantees, national funds) were handed out to the companies. When specified, the targeted sectors have had a wide range (industry-, transport, agro-industry, handicraft, tourism, agriculture and commerce).

Desired final changes can be described as follows:

- development of the existing enterprises and productive units in the Convergence Regions
- localisation in the Convergence Regions of new enterprises or productive units
- improved productivity
- improved product and process innovation, improved R&D investments and transfer of research results to enterprises
- sustainable development
- requalification of non-employed or dismissed areas
- realisation or consolidation of chains
- development of specific sectors
- stimulation of enterprise investments

Actual **results** of how effective the granted support has been vary. On the one hand, findings contribute to the intervention logic, that firms' investment choices can be influenced and that subsidies cause changes in desirable outcomes (employment, sales, and investment). One finding is that supported enterprises (small and medium-sized enterprises and large enterprises) spend more in R&D than not supported ones and that they obtain additional positive results in terms of product, process and service innovation.⁹⁰ For example 42.5% of enterprises have responded in interviews that they would not have realised the investment without the public incentive (additionality of the investment). On the other hand there is very interesting evidence with focus on large enterprise support which contradicts the intervention logic: whereas positive impacts of the intervention were consistent and significant for micro firms, small firms and medium firms, the results do not hold for large firms where impacts were insignificant or even negative. These findings support the contention that public money should be spent on supporting enterprises that face some market failure, such as difficulties in getting access to credit. According to the study results, large non-repayable grants, particularly when given to large firms, represent an ineffective way to stimulate additional private investment and to improve the performance of the subsidized firms.⁹¹ Small grants given to small firms have small impacts, but when all the dimensions are taken into account, they are more cost-effective. Further studies support these findings and also find no evidence of the programme's effectiveness. In

⁸⁹ Kállay (2014): Government support and economic performance: Support- overdose in the Hungarian economic development?

⁹⁰ PromuovItalia / Ministry of Education, University and Research(2014): Evaluation n.3 - Effects of incentives for innovation on the innovation capacity and the development of enterprises - Intermediate evaluation report on the programming period 2007-2013.

⁹¹ European Commission (Associazione per lo Sviluppo della Valutazione e l'Analisi delle Politiche Pubbliche (ASVAPP)), Martini and Bondonio (2012): Counterfactual impact evaluation of Cohesion policy: impact and cost-effectiveness of investment subsidies in Italy.

the case of supporting large enterprises there is a higher risk that public funding simply substitutes private funding.⁹² This problem of crowding out of private investments of large enterprises, i.e. that subsidised lending is used as substitute for bank loans, has been identified as being one reason why the impact of lending programmes in Italy have been modest.⁹³ A further finding was that the cost per job created increases steadily with the size of the grant. Soft loans and interest rate subsidies are more cost-effective in creating employment and promoting additional sales than non-repayable capital grants.⁹⁴

The need of an intervention and hence the argumentation for the beginning of an **impact chain** can be summarized in a weak productive system and less innovative enterprises in the Convergence Regions. Furthermore, market failure (credit rationing) in R&D investments and low private investments in research and innovation, together with low demand by the enterprises of research and innovation can be stated. Hence, enterprises are generally interested to invest, but do not obtain credit from the private market. In order to overcome this situation, public incentives for investment stimulations have to be addressed (for example simplification of procedures as a necessary condition for public support to be efficient). According to this logic, productive systems can be developed and research and innovation stimulated. This in turn has got a positive influence on private investments and is followed by economic convergence in the end. Further arguments are that social returns from innovations are usually greater than the private ones (positive externalities) and that private firms allocate fewer resources to it than the social optimum would require. Therefore, this gap between private and social returns can be reduced by public subsidies.

Italy has specific **context factors** which have to be kept in mind by the interpreting the performance of programmes. Mainly, the Italian economy is currently still facing a severe crisis. This crisis is caused by long term, unresolved structural issues, further sharpened by the international recession. This is the main reason why significant reductions in regional, social and economic disparities over the next few years are unlikely. Furthermore, there is a gap between the northern and southern regions. The southern regions increasingly lose ground due to their higher vulnerability, poorer financial conditions and uncertain investment conditions. Finally, the economic crisis changed the attitude of the enterprises, which has led to reduced investments and expenditure for R&D. By consequence, programme schemes, even if highly appreciated as shown by the high number of requests, have been less employed and programme expenditure and the number of project concluded slowed down. Therefore, some procedures in the administrative structure of the programming period 2007-2013 have been simplified in order attract companies and projects.⁹⁵ Nevertheless, the expenditure in the ERDF Operational Programmes in Italy have been unsatisfactory. At the end of October 2013 about half the funds had yet to be spent. As main reasons for this the overlapping between programming periods, a lack of political continuity (at national and regional level) and a loose and too wide set of priorities have been identified.⁹⁶

⁹² Banca d'Italia (Guido de Blasio, Davide Fantino and Guido Pellegrini) (2011): Evaluating the impact of innovation incentives: evidence from an unexpected shortage of funds.

⁹³ European Commission (Applca, Ismeri Europa) (2012): Expert evaluation network delivering policy analysis on the performance of Cohesion policy 2007-2013 - Task 1: Financial engineering - Italy

⁹⁴ European Commission (Associazione per lo Sviluppo della Valutazione e l'Analisi delle Politiche Pubbliche (ASVAPP)), Martini and Bondonio (2012): Counterfactual impact evaluation of Cohesion policy: impact and cost-effectiveness of investment subsidies in Italy.

⁹⁵ PromuovItalia / Ministry of Education, University and Research(2014): Evaluation n.3 - Effects of incentives for innovation on the innovation capacity and the development of enterprises - Intermediate evaluation report on the programming period 2007-2013.

⁹⁶ European Commission (Applca, Ismeri Europa) (2013): Expert evaluation network delivering policy analysis on the performance of Cohesion policy 2007-2013 - Task 2: Country Report on Achievements of Cohesion policy – Italy.

3.4.6 Poland

The analysis for Poland is based on 12 different documents – mostly policy evaluations but also short reports and scientific articles - which cover single regions as well as the country as a whole. The evaluations sometimes refer to selected measures released within the framework of the ERDF-funding such as the support of innovations (measure I.3) or the innovative economy (measure 1.4. - 4.1). Besides the majority of the studies which likewise consider large enterprises and small and medium-sized enterprises, one evaluation exclusively assesses the effects of cohesion policy support targeted at large enterprises.

The **methodological and technical approaches** range inter alia from desk research, a quasi-experimental design, and two studies that were also based partly on a counterfactual impact analysis.

Similar to several of the other countries, the **type of intervention** mostly used was direct investment support but some studies also evaluate the effects of the support of cluster-policies or business infrastructure.

The concrete **targets of intervention** varied from study to study; in the centre mainly was the increase of the competitiveness of the economy and economic activity in general based on knowledge and innovation. With the enterprise support, companies **intended** to reach socio-economic cohesion expressed through the creation of new jobs and economic growth as well as to increase the number of innovations.

The policy evaluation of PAG Uniconsult / Ministry of Infrastructure and Development⁹⁷ is using qualitative and quantitative approaches (including a counterfactual impact evaluation) in their study and is solely focussing on large enterprises. The authors find positive impacts of EU-support for large enterprises through selected measures of the Innovative Economy Operational Programme and the Infrastructure & Environment Operational Programme. However, the effectiveness of the investment and R&D projects varied – mainly the projects that focussed on improving innovativeness were successful in increasing the sales volume, employment and total factor productivity. The study also assessed the deadweight effects which were approximately 63-75% for employment and around 55% for innovation. In the study it is argued that larger enterprises would have the highest potential to absorb innovative solutions and have the abilities to give technological spillovers to small and medium-sized enterprises. The link is important because due to their size, innovative capacities in small and medium-sized enterprises are low. Nevertheless, one study evaluating the Regional Operational Programme Warmia and Mazury⁹⁸, stated that projects implemented by large enterprises would not have outstanding effects with regards to the impact of innovation on competitiveness. One related factor was that the costs of the jobs created by large enterprises were higher than those created by small and medium-sized enterprises.

Another study referring to entire Poland⁹⁹ – an evaluation of the Innovative Economy Operational Programme – gives insights into how the level of innovativeness goes along with firm size: According to experts evaluating the applications and representatives of institutions, it would be indeed the large enterprises which delivered best prepared applications for high budget projects but with a low level of innovativeness. In contrast, it would rather be the micro enterprises which delivered the most innovation but at the same time most risky solutions.

⁹⁷ PAG Uniconsult/ Ministry of Infrastructure and Development (2014): Effects of Cohesion Policy Support Targeted at Large enterprises in Poland.

⁹⁸ EGO s.c. (2012): Evaluation of ROP Wamia and Mazury in the context of the competitiveness of companies, products and services.

⁹⁹ PSDB Sp. Z.o.o./ Polish Agency for Enterprise Development (2011): Evaluation of Measure 1.4.-4.1. Innovative Economy Operational Programme, 2007-2014.

Furthermore, a counterfactual evaluation analysed the support for entrepreneurship within the regional Operational Programme of Kujawsko-Pomorskie Voivodship.¹⁰⁰ The support for large enterprises was carried out in Priority Axis 5 which aimed at strengthening the competitiveness of enterprises, whilst their support should be below 10% of the overall budget of the Priority Axis. As a precondition, supported large enterprises were expected to create a significant benefit for the whole region. With a support volume of nearly EUR 370 million, nearly 980 full-time jobs were created for enterprises of all sizes. Especially for large enterprises, the support had positive impacts in that the employment rate was stopped to decline further. In contrast, 40% of large enterprises in the control group recorded a decline of employment within the same period. Nevertheless, employment growth was mainly induced by small and medium-sized enterprises (61 - 67% compared to the control group).

With regard to the **contextual factors**, it is stated that Polish and Eastern regions are usually characterized by peripheral locations, poor infrastructure, high unemployment, low living standards, low dynamics of economic development and a lack of growth factors. Additionally, with regard to the structure of the economy, there is a dominance of agriculture and traditional industries with a low export-orientation. However, despite some struggles induced by the international financial crisis, Poland was still one of the countries performing well in 2008-2012 and was the EU-country with the highest growth rate during this period. Thus, in the country report on achievements of cohesion policy it is mentioned several times that especially small and medium-sized enterprises were not negatively affected by the credit crunch. Consequently, with regard to policy concerns, there was no greater crisis-caused shift in programme strategies and the focus remained on the removal of regional disparities.¹⁰¹

3.4.7 Portugal

For the analysis of Portuguese enterprise-support, eight documents have been taken into consideration: Three evaluation studies from which one had used counterfactual methods, policy programme documents and the country report on achievements of cohesion policy. The documents were referring to the 2000-2006 and 2007-2013 periods but without focussing specifically on either small and medium-sized enterprises or large enterprises and hence, most of the studies report the results for enterprises in general.

The **target of the intervention** was often mentioned as the low competitiveness of the Portuguese economy and hence with the measures aimed to push innovation, scientific and technological development, internationalization, entrepreneurship and the modernization of the public administration. The **type of intervention** put in place in order to deal with these problems was mainly direct investment support incentivising inter alia scientific and innovative development, promote foreign direct investment and the establishment of the information society and knowledge.

Hence, the **desired final changes** were to intensify R&D and the creation of new knowledge for the development of the country. Furthermore it was mentioned that the implemented measures should lead to the encouragement of large structural investments in new areas with potential growth and to an increased outward orientation of Portuguese companies.

The mid-term evaluation of the Operational Programme Competitiveness revealed that large enterprises would be the main beneficiaries of the support as they were able to absorb 2/3 of the funds whereas medium-sized enterprises presented the largest number of projects supported (about 70%). The COMPETE programme supported 12 large projects of particular interest to the national economy by SI Innovation. The **underlying impact chain** based on this evaluation of the Operational

¹⁰⁰Agrotec Polska Sp. z o.o. / Marshal Office of Kujawsko-Pomorskie Voivodship (2013): Analysis of support for entrepreneurship within the Regional Operational Programme for Kujawsko-Pomorskie Voivodship (RPO WK-P) 2007-2013.

¹⁰¹ Gorzelak, G. and Kozak, M.W. (2013): Expert evaluation network delivering policy analysis on the performance of Cohesion policy 2007-2013. Year 3 – 2013, Task 2: Country Report on Achievements of Cohesion policy – Poland“, EUROREG, University of Warsaw.

Programme was primarily linked to the direct investment support for R&D and innovation activities of large enterprises with the aim to safeguard, promote and to skill employment.

A counterfactual analysis¹⁰² of the impacts of support schemes to businesses in POE/PRIME¹⁰³ in the 2000-2006 period found that the impact of the grants for enterprises is in general positive.¹⁰⁴ The supported enterprises created on average 1.4 jobs (in net terms) after three years, while companies not supported comparable lost an average of 0.7 jobs. Thus, it is estimated that, on average, public incentives resulted in net creation of 2.1 jobs per company supported, and the corresponding value of 0.2 jobs when considering only qualified employment. Even more so, the study revealed that the incentives had clearly positive effects for large companies, and the average cost per job created was smaller than estimated for comparable companies. Moreover, the support of large enterprises had a larger impact on employment creation whilst it was found that the impact on the survival rate is more distinct for smaller and younger companies.

Also for Portugal, one of the most important **context factors** was the impact of the crisis. The consequent lack of funding at the beginning of the eligibility period has made the support under the "SI incentives" to an important source of funding for companies whereas the demand for investment projects was lower than expected, their implementation less strategic than in the past, and more often delayed in the appraisal.

3.4.8 Spain

The **material analysed** encompasses 12 documents referring to the regions Valencia, Galicia, Castilla y León and Spain as a whole from the years 2007-2014. Besides policy and programme documents, also five policy evaluations have been taken into consideration. However, the documents which were referring only to LEs were short reports and were rather descriptive. In the evaluations, both types of enterprises have been considered with either no special focus or concentrating solely on small and medium-sized enterprises. From a **methodological point of view**, no counterfactual methods have been used.

The support to enterprises was based in all cases on direct investment support – for small and medium-sized enterprises and large enterprises. As Spain was one of the countries hit hardest by the crisis, the **interventions were often targeting** issues related to its consequences in the real economy and hence, tackling low investment rates or high unemployment. Therefore - with regard to employment - the needs of certain regions were already satisfied by preventing the loss of more jobs or companies instead of the objective to necessarily create new ones. Furthermore, the interventions intended to remove disparities across regions, to cope with the isolated rural population and the low R&D expenditure rate. Evaluations of the effects of R&D funding directed towards enterprises located in Spain independent from their size revealed positive results. For instance, a report of the national general direction of EU funds¹⁰⁵ describes that the expenditure on R&D-projects would have had positive outcomes as it had increased the number of innovative companies and the intensity of innovation.

¹⁰² Mamede, R. P., Fernandes, T. and Alexandrino da Silva, A. (2013): „Counterfactual analysis of the impacts of support schemes to businesses in POE/PRIME 2000-2006“ (“Análise contrafactual dos impactos dos incentivos às empresas no POE/PRIME”).

¹⁰³ PRIME Programme: Incentive Program for Economic Modernization. This programme is to enhance productivity and competitiveness of enterprises and their participation in the global market, to promote new skills and potential for development. Under measure 1, support to investment is given to medium or large enterprises specifically.

¹⁰⁴ Interestingly, Mamede et al. (2013) find that the incentives were particularly effective in the case of typically weak companies (new companies, companies with limited financial autonomy, etc.).

¹⁰⁵ National general direction of EU funds (2014), “R&D Strategic thematic evaluation about the Feder operative program and for the benefit of companies (technological fund)”.

Thus, the **desired final changes** were to increase GDP, welfare and the investment rate on R&D as well as safeguarding jobs and reducing the unemployment rate. Company-centred aims were inter alia to promote entrepreneurial initiatives, to improve the credit access and facilitate the R&D-transfer to enterprises.

Based on the information in the country report on achievements of the Cohesion Policy in Spain (2013) it is assumed that due to the support of large enterprises' R&D facilities, the creation of new product and a more efficient production can be reached which would consequently increase competitiveness and facilitate the access to international markets so that people can keep their jobs and companies remain in the Spanish economy.

A short report about the impacts of large enterprise funding in the Valencia region which mainly aimed to increase the number of new jobs revealed that the EUR 8 million used for the support of large investment projects¹⁰⁶ lead to the creation of 1,190 additional jobs and the safeguarding of another 2,693 jobs. It was expected that the intervention would also lead to positive spillovers to the small and medium-sized enterprises nearby and hence, bring wealth and employment to the region while preventing industry delocalisation.

Another intervention specifically related to large enterprises in Castilla y León worth EUR 19.7 million was directed to nine large companies of the region. The three main projects of Renault, Bridgestone and Naturiber received 85% of the total budget. Whereas the former companies were successful in safeguarding existing jobs, the latter company even created new ones. Hence, the support encouraged the companies to remain in the region and not to delocalize its factories out of the region or country and had positive employment effects.¹⁰⁷

Due to the **crisis-related** reduced financial capabilities of the Spanish private investment sector, ERDF co-financing rates were increased to their maximum (2011) to ensure the fulfilment of the 2011-2014 stability programme goals and to "relieve the budget constraints of the Spanish public administrations" as mentioned in the country cohesion report from 2013. Additionally, in some cases it was agreed upon re-programming. For instance, a re-allocation from the funds from business development axes to other measures because the former was considerably hit by a decline in entrepreneurial investment.

¹⁰⁶ Large investment project not necessarily LE-project

¹⁰⁷ El Norte de Castilla (2010), "Renault, Bridgestone and other nine companies from the region (Castilla y León) receive 19,7 millions € on grants" ("Renault, Bridgestone y otras nueve compañías de la región reciben 19,7 millones en ayudas").

3.4.9 Summary of country-level findings

From the literature review on the country-level, mixed findings emerged as regards to the effectiveness of large enterprise support. While some is in line with the general findings presented above, other findings are more challenging.¹⁰⁸ Thus, **findings on the effectiveness of large enterprises support vary greatly across the eight case study countries.**

Particularly for **Portugal** it was found, based on a counterfactual analysis of the impacts of support schemes to businesses in POE / PRIME in the 2000-2006 period, that support to large enterprises had a greater impact on employment creation; with overall positive impacts of grants to enterprises. Similarly, for **Germany** it was found in two Federal States that the supported large enterprises made the highest contribution to job creation and were responsible for a large majority of overall employment growth resulting from the programme. Moreover, these firms were responsible for significant shares of investment. For **Spain** it was reported that due to the support of R&D facilities of large enterprises the creation of new products and more efficient production was promoted which is seen as vital to increase competitiveness and facilitate the access to international markets. Likewise it was reported that through ERDF support it was possible to safeguard existing jobs and stop relocation plans of large enterprises.

On the other side of the spectrum, effects of large enterprise support reported for **Italy** and **Hungary** are much more negative. Thus, for Italy it was found that whereas positive impacts of the investment subsidies from Cohesion Policy were consistent and significant for micro firms, small firms and medium firms, these results did not hold for large enterprises where impacts were insignificant or even negative. For Hungary it was found that supported projects for R&D development would also have happened without the support of large enterprises, indicating deadweight effects.

This picture is mixed for other countries. As an evaluation of PAG Uniconsult / Ministry of Infrastructure and Development¹⁰⁹ in **Poland** showed, positive impacts of EU-support for large enterprises were found through selected measures of the Innovative Economy Operational Programme and the Infrastructure & Environment Operational Programme. Also through the support of the Operational Programme of Kujawsko-Pomorskie Voivodship it was possible to stop employment reductions in supported large enterprises significantly, even though overall employment growth was mainly induced by small and medium-sized enterprises. An indistinct picture can also be reported for **Czech Republic** or **Austria** where studies also indicate quite positive impacts on employment and enterprise growth from support to large enterprises, yet in the case of Czech Republic the investigation is more descriptive while in Austria it only refers to an individual project.

All in all, what clearly emerges from the literature review, both from general evaluation evidence and from country-reviews, is the **great diversity of findings** regarding the effectiveness of large enterprise support. This highlights the need for a **differentiated assessment** and interpretation of direct enterprise support from CF / ERDF targeted at larger firms in the EU, which particularly needs to consider the different context situations and conditions in which support was given to these firms.

Yet, as it has been noted in the discussion of findings in Chapter 3.3.2, a few specific **limitations** of the country-level literature review shall be noticed also here. While overall the general limitations reported in Chapter 3.3.2 are largely also true for the country-level review, it has to be stressed that particularly findings from counterfactual impact evaluations for the 2007-2013 funding period have some specific limitations. Particularly they have largely focussed on first cohorts of beneficiaries. As there were often considerable changes in Operational Programmes across the EU (e.g. regarding selection criteria) not all of the conclusions derived from these evaluations focusing on “early beneficiaries” can be generalised. Moreover, the conduction of many of these impact evaluations was

¹⁰⁸ Yet, it must be considered that some of the results presented were not based on counterfactual or other econometric evaluation techniques but are to be classified as descriptive reports or contribution stories. Thus these results should be perceived as indicative and need to be further investigated within this and other evaluations.

¹⁰⁹ PAG Uniconsult/ Ministry of Infrastructure and Development (2014): Effects of Cohesion Policy Support Targeted at Large enterprises in Poland.

quite early (i.e. within or towards the end of the funding period), thus, it is not surprising that in many cases it was too early to detect impacts materialising from Cohesion Policy support due to time-lag effects.

4 Theories of change on large enterprise support in the eight case study countries

4.1 Key findings

Evolution of Theories of Change

TC 1. Former programme planners and policy makers tend to be key sources of the “intended change”.

Members of the institutional system (Managing Authorities and Intermediary Bodies) that took part in the planning process tend to be valuable information sources for reconstructing the intended change of large enterprise support under ERDF co-financed schemes. They could often recall relevant information on underlying theories (“why did we support large enterprises?”), and also shed light on the debates and compromises made during programming and programme modification.

TC 2. The theory-based approach is a novelty for all – first interviews successfully induced a new way of thinking.

The reconstruction of theories and identification of cause-effect relationships require a different way of approaching evaluating programmes. Managing Authorities and Intermediary Bodies need to observe their programmes from a different angle, while they are asked to recall small, tacit but important details of programming and programme modifications. First interview experiences generally show acknowledgement, understanding, commitment (and in some cases, excitement) to applying theory-based methods.

TC 3. The biggest challenge around reconstructing theories is to identify causality in a credible way.

Programme documents usually present causal relationships in aggregated terms, i.e. how outputs will turn into a *set* of results, and how these *altogether* will lead to a *group* of impacts. The “micro-steps” of the chain leading to each element of the intended change are often known, but their connections are not made explicit. This is especially relevant in the case of external factors and assumptions that also serve as important causes and pre-conditions of the results chain.

TC 4. Description of country-level theories, and especially the five generalised theories, required a significant level of simplification and aggregation.

There are numerous ways to describe the intermediate steps that lead to the intended results. Theoretically, each step can be further expanded, while some combinations of steps can be aggregated into one. Overly detailed theories would render understanding and testing difficult, while oversimplification would lead to loss of important details. Our principle in finding balance was to focus on steps that were particularly highlighted by programme documents, stressed by our interviewees, or underlined in literature sources – while keeping theories as simple and understandable as possible.

TC 5. Surfacing unique elements of particular country-level theories was preferred to standardisation of content.

Even though standard templates, guidance and training was provided to local teams, they were encouraged to identify and record unique local theories, and to borrow ideas (e.g. assumptions) from other theories only to stimulate thinking. Standardisation of theories has not been attempted, therefore the level of simplification and aggregation of “mini-steps” – as meant above – can differ across countries. The generalised five theories in the 8 countries, however, apply standardisation to describe the causal steps, the assumptions and external factors and the possible indirect and wider effects.

Identified theories

TC 6. Programmes provide limited information on the intended change for large enterprise support.

In general, Operational Programmes provide limited explicit descriptions of the nature of and underlying reason for supporting large enterprises. Relevant sections are usually brief, and difficult to be identified among interventions with typically more general target groups. Compared to other programmes activities (for instance, small and medium-sized enterprise support), the conceptual background and policy relevance of large enterprise support are described sporadically, or not made explicit at all. Nevertheless, programmes were key sources of inputs, activities, outputs and immediate outcomes of supported activities in the theories of change.

TC 7. In programme theories boundaries between the rationale for SME and large enterprise support are often blurred.

Whenever large enterprises are supported under a programme, written theories on their support are scarcely made explicit. Support schemes are often channelled to measures targeted at “enterprises [in general]”, or “mainly small and medium-sized enterprises”, which render the identification of specific theories for large enterprise support difficult.

TC 8. Theories rarely differentiate along the character (size, origin) of the supported large firms.

The stock-taking exercise demonstrates a heterogeneous group of supported large enterprises, both in terms of size (according to the number of employees) and origin (national company, domestic multinational company, foreign multinational company). Generally, neither programmes nor programme planners have used these dimensions to segment target groups.

TC 9. 27 main country-level theories of change of large enterprise support have been identified in the 8 countries under the codes 05, 07, 08

Following the first round of data collection, 27 theories of large enterprise support have been identified in the 8 countries, primarily related to programmes selected for case studies (number of theories were between 2 to 5 to keep focus). Local research teams were trained to follow the same principles during this process, i.e. to identify and follow evidence of multiple sources, and to reconstruct theories based on the information retrieved. This resulted in a diverse and heterogeneous set of theories.

TC 10. Five generalised, broad theories of change has been reconstructed along the main focus areas of country-level theories, which are employment (3), least developed areas (3), technology-driven growth (6), innovation-driven growth (8), R&D (4) – and other (3)

The identified theories can be grouped according to their areas of focus, along which five broad, stylised theories of change could be identified. Most theories aim at innovation-driven growth in the hope of facilitating growth through increased innovation dynamics and wider

effects (including spillover effects to small and medium-sized enterprises). Technology-driven growth is also the core element of many country-level theories, counting on the direct and indirect effects of direct enterprise support. R&D-type theories are also common, aiming at increasing innovation potential, demand for quality jobs, technology transfer, collaborations and knowledge spillover. Some theories have a clear employment focus, mainly in the form of implementing large, considerable projects. Another group of theories specify the least developed areas as their focus to facilitate the cohesion of the most economically depressed regions. Other areas include logistic centres, upskilling of employees, and presence on international fairs and events.

TC 11. At conceptual level, the rationale of large enterprise support, as represented by theories, are in line with broader enterprise strategies of the regions.

The intended changes of the identified theories could be matched with the outcomes of the literature review on regional enterprise strategies, indicating that all theories can be traced back to policy objectives. Some of the policy aims are not covered by the identified theories, but this theoretically happen under other spending codes, or through ESF programmes.

4.2 Theoretical background

4.2.1 Theory-based approaches, Contribution Analysis

The study follows the concept of Theory-Based Evaluation, emphasising the construction and testing of identified Theories of Change. The reconstructed Theories of Change serve as key sources of our findings, along with outcomes of available counterfactual and theory based evaluations, and, in particular case studies at the level of selected programmes in the eight countries, and at the level of individual enterprises/projects (referred to as mini case studies) to be performed in the next phase of the evaluation.

Approach: Contribution Analysis

There are ample approaches for the identification and testing of theories. Working Paper 38 of DFID¹¹⁰ (Stern et al., 2012) on the designs and methods of impact evaluation provides the following classification of Theory-Based Evaluation designs:

Specific variants of Theory Based Evaluation		Basis for causal inference
Causal process designs	Theory of Change, Process tracing, Contribution Analysis, Impact Mapping	Identification/confirmation of causal processes or 'chains'
Causal mechanism designs	Realist Evaluation, Congruence Analysis	Supporting factors and mechanisms at work in context

It is up to the specific context of the evaluation i.e. aims, evaluation questions, data availability, expected outcomes, to determine what approach is most appropriate for the evaluation. The current evaluation applies the framework of Contribution Analysis.

¹¹⁰ "Broadening the range of designs and methods for impact evaluation", Department for International Development, UK

The contribution analysis focuses on “drawing causal links and explanatory conclusions between observed changes and specific interventions” (EVALSED, p. 55). Its philosophy is to provide evidence and reduce uncertainty rather than promise to define links between interventions and effects. This approach relies on assumptions that should be made visible as both requirements and limits to our evaluation. As Leeuw (2012 p. 348) puts it, “a reasonable contribution claim can be made if:

1. there is a reasoned Theory of Change for the intervention: the key assumptions behind why the intervention is expected to work make sense, are plausible, may be supported by evidence, and are agreed by at least some of the key players;
2. the activities of the intervention were implemented as set out in the Theory of Change;
3. the Theory of Change – or key elements thereof – is supported by and confirmed by evidence on observed results and underlying assumptions, both of experts and of facts: the chain of expected results occurred. The Theory of Change has not been disproved;
4. other influencing factors have been assessed and either shown not to have made a significant contribution, or their relative role in contributing to the desired result has been recognized. (Mayne, 2011: 7–8)”

In order to integrate Contribution Analysis in our case study based approach of Theory-Based Evaluation some further methodological remarks of Stern (2012) are helpful. With a focus on “causal inference”, i.e. “the ability of designs and methods to demonstrate that an intervention as cause leads to an effect” (p. 33), the following connections can be made to our approach:

- Contribution Analysis applies a “**causal process design**” (see above), i.e. as a basis of causal inference it focuses on the identification and confirmation / affirmation of causal processes or “chains”.
- Methodologically we combine this with a **case study approach** (programme cases and mini cases) which – as an evidence for causal inference – allows us to make comparisons across and within cases of combinations of causal factors. Comparisons will serve the primary aim of identifying similarities and differences across case studies and are not expected to go beyond that and allow drawing general findings.

Overall, we need to be able to unpick “causal packages”, as most interventions “work” as part of a causal package in combination with other helping factors such as stakeholder behaviour, related programmes / policies, institutional capacities, cultural factors or socio-economic trends.

This evaluation design is, moreover, linked to the evaluation questions with the overarching questions: “has the intervention made a difference”. As shown below (in Stern et al., 2012), there are important implications for underlying assumptions to tackle and methodological requirements.

Key question ¹¹¹	Related questions	Underlying assumption	Requirements	Suitable designs
Has the intervention made a difference?	<p>What causes are necessary or sufficient for the effect?</p> <p>Was the intervention needed to produce the effect?</p> <p>Would these impacts have happened anyhow?</p>	<p>There are several relevant causes that need to be disentangled</p> <p>Interventions are just one part of the causal package</p>	<p>Comparable cases where a common set of causes are present and evidence exists as to their potency</p>	<p>Experiments</p> <p>Theory-Based Evaluation, e.g. Contribution Analysis</p> <p>Case-based designs, e.g. qualitative comparative analysis</p>

¹¹¹ One of the original 4 questions discussed by the paper

To integrate the “Theory of Change” approach of Weiss some clarification seems helpful on the way to analyse “attribution”. Weiss (1997, p. 43) suggested that “if the evaluation can show the series of micro-steps that lead from inputs to outcomes, then causal attribution for all practical purposes seems to be within reach”. In addition, Leeuw’s suggestion can be integrated (2012, p. 354) stating that “...instead of looking into micro-steps of the particular intervention [ONLY], Theory-Based Evaluation here can help by working with comparisons”.

These comparisons in our evaluation will be both possible through a comparison with existing evidence on large enterprise support from the literature analysis but more importantly from our case-study approach (in particular our mini-cases). In the context of case studies we understand comparisons as identification of similarities and differences across the cases, without expecting general comparability of case studies.

Steps of Contribution Analysis

Methodological steps as suggested by Mayne do not necessarily follow a strict step-by-step logic, but it is a highly iterative process with multiple rounds of revisions of previous exercises.

These are the general steps, which are followed by the current evaluation:

1. Set out the cause-effect issue to be addressed

Acknowledge the attribution problem, determine the specific cause-effect question being addressed, determine the level of confidence required, explore the type of contribution expected, determine the other key influencing factors, and assess the plausibility of the expected contribution in relation to the size of the programme.

Carried out under Task 1 & 2 (plausibility of the expected contribution to be assessed under Task 3)

2. Develop a Theory of Change

Build a Theory of Change and results chain, determine the level of detail, determine the expected contribution of the programme, list the assumptions underlying the Theory of Change, include consideration of other factors that may influence outcomes, determine how much the Theory of Change is contested, assess the contribution story

Carried out under Task 1 & 2, will be refined under Task 3

3. Gather existing evidence on the Theory of Change

Gather evidence (e.g. Counterfactual Impact Evaluations, other impact evaluations, studies)

Carried out under Task 2 and Task 3

4. Assess the resulting contribution story

Assess the logic of the links in the Theory of Change, the credibility of the overall story, gaps in the theory, and stakeholders’ agreement on the story

Carried out under Task 3

5. Seek out additional empirical evidence

Identify what new data is needed, gather evidence (e.g. through case studies, stakeholder interviews)

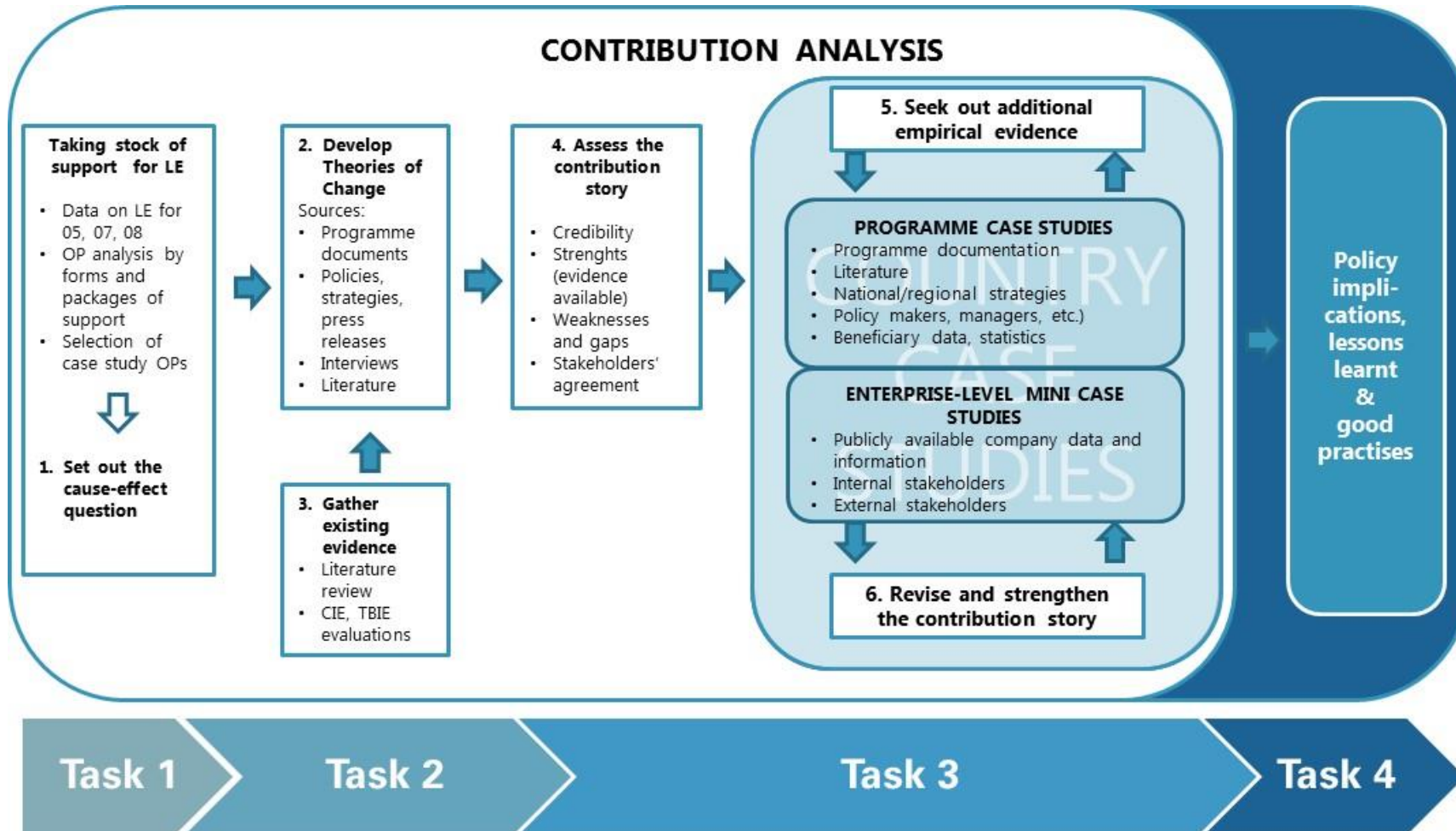
Carried out under Task 3

6. Revise and strengthen the contribution story

Revise the contribution story, go back to Step 4 if necessary

Carried out under Task 3 & 4

24. Figure: Overview of our approach



Source: Evaluators, 2014

4.2.2 Approach to capture Theories of Change

The paper of Leeuw ('Theory-Based Evaluation', prepared for EVALSED) borrows the definition of Theory of Change from Carol Weiss¹¹², which is

'a way to describe the set of assumptions that explain both the mini-steps that lead to the long term goal and the connections between policy or programme activities and outcomes that occur at each step of the way'.

It is argued that a good programme theory must fulfil certain criteria: it must be plausible, doable and testable. Considering these criteria, the objective was to reconstruct **2-5 Theories of Change for each country**, which are perceived to be the most significant ones in terms of covering most funds, measures and calls.

The Theory of Change template has undergone numerous rounds of fine tuning since the presentation of a first draft included in the Inception Report. It is based on one of the many practices applied by the World Bank, referred to as the 'flowchart approach'. It revolves around the visualisation of the most important causal relationships between the elements of the theory, represented by arrows between the boxes.

The current form has evolved through continuous consultation within the Central Evaluation Team incorporating also the comments received from DG REGIO Evaluation Unit for the Inception Report and remarks of theory-based evaluation external expert Eliot Stern. The main driving principles of the development of the template were to keep the chart graphically as simple as possible and concentrate on the main elements and incorporate factors that are outside the programme "borders", i.e. indirect benefits and wider effects of the support and consider relevant assumptions and external factors which can impact the causal links.

Key elements of the Theory of Change are:

1. **intended change**: the last box at the end of the results chain, as identified below
2. **intermediary steps** to attain the change: description of the inputs and the intermediary steps in-between
3. **causality of steps**: represented by 3 types of arrows:
 - cause: *A* is one of the main, fundamentals cause of *B* ('must have')
 - pre-condition: *A* is a necessary pre-condition of *B*, but not the main cause of that (lacking of which prevents *B*)
 - supporting factor: *A* is contributing to *B*, but is neither a cause nor a pre-condition of that ('nice to have')
4. **key assumptions** and **external factors**: represented by green circles explained below and channelled in to the logical chain of the chart from outside the programme "border"
5. **indirect and wider effects**: changes that are supported by the intended change, but are not directly attributable to the intervention (represented by red circles in the chart)

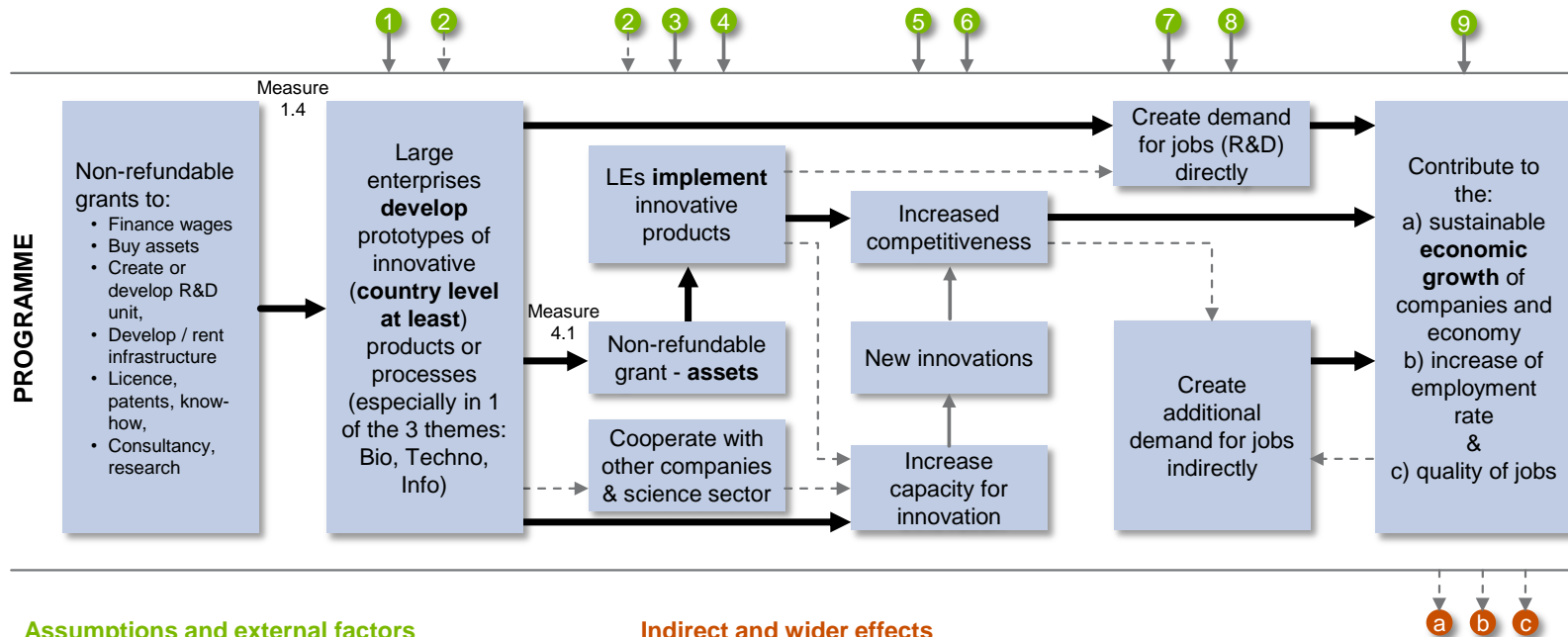
At the level of the theory as a whole, the theory demonstrates the causal relationship between the intervention and the intended change, feeding information into the **causality analysis** of the theory.

¹¹² 'Nothing as practical as good theory: Exploring theory-based evaluation for comprehensive community initiatives for children and families', 1995

Following the terminology of the most recent manifestations of Contribution Analysis, we can envisage four assessments of diminishing causal strengths:

- A. The intervention is both **necessary and sufficient** to reach the intended change.
- B. The intervention is a **necessary part of a necessary causal package** (see above), i.e. the causal package is the only way that the impact can be achieved, and without the intervention the causal package would not work
- C. The intervention is a **necessary part of an unnecessary causal package**, i.e. the causal package would not work without the intervention, but this causal package is not the only way that the intended impacts could be achieved
- D. The intervention is an **unnecessary part** of a necessary or unnecessary causal package, insofar as the causal package has potency, this does not depend on the intervention

25. Figure: An example for Theory of Change from Poland (Support for development and implementation of R&D projects to promote growth of companies („First research then invest”))



Assumptions and external factors

1. Selection criteria allow to select innovative projects
2. Availability of R&D and science partners for cooperation
3. Project remains innovative – „good timing”
4. Conditions of grant contracts are flexible enough and optimised for innovation project
5. Implemented innovations are profitable
6. Project is "significant enough" given the size/ scale of activity of the company (incl. the use of other public funds)
7. Implemented innovation is not contrary to the idea of employment growth
8. Qualified labour force is available
9. Other conditions (economic situation, regulations, fiscal policy etc.) allows for development and changes

Indirect and wider effects

- a. Increased export of companies
- b. Growth of the consultancy sector (R&D consultancy, EU application consultancy)
- c. Distorted market equilibrium (negative impact of the support for not supported companies)

Legend

- CAUSE:** A is one of the main, fundamental causes of B) ('must have')
- PRE-CONDITION:** A is a necessary pre-condition of B, but not the main cause of that (lacking of which prevents B)
- SUPPORTING FACTOR:** A is contributing to B, but is neither a cause nor a pre-condition of that ('nice to have')

Source: Evaluators, 2014



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The chart shows cause-and-effect relationships and describes the way the intended change was supposed to be caused by the programme and other external factors. The aim was to draw up a results chain with strong logical linkages, where all major reasons for an outcome (box) are covered by previous boxes and external factors.

The first column presents the inputs and activities by types of inputs. The second column represents the immediate outcome i.e. what large enterprises do with the support. Further intermediary steps point out how the intended change is attained. When defining the intended change, the time horizon (short-, medium- or long-term) and if relevant, the territorial focus was also considered.

The first step of the exercise is to identify what are the ultimate aims of large enterprise support i.e. reveal the intended changes. Intended changes are the most significant effects sought by the support thus being at the end of the result chain. We differentiated intended change from intermediary steps to reach this change.

4.3 Theories of change on large enterprise support in the eight countries

4.3.1 The process of reconstructing Theories of Change

The first step was identifying the relevant sources which could serve as the basis for the reconstruction of Theories of Changes. The following information sources were considered:

- Policy makers, programme officials (original programme planners, current programme officials)
- Programme documents (Operational Programme, Calls for proposals, eligibility and selection criteria)
- Strategies, policy documents
- Political declarations
- Studies
- Media

The reconstruction of Theories of Change was an intensive work phase with multiple rounds of refinement (in-between consultation within the Core Team, with DG REGIO, and with our Key Expert Elliot Stern).

Firstly, a guidance and a template were drafted to support of country teams, which was explained in detail during the workshop in Portugal, and was followed by an interactive session with country teams to share experience on data availability and the utility of information sources.

According to our experience, every other information source added different layers to the reconstructed theories. Roles of the key information sources were typically the following.

- **Programme document** (operational programmes, calls for applications) contained information on general, high level objectives, although often they were lacking specific information on large enterprises (rationale, causal chain, assumptions etc.). Obviously they were key sources of identifying inputs, activities and first level outcomes of the activities.
- **Programme planners** and other Managing Authority representatives were found key in understanding the question: “why have we supported large enterprises from ERDF?”. Generally they could recall crucial information (often implicit) on the “intended change”, that was driving the planning and modification process of programmes.

- **Literature** review was found helpful in reassuring those intended changes. Their most important role was however to make assumptions, external factors and indirect / wider effects explicit, which could then be incorporated to Theories of Change, where applicable.

The first drafts of Theories of Change were reviewed by the Core Team. It was followed by a conference call with all countries to reveal and discuss general issues and questions encountered in the course of the exercise. Based on this consultation the Core Team developed additional instructions with the aim of harmonising the content (e.g. interpretation and content of boxes, logical linkages between them and relevant assumptions).

The updated versions constructed by the country teams were thoroughly studied by the Core Team, and were discussed in depth with each country team via multiple phone consultations.

The Theories of Changes were primarily reconstructed for the programmes selected for case studies in order to enable their subsequent testing. These theories represent the rationales (and intervention logics) of large enterprise support in the selected programmes. Task 3 will test, fine-tune and supplement these Theories of Changes according to empirical findings.

During the testing phase we will deepen the investigation into the “time horizon” aspect, looking at what are short-, medium- and long-term intended changes of interventions. Additional data collection exercises, especially interviews, will support testing the adequacy and importance of external factors identified at this stage and can reveal new angles not yet considered. Regarding assumptions, we aim at differentiating according to micro-level (individual company, project, programme etc.), meso-level (program region, public services in region, regional innovation system etc.) and macro-level (macroeconomic factors, growth of specific markets) issues.

4.3.2 Links between rationale of support and broader enterprise strategies

The table below presents the extent to which rationale of support for large enterprises and the broader enterprise strategies are in line with each other. Deeper analysis at the level of national theories of change are provided in the next section of the document.

26. Figure: links between rationale of support and broader enterprise strategies

Country	Rationale(s)	Aims of enterprise strategies	Key implementation features	Comments
Austria	<ul style="list-style-type: none"> – technology-driven investments to stimulate growth and export – R&D investments to promote growth, innovation and quality jobs – up-skilling of the enterprises' knowledge base 	<ul style="list-style-type: none"> – creation of new jobs – increase in the intensity of research and innovation in companies – open up new markets – increase in investment e.g. for R&D – creation of an attractive business location – adaptation of companies to structural change – attraction of 'strong technology-based companies' 	<ul style="list-style-type: none"> – 33% of supported large enterprises operate in the high- and medium-high technology manufacturing 	<i>Programme rationale responds to strategic priorities (focus on new markets, R&D, technology-based improvement)</i>
Czech Republic	<ul style="list-style-type: none"> – technology-driven investments to stimulate growth and export – innovation-driven investments to stimulate „smart” growth 	<ul style="list-style-type: none"> – improve innovation performance of the industry and service sector to promote convergence to leading EU member states – foster job creation in the tertiary sector – overcome the lack of ICT solutions 	<ul style="list-style-type: none"> – 16% of supported large enterprises are active in the services (tertiary) sector 	<i>Programme rationale responds to strategic priorities (focus on ICT and innovation)</i>
Germany	<ul style="list-style-type: none"> – technology-driven investments to stimulate growth and export – innovation-driven investments to stimulate „smart” growth – R&D investments to promote growth, innovation and quality jobs 	<ul style="list-style-type: none"> – creation and safeguarding jobs – strengthened capital stocks – increase in R&D activities – promotion of investment in general through leverage effect of large enterprise support and stimulating growth and employment – knowledge spillovers for the benefit of small and medium-sized enterprises and research partners and thus contributing to regional innovation capacity and employment growth 	<ul style="list-style-type: none"> – 13% share of large enterprise support on 05, 07 and 08 from total enterprise spending – more than 700 supported projects implemented by large enterprises – more than 600 large enterprise beneficiaries 	<i>Programme rationale responds to strategic priorities (strong focus on innovation and R&D)</i>
Spain	<ul style="list-style-type: none"> – investments to improve the least developed areas – innovation-driven investments to stimulate „smart” growth 	<ul style="list-style-type: none"> – increase in GDP and welfare – increase in R&D activities – safeguard jobs and reduce unemployment rate hence improve competitiveness of the regions 	<ul style="list-style-type: none"> – in 29% of the regions there has been supported large enterprises 	<i>Programme rationale responds to strategic priorities (with a focus on the formerly de-industrialised and other high-potential areas)</i>
Hungary	<ul style="list-style-type: none"> – large-scale investment to increase employment – investments to improve the least 	<ul style="list-style-type: none"> – expansion of capacity through further development of research centres, maintaining and providing jobs – strengthen R&D activities of enterprises, developing 	<ul style="list-style-type: none"> – 5% of the projects, where large enterprises have been beneficiaries, have been implemented in economically 	<i>Programme rationale responds to strategic priorities (with a strong focus on influencing the location)</i>

Country	Rationale(s)	Aims of enterprise strategies	Key implementation features	Comments
	<ul style="list-style-type: none"> developed areas R&D investments to promote growth, innovation and quality jobs improving logistic centres to boost the economy 	<ul style="list-style-type: none"> infrastructure, developing new R&D capacities and research centres facilitate the implementation of innovative ideas and a special focus on the cooperation between large enterprises and small and medium-sized enterprises increase in employment increase in competitiveness, investment, income production capacity increase in GDP per capita in disadvantaged regions, reduction of disparities among regions 	<ul style="list-style-type: none"> disadvantaged areas the total investment generated by large enterprise beneficiaries could reach EUR 2.1 billion 	<i>choice of large enterprises)</i>
Italy	<ul style="list-style-type: none"> large-scale investment to increase employment technology-driven investments to stimulate growth and export innovation-driven investments to stimulate „smart“ growth 	<ul style="list-style-type: none"> development of the existing enterprises and productive units in the Convergence Regions localisation in the Convergence Regions of new enterprises or productive units improved productivity improved product and process innovation, improved R&D investments and transfer of research results to enterprises sustainable development requalification of non-employed or dismissed areas realisation or consolidation of chains development of specific sectors stimulation of enterprise investments 	<ul style="list-style-type: none"> 34% of supported large enterprises are active in the high- and medium-high technology sector nearly half of the projects implemented by large enterprises were located in the Convergence Regions 	<i>Programme rationale is line with the strategic priorities (with a focus on strategic projects, improvements in convergence regions, and environmental sustainability)</i>
Poland	<ul style="list-style-type: none"> large-scale investment to increase employment innovation-driven investments to stimulate „smart“ growth R&D investments to promote growth, innovation and quality jobs promote the Polish economy through fairs 	<ul style="list-style-type: none"> creation of new jobs contribution to economic growth increase in number of innovations promotion of socio-economic cohesion 	<ul style="list-style-type: none"> approximately 20 foreign direct investment projects by large enterprises were supported 	<i>Programme rationale is line with the strategic priorities (strong innovation and R&D focus), with the additional support to participate in international fairs</i>
Portugal	<ul style="list-style-type: none"> technology-driven investments to stimulate growth and export innovation-driven investments to stimulate „smart“ growth 	<ul style="list-style-type: none"> intensify R&D and creation of new knowledge for the development of the country encourage large structural investments in new areas with potential growth increase outward orientation of Portuguese companies 	<ul style="list-style-type: none"> intensify R&D and creation of new knowledge for the development of the country 60% of supported large enterprises are national or domestic multinational companies 	<i>Programme rationale is line with the strategic priorities (focus on internationalisation, innovation and priority sectors)</i>

4.3.3 The identified theories in the 8 countries

Due to their size, charts describing the **27 Theories of Change in detail** are included in **PART C** of the first interim report.

Country-level theories of change (including short catch phrases for further reference), and their relation to the broader enterprise strategy of the region follow below.

Austria

Theories of Change in Austria are cross-cutting across programmes. They relate to the priority areas of enterprise development, direct support for innovations and R&D, innovative investments, know-how development and knowledge management for innovation and strengthening framework conditions for employment growth.

ToC 1. Facilitate knowledge-based production to increase innovation dynamics of large enterprises
("R&D FOR INNOVATION DYNAMICS")

ToC 2. Indigenous large enterprise development through direct investment support to increase growth capacity
("LEITUNTERNEHMEN HOME BASE AUGMENTING")

ToC 3. Export-base expansion of national large enterprises to increase internationalisation
("HOME BASE EXPANSION")

ToC 4. Know-how development and complementary qualification to enhance innovation capabilities
("UP-SKILLING OF LE KNOWLEDGE BASE")¹¹³

There is a strong focus on growth and development of markets of large enterprises, as well as adaptation of companies to structural change. Creation of jobs is targeted through R&D measures (quality jobs), home base augmenting and expansion (jobs via growth) and upskilling of employees. Support of R&D is primarily focusing on medium-sized large enterprises to promote innovation dynamics. The links between Theories of Change and the literature are shown below.

27. Figure: Austria's Theories of change fitting into the broader enterprise strategy of the region

Intended change identified by literature review	AT ToC 1	AT ToC 2	AT ToC 3	AT ToC 4
creation of new jobs	•	••		•••
increase in the intensity of research and innovation in companies	•••			
open up new markets		•••	•••	
increase in investment e.g. for R&D	•••			
creation of an attractive business location	•	•		
adaptation of companies to structural change	••	••	••	•
attraction of 'strong technology-based companies'		•	•	

Source: Evaluators

¹¹³ For parts of this Theory of Change, especially the implementation of qualification measures, ESF cross-financing according to Art. 34 General Regulation (EC 1083/2006) was possible.

Czech Republic

Large enterprise theories relate to the Operational Programme Enterprise and Innovation, especially Priority Axis 2 (Development of firms) and Priority Axis 3 (Innovation).

ToC 1. Facilitate corporate innovation to develop innovative potential of enterprises (“CORPORATE INNOVATION”)

ToC 2. Develop strategic ICT services and ICT solutions to promote knowledge based economy and employment (“STRATEGIC SERVICES, ICT SOLUTIONS AND APPLICATIONS”)

Theories are centred on corporate innovation, strategic services and ICT solutions. Growth of jobs is particularly relevant for the latter, companies are expected to create demand for jobs directly and indirectly through the extension of business activities. The links between Theories of Change and the literature are shown below.

28. Figure: Czech Republic’ Theories of change fitting into the broader enterprise strategy of the region

Intended change identified by literature review	CZ ToC 1	CZ ToC 2
improve innovation performance of the industry and service sector to promote convergence to leading EU member states	•••	•
foster job creation in the terciial sector	•	•••
overcome the lack of ICT solutions	•	•••

Source: Evaluators

Germany

German theories of change are cross-cutting across programmes. They relate to the priority areas of modernisation and expansion of enterprise capital stocks, strengthening enterprise potentials, supporting direct enterprise investments, investments for introducing new technologies, supporting enterprise innovations, R&D and technology-oriented firms, and development of firms through firm-level technology promotion, technology transfer and development of own R&D activities.

ToC 1. Indigenous large enterprise development through direct investment support to increase growth capacity (“HOME BASE AUGMENTING“)

ToC 2. Value chain upgrading through expansion of national large enterprises to increase(regional) value creation and knowledge generation (“VALUE CHAIN UPGRADING“)

ToC 3. R&D expansion through foreign large enterprises to enhance regional innovation capacity (“INNOVATION-DRIVEN FDI“)

Theories focus on increasing the presence of large enterprises, and scope of high value added activities and R&D carried out in the region, especially in Eastern Germany (counteracting the so called “branch plant syndrome”). Job creation is an overarching objective, as well as the intention to create leverage effect, and realise spillover effects to small and medium-sized enterprises. The links between Theories of Change and the literature are shown below.

29. Figure: Germany's Theories of change fitting into the broader enterprise strategy of the region

Intended change identified by literature review	DE ToC 1	DE ToC 2	DE ToC 3
creation and safeguarding jobs	••	••	••
strengthened capital stocks	•••		
increase in R&D activities		•••	••
promotion of investment in general through leverage effect of large enterprise support and stimulating growth and employment	•••	••	••
knowledge spillovers for the benefit of small and medium-sized enterprises and research partners and thus contributing to regional innovation capacity and employment growth		••	•••

Source: Evaluators

Spain

Large enterprise theories relate to the ERDF Operational Programme of Research, Development and Innovation (Knowledge economy, innovation and business development) and Regional Operational Programmes (Priority Axis 1: Development of the knowledge economy, education, information society and ICT; Priority Axis 2: Entrepreneurial Development and Innovation).

ToC 1. Corporate R&D&I projects to increase competitiveness and employment ("CORPORATE R&D&I")

ToC 2. Enterprise development in less developed regions to reduce regional disparities ("INDUSTRY AND TOURISM IN LESS DEVELOPED REGIONS")

ToC 3. Re-industrialisation aid to reduce regional disparities ("RE-INDUSTRIALISATION AID")

Theories of large enterprise support are all geared towards fighting regional unemployment and improving economy, by facilitating R&D&I and by exploiting local economic potential. The links between Theories of Change and the literature are shown below.

30. Figure: Spain's Theories of Change fitting into the broader enterprise strategy of the region

Intended change identified by literature review	ES ToC 1	ES ToC 2	ES ToC 3
increase in GDP and welfare	••	•••	•••
increase in R&D activities	•••		
safeguard jobs and reduce unemployment rate hence improve competitiveness of the regions	••	•••	•••

Source: Evaluators

Hungary

Large enterprise theories relate to the Economic Development Programme, especially Priority Axis 1 (R&D&I), Priority Axis 2 (enterprise development), and Priority Axis 3 (business environment).

ToC 1. Large-scale investment to increase employment outside Central Hungary (“LARGE-SCALE INVESTMENT FOR EMPLOYMENT”)

ToC 2. Complex developments in socio-economically disadvantaged micro regions to increase territorial cohesion (“DEVELOPMENT IN DISADVANTAGED MICRO REGIONS”)

ToC 3. Develop RTDI centres and science parks to promote R&D&I in pole cities outside Central Hungary (“RTDI CENTRES AND SCIENCE PARKS”)

ToC 4. Improve logistic centres to increase the embeddedness of large enterprises, or to let other enterprises benefit from improved services (“LOGISTIC CENTRES”)

There is a strong focus on enhancing territorial cohesion both at regional level and, with a specifically designed measure, at micro region level. Employment is an overarching aim of all theories, especially of the one focusing on foreign direct investment. Increasing competitiveness of small-sized large enterprises is also key priority. The links between Theories of change and the literature are shown below.

31. Figure: Hungary’s Theories of Change fitting into the broader enterprise strategy of the region

Intended change identified by literature review	HU ToC 1	HU ToC 2	HU ToC 3	HU ToC 4
expansion of capacity through further development of research centres, maintaining and providing jobs			•••	
strengthen R&D activities of enterprises, developing infrastructure, developing new R&D capacities and research centres			•••	
facilitate the implementation of innovative ideas and a special focus on the cooperation between large enterprises and small and medium-sized enterprises	•		••	
increase in employment	•••	•••	•	•
increase in competitiveness, investment, income production capacity	••	••		•••
increase in GDP per capita in disadvantaged regions, reduction of disparities among regions	••	•••		••

Source: Evaluators

Italy

Large enterprise theories relate to the National Operational Programme for Research and Competitiveness. Concerned actions are development contracts, technological innovation fund, innovative productive investments, integrated innovation packages, industrial innovation projects, fit reach and Law 488/92.

ToC 1. Large complex investments to develop the Regions' productive system and promote employment (“LARGE STRATEGIC INVESTMENTS”)

ToC 2. Innovation and transfer of research results to large enterprises to promote regional convergence (“INNOVATION AND TECHNOLOGY TRANSFER”)

ToC 3. Environmentally friendly innovation to foster sustainable economic growth (“ENVIRONMENTALLY FRIENDLY INNOVATION”)

ToC 4. Develop local enterprises to promote economic growth (“LAW 488 ENTERPRISE DEVELOPMENT”)

Theories generally focus on improving existing enterprises in the regions in order to promote regional convergence and to increase employment. Localisation of new enterprises, as well as spread of R&D and innovation activities are also key priority. The identified theories do not address the aims of employee requalification, consolidation of chains and developments of specific sectors identified in policy documents. The links between Theories of Change and the literature are shown below.

32. Figure: Italy’s Theories of Change fitting into the broader enterprise strategy of the region

Intended change identified by literature review	IT ToC 1	IT ToC 2	IT ToC 3	IT ToC 4
development of the existing enterprises and productive units in the Convergence Regions	•••	••	••	•••
localisation in the Convergence Regions of new enterprises or productive units	•••	••	•	
improved productivity	••	•		••
improved product and process innovation, improved R&D investments and transfer of research results to enterprises	•	•••	•••	
sustainable development			•••	
requalification of non-employed or dismissed areas				
realisation or consolidation of chains				
development of specific sectors				
stimulation of enterprise investments	••	•		•••

Source: Evaluators

Poland

Large enterprise theories relate to Operational Programme Innovative Economy, especially to actions related to research and development of modern technologies, investments in innovative undertakings and the Polish economy on the international market.

- ToC 1. Support for development and implementation of R&D projects to promote growth of companies (“FIRST RESEARCH THEN INVEST”)
- ToC 2. Support for development of R&D companies to promote their growth (“DEVELOPMENT OF R&D COMPANIES”)
- ToC 3. Support for highly innovative technological solutions to promote growth of companies (“HIGHLY INNOVATIVE TECHNOLOGICAL SOLUTIONS”)
- ToC 4. Support for investment of considerable importance to the economy in order to promote employment (“INVESTMENTS OF CONSIDERABLE IMPORTANCE”)
- ToC 5. Support participation on international events and missions to promote Polish economy (“PROMOTE POLISH ECONOMY”)

The identified theories all relate to the promotion of the growth of the Polish economy, either by way of increasing R&D activities (directly or indirectly), implementing considerably large projects or by facilitating international business development. Similarly, employment growth is targeted through many channels, as well as the promotion of innovation and socio-economic cohesion. The links between Theories of Change and the literature are shown below.

33. Figure: Poland's Theories of Change fitting into the broader enterprise strategy of the region

Intended change identified by literature review	PL ToC 1	PL ToC 2	PL ToC 3	PL ToC 4	PL ToC 5
creation of new jobs	••	•	••	•••	
contribution to economic growth	••	••	••	••	•••
increase in number of innovations	•••	•••	•••	••	
promotion of socio-economic cohesion	•	••	••	••	

Source: Evaluators

Portugal

Large enterprise theories relate to the Operational Programme Thematic Factors of Competitiveness, i.e. R&T&D Incentive Scheme for R&D in business, and Innovation Incentive System.

ToC 1. Support for innovative investments to promote regional employment and growth
("INNOVATIVE INVESTMENTS")

ToC 2. R&D&I support for enterprises to promote industry specialisation and international competitiveness ("R&D&I FOR INDUSTRY SPECIALISATION")

Theories aim at facilitating growth and jobs through R&D&I by ways of supporting highly innovative investments, and investing in research in development to promote sector specialisation and increase outward orientation of large enterprises. The links between Theories of change and the literature are shown below.

34. Figure: Portugal's Theories of Change fitting into the broader enterprise strategy of the region

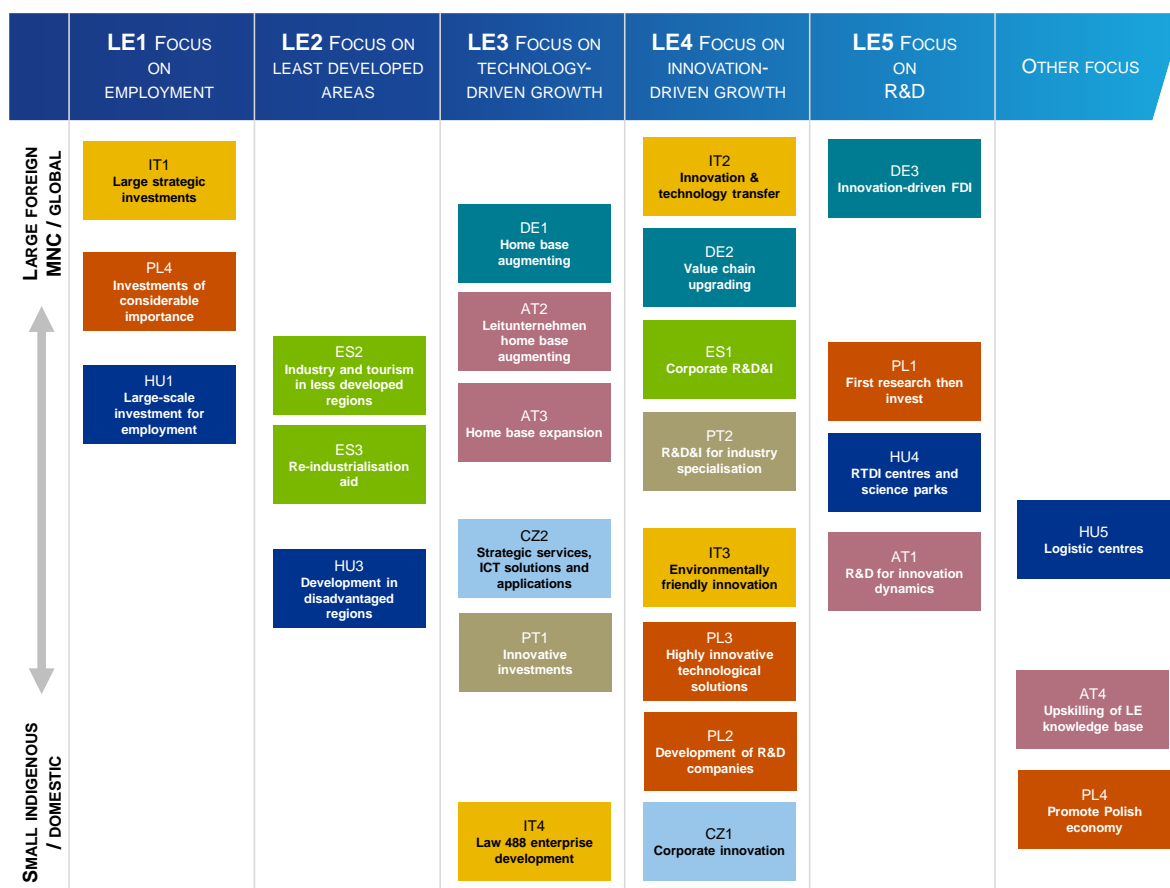
Intended change identified by literature review	PT ToC 1	PT ToC 2
intensify R&D and creation of new knowledge for the development of the country	•••	•••
encourage large structural investments in new areas with potential growth	••	•
increase outward orientation of Portuguese companies	•	•••

Source: Evaluators

4.3.4 Classification of country-level theories

We reviewed and classified the identified theories based on the information available. The main criteria applied was the **focus** of the theory, i.e. the main direction of the intended change. Since limited information was available on the **character** of the targeted large enterprises (size or origin), we placed theories around this axis by estimation.

35. Figure: High level classification of theories



Source: Evaluators

Employment focus was made explicit in Italy, Hungary and Poland. In these cases high impact of the large enterprise support on the job market was a salient point in support conditions.

While all convergence programmes were meant to mitigate territorial disparities, some theories were primarily aimed at helping the **least developed areas**. Both Spain and Hungary dedicated specific support to boost the economy of underdeveloped smaller regions, in which the role of large enterprise was expected to be significant.

Certain theories aimed to help enterprises **grow** and **export**, with a strong focus on the development of their **technology** used. Germany, Austria, Portugal, the Czech Republic and Italy provided examples for such large enterprise support.

Often placed under R&D&I priority axis within the programmes, some theories have targeted similar **growth** of the supported enterprises but through an explicit **innovation**-driven process. Italy, Germany, Spain, Portugal, Poland and the Czech Republic have applied such theories for large enterprises in their programmes.

Theories with strong **R&D**-focus were applied in Germany, Austria, Poland and Hungary. These theories seem to go beyond applying innovative solutions, and finance the development of R&D infrastructure and R&D activities.

Finally, some interventions were categorised as “other”, covering investments in logistic centres (Hungary), visiting events and fairs (Poland), and the upskilling of employees (Austria).

4.3.5 The five generalised theories in the 8 countries

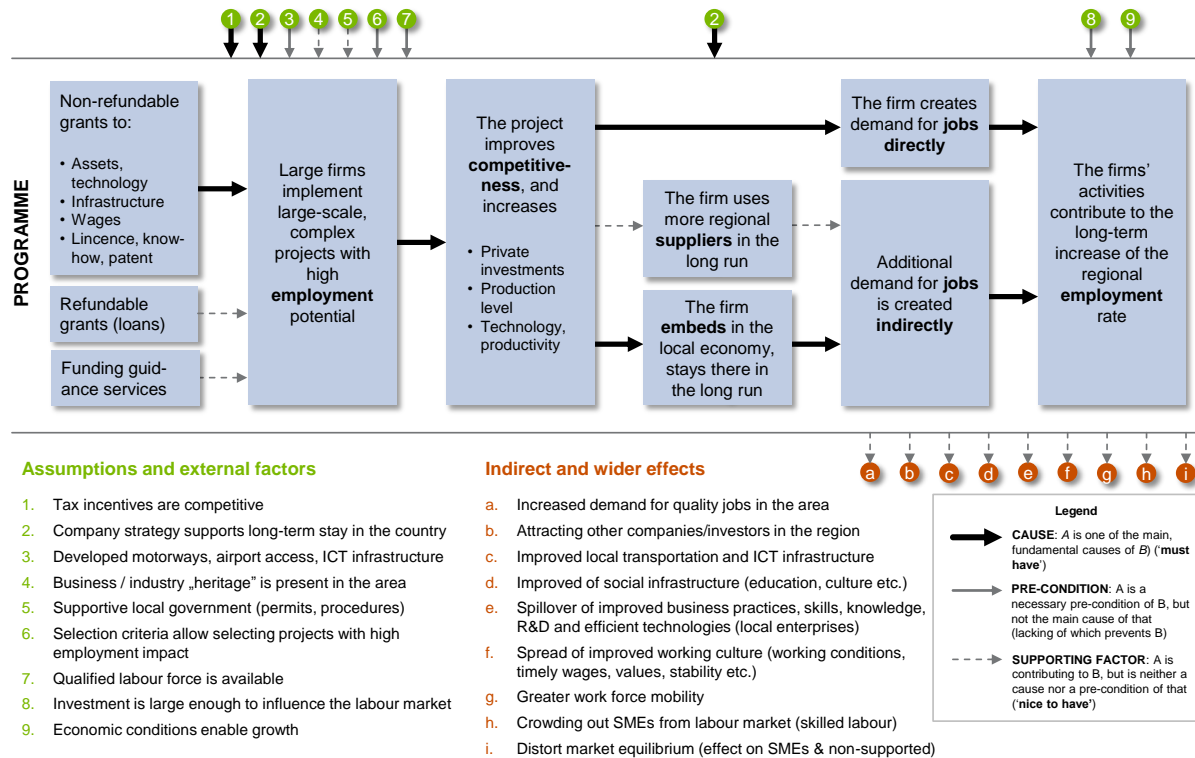
Based on the categorisation above, 5 broad, stylised theories have been reconstructed in the 8 countries concerned. These account for 24 out of the 27 country-level theories of change, in line with the chart presented in the previous section. The theories include the most frequent elements of the country-level theories, and also build on the outcomes of the literature review, especially related to assumptions, external factors and indirect/wider effects.

The five theories are presented below, and are also included in PART C of the report.

“LE1” Large-scale investment to increase employment

The theory is related to the support of large, complex projects with high employment impact. Typically, support is given to large multinational firms, often in connection with foreign direct investment. Focus is on creating demand for a large number of jobs in the long run.

36. Figure: theory “LE1”, large-scale investment to increase employment



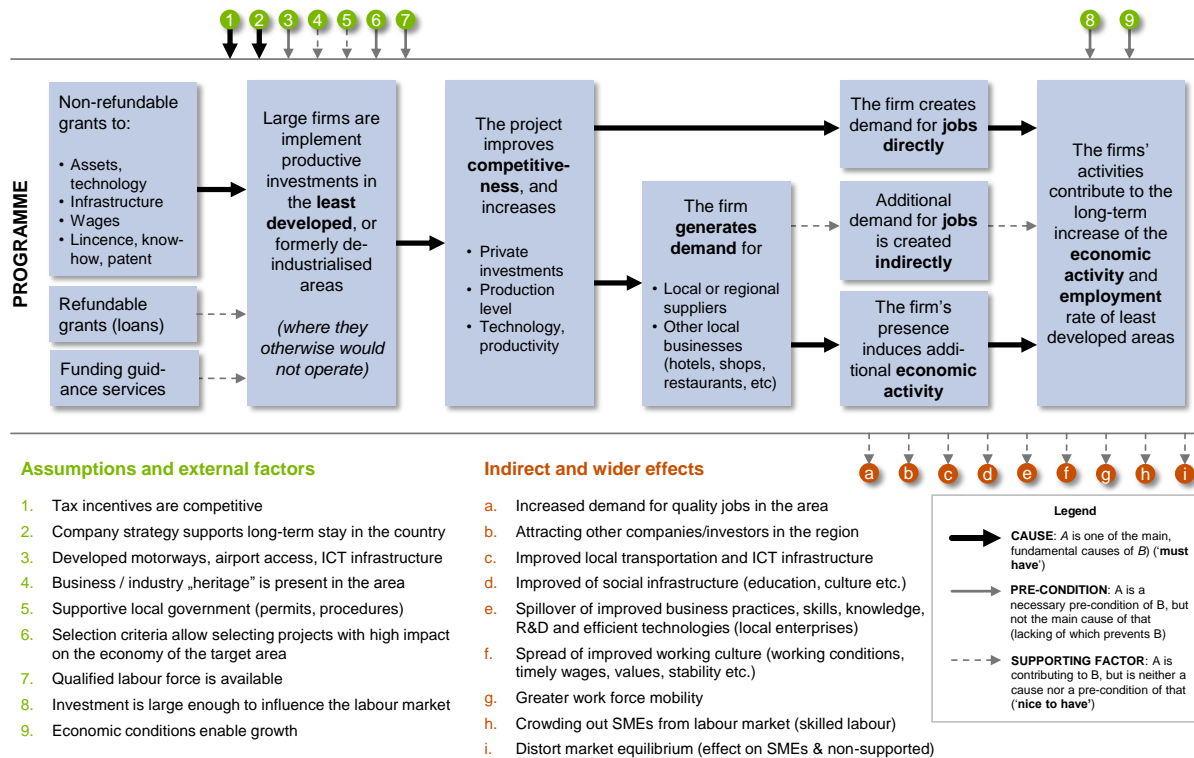
Source: evaluators

“LE2” Investments to improve the least developed areas

A core element of the theory is the influence of the programme on the location choice of the large enterprise. It aims to incentivise the large enterprises to move to areas, which they would not choose

otherwise. The contribution to the local economy and employment is a key expectation from the intervention.

37. Figure: theory “LE2”, investments to improve the least developed areas

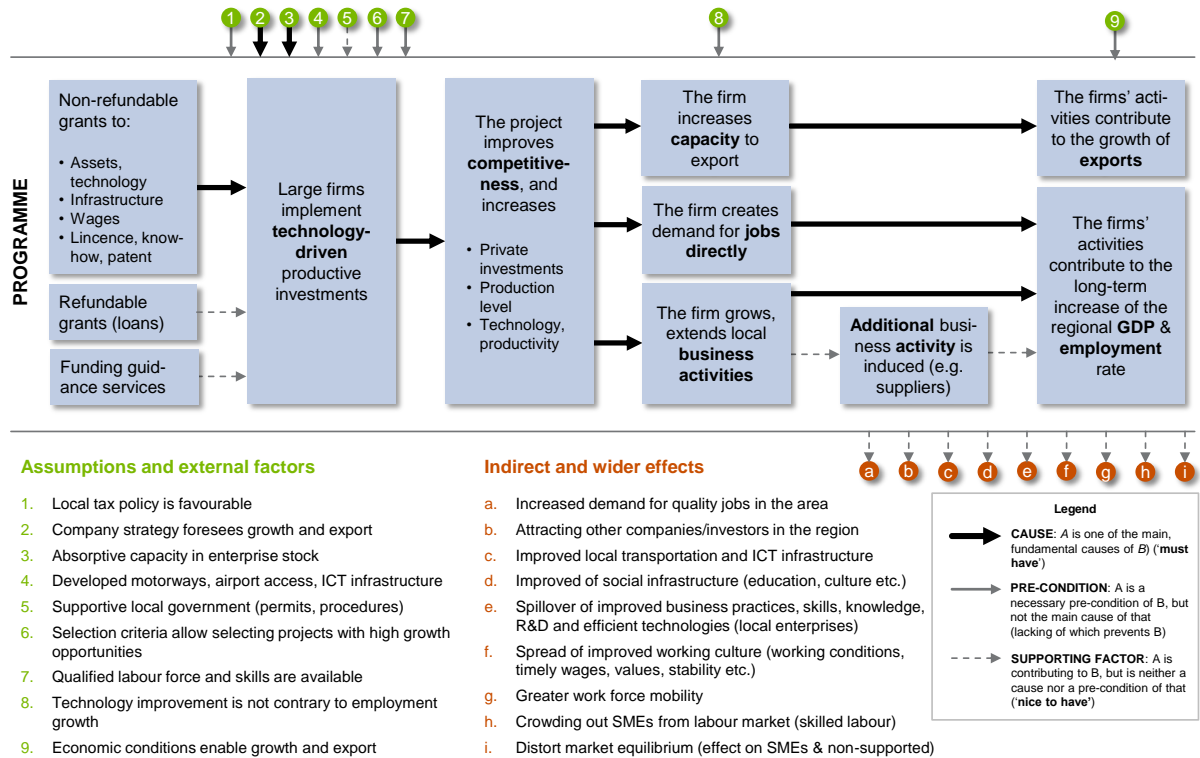


Source: evaluators

“LE3” Technology-driven investments to stimulate growth and export

The theory revolves around improving and modernising technologies with a view to facilitating growth of the supported companies, and increasing their capacity to expand in foreign markets. The supported investments are expected to contribute to regional GDP and employment.

38. Figure: theory “LE3”, technology-driven investments to stimulate growth and export

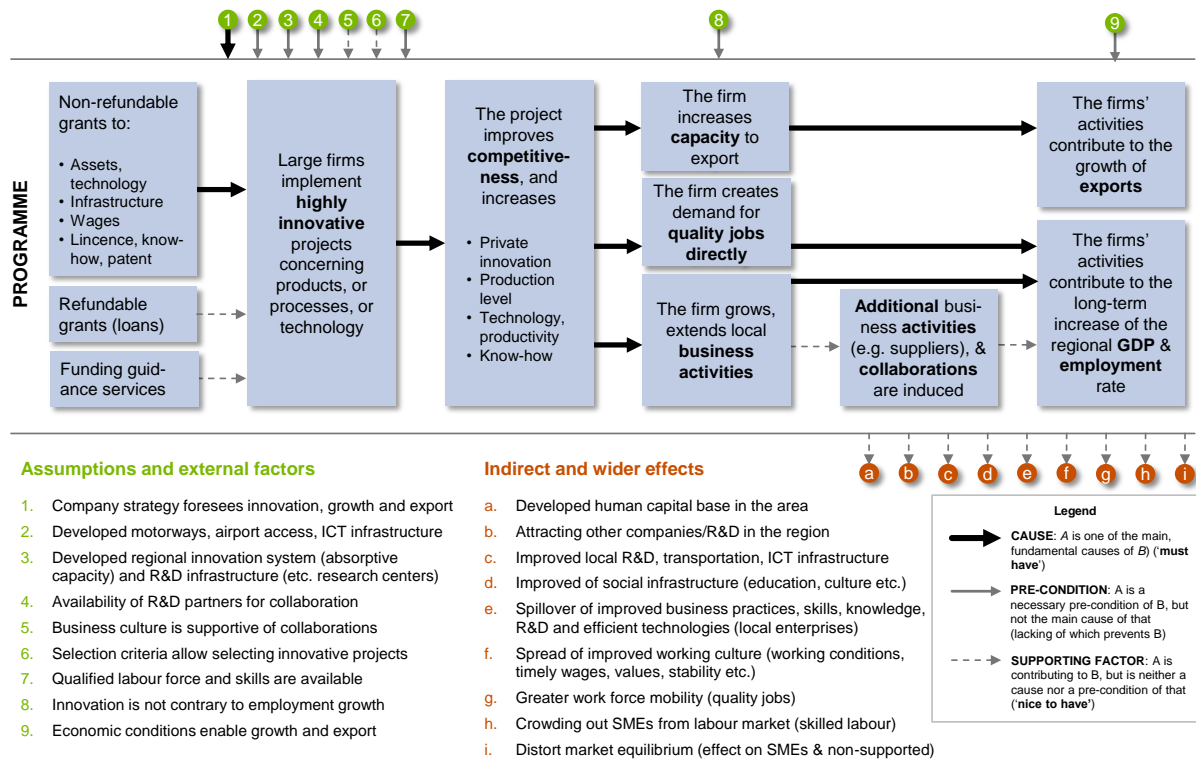


Source: evaluators

“LE4” Innovation-driven investments to stimulate „smart” growth

The theory focuses on implementing highly innovative projects that contribute to increasing competitiveness, stimulate growth, and thereby contribute to the regional GDP and employment. The key difference compared to theory “LE3” is its conceptual link to innovation.

39. Figure: theory “LE4”, innovation-driven investments to stimulate „smart” growth

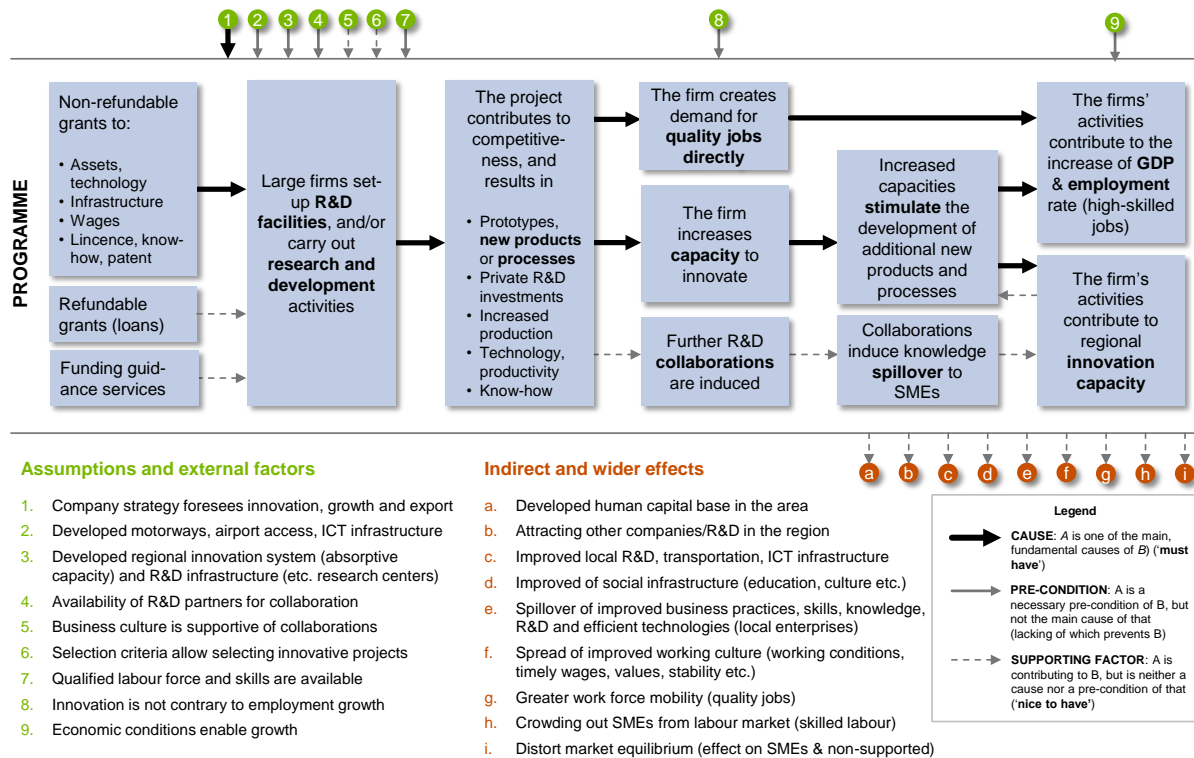


Source: evaluators

“LE5” R&D investments to promote growth, innovation and quality jobs

This theory involves the development of R&D infrastructure and the support of R&D activities with a view to improving R&D capacities, increasing demand for quality jobs, fostering R&D collaborations and strengthening regional innovation capacity.

40. Figure: theory “LE5”, R&D investments to promote growth, innovation and quality jobs



Source: evaluators

5 Annex

Annex 1: Literature Review Framework (including explanation)

Category	Columns of Framework	Explanation
General information about the publication	Author / Institution	-
	Document Title / Title	-
	Year of Publication	-
	Type of Document (policy document, evaluation etc.)	Drop-down list
	Country / Region (in individual cells)	-
	Keywords	Relevant information about the specific publication (e.g. focus, time frame, etc.)
Basic information on the programme / intervention	Type of intervention / form of support	Drop-down list
	Target of intervention	Description of the underlying problem that is to be addressed. Most likely rather to find in policy & programme documents than in scientific papers.
	Target group (LE, SME)	Very crucial column. Is always to be filled, even if information is vague. Please specify the focus of the intervention, i.e. SME (focus) or LE (focus) etc. ➔ Drop-Down list
	Target sector	Sectoral focus of funding
	Financial / technical conditions	Conditions for support / within the support framework (e.g. entry requirements, co-financing)
	Allocated inputs	Document every kind of financing for this but definitely specify ERDF amounts
	Target outputs	Look for output indicators in programmes (output usually refers to countable results, such as number of jobs, number of projects etc.)
Effects of the intervention (focus on large enterprises)	Desired final changes	Specific impacts or changes that shall be achieved through the funding (e.g. increasing the employment rate), but do not be too general (e.g. improved competitiveness)
	Realised outputs	Look for reports on output indicators (e.g. number of projects, supportive investment volumes etc.)
	Contribution of programme outputs to programme outcomes (actual results)	Specific contribution of the programme outputs on the actual outcomes (intended & unintended), i.e. what difference did the programme make (causal relationship?). To be found mainly in evaluation / scientific reports.
Influential factors on programme performance (2007-2013)	Examples / contribution stories	Are specific examples of a company, a project, a measure mentioned, in which the funding had a positive / negative contribution to development
	National context	The contexts in which the programme operates make a difference to the results it achieves. With regard to the intervention, that is factors on a national level that influence the intervention (e.g. consequences due to financial crisis).
	Regional context	With regard to the intervention; factors that influence the intervention on a regional level.
Intervention strategy of the programme	Programme context	With regard to the intervention; factors that influence the programme (e.g. changes in administrative structures, changes in programme management or programme targets)
	Needs of the Member State or region	Why is there an intervention necessary? (e.g. because of unemployment in the MS/region, structural change in the MS/region)
	Underlying impact Chain	What is the underlying impact chain from input to outcomes of the intervention? (e.g. attraction of foreign direct investment in R&D activities => establishment of large enterprise research facilities => increase innovation capacity of region => positive spillovers to small and medium-sized enterprises in the programme area)
	Underlying assumptions	What do policy makers / programme managers aim for with this

		intervention. How do the explicitly or implicitly justify the support of large enterprises.
	Changes of intervention over time	Linked to the national / regional / program context situation. Here specific information on the specific change of the intervention (large enterprise!) is to be collected
	Case for change	Proceeding, target, measure or something else in the context of the intervention has changed / had to be adapted (e.g. something else than initially intended is to be fostered because initial programme construction doesn't work)
	<i>Description of underlying Theory of Change</i>	<i>If applicable / possible. Ideas about Theory of Change is sufficient.</i>
Methodology	Methodological approach & techniques (incl. limitations of the approach)	Refers to evaluation / scientific reports only
Other	Comments on circumstances, problems, stakeholders etc.	-

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Annex 3: Excursus: Regional Growth Theories informing Cohesion and Structural Policy

The question about impacts and steering effects (factual, temporal and spatial) of the instruments of Cohesion and Structural policy is a long standing one. Many studies and evaluations have assessed this theoretically and empirically. In the meanwhile, EU regional policy has led to a development of a variety of policy approaches with multifaceted instruments and the implementation of new strategy and governance models. In particular the approaches for an innovation-oriented regional policy as well as a sustainable regional development have to be mentioned here. The result is a complex system of EU-wide funding, which is adapting steadily to changing framework conditions (EU-expansion, globalization, technological change etc.). Today our knowledge base about the complex interdependencies of regional growth (e.g. regarding the importance of innovation and human capital, cluster development, spatial investment behaviour, increasingly internationalized firms, relevance of environmental and climate aspects etc.) has expanded significantly.

Thus, the identification of relevant policies targeting Large Enterprises and the underlying theory of changes requires an in-depth understanding of the assumptions and expected causal relationships within the intervention. Therefore a concise overview of the primary **theories of regional development** that have been guiding structural policy making is prepared as excursus of this Interim Report. These comprise theories that explain and recommend strategies relying on external development impulses for regional development (“factor mobility strategies”) and theories focusing on mobilising and enhancements of endogenous potentials of a region (“endogenous growth strategies”).¹¹⁴

Against this background, it is helpful to review the impacts of large enterprise funding through ERDF / CF from a regional-economic and microeconomic perspective. Explanations which can serve as a guideline in the assessment of large enterprise support and theories of change can be found in the major theories of regional development.

In the current discussion two major approaches can be differentiated, namely an approach of “strengthening the strong” and “strengthening the strength”. Behind these catch-phrases there are different strategies for structural policy making. These strategies represent a combination of instruments which are focused on specific objectives and which demonstrate, based on the theoretical considerations of regional development, a relative consistency.¹¹⁵

Regional / structural policy from this perspective can then be motivated economically (growth optimal allocation of resources), socially (reduction of regional disparities) or ecological (reduction of environmental pollution, protection of landscapes). Ideally, all three dimensions of sustainability should be addressed.

In what follows, we briefly describe individual strategies which are either focusing primarily on external development impulses for regional development (**factor mobility strategies**) or in the development of endogenous growth potentials of regions (**endogenous strategies**).

Factor Mobility Strategies

¹¹⁴ For a short overview, see Prognos (2010) Implementation of the Objective “Regional Competitiveness and Employment „within European Structural Policy and Options for the Implementation within the funding period 2014-2020, on behalf of the German Federal Ministry of Economics and Technology.

¹¹⁵ Compare Maier, G. & F. Tödting (2006): Regional- und Stadtökonomik, S. 152, Wien/ New York. Farole, Rodriguez-Pose and Storper (2009) Cohesion Policy in the European Union: Growth, Geography, Institutions. Working Paper written in the context of the report “An Agenda for a reformed Cohesion Policy”.

Factor mobility strategies focus on inducing external factors of regional development such as the mobility of production factors or infrastructure development. Regional development in this perspective is primarily driven through external impulses, primarily through the settlement of new companies, particularly larger enterprises, the influx of capital and know-how as well as infrastructure development and financial incentives (often through national states or the EU).

Neoclassical strategies are based on the growth-theoretical assumption that market mechanisms will principally lead to an optimal allocation of factor inputs between regions and will lead to an even distribution of income. In case of greater differences in income distribution interregional trade and factor mobility (capital, labour) will lead to an assimilation of per-capita income. The role of structural policy in this context is generally seen as low. If at all instruments that improve the working of market mechanisms are to be supported, i.e. the reduction of monopolies, information instruments or the support of mobility of both capital and labour. These instruments are all in all not a major focus point of structural policy and ERDF instruments.

Growth pole strategies on the other hand are focusing strongly on scale and agglomeration benefits as drivers of regional growth. Due to persistent polarization processes the market mechanism can neither guarantee an optimal allocation of resources nor a cohesive regional development. Therefore, this strategy approach forces the promotion of scale and agglomeration benefits through a spatially-focused development of infrastructure and through focused industrialization projects, the latter primarily through capital incentives. Supported activities within the growth poles and development centres shall take place at larger enterprises, belong to growing industries and shall be technologically advanced. The settlement of new export-oriented and growing enterprises is a key focus. Ideally these enterprises should be linked to the regional economy through supply chain / value chain interactions. It is expected that from this industrial agglomerations development impulses for the periphery can be induced (so call trickle-down effects).

Endogenous Growth Strategies

While mobility-oriented strategies focus on factor mobility and particular the effects of new enterprise settlements in a region, **(classical) endogenous strategies** focus on intra-regional resources and growth factors. Endogenous strategies of regional development are typically quite comprehensive and are aiming on strengthening actors of regional development. These actors comprise firms, employees as well as policy makers, public and social institutions as well as residents. Existing resources shall be continuously developed while considering socio-cultural as well as environmental factors. Qualitative and mobilizing aspects of regional development are addressed quite well in this approach; however quantitative impacts remain low – particularly in the weaker regions – due to limited endogenous potentials.

Innovation-oriented regional policy strategies are linked to these endogenous potentials of regions but this type of strategy focuses primarily on the innovation-related and technological capabilities of enterprises in a region. Public interventions in innovation processes can be justified looking at the nature of innovation for which both external effects and market failures can be identified. Support of high-technology and technology clusters focuses on strengthening the technological position of a region or country in specific industries or (key enabling) technologies. Another string of innovation-oriented strategies focuses on the enhancement of innovation-capacities of firms in (disadvantaged) regions and the speed up of the diffusion of technologies. Innovation-capacities are not only linked to high-technologies but include also product and process innovations as well as organizational improvements within the regional innovation systems. Measures target enterprises, e.g. in form of financial support of R&D-projects, consulting, technology transfer. Moreover, traffic, communication and education infrastructures as well as transfer infrastructures linked to the business needs can be supported. Cluster policy, as another strategic option, focuses on the promotion of regional concentrations of firms in related-business activities by developing agglomeration benefits. Particularly networking among regional actors is of high importance here.

Regional Growth Theories informing EU Cohesion & Structural Policy

Factor Mobility Strategies	Endogenous Strategies of Regional Development
Promotion of inward-investment & export promotion	Modernisation of existing firms

Absorption of extra-regional resources (capital, technology)	Development of regional resources (entrepreneurship, knowledge, qualification)
Focus on industrial sector	Cross-sector strategies
Competitiveness through capital-intensive and modern structures / processes as well as low factor costs (in particular labour)	Competitiveness through product quality and innovation
Inter-regional traffic infrastructure	Integration of energy and environmental projects
Focus on enterprises	Intra-regional traffic infrastructure
	Broad integration of regional stakeholders

Source: Evaluators, 2014 based on Maier / Tödting / Trippl (2006)

Conclusion

The two endogenous strategies of regional development, namely growth pole strategies and the approach focusing on high-tech, are closely related to the approach “strengthening the strong”. The other endogenous strategies are linked to an approach of “strengthening the strength”. Overall, European structural policy shows a mix of factor-mobility and endogenous growth strategies. This is justifiable if the concrete programmatic approaches are acknowledging the regional starting position (place-based strength & weaknesses; chances & risks).

Large enterprise support in the EU and the intervention logics behind this support shall be evaluated against this background, i.e. reflect whether individual elements of the described regional growth theories are included in the interventions and thus check if there is a foundation for plausible and successful structural policy making.

Annex 4: List of interviews with Managing Authorities and other responsible bodies

Country	Interview
Austria	<p>Representation of Austrian MAs (Österreichische Raumordnungskonferenz (ÖROK)) Andreas Maier Date: 2014.08.24; 2014.11.19; 2014.11.26; 2014.12.04</p>
Czech Republic	<p>OPEI, Ministry of Industry and Trade Mr. Petr Očko (General Director for EU Funds, Research and Development) Date: 2014.10.20</p> <p>NCA, Ministry for Regional Development Mr. Vladimír Kváča (Director (Department of evaluations and strategies)) Date: 2014.09.09</p>
Germany	<p>Investitionsbank Schleswig-Holstein Axel Specht email exchange</p> <p>MA Rhineland-Palatinate (Ministerium für Wirtschaft, Klimaschutz, Energie und Landesplanung des Landes Rheinland-Pfalz) Christa Schumacher Date: 2014.10.20</p> <p>Ziel-2-Sekretariat NRW Claudia Martin Date: 2014.10.27</p> <p>MA Saarland (Ministerium für Wirtschaft, Arbeit, Energie und Verkehr des Saarlandes) Dieter Ruppert email exchange</p> <p>MA North Rhine-Westphalia (Ministerium für Wirtschaft, Energie, Industrie, Mittelstand und Handwerk des Landes Nordrhein-Westfalen) Dr. Bernhard Roth-Harting Date: 2014.10.29</p> <p>MA Baden-Württemberg (Ministerium für Ländlichen Raum und Verbraucherschutz Baden-Württemberg) Dr. Georg Ris email exchange</p> <p>Landesentwicklungsgesellschaft (LEG) Thüringen Dr. Gilbert Metzger Date: 2014.11.05</p> <p>MA Hamburg (Behörde für Wirtschaft, Verkehr und Innovation des Landes Hamburg) Dr. Julia Friedland email exchange</p> <p>MA Mecklenburg-West Pomerania (Ministerium für Wirtschaft, Bau und Tourismus des Landes Mecklenburg-Vorpommern) Dr. Michael Feil Date: 2014.10.21; 2014.11.04</p> <p>MA Berlin (Senatsverwaltung für Wirtschaft, Technologie und Forschung des Landes Berlin) Helga Abendroth Date: 2014.11.11; 2014. 11.21; 2014.12.04</p> <p>MA Lower Saxony (Niedersächsische Staatskanzlei) Iris Imcke, Wilhelm Schulz Date: 2014.10.30</p>

Country	Interview
	<p>MA Thuringia (Thüringer Ministerium für Wirtschaft, Arbeit und Technologie) Kerstin Friese, Gaby Mehlhorn email exchange</p> <p>MA Hesse (Hessisches Ministerium für Wirtschaft, Energie, Verkehr und Landesentwicklung) Kerstin Höhme Date: 2014.10.20</p> <p>MA Saxony (Sächsisches Staatsministerium für Wirtschaft, Arbeit und Verkehr) Nadin Großer email exchange</p> <p>MA Brandenburg (Ministerium für Wirtschaft und Energie des Landes Brandenburg) Robert Großmann Date: 2014.11.12; 2014.12.01</p> <p>MA Schleswig-Holstein (Ministerium für Wirtschaft, Arbeit, Verkehr und Technologie des Landes Schleswig-Holstein) Silke Rieger Date: 2014.08.29; 2014.09.04</p> <p>MA Saxony-Anhalt (Ministerium der Finanzen des Landes Sachsen-Anhalt) Stefanie Möllhof email exchange</p> <p>MA Bavaria (Bayerisches Staatsministerium für Wirtschaft und Medien, Energie und Technologie) Thomas Krammer email exchange</p> <p>MA Bremen (Senator für Wirtschaft, Arbeit und Häfen der Freien Hansestadt Bremen) Thomas Schwender Date: 2014.11.26</p>
Spain	<p>Directorate General of Community Funds, Ministry of Economy and Finance Anatolio Alonso Pardo (Assistant Director General for Administration of the ERDF), David Azcárate (Technical management and data analyst at Ministry of Finance) Date: 2014.10.16</p> <p>Ministry for National Economy Anikó Kabay (Managing Authority representative) Date: 2014.09.26</p>
Hungary	<p>Csaba Novák, László Keller (Intermediary Body representative) Date: 2014.11.14</p> <p>Ministry for Education, University and Research Giuseppe Bronzino (Director in charge of the Division the Ministry for Economic Development (Intermediate body)) Date: 2014.11.25</p>
Italy	
Poland	<p>Dolnośląska Instytucja Pośrednicząca Beata Ankudowicz Date: 2014.10.17</p> <p>Urząd Marszałkowski Województwa Kujawsko-Pomorskiego Eliza Kaczmarek Date: 2014.10.24</p> <p>Urząd Marszałkowski Województwa Lubelskiego Alicja Strzępek Date: 2014.10.02</p> <p>Urząd Marszałkowski Województwa Lubuskiego Iwona Zimoch</p>

Country	Interview
	<p>Date: 2014.10.01 Centrum Obsługi Przedsiębiorcy Paulina Ziemińska Date: 2014.10.09 Urząd Marszałkowski Województwa Małopolskiego Rafal Bartyzel Date: 2014.09.26 Urząd Marszałkowski Województwa Mazowieckiego Lidia Krawczyk Date: 2014.10.13 Urząd Marszałkowski Województwa Podkarpackiego Szymon Skublicki Date: 2014.10.22 Urząd Marszałkowski Województwa Podlaskiego Justyna Muszyńska Date: 2014.10.14 Urząd Marszałkowski Województwa Pomorskiego Maciej Grzywacz Date: 2014.09.30 Urząd Marszałkowski Województwa Śląskiego Justyna Bembenek Date: 2014.09.30 Urząd Marszałkowski Województwa Świętokrzyskiego Małgorzata Lipa Date: 2014.09.24 Urząd Marszałkowski Województwa Warmińsko-Mazurskiego Katarzyna Taperek-Grzędzińska Date: 2014.09.24 Urząd Marszałkowski Województwa Wielkopolskiego Małgorzata Koszarek Date: 2014.10.10 Urząd Marszałkowski Województwa Zachodniopomorskiego Monika Lemke Date: 2014.09.26 Ministry of Infrastructure and Development Agata Miętek Date: 2014.09.30 Marta Brzozowska Date: 2014.09.30 Magdalena Hajowska, Daniel Kotkowski Date: 2014.09.08; 2014. 11.14; 2014.11.21; 2014.12.01 Tomasz Kot, Tomasz Gapski Date: 2014.09.10</p>
Portugal	<p>Development Agency and Cohesion Carla Leal (Director of Monitoring and Evaluation Unit), Rui Inacio (Project Officer), Joao Fragoso Date: 2014.10.30</p>

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