



European Committee
of the Regions

Commission for
Economic Policy

ECON

Assessing the impact of the UK's withdrawal from the EU on regions and cities in EU27



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Catalogue number: QG-01-18-277-EN-N; ISBN: 978-92-895-0949-7; doi:10.2863/572180

This report was written by François Levarlet, Paolo Seri, Chiara Zingaretti, Dea Hrelja, Elodie Lorgeoux (t33) with contributions for the case studies from Christian Lüer (Spatial Foresight) and Martyna Derszniak-Noirjean (ÖIR), and additional comments from Jayne Woolford and Francesco Trombetta.

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Table of contents

Executive summary	1
Introduction	5
1 Most exposed countries and regions by sector	9
1.1 Transport vehicles	11
1.2 Machinery	15
1.3 Electronics	17
1.4 Textile and Furniture	20
1.5 Vegetables, Foodstuff and Wood	23
1.6 Chemicals and Plastics	26
2 Case studies	31
2.1 Hauts-de-France and Bretagne (France)	33
2.2 Malopolskie and Lubelskie Voivodeship (Poland)	37
2.3 Hessen Federal State (Germany)	42
2.4 Flanders Region and Ports (Belgium)	46
2.5 Municipality of La Línea de la Concepción (Spain)	49
3 Conclusions and recommendations	55
4 References	57
5 Annexes	59

List of abbreviations

BREI: Brexit Regional Exposure Index

BREXIT: the UK's withdrawal

EU: European Union

FDI: Foreign Direct Investment

GBP: British Pound Sterling

GDP: Gross Domestic Product

HHI: Herfindahl-Hirschman Index

LRA: Local and Regional Authority

NUTS: Nomenclature of Territorial Units for Statistics

UK: United Kingdom

Executive summary

- The objective of the study is to provide an analysis on the exposure of EU27 regions to the UK and the likely impact of the UK's withdrawal from the EU on regions and cities in EU27. The methodology used is mainly based on a literature review, a statistical analysis using EU (Eurostat) and international databases, while also relying on more qualitative case studies and interviews with local stakeholders.
- The exposure index covering the EU27 regions at two-digit sectoral level must be considered as the main delivery of the study; calculations are based on updated data on trade flows (exports) considering six key economic sectors in EU27 (i.e. Transport Vehicles, Machinery, Electronics, Textile and Furniture, Vegetables, Foodstuff and Wood, Chemical and Plastics).
- Results must be interpreted with caution. The research was carried out in a moving context of information (with new studies recently published in the field and events being frequently organized at EU, national and regional levels), with limited access to disaggregated data at NUTS 3 level and with still high uncertainties on the future of negotiations and possible scenarios.
- Based on the index calculations, we are able to identify, for each sector, some of the countries and regions that could be most impacted by Brexit. The main contribution of this approach is to indicate to LRAs the direct policy implications of Brexit on specific sectors and the related negotiations on which they should focus.
- Some of the most exposed Member States and regions by sectors are the following.
 - In the “Transport vehicles” sector, the most exposed regions are Vest (RO), Stuttgart (DE); Niederbayern (DE) and Midi-Pyrénées (FR). Among smaller countries, Belgium is one of the most exposed.
 - In the “Machinery” sector, some of the most exposed regions are Tübingen (DE), and Emilia Romagna (IT), while among smaller countries the most exposed are Republic of Ireland, the Czech Republic and the Netherlands.

- In the “Electronics” sector, the most exposed regions are Západne Slovensko region (SK), Střední Morava region (CZ), Vest Development Region (RO), while among smaller countries the most exposed are Republic of Ireland and the Netherlands.
 - In the “Textile and Furniture” sector, the most exposed regions are Tuscany (IT), Marches (IT), Norte (PT) and Severozapaden (BG). There are no small countries particularly exposed in this sector.
 - In the “Vegetables, Foodstuff and Wood” sector, the most exposed regions are Ipeiros (EL) and Bretagne (FR). Among smaller countries the most exposed are Republic of Ireland and Latvia.
 - In the “Chemical and Plastics” sector, the most exposed regions are Auvergne (FR), Rheinhessen-Pfalz (DE), Walloon Brabant (BE), Sterea Ellada (EL), Zeeland (NL). Among smaller countries the most exposed is again Republic of Ireland.
- Considering only the top three sectors of export to the UK for each Member State, there could be cases of regions highly specialised in minor sectors of production exported to the UK that do not emerge from the analysis. This question has been partially addressed through specific case studies.
 - The case studies carried out in seven regions complement the analysis provided by the index, exploring dimensions other than trade flows, i.e. cross-border flows of workers, migration effects, direct investments and infrastructures at cross-border level. The case studies also address more specifically the opportunity inherent in the UK withdrawal, which could benefit some regions to a certain extent (e.g. Haut-de-France or Hessen).
 - In general, the situation varies across EU regions. There is no clearly identified ‘winner’ (i.e. regions reporting increasing socio-economic opportunities and market potentials as a consequence of Brexit, whatever the scenario). Most regions would likely lose their current position in some sectors (in terms of trade, direct investments or migration opportunities for workers, students or researchers). It is worth mentioning the regions in a ‘grey’ situation with certain activities losing from Brexit while others are benefitting in some way.

- When it comes to EU budget for cohesion policy, it is likely that LRAs' budgets will be impacted by the UK's withdrawal over the next programming period; however, final impacts will depend on future political decisions and budgetary arbitration made at EU and national levels.

Introduction

Objective of the study

The objective of the study is to analyse the exposure of EU27 regions to the UK decision to withdraw from the EU.

The study is based on a literature review, statistical analysis using available data sources and a set of case studies carried out with the aim of completing with examples the information that cannot be supported by statistical analysis.

Although there is a large body of material explaining the UK decision to opt out from the EU and evaluating potential scenarios from speculative or semi-qualitative perspectives, there are still only a few empirical studies on the long-term potential impacts of Brexit on European regions.

Along this line of research, a few remarkable studies have already assessed that the economic impact of Brexit would be virtually insignificant and hardly noticed for the EU27 in aggregate (CEPS, 2017), and quite low in general for single European regions with the exception of UK regions (Chen et al. 2017).

In particular, Chen et alii (2017) use sophisticated estimation methods to deconstruct gross export data to their value-added components and project data to the regional level. Their work shows that UK regions are far more exposed than regions in other countries and that only regions in the Republic of Ireland face exposure levels similar to some UK regions. Our approach does not have the ambition of calculating the exact amount of GDP exposed to Brexit, but to identify the most exposed regions in each industrial sector.

The effective impact on regions will depend on the negotiation agreement that will be reached for each single sector and the weight that each sector has in the productive structure of that specific region. In other words, knowing which sectors of trade with the UK play a major role within the economy of each region will be one of the most important elements to shape the negotiation proposal of various regions.

This study aims to contribute to the empirical line of research analysing Brexit's long-term impacts on European regions by proposing a breakdown of economic effects by sectors and regions. In this way some additional light will be shed on which regions and sectors will be impacted and that in turn will provide a basis for further analysis and action proposals that might help in the negotiation process to minimize adverse impacts and maximize potential gains.

Approach

The methodological approach includes the following steps of analysis:

- data collection and set up of the methodology;
- in **chapter 1**, calculation of an exposure index at country and regional levels for the six most relevant sectors, with maps and graphics providing an overview of the attained results;
- a presentation of the results from the case studies in **chapter 2**;
- conclusions and recommendations in **chapter 3**.

In the study, the mapping of socio-economic linkages between the UK and the EU27 only covers trade flows (analysed in chapter 1). The study does not address FDI flows from the UK to all the EU27 regions on a systematic basis, as related disaggregated information at regional level is not available at the date of publication of this study. However, partial information on FDI from the UK is provided in the section dedicated to the case studies. In addition, a few elements related to Brexit from the ESPON draft report “The World in Europe, global FDI flows towards Europe” are reported in Annex 1.

Exposure index

The Brexit Regional Exposure Index (BREI) was calculated using different steps and intermediate indexes. In total, the study defined three different indicators related to the exposure of sectors at the national and regional levels, as well as an index of specialization measuring the resilience of a region’s economy to Brexit.

National Size exposure index

In a first stage, we defined the **National Size Exposure Index** for each sector in each EU27 country.

$$Size\ Exposure = \frac{X_j^{i,UK}}{\sum_i X_j^{i,World}} = \frac{Sector's\ Exports\ to\ the\ UK}{Total\ Country\ Exports\ to\ the\ World}$$

where $X_j^{i,UK}$ are exports in sector i from country j , exported to the UK. The denominator $X_j^{i,World}$ represents the sum of total exports of all sectors from country j to the world.

This index is particularly important since it indicates the UK’s overall importance as an export destination for a specific group of goods produced by a

specific country. We calculated the exposure index as indicated above for each trading sector (according to the HS Classification¹). We then individuated the top three exporting sectors to UK for each nation as the share of sector i on total export to UK by country j².

Brexit Regional Exposure Index

In a second stage, we focused on analysing production structure data at the regional level in order to identify the regions more specialized in the top three exporting sectors to UK for each nation. We calculated the **Brexit Regional Exposure Index** as the difference between the percentage of people employed within region j and sector i and the national average of the employees of sector i calculated across all regions of the country. Thus, the values of BREI reported on maps and graphs are percent points.

Herfindahl Hirschman Index

The assumption behind the use of this index is that the more varied (i.e. developed and complex) the economic structure of a region is, the more resilient the region is likely to be to negative effects of Brexit linked to alterations in trade flows. This is understandable, as highly complex and differentiated productive structures do not depend crucially on exports in one or two sectors and will therefore be less exposed to modifications in terms of trade. To measure this effect, we calculated the Herfindahl Hirschman Index for each of the NUTS 2 regions of EU27.

$$H = \sum_{i=1}^N s_i^2$$

where s_i is the proportion of employees of sector i out of the total number of employees for that region, and N is the number of sectors. Thus, in a region with two sectors each having 50 per cent of employees, the Herfindahl Hirschman Index equals $0.50^2+0.50^2 = 1/2$. The Herfindahl Hirschman Index (H) ranges from $1/N$ to one, where N is the number of sectors in the region. The higher the index value the less differentiated (more specialized) the region.

¹ The Harmonized System (HS) is an international nomenclature for the classification of products. It allows participating countries to classify traded goods on a common basis for customs purposes. At the international level, the Harmonized System (HS) for classifying goods is a six-digit code system. <https://unstats.un.org/unsd/tradekb/Knowledgebase/50018/Harmonized-Commodity-Description-and-Coding-Systems-HS>

² Data related to direct exportations from EU regions to UK are not currently available at NUTS 2 level; estimations exist but based on specific assumptions.

Case studies

The case studies cover seven LRAs at different levels of governance, i.e. federal state, region and city. The countries covered by the case studies are mainly France, Poland and Germany, completed by Belgium and Spain. Case studies were selected considering the Member State of origin, the potential impacts at local level and the availability of published information in the field. To complete the information collected, interviews were conducted with local stakeholders involved in a reflexion on Brexit.

Colour code and scales

The colours in the maps indicate the values of Brexit index for each region NUTS2. The most exposed regions are in scales of red, while the less exposed regions are in scales of blue. The flag indicates the regions with an HHI higher than the mean.

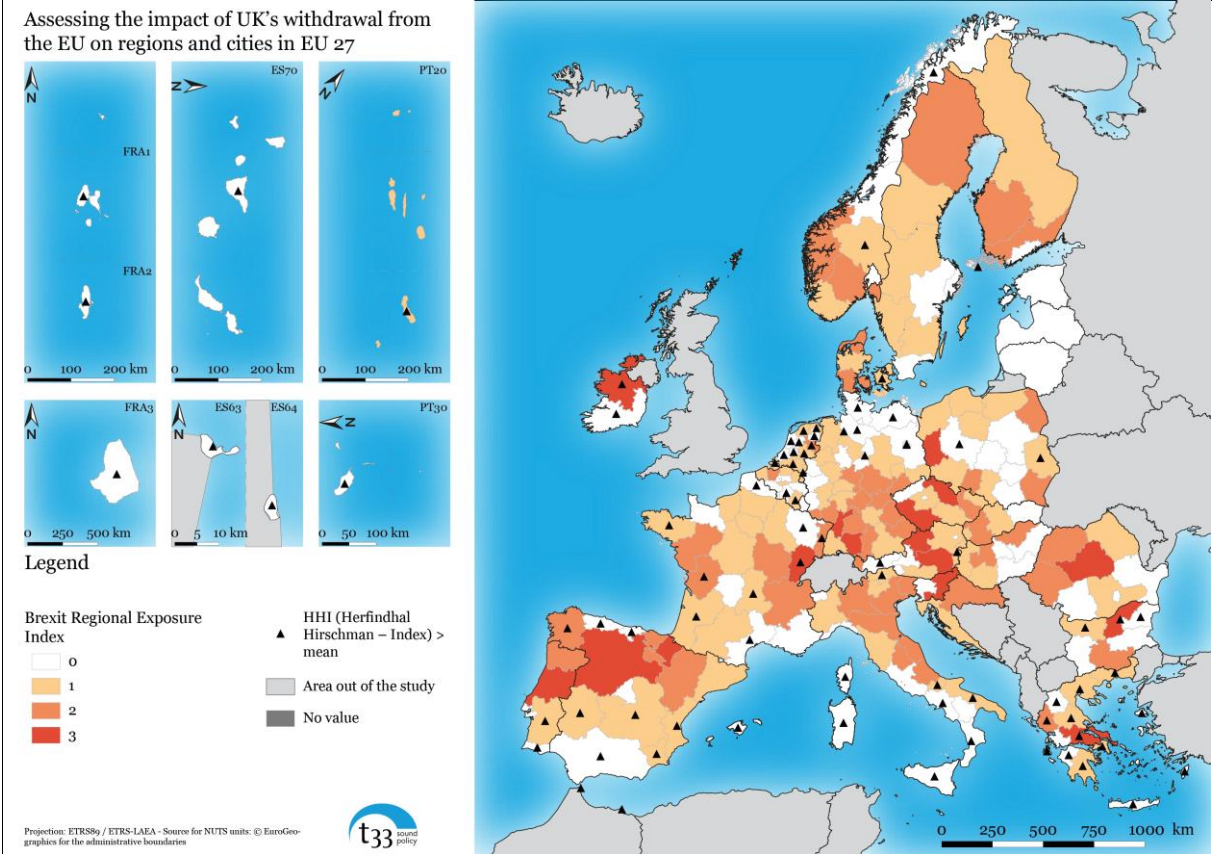
In the figures related to the value of gross export to UK by country and sector is expressed in million of Euro and is represented in the vertical axes of the graphs in a logarithmic scale for reason of readability.

1 Most exposed countries and regions by sector

In this chapter we present the results of our statistical analysis primarily in the form of graphs and maps. The detailed regional data underlying the graph and maps are reported in the tables in Annex. The names of the regions in the graphs are abbreviated in NUTS codes. Abbreviation codes can be seen in Annex 2.

Figure 1 depicts the synthetic Brexit Regional Exposure Index with values ranging from 0 to 3. This version of the index sums up all the results of the Regional Exposure Indexes for each sector. When interpreting this map, it is important to stress that in the case of smaller countries divided into several NUTS 2 regions, our BREI tends to underestimate the exposure of regions.

Figure 1: Brexit regional exposure index



Source: t33

For smaller countries, such as Republic of Ireland, Belgium, the Netherlands, Malta etc., we also have to carefully consider the fact that there are only few regions (in some cases only two), this – because of the way we calculate BREI – makes it necessary to use the Size Exposure Index at country level to assess the potential Brexit impacts. We call this “the country scale factor”. In addition, we must also consider the specific case of sectors such as agriculture and food, where production is strictly dependent on available land and tends to be more widely distributed, rather than clustered as industrial production. This explains why, for example, Ireland has a great exposure of the whole country in the agri-food sector that is clearly visible in the Size Exposure Index, but tends to disappear when we disaggregate at NUTS 2 level into the two regions, where the agricultural production is rather evenly spread from the employees’ point of view. For this reason, in the agri-food sector³ we have issues not only with smaller countries such as Republic of Ireland, but also with bigger countries such as France where the regional exposure is visible through the BREI only in cases of regions such as Bretagne, where the specific resource of fisheries and seafood makes up a very relevant share of the country’s export and is thus revealed also through the BREI.

In the following parts of the study we illustrate our results for each sector⁴. This should provide a direct policy indication to regional representatives about which sector and related negotiation they should mostly concentrate on, in light of the fact that, depending on the new trade terms negotiated, the competitiveness and economic performance of their region will be highly impacted through specialization, employment and export changes. Since services make up about 80 per cent of the UK economy, while manufacturing accounts for only about 10 per cent, most of the manufacturing products used and consumed in the UK is imported. This specialization structure has been highly fostered since Margaret Thatcher’s economic policy and has never been altered since. This is also a reason why it is very important to focus on the dynamics of manufacturing trade between EU regions and the UK after Brexit.

The following six sectors, according to the Harmonized System nomenclature, are analysed:

- Transport Vehicles
- Machinery
- Electronics

³ See for reference Brexit Ireland and UK in numbers by Ireland Central Statistics Office December 2017 and Association of Irish Local Government, Brexit Issues Papers, issued September 2017.

⁴ Sectors are classified by the Harmonized System (HS) at digit 1. The HS is an international nomenclature for the classification of products. It allows participating countries to classify traded goods on a common basis for customs purposes.

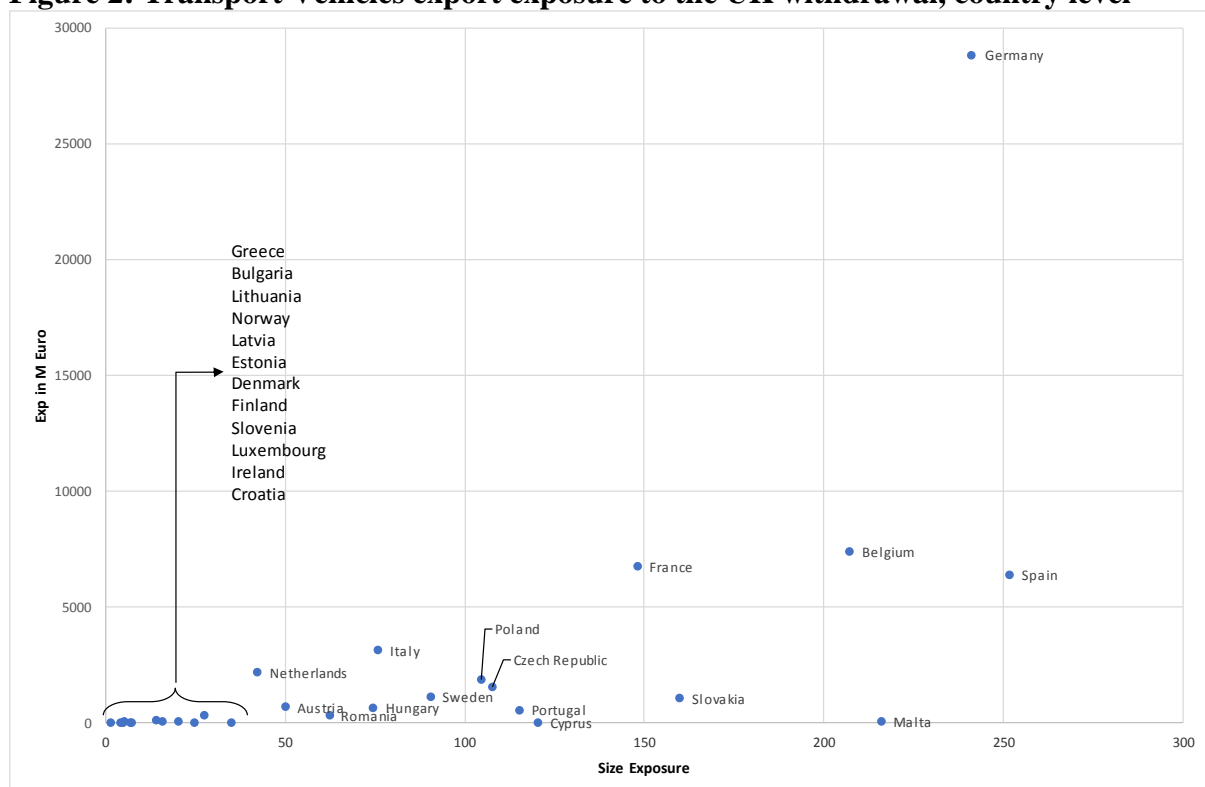
- Textile and Furniture
- Vegetables, Foodstuff and Wood
- Chemicals and Plastics

From sections 2.1 to 2.6, we first present the graph of the countries' exposure in each sector and then a map of EU regions illustrating the actual values of BREI and HHI indexes for the EU27 regions whose Size Exposure Index for that sector's export to the UK is among the top three.

1.1 Transport vehicles

This sector contains cars, tractors, cruise ships and similar vessels, aircraft and spacecraft, other motor vehicles, their parts, etc. Figure 2 illustrates which Member States are more exposed to the UK in comparison with the other EU27 Member States and in relation to the export's scale of these goods.

Figure 2: Transport Vehicles export exposure to the UK withdrawal, country level

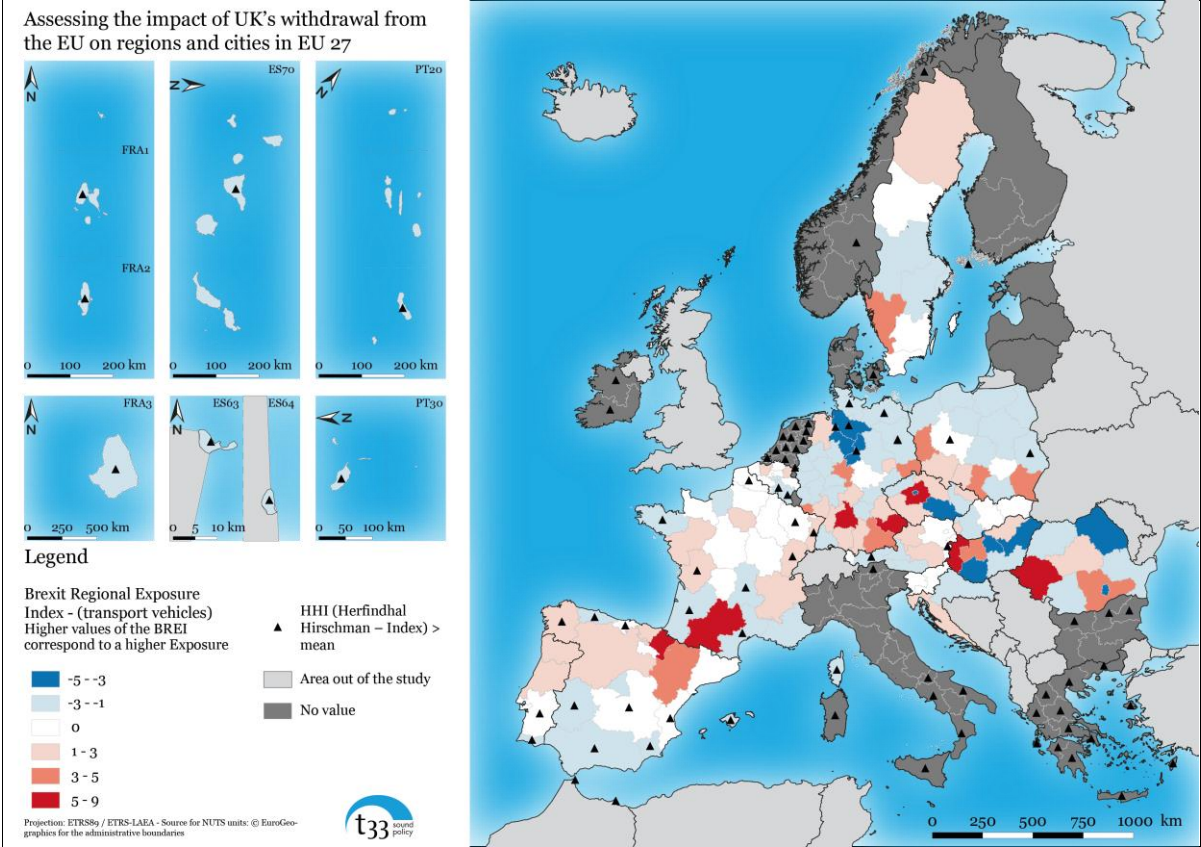


Source: t33

The countries positioned more to the right and higher in the graph are those more exposed to Brexit. In the vertical axis we can read the total export of Transport Vehicles to the UK in million euro. In the horizontal axis we have the size exposure, i.e. the sector's export to the UK divided by the total country export to the world, as explained in the methodology. Comparing this figure with the next figure illustrating the exposure of regions, it is interesting to note how less exposed countries can contain very exposed regions. This is the case, for example, of the Vest region in Romania, which is one of the most exposed regions in this sector, as can be seen in the next section.

Moving to a more in-depth analysis of EU regions, Figure 3 shows the actual values of BREI and HHI indexes for all regions in each EU27 country with a Size Exposure Index for the “Transport Vehicles” sector export to the UK among the top three.

Figure 3: Exposure index for Transport, region level



Source: t33

Then there are two German regions that are quite exposed to the trade risks linked to Brexit.

The Stuttgart Region (DE11) is one of the world's leading economic areas. The world or German headquarters of global players such as Daimler, Porsche, Bosch, IBM and Hewlett-Packard are based in the region. However, what characterizes the Stuttgart Region best is the well-balanced mix of global brands and extremely innovative medium-sized companies. The variety of the region can be noted by the low HHI, as shown in the graph above. Global brands and medium-sized companies are both highly export-oriented: in fact, the region's manufacturing companies generate more than half of their sales abroad.

The Stuttgart Region has a unique cluster of automotive manufacturers, component suppliers, engineering service providers, and research facilities. With its pioneering work in the fields of electro mobility, fuel cell technology, automotive IT and virtual reality, the region consistently sets standards within the scientific community. Consequently, the Federal Ministry of Transport has granted the Stuttgart Region the status of "Model Region for Electro Mobility".

The most important industry in the region of Niederbayern (DE22) is automobile construction. The land of Dingolfing in this region is home to BMW's largest production facility, which produces approximately 270,000 cars each year. The business structure of this region is less differentiated than that of Stuttgart, as can be observed by its higher position in the graph.

Midi-Pyrénées (FR62) occupies a strategic position between the Mediterranean Sea and the Atlantic Ocean. Because of its size, Midi-Pyrénées has the largest number of farms of all France, with 60,000 farms in active use. The second largest part of the industrial production of the region is the food industry. 4.6 billion euro are generated each year from agriculture. In the last decade, however, the large amount of foreign investment received by this region created a rapid structural change towards the manufacturing sector.

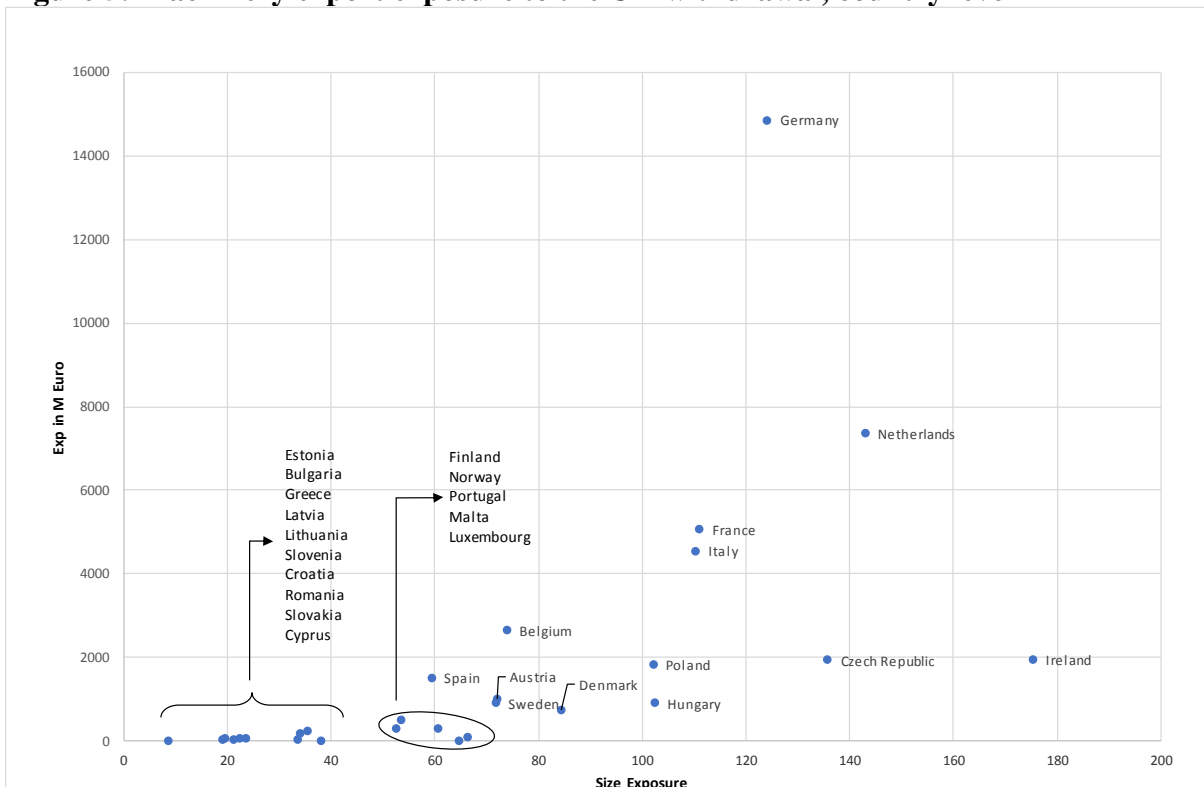
Excluding the construction and civil engineering field, the secondary sector uses 15% of the regional resources. Several of the groups deeply linked to the sector of Transport Vehicles have important offices and structures in the region, e.g. Airbus, EADS, Alcatel, Siemens and Bosch. The aerospace industry is an important source of income for the region and employs 57,000 people, not counting the surrounding enterprises (more than 3,000), which work on the engineering, electronic, telecommunication and computing infrastructure for this industry.

1.2 Machinery

This group of activities contains the most disparate types of apparatus, both electronic and mechanical, from computers to toys, from optical fibres to orthopaedic appliances or gas turbines.

Figure 5 below illustrates which countries are more exposed to the UK in comparison with the other EU27 Member States, and in relation to the export's scale of these goods.

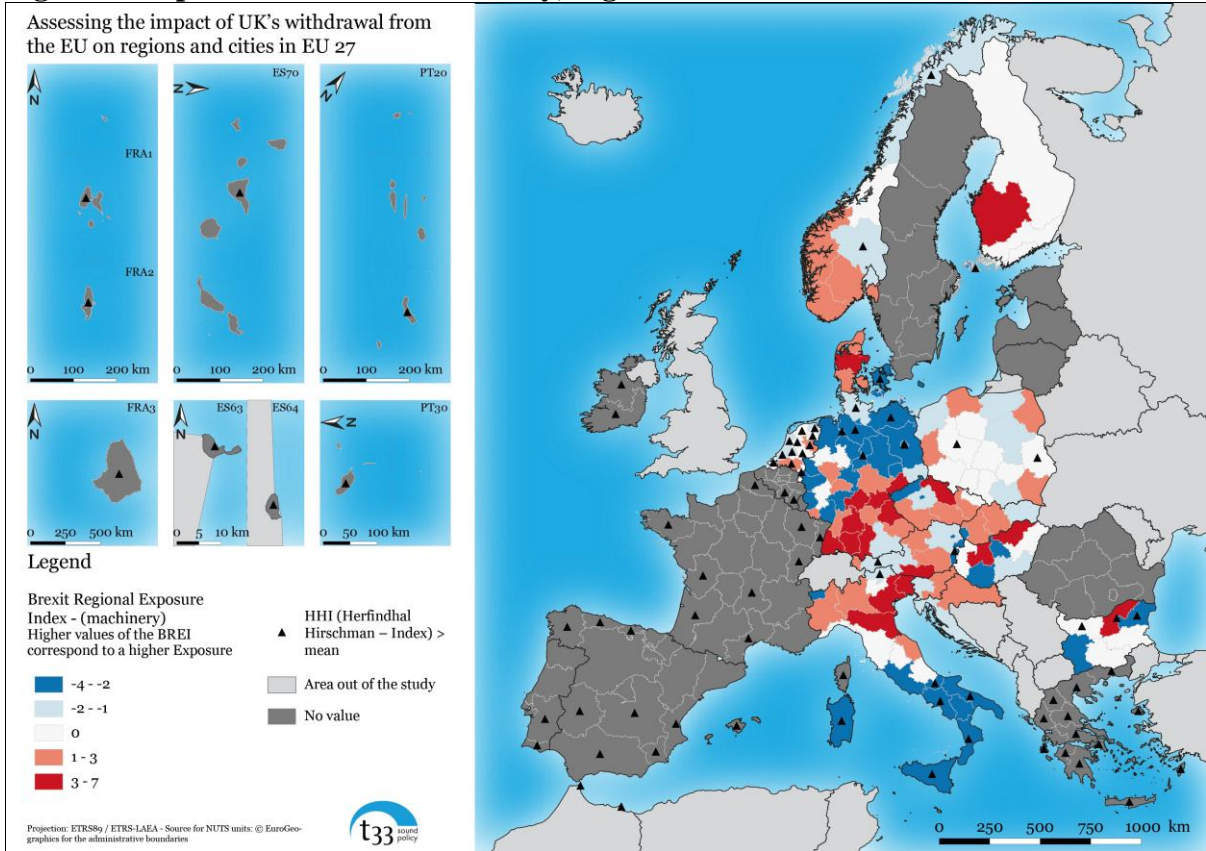
Figure 5: Machinery export exposure to the UK withdrawal, country level



Source: t33

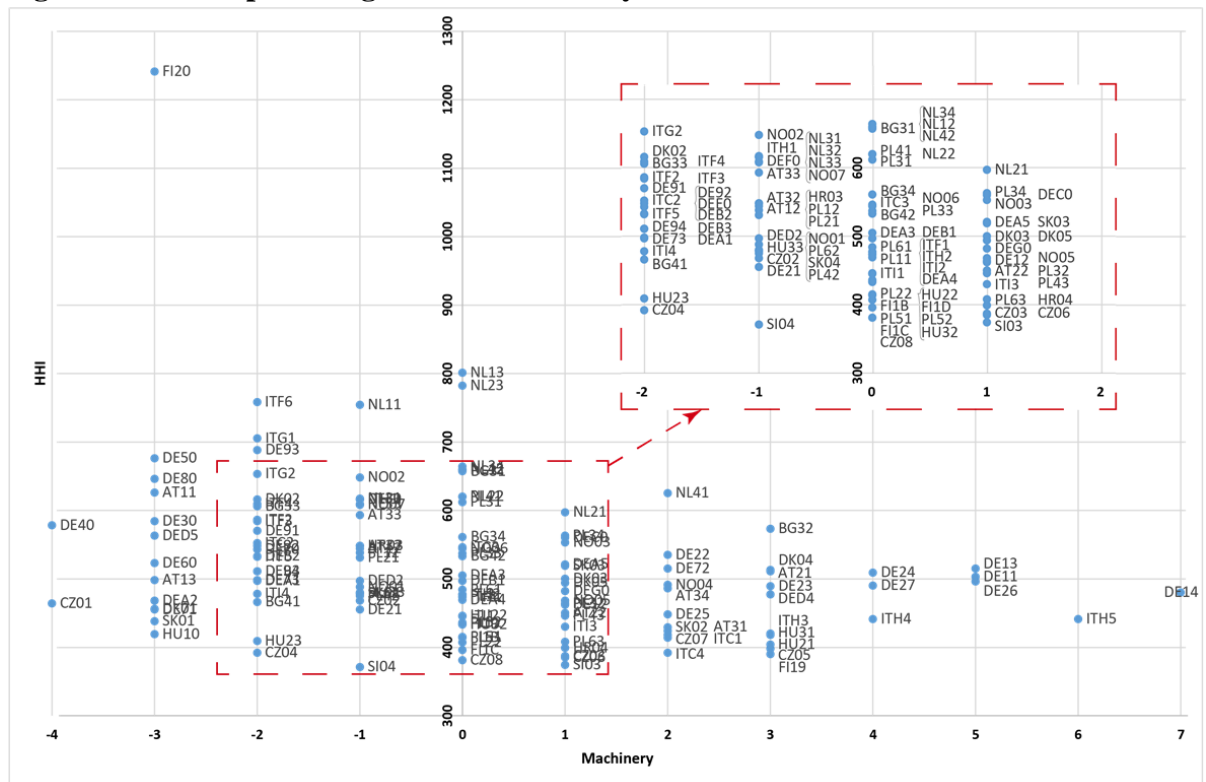
Moving to a more in-depth analysis of EU, Figures 6 and 7 show the actual values of BREI and HHI indexes for the EU27 regions whose Size Exposure Index for the “Machinery” sector export to the UK is among the top three.

Figure 6: Exposure index for Machinery, regional level



Source: t33

Figure 7: Most exposed regions for Machinery



Source: t33

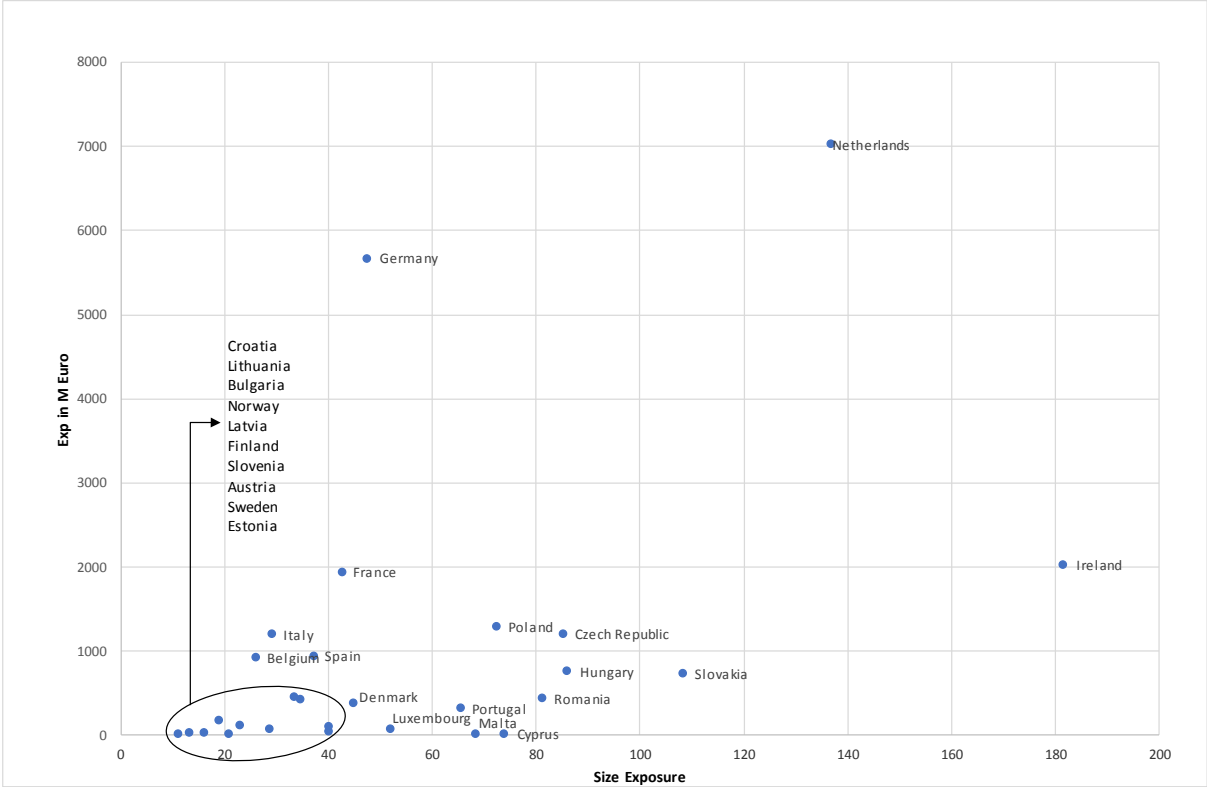
Here we find many of the most developed regions, all very diversified and quite close, as in the BREI and HHI. As visible in the figures, the most exposed regions (i.e. with the higher BREI and HHI) in this sector are mainly German regions, i.e. Tübingen (DE14), Stuttgart (DE11), Freiburg (DE13), Unterfranken (DE26), and an Italian region: Emilia-Romagna (ITH5).

Emilia-Romagna (ITH5) is one of the richest European regions and the third Italian region by GDP per capita. These results have been achieved by developing a very well balanced economy that comprises Italy's biggest agricultural sector as well as a long-standing tradition in automobile, motor and mechanics manufacturing and a strong banking and insurance industry. This variety of production is reflected by the low HHI in the graph. The region of Tübingen (DE14) is rich with companies and tooling manufacturers specialised in designing and manufacturing special machines used in the medium- and hi-tech sectors. The diffusion of production networks including universities and research centres facilitates the innovative performance of this region.

1.3 Electronics

This group contains a wide range of goods, both electronic and mechanical, from electronic integrated circuits, semiconductor transmission apparatus for radio, telephone and TV, telephones, sound storage media etc. Figure 8 illustrates which Member States are more exposed to the UK in comparison with the other EU27 Member States, and in relation to the export's scale of these goods. They are: the Netherland, Republic of Ireland, Czech Republic and Slovakia.

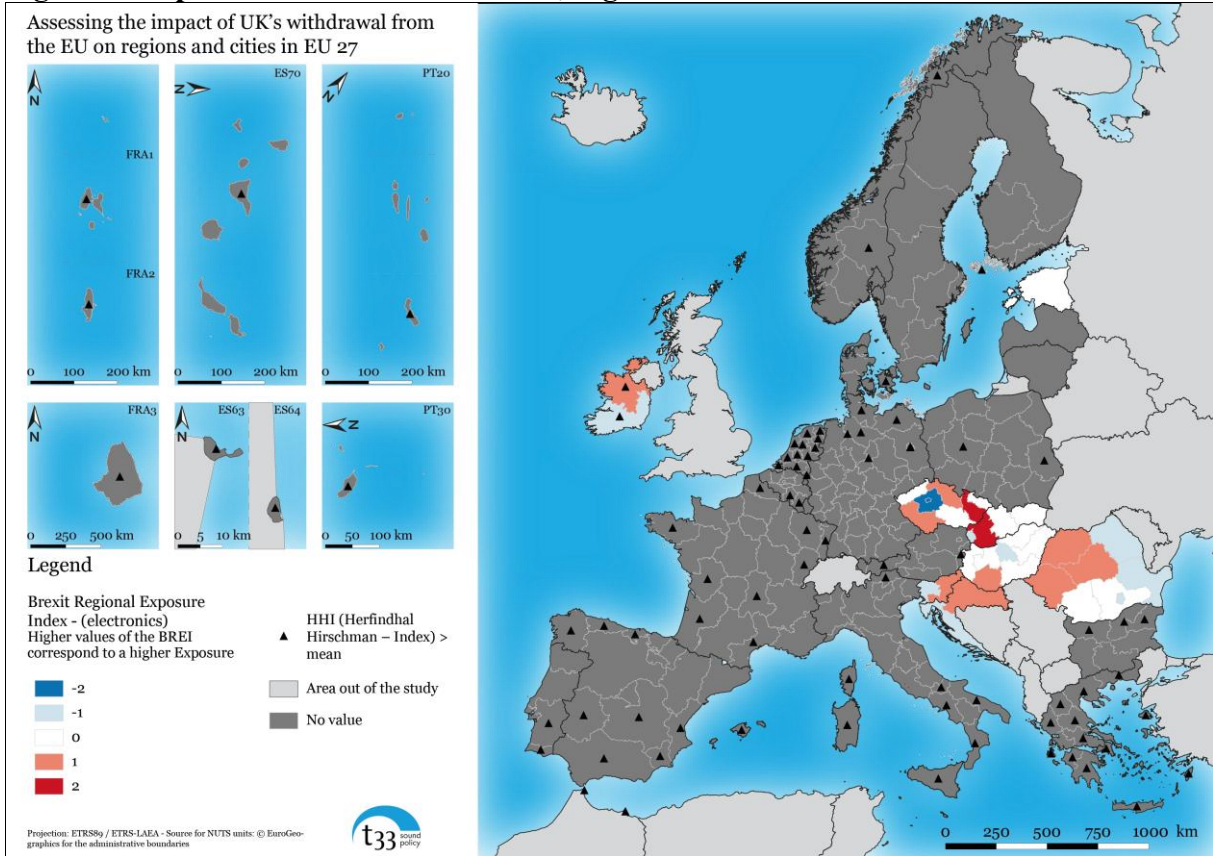
Figure 8: Electronics export exposure to the UK withdrawal



Source: t33

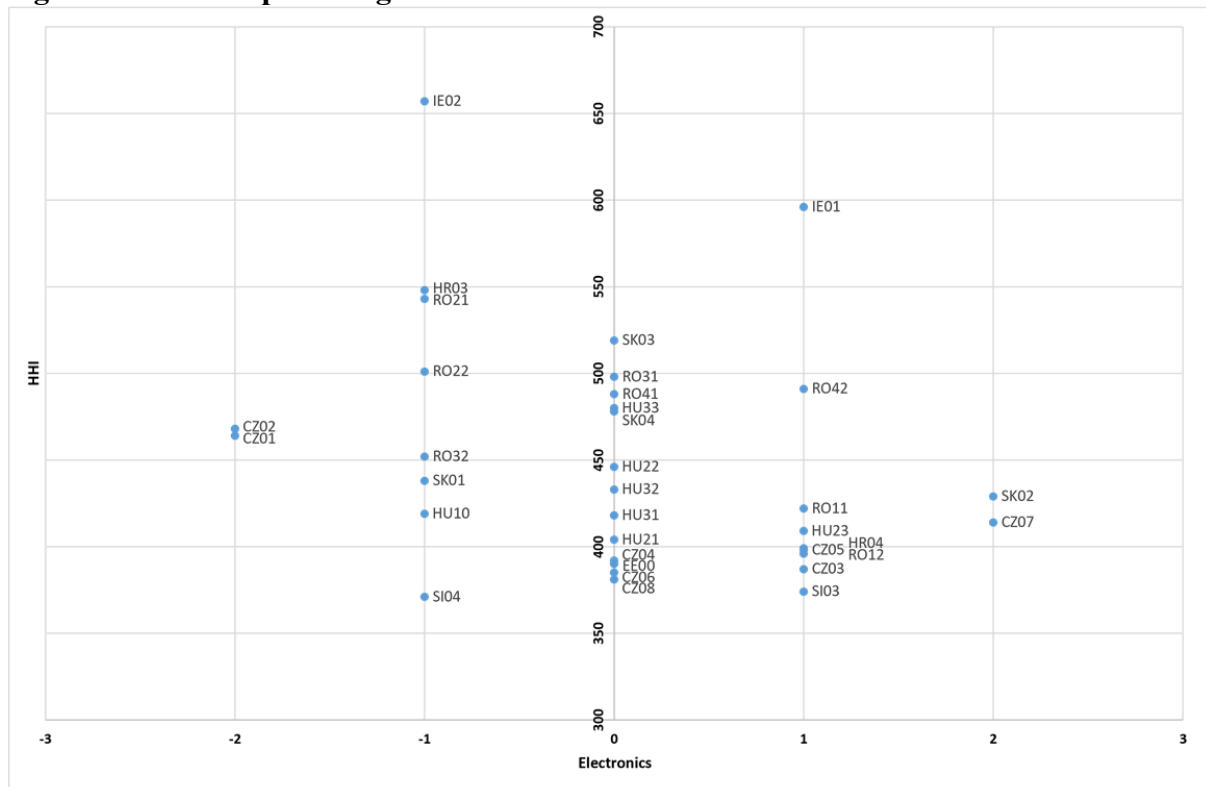
Moving to a more in-depth analysis of EU regions, Figures 9 and 10 show the actual values of BREI and HHI indexes for the EU27 regions whose Size Exposure Index for “Electronics” sector export to the UK ranks among the top three.

Figure 9: Exposure index for Electronics, regional level



Source: t33

Figure 10: Most exposed regions for Electronics



Source: t33

This is a case where the exposure of smaller countries like Republic of Ireland and the Netherlands is clearly visible in the scatter plot of the countries while it is only partially shown by the BREI illustrations. In fact, only one Irish region (IE01) is shown as exposed by the BREI illustration, while the Netherlands are not shown at all. This is because of the “the country scale factor” previously defined.

As visible in the figures, the most exposed regions (i.e. with the higher BREI and HHI) in this sector are the Západoé Slovensko region (SK02) and the Střední Morava region (CZ07).

The Západoé Slovensko region (SK02) significantly benefits from an influx of FDI. It received some 14% of the total FDI in Slovakia in the 1990-2012 period. Most investments targeted vehicle assembly and component industries (Peugeot Citroen Trnava, Sauer-Danfoss Považská Bystrica), manufacture of tyres (Continental Púchov) and manufacture of consumer electronics (Foxconn Nitra, Samsung Galanta). The current structural changes within the economy of the region contribute to growth of the high and medium-high technology manufacturing sector.

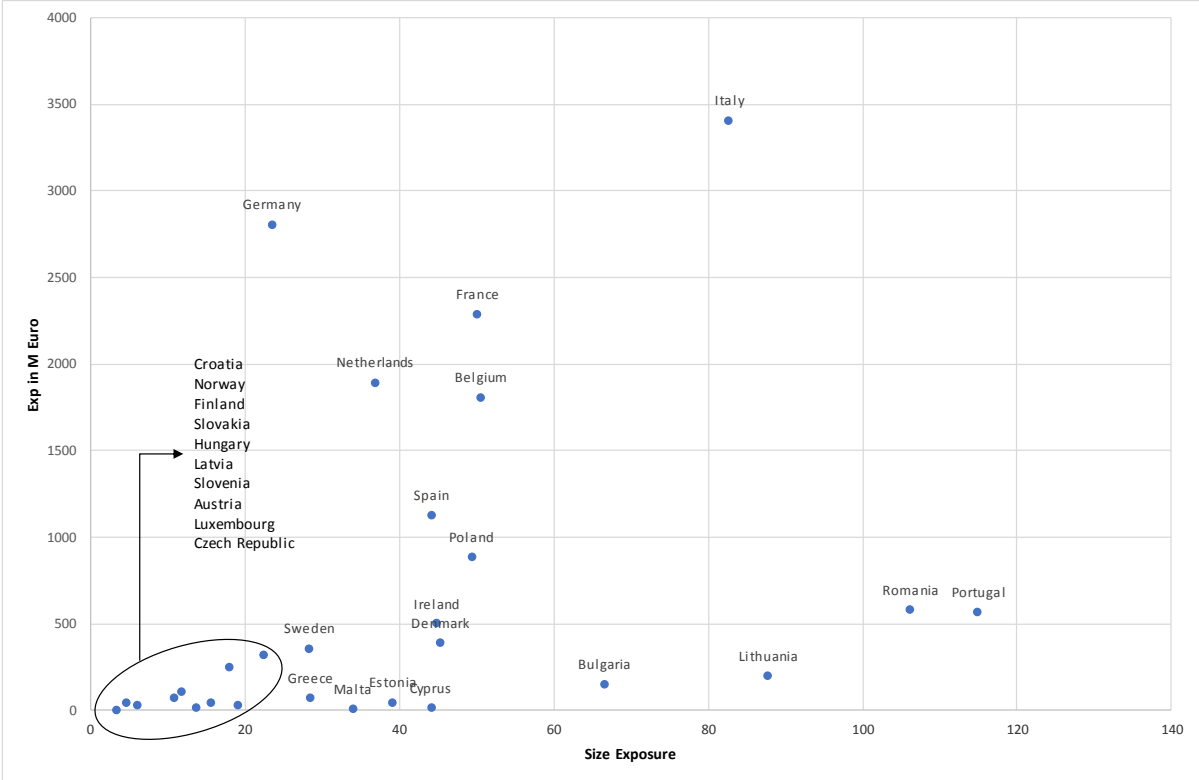
The Střední Morava region (CZ07) has its economic potential in the manufacturing industry, in particular wood and iron processing industries, electronics and textiles.

The Vest Development Region (RO42) has been already analysed above in the transport vehicle sector for its steel production. As shown by its low HHI, however, its productive structure is very differentiated. Electronics and telecommunications equipment represent about a third of its exports.

1.4 Textile and Furniture

Figure 11 illustrates which Member States are more exposed to the UK in comparison with other EU27 Member States and in relation to the export's scale of these goods. They are Italy, Portugal and Romania (considering also the relevance of the export).

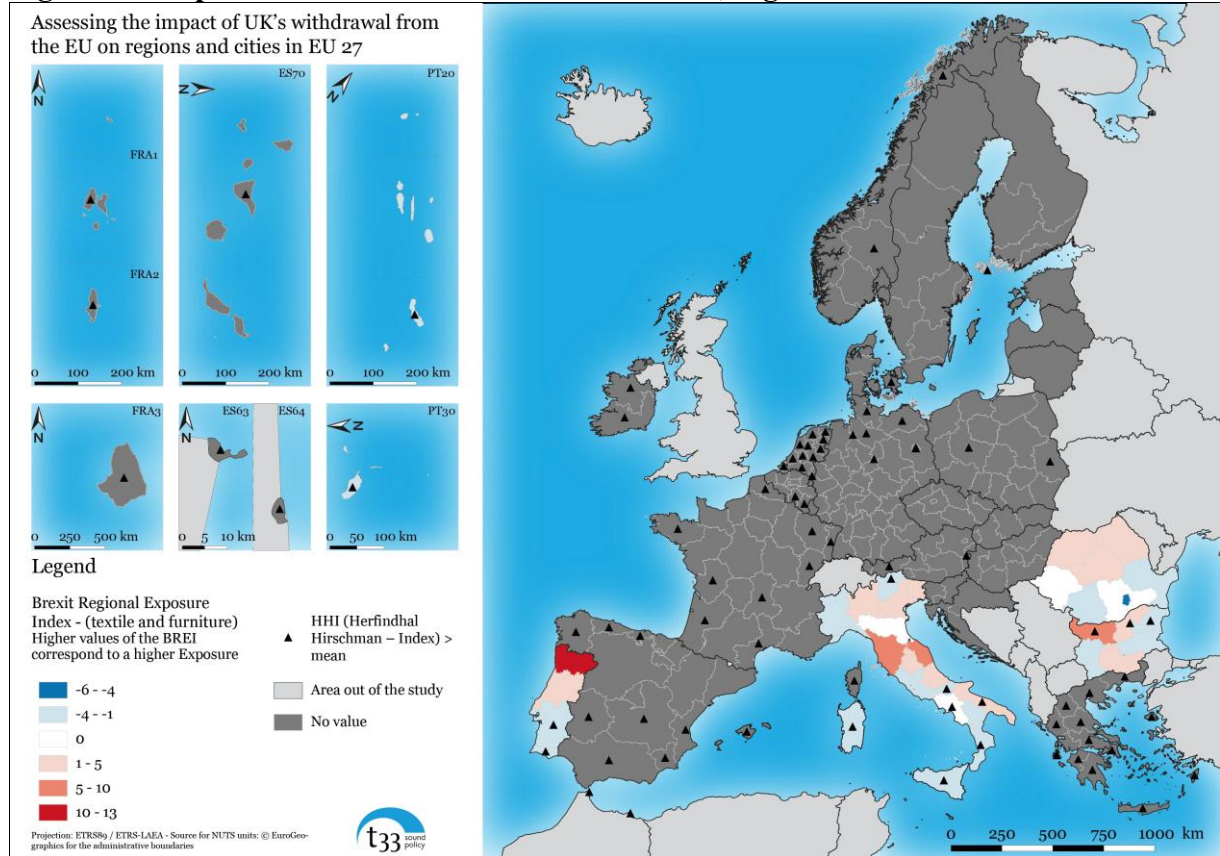
Figure 11: Textile and Furniture export exposure to the UK withdrawal



Source: t33

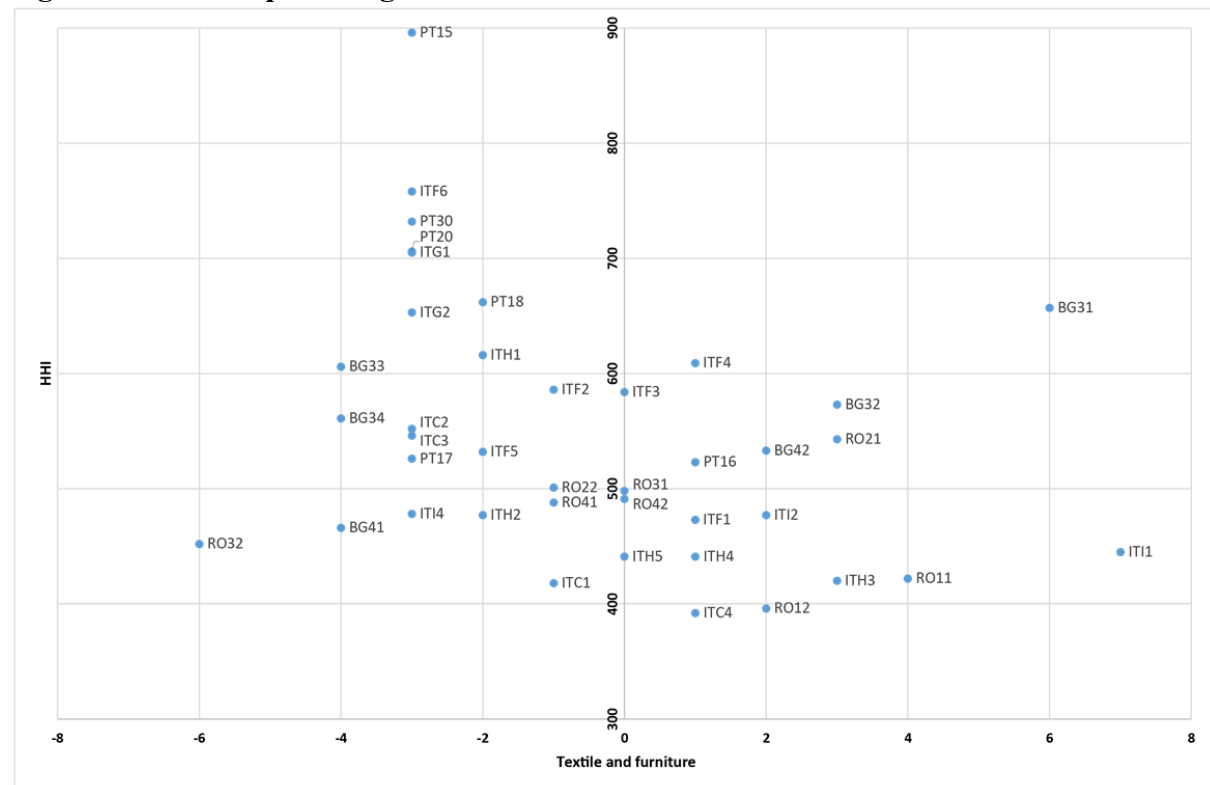
Moving to a more in-depth analysis of EU regions, Figures 12 and 13 show the actual values of BREI and HHI indexes for the EU27 regions that rank in the top three for their Size Exposure Index for the “Textile and Furniture” sector export to the UK.

Figure 12: Exposure index for Textile and Furniture, regional level



Source: t33

Figure 13: Most exposed regions for Textile and Furniture



Source: t33

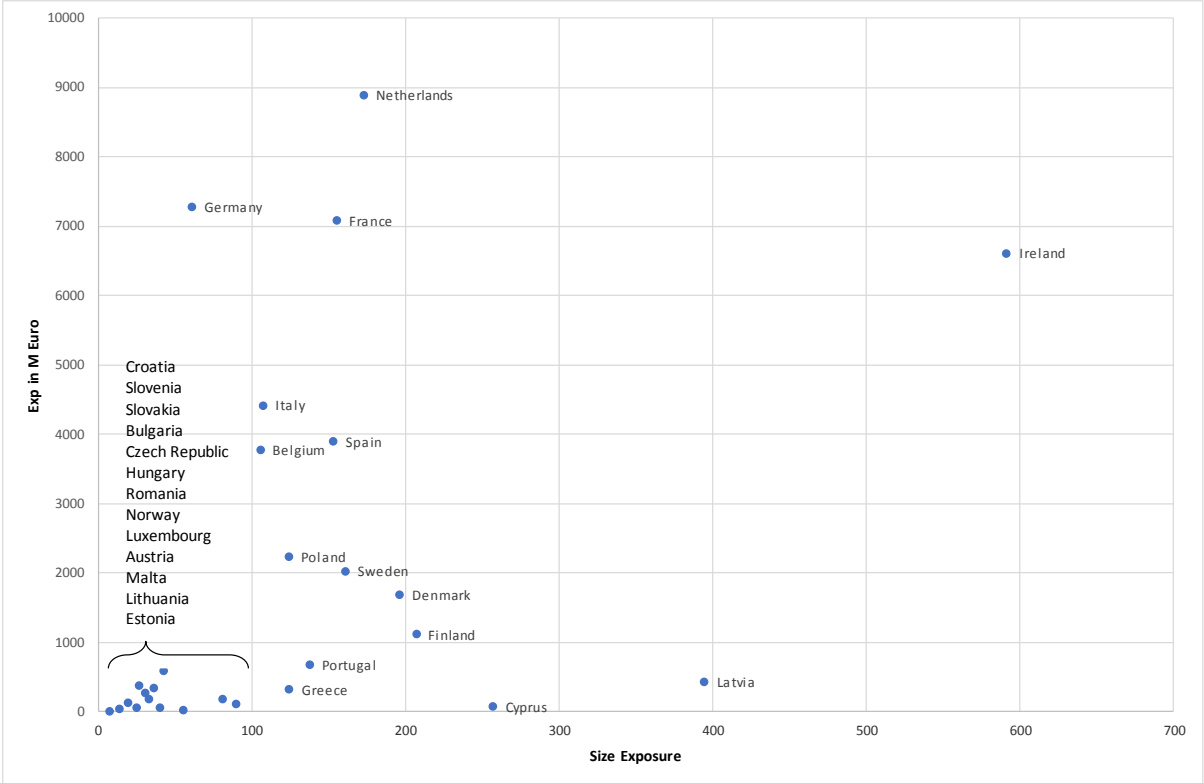
The Toscana (ITI1) and Marche (ITI3) regions are traditionally specialized in the production of goods belonging to the Textile and Furniture sector. Fashion and “Made in Italy” products are still in high demand in the UK. The two regions contain some of the most productive industrial districts in this sector. However, unlike in the past, the regions now show a much more complex production structure, as can be seen in the low HHI.

Other regions strongly exposed to the risk of barriers to export of textiles and furniture are Norte (PT11), and Severozapaden (BG31), the second being probably more at risk for its higher HHI.

1.5 Vegetables, Foodstuff and Wood

Figure 14 illustrates which Member States are more exposed to the UK in comparison with other EU27 Member States and in relation to the export’s scale of these goods.

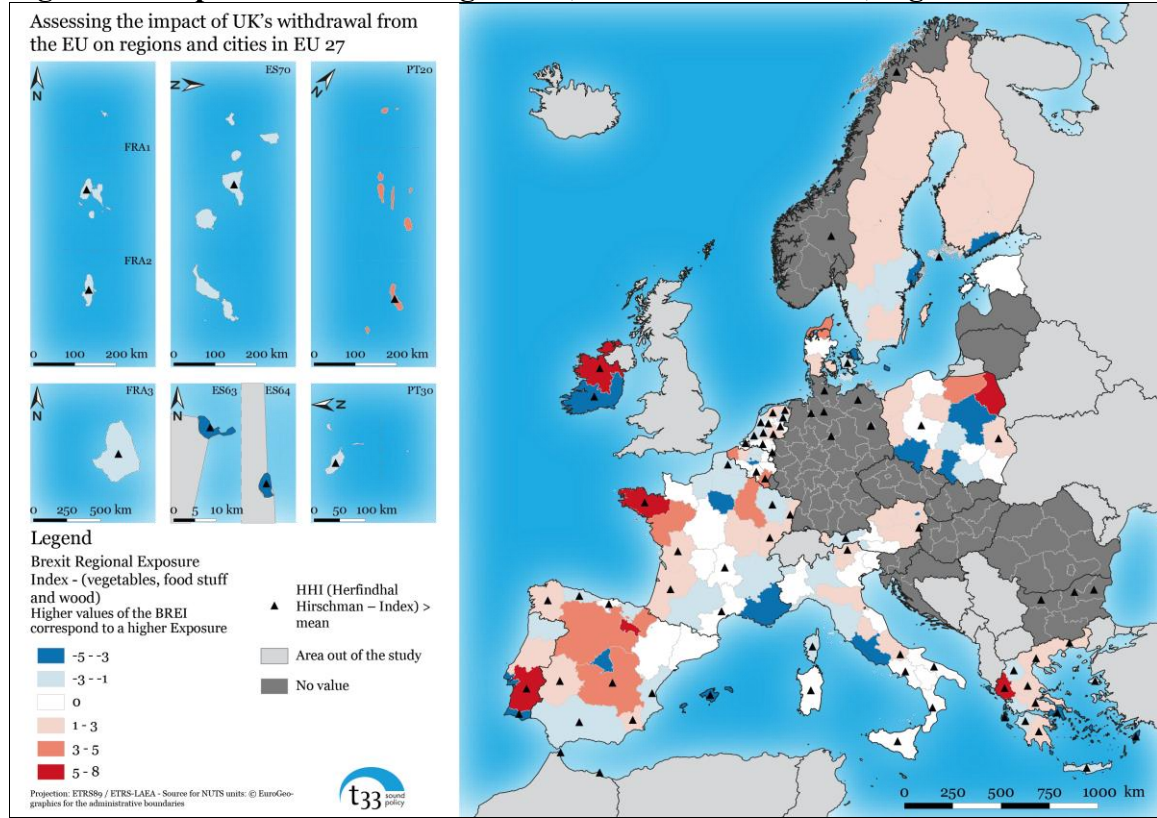
Figure 14: Vegetables, Foodstuff and Wood export exposure to the UK withdrawal



Source: t33

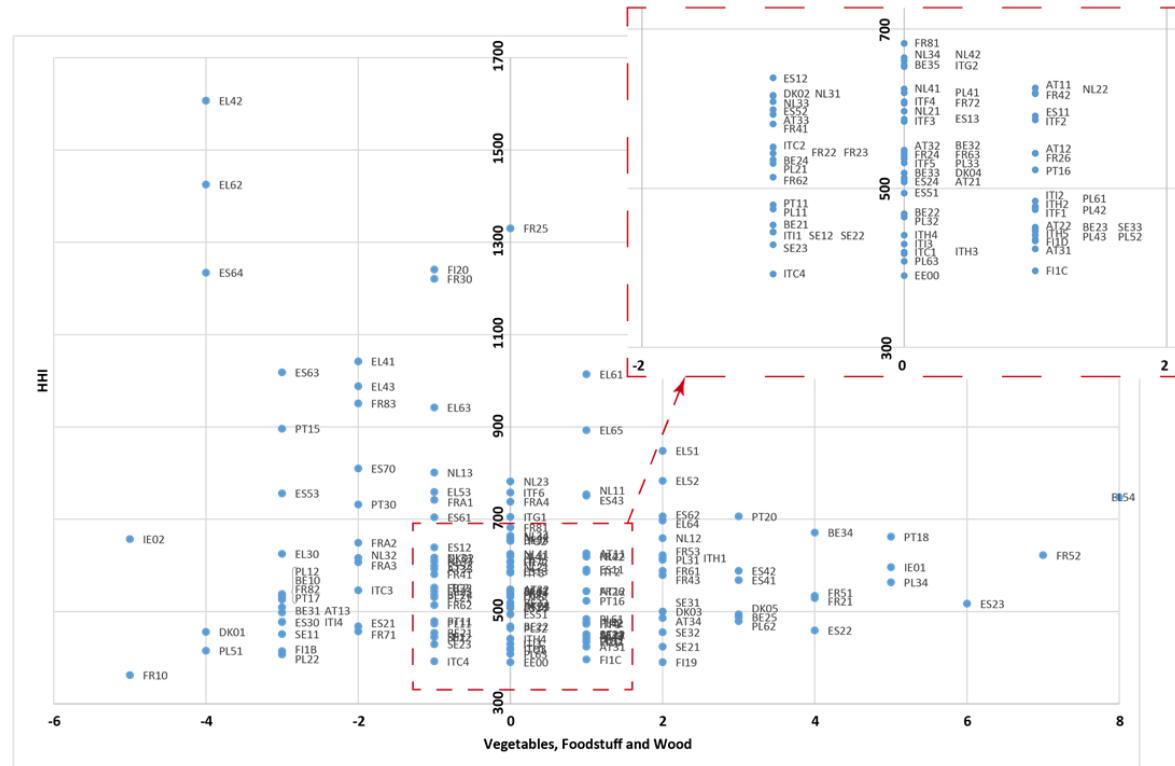
Moving to a more in-depth analysis of EU regions, Figures 15 and 16 show the actual values of BREI and HHI indexes for the EU27 regions whose Size Exposure Index for the “Vegetables, Foodstuff and Wood” sector export to the UK is among the top three.

Figure 15: Exposure index for Vegetables, Foodstuff and Wood, regional level



Source: t33.

Figure 16: Most exposed regions for Vegetables, Foodstuff and Wood



The “country scale factor” mostly clearly applies for this sector in the Republic of Ireland, which is clearly positioned at the top far right of the countries’ scatter plot, while only one of its two regions is shown by the BREI illustrations. The paper by Smith et al. (2017) on the trade exposures to Brexit of sectors of the Irish economy finds that, while Irish trade in general is less reliant on the UK than in the past, in some sectors this reliance has in fact increased over time. They note that “Disaggregating from the sector to the product level, the analysis reveals that eleven of the top fifteen most exposed goods products to the UK under the proportional exposure measure are Irish exports and are predominantly from the agri-food sector. These findings have implications for the prospects of these sectors in the context of future trade negotiations between the EU and the UK and their vulnerability to post-exit UK trade policy.”

Regarding the other regions, Greece and France include the two most exposed regions in Europe, namely: Ipeiros in Greece (EL54) and Brittany in France (FR52).

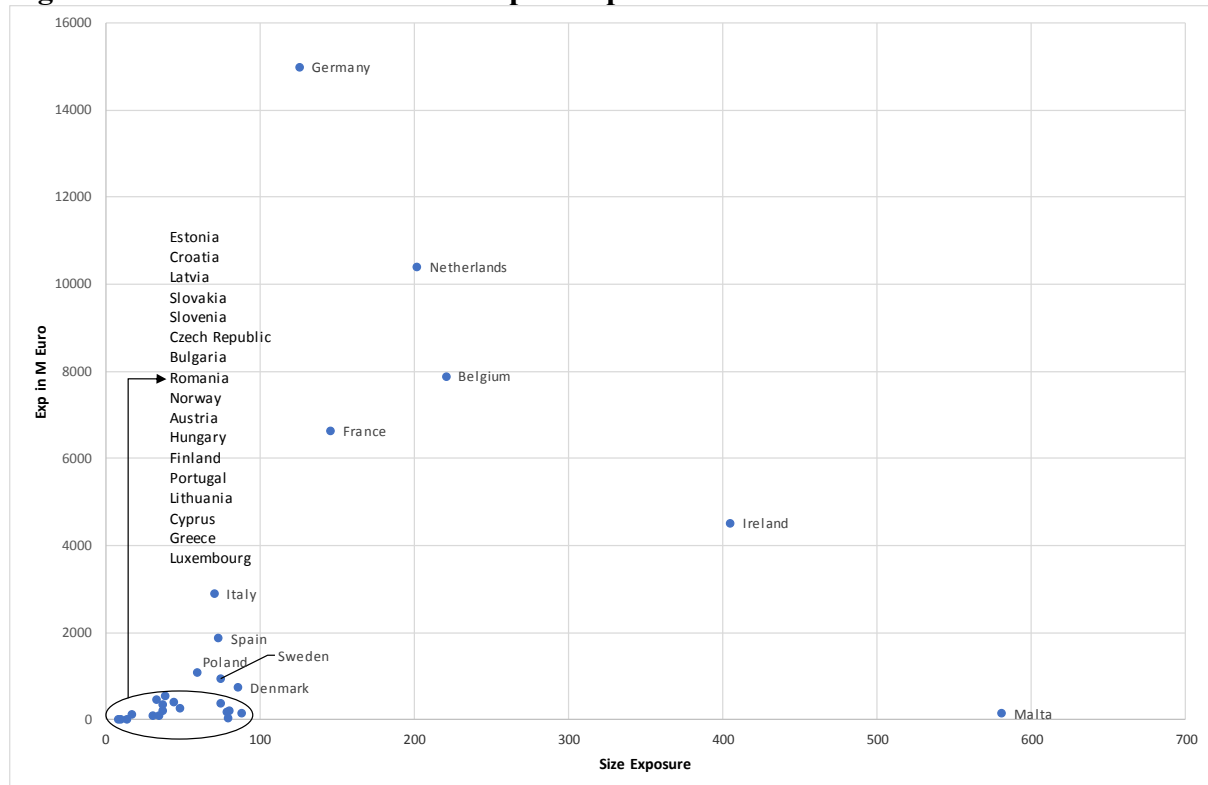
Ipeiros is the largest cheese-producing and exporting region in Greece, making it one of the most exposed regions in this sector. Almost 10,000 people are employed in this sector, representing 15% of the total economy in terms of employees.

Brittany’s business structure is much more differentiated than Ipeiros. Beyond the developed tourism sector, Brittany's economy is based on its famous agriculture and fishing, as it is a massive and efficient industry. Brittany’s agriculture includes reputable products such as: fish, beef, pork, poultry, vegetables and milk. Brittany’s agriculture and fishing account for 10% of France’s national production. Brittany represents a volume of 302,000 tons of fresh fish unloaded among 15 main ports and represents 90% of the total French seaweed production. Brittany’s porcine production represents 56% of the total French production, while the bovine production represents 15% of it. Poultry farming is the region’s third main agricultural production. Brittany is also the first French region for vegetable cultivation. Cabbage and artichoke represent 73% of the total French production. There are also other first-rank vegetables such as potatoes, spinach, green beans and second rank such as peas and tomatoes. Brittany is the first region in France for dairy production. Brittany’s milk production represents 21% of the total milk production in France.

1.6 Chemicals and Plastics

Figure 17 illustrates which Member States are more exposed to the UK in comparison with the other EU27 Member States and in relation to the export's scale of these goods.

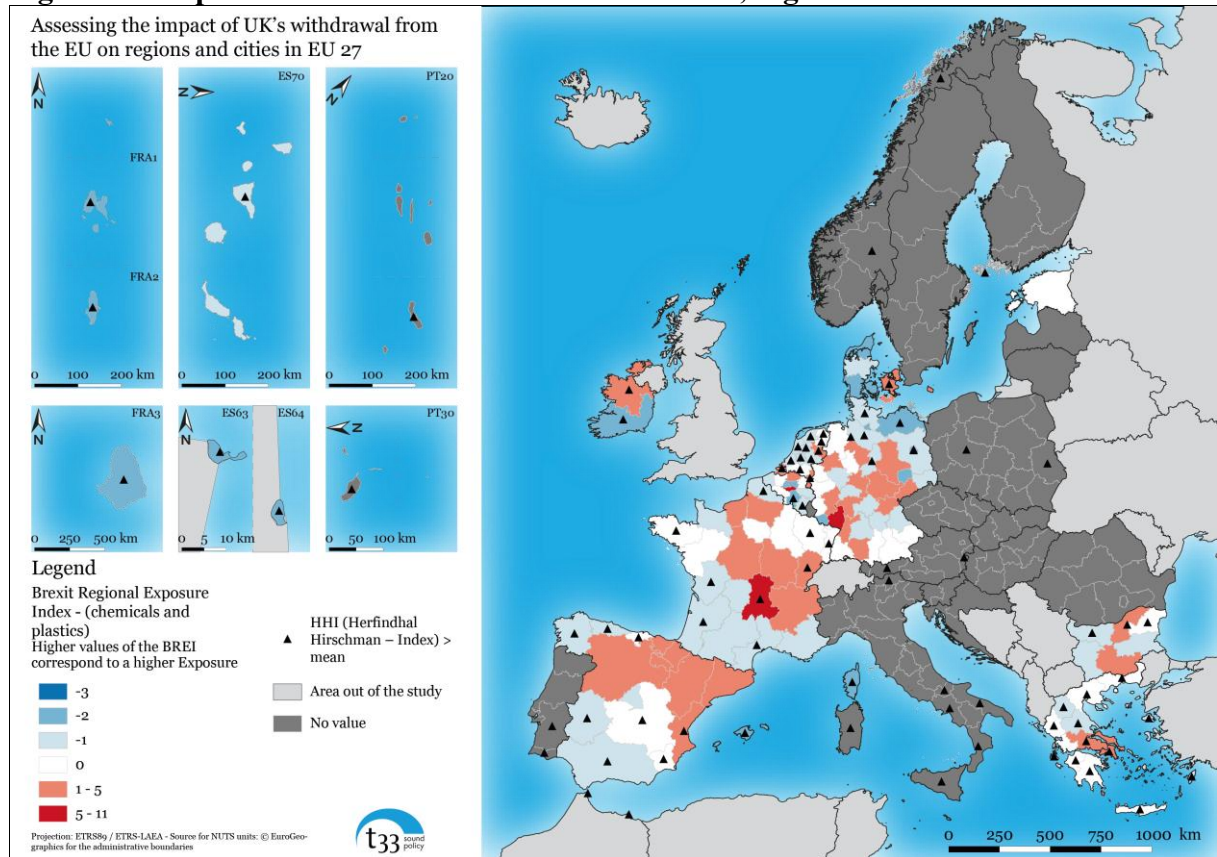
Figure 17: Chemicals and Plastics export exposure to the UK withdrawal



Source: t33

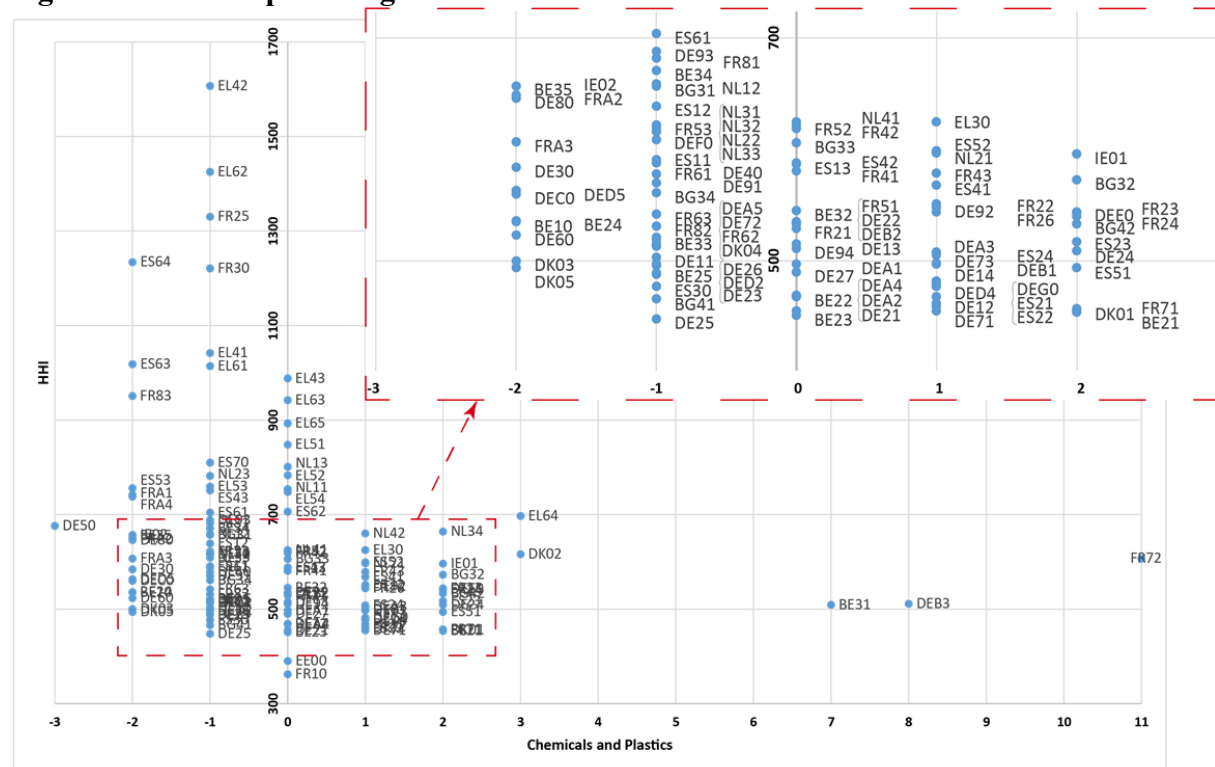
Moving to a more in-depth analysis of EU regions, Figure 18 and 19 show the actual values of BREI and HHI indexes for the EU27 regions whose Size Exposure Index for the “Chemicals and Plastics” sector export to the UK is among the top three.

Figure 18: Exposure index for Chemicals and Plastics, regional level



Source: t33

Figure 19: Most exposed regions for Chemicals and Plastics



Source: t33

For this sector as well, the “country scale factor” applies for the Republic of Ireland and Malta, which are clearly positioned at the top far right of the countries’ scatter plot, while none of their regions are shown by the BREI illustration.

The region with the highest BREI for this sector is Auvergne (FR72)⁷. This region is largely rural, but it still retains a strong industrial base. The most important sectors are agri-food for the production of wine and cheese, and chemicals, rubber and plastic for the production of pneumatics. (The Auvergne is home to Michelin). The region accounts for EUR 3.8 billion of imports and EUR 5.1 billion of exports⁸.

The region of Rheinhessen-Pfalz (DEB3) is characterized by strong industrial development, mainly concentrated in two districts: the city of Ludwigshafen (mainly for the presence of BASF SE and chemical companies) and the district of Germersheim (mainly because of the presence of Daimler AG and Mercedes). Production for export is particularly marked in the chemical industry, the most important branch of industry in the Palatinate, and one that is closely linked to the city of Ludwigshafen, which today hosts the largest single chemical plant in the world⁹.

Manufacturing is the dominant industrial sector in both Walloon Brabant (BE31) and in Wallonia, with respectively 94% and 88% of employed workers in the manufacturing sector. However, in Walloon Brabant, one activity alone provides 52% of salaried jobs in the industrial sector: the pharmaceutical industry, which employs almost 20,000 people. Wavre, the capital of Walloon Brabant, hosts Glaxo Smith Kline, one of the most important pharmaceutical companies.

In Greece, some of the largest production units in the manufacturing sector, such as electrical machinery, basic metals, non-metallic products, mineral, rubber and plastic are located in the region of Sterea Ellada (EL64). This the third most important exporting region of Greece, after the regions of Attiki and Kentriki Makedonia. The largest number of exporting companies are active in the chemicals and food sectors¹⁰.

⁷ Auvergne is part from 2016 of the new region « Auvergne-Rhône-Alpes »

⁸ <http://www.regions-of-france.com/regions/auvergne/economy/>

⁹ https://www.pfalz.ihk24.de/en/productlabels/economic/Economic_Region_The_German_Palatinate/1269512

¹⁰ https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/sites/default/files/report/sterea_ellada_region_rim_report_120411.pdf

Around a third of the regional economy of Zeeland (NL34) in the Netherlands can be ascribed to industry, mainly due to the strong presence of the chemical and energy sectors. The share of exports for the chemical industry in Zeeuws-Vlaanderen is above the national average. With around 2,000 employees, Dow in Terneuzen (chemical company) is the largest industrial employer in Zeeland¹¹.

The paper by Chen et al. (2017) affirms that *“the Netherlands, Zeeland and Groningen have the highest exposure levels, probably as a consequence of the energy produced in these regions. In Belgium, Walloon Brabant and Limburg are most dependent on trade between the EU and the UK.”*

¹¹ <https://www.vnci.nl/english>

2 Case studies

To complete the statistical analysis, the research team has carried out five case studies at Federal state, regional and local (city) level. The case studies have been designed to provide examples of how Brexit could have an impact at local and regional levels involving specific groups of people (e.g. workers), sectors (e.g. tourism) or areas (ports and border areas). The case studies have been developed based on the existing literature (studies at regional/local levels) and interviews with relevant stakeholders (list of interviewees in annex 3). All the case studies follow the same structure¹².

Country	Regions/LRAs	NUTS	Location
France	Hauts-de-France	2	Maritime border with UK and direct connection through the “Channel” with UK
	Bretagne	2	Maritime border
Poland	Malopolskie	2	East Europe
	Lubelskie	2	East Europe
Germany	Districts of Darmstadt, Gießen and Kassel (Hessen)	1 and 2	Central Europe
Belgium	Flanders	2	Ports in the North Sea, maritime border with UK
Spain	La Línea de la Concepción (ES)	3	Land border with Gibraltar

The socio-economic aspects considered by the case studies are broad and aim to cover a representative set of potential impacts linked to Brexit at the local level, such as the flow of goods and services traded (all the regions investigated), direct investments and enterprise location (Hessen and French regions), employment effects (Polish regions), investments in infrastructures (Flanders), cross-border workers (City of La Línea de la Concepción). The case studies also mentioned, when available, the strategy adopted by the LRAs to mitigate the adverse effects of Brexit.

Main aspects as emerging from the case studies in synthesis:

¹² The first and second parts present a brief explanation of the area analysed and its geographical and socio-economic background. Third and fourth parts focused on issues and challenges and opportunities linked to Brexit. Finally, the fifth part contains the measures planned by LRAs to mitigate Brexit.

- *French maritime regions (FR)*. Negative impact on economic sectors in both regions are expected; i.e. automobile in Hauts-de-France and agri-food in Brittany. As most of the tourists come from the UK, the effects on transport and tourism are also expected to be negative for both regions in the short to medium term. At the same time, some opportunities arise from Brexit: regional enterprises could increase their competitiveness compared with English ones and, considering their location, could attract more foreign investors from third countries, such as India.
- *Districts in Hessen (DE)*. With regard to trade, the impact is estimated to be negative in both import and export, especially in the automotive, chemical and pharmaceutical and electrotechnical sectors. Also, FDI would decrease because the UK is one of Hessen's most important investors. Despite that, the services sector, including financial services, will not be very much affected by Brexit and some enterprises actually estimate an increase in their turnover and employment. Indeed, Brexit is also expected to create big opportunities for Hessian companies, as foreign investors could consider Frankfurt more attractive than London in the new socio-economic and normative context opened by the UK's withdrawal.
- *Malopolskie and Lubelskie regions (PL)*. The UK is the most popular migration destination for people coming from Malopolskie, and the number of immigrants has been steadily increasing since 2004, when Poland joined the EU. In the worst scenario ("hard Brexit") the impact on Polish immigrants is expected to be both positive and negative: Poles living in the UK could be forced to return to Malopolska, but, at the same time, low-skilled workers returning from the UK could have more possibilities to find or create jobs thanks to the competences (language and skills) acquired in UK. The effect on trade is estimated to be negative for the Lubelskie region, especially in the agri-food sector, where the UK is the second export market.
- *Municipality of La Línea de la Concepción, Andalusia (ES)*. The city of La Línea de la Concepción is located close to the border with Gibraltar (a British Overseas Territory). Due to its geographical position, the city has developed very strong economic and social relations with Gibraltar over time. The introduction of duties, barriers and restrictions to the flow of goods, capital and people will have a dramatic impact on the economy of La Linea in terms of turnover, employment and public revenues (taxes).
- *Flemish region and ports (BE)*. Exports through the four ports of Antwerp, Ghent, Zeebruges and Ostend have traditionally been oriented towards the British Isles. The UK is the first Flemish market for land transport vehicles. The enforcement of customs duties (up to 10% for passenger cars according to

current WTO tariffs) and the introduction of customs procedures between the EU and the UK could significantly affect demand and the fluidity of freight flows. In addition, the creation of a new external border on the Belgian coast would entail the need to find logistical and political solutions to manage migration flows.

In addition to the specific effects estimated in the case studies above, a general impact on the regional budgets is also expected from Brexit, as the UK is a net contributor to the EU budget¹³. This impact will be felt especially in relation to the cohesion policy targeting less developed EU territories. In a scenario of EU budget restriction (i.e. budgetary cuts corresponding to the funding gap due to the UK's departure), there will be a reduction in the absolute amount of financial resources available for distribution among Members States. As a potential consequence, the most developed regions—mainly in EU15—could be partially excluded from ESIF support (considering the lower share of EU budget available for spending and the priority given to less developed regions mainly concentrated in EU13). A statistical effect must also be taken into consideration, as Brexit should lower the EU27 GDP average, with countries currently below the average now passing above and, consequently, changing their status from less developed country to country in transition or more developed¹⁴.

More details on the case studies are given in the following paragraphs.

2.1 Hauts-de-France and Bretagne (France)

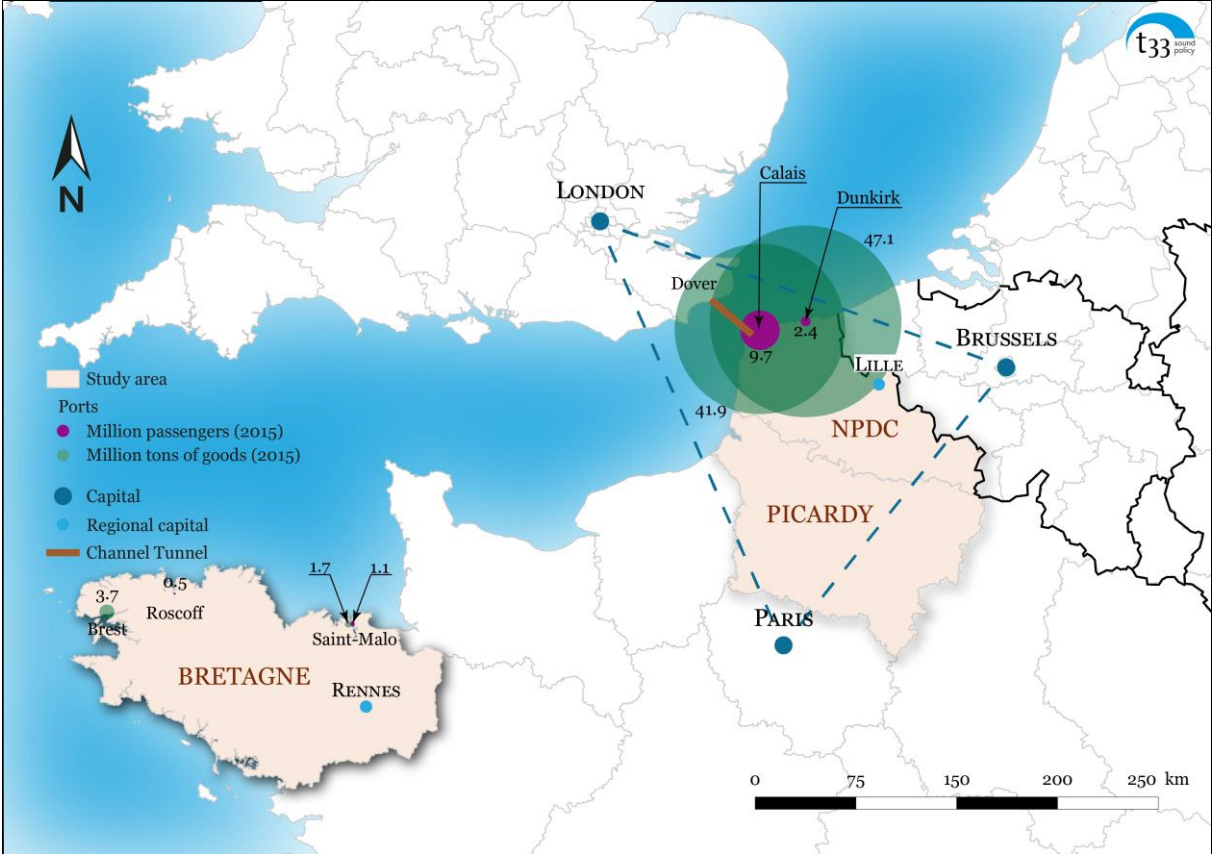
Identification of LRAs (region, territory, city)

Due to their proximity with UK, the two regions—Hauts-de-France (former Picardy and Nord-Pas-de-Calais regions) and Brittany—represent ‘the European door’ to the UK, materialised with the Channel tunnel and the dense network of maritime connections between the two sides of the border. In general, economic similarities between the UK and French regions in the area explain their strong socio-economic relations and integration.

¹³ The annual contribution of the UK to the EU budget is around EUR 17.4 billion on average over the period 2014-2016; while the payments to programmes in the UK are EUR 7.2 billion annually (for the years 2014 and 2015). The structural gap estimated is around EUR 10.2 billion per year (see the European Parliament (2017), Research for AGRI Committee – Possible impact of Brexit on the EU budget and in particular CAP Funding).

¹⁴ See on this question EPRC, May 2017.

Figure 20: Hauts-de-France and Bretagne Regions



Source: t33

Demographic and socio-economic background

Hauts-de-France is a densely populated former industrial region that experienced a period of deindustrialisation over recent decades¹⁵. The unemployment rate of Hauts-de-France (i.e. 13.3% in Nord-Pas-de-Calais and 11.2% in Picardy) is far above the EU average (8.6%)¹⁶. Despite declining trends, the economy of the Hauts-de-France region is still strongly oriented towards industrial activities, i.e. transport, production of goods and agri-food products. In addition, new innovative sectors have grown in the region in recent decades, such as waste management, ICT, cultural and creative industries and bio-economy.

With 122 inhabitants per km², Brittany is less densely populated than Hauts-de-France, but represents 5% of the French population. It is worth noting that 0.4% of the resident population is from the UK. The GDP of the region (4.2% of national GDP) ranks in 7th place in France; while the unemployment rate (8.6%) and the youth unemployment rate (20.3%) are similar to the EU average. The

¹⁵ 189 inhabitants per km² in total, up to 330 inhabitants per km² in Nord-Pas-de-Calais.
¹⁶ The situation related to the youth unemployment rate is worse (i.e. 30.7% for Nord-Pas-de-Calais and 26.4% for Picardy), much higher than the EU average (18.7%).

regional economy was specialized in agriculture in the recent past, but has also developed services such as RDTI—Research, Development, Technology and Innovation—(ICT and digital industries) and other specialized industrial activities in the naval, automobile and shipbuilding sectors.

Issues related to Brexit

Both regions are closely linked to the UK economy.

The UK is an important foreign investor for both Hauts-de-France (5% of foreign investors are from the UK, the fifth most important investor in the region) and Brittany (11% of enterprises, third largest foreign investor). The UK is also the third client of Hauts-de-France and the seventh provider of goods and services. Figures are similar for Brittany: the UK ranks third as export country and eighth as import country.

The main sectors of trade are automobile in Hauts-de-France, agri-foods in Brittany (8% of exports in the sector) and fisheries: 70% of the catches reported in Hauts-de-France are made in the British exclusive economic zone.

Freight maritime transport with the UK is concentrated in Dunkerque, Calais, Brest and Saint-Malo, while ports for passengers crossing the channel are mainly Calais, Dunkerque, Saint Malo and Roscoff. For tourism, the UK is the first country of origin for both regions (e.g. in Brittany, 22% of foreign stays in hostels and 38% of foreign stays in camping sites are from the UK).

Finally, there is a significant integration of research activities between Brittany and the UK, especially when it comes to EU funds. Under the Seventh Framework Programme, for example, research stakeholders from Bretagne participated to 256 collaborative projects with the UK (74% of the collaborative projects involved UK partners) for a total amount of EUR 94.5 million. Similarly, in the cross-border field of cooperation, the ETC programmes ‘2 Seas’ and ‘France (Channel) England’ enable stakeholders from Brittany and Hauts-de-France to collaborate with their British neighbours, sharing funds and experience.

In case of “hard Brexit”, the current advantageous relationships with UK might potentially be made fragile by the following elements.

- Limited access to the exclusive economic zone could have a significant impact on deep-sea fishing if French fishermen have limited or no access to British waters, the principal fish resource area.

- The depreciation of the pound sterling would reduce the purchasing power of British citizens, less willing to invest or spend their money in France.
- Financing for research activities and opportunities for student exchanges through participation in the Erasmus programme would be curtailed.
- Population would decrease in some rural areas, i.e. those with high UK resident concentration, resulting in potential challenges to land planning and provision of services of public interest.
- The reintroduction of border controls and EU duties would have potential consequences in terms of slowing down the flows of trade and people crossing the border. The reintroduction of visas might limit the length of stay of British tourists.

Opportunities linked to Brexit

In the current context of negotiation, both regions are adopting a pro-active attitude towards Brexit. Their geographical positions and historical links with the UK could turn out to be an opportunity in some specific areas, such as firm competitiveness, more research funds available and more foreign investments into the regions (in Hauts-de-France for example in attracting specific foreign investors currently based in the UK and concerned about their access to the EU market).

Remediation actions planned

In Hauts-de-France, a regional strategy for Brexit has been recently adopted with plans for a set of actions (some already implemented) related to:

- promotion of the region in London, through the organisation of various initiatives including the opening of a regional office for business promotion;
- a “Welcome.eu” website has been designed for business people, with a video highlighting the economic and touristic strengths of the region;
- meetings organised to inform economic stakeholders about the consequences of depreciation of the pound sterling, legal issues linked to Brexit, etc.;

- the opening up of a lounge area reserved for British business people located in the Hauts-de-France Chamber of Commerce, next to the Eurostar station in Lille, where guests can work in a business centre and meet their counterparts while in transit;
- other initiatives planned to strengthen cooperation between the two sides of the border and promote Hauts-de-France in the UK. Simultaneously, the region is lobbying at the national and European levels to raise the local issues related to Brexit.

The approach adopted for the Brittany region to monitor Brexit's impact and communicate information to stakeholders of the territory is summarised below:

- A study to describe the consequences of Brexit in Brittany was commissioned by the Regional Council of Brittany to CESER (Regional Economic, Social and Environmental Council) in June 2016 and published by the end of that year.
- Information meetings are regularly organised with stakeholders concerned by Brexit.
- Ongoing relations are underway to maintain existing cooperation with British regions.
- Follow-up of negotiations has been organised in Brittany and in Brussels. In particular, a task force has been created and managed by the Regional Council.

2.2 Malopolskie and Lubelskie Voivodeship (Poland)

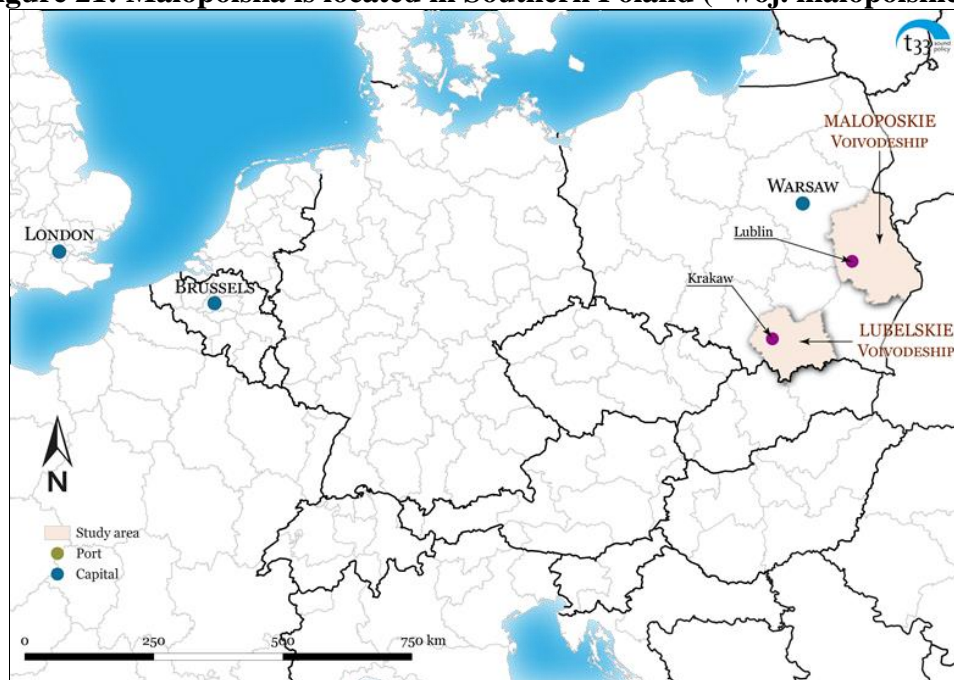
Identification of the LRAs

This case study covers two Polish regions, namely the regions of Malopolskie Voivodeship and Lubelskie Voivodeship. The main impacts discussed are related to migration issues and exports of goods to the UK. Other possible impacts, such as the consequences of the decrease of the financial allocation from the EU budget to Polish regions after the UK's withdrawal, are also briefly mentioned.

Malopolskie Voivodeship is situated in southern Poland and it encompasses the Polish side of the Tatra Mountains. Its capital city is the well-known tourist destination Krakow. The total area of the Voivodeship is 15,183 km². The total population of the Voivodeship in 2015 was 3,372,618 people, which makes up about 9% of the total population of the country. Of these, 2,106,080 people are of working age. The registered unemployment rate in 2015 was 8.3%, which is slightly lower than the average EU-28 unemployment rate of 9.4% in the same year. In 2014, Malopolskie GDP constituted 7.8% of the country's GDP¹⁷.

Lubelskie is a Voivodeship in Eastern Poland. The unemployment rate in the Voivodeship in 2014 was 11.7%, which is higher than both the EU average of 9.4% and the Polish average of 9.7% for the same year. Lubelskie's GDP in 2014 reflected only 3.9% of the national GDP. The Polish region is characterized by an important role of the agricultural sector, which employs as much as 23.3% of the working population in the Voivodeship in 2014. The agricultural-food sector constitutes 63% of total exports, which in the Lubelskie Voivodeship was over PLN1 billion in 2016. The UK is the second biggest export market (after Germany) for the Voivodeship¹⁸.

Figure 21: Malopolska is located in Southern Poland ("woj. malopolskie")



Source: t33

¹⁷ Office for National Statistics, Population of the UK by country of birth and nationality, January to December 2016:

<https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/internationalmigration/datasets/populationoftheunitedkingdombycountryofbirthandnationality>; Eurostat, Main countries of citizenship and birth of the foreign/foreign-born population, 1 January 2016, http://ec.europa.eu/eurostat/statistics-explained/index.php/Migration_and_migrant_population_statistics.

¹⁸ Data from Lubelskie Voivodeship Marshall's Office.

Demographic and socio-economic background

Malopolska is one of the regions that have experienced high emigration to the UK. A study of the Malopolska Regional Development Observatory (MORR), which bases much of its data on the 2011 Polish national census, notes that in 2011, out of 187,500 residents of Malopolska who left the region, 49,589 (26.4%) migrated to the UK. According to the study, most of these migrants decided for a temporary long-term (over 12 month) stay¹⁹. It is worth noting that the most important factor in the UK becoming the most popular migration destination was the Polish EU accession in 2004: the number of migrants to the UK in 2011 was 24 times higher than in 2002.

In 2014, 20 out of 21 Malopolskie municipalities had a higher rate of migration than in 2004. Migration numbers in both rural and urban areas increased between 2004 and 2014. According to the 2011 Polish census data, the structure of Malopolskie migrants mirrors the overall national migratory trends. 51% of migrants from urban areas were women. Migration to the UK has been highest among two age groups: 20-29 year-olds and 30-39 year-olds. Observations by local experts confirm that migrants are mostly educated people between 25 and 50 years of age who are unable to find good jobs in their region.

Issues related to Brexit

Possible impacts of Brexit in Polish regions can be analysed in terms of downturn of migratory flows (in Malopolskie region) and adverse effects on economic activities (mainly in Lubelskie and Opolskie regions).

Migration

The impact of Brexit on Polish migration, as connected especially with possible returns to the country, is debated due to the large number of Polish migrants in the UK. The region of Malopolska is a good case study to consider, given the fact that the UK is the most popular migration destination of its residents.

It should first be considered that the impact of Brexit on Polish migration and migrants will depend on the agreements reached between the UK and the EU on migration issues. There are many scenarios for the outcome of negotiations; three of them are indicated in the publication of Ms. Boronska-Hryniewiecka²⁰:

¹⁹ Malopolskie Obserwatorium Rozwoju Regionalnego, Ruch migracyjny w Malopolsce- emigracja; Report, May 2017.

²⁰ Boronska-Hryniewiecka, K., Wpływ Brexitu na sytuację imigrantów ekonomicznych w Wielkiej Brytanii: implikacje dla Polski i polskich obywateli, biuletyn PISM, Nr 24 (1374), 23 marca 2016 © PISM.

- Migrants could maintain their rights and the labour market could remain accessible to them due to the UK remaining in the EEA.
- Migrants could still maintain some rights and labour market access on the condition the EU and the UK sign relevant bilateral agreements (making relations between the UK and the EU similar to those between Norway or Switzerland and the EU).
- The UK could introduce national regulations on migration that are negotiated with the EU in exchange for London's access to the EU open market.

Considering the worst scenario, questions arise regarding the impact of Brexit on Polish regions if new regulations make it more difficult for Poles to remain in or to migrate to the UK. Nevertheless, there are also aspects other than regulations regarding migration that may influence the migrants' behaviour and decision-making, i.e. migrants can choose to return due to insecurity and perceived hostility against Poles. An additional potential option is that if Brexit does urge some migrants to leave the UK, they will not necessarily return to Poland but could seek employment in other EU countries. However, if Brexit triggers returns to Poland for the reasons described above, this could have both negative and positive outcomes for Polish regions.

As a negative outcome, unemployment may rise and so may the burden on the state budget. Furthermore, the decline in the number of Poles working in the UK will also reduce the amount of money transferred to their home country. Such remittance flows are said to have a considerable impact on consumption in some regions of Poland²¹.

Economy

Based on existing publications as well as notes from the Marshall of Lubelskie, the impact on the economy of the region is not deemed to be very significant. The main areas or issues that may affect regions due to Brexit, next to migration, can be identified as the lack of a UK contribution to the EU budget as well as trade and export.

The UK is one of the biggest contributors to the EU budget. Its withdrawal from the Union will significantly lower the EU budget from which Cohesion Policy is financed. Given that Poland receives the highest amounts of EU budget among

²¹ Boronska Hryniewiecka K, Plociennik, S, RELACJE UNIA EUROPEJSKA – WIELKA BRYTANIA PO EWENTUALNYM BREXICIE STANOWISKA NIEMIEC, FRANCJI, WŁOCH, HISZPANII I POLSKI, PISM, May 2016.

all EU MS, the depletion of EU budget may be felt by the country and its regions. The impact on Polish regions will be felt mostly due to the lack of the UK's contribution to the EU Cohesion Policy resources and consequently lower allocation of funds for Polish regions. The UK's withdrawal from the EU could have an impact on the funding available for Poland under the cohesion policy after 2020²². This was confirmed by the Marshall of Lubelskie: "The withdrawal of the UK from the European Union can be perceivable for the Lubelskie Voivodeship primarily because of a likely limitation of the financial envelope available in the framework of the multiannual EU budget after 2020." Moreover, the UK is the second biggest foreign receiver of Polish goods. In 2015 Polish companies exported 6.8% of products for a value of EUR 12.1 billion. Thanks to this partnership, Poland has achieved a surplus of EUR 7 billion, an amount that is constantly increasing²³.

Opportunities linked to Brexit

Although Brexit is expected to have a negative impact on migration, the economy and trade, some opportunities could arise. If the returning Poles belong to the group of qualified Polish workers, this may also satisfy the growing demand for a qualified labour force in many Polish regions, including Malopolska, due to demographics as well as a deficit of qualified workers²⁴.

In a report on returning migrants, the MORR concludes that returning Poles increased their chances of finding a job in their home country due to language and work skills acquired abroad. This competitive advantage in the job market is irrespective of their previous qualifications. The scope of the study included years 2002-2011, so a number of years before the UK referendum. Nevertheless, the results offer an understanding of the profile and characteristics of Poles who are returning to Malopolska, especially since in the investigated timeframe most returns (about 70% after 2007) were repatriations from the UK. Based on this finding, it may be assumed that even if returning migrants are not highly qualified, their experience abroad may still help them find a job in their home region.

²² Marshall's Office of the Opolskei Region, 19 October 2017, op. cit.

²³ Boronska-Hryniewiecka, Plociennik 2016, op.cit.

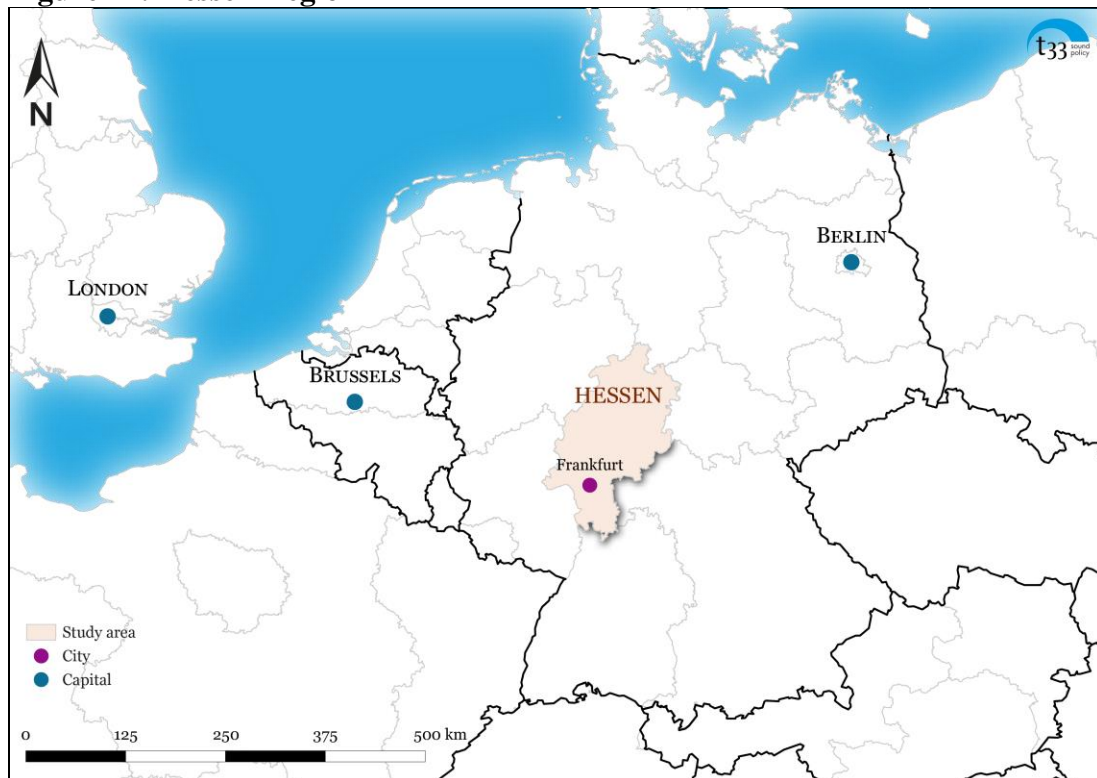
²⁴ Boronska-Hryniewiecka, K, March 2016, op.cit.

2.3 Hessen Federal State (Germany)

Identification of LRAs (region, territory, city)

Hessen is one of 16 German federal states (NUTS 1). It consists of three administrative districts (Darmstadt, Gießen, Kassel; NUTS 2) with 21 counties and 5 urban municipalities (NUTS 3) (see figure 1). Hessen is located in the centre of Germany and is one of only three German states (besides Thuringia and Saxony-Anhalt; excluding the city states) that does not share a border with a neighbouring country.

Figure 22: Hessen Region



Source: t33

This case study is mainly based on findings of the study, “Hessen and the Brexit – Impacts on the Hessian economy” conducted by Hessen Agentur. In the study, a survey was sent out to regional companies, asking about their individual expectations with regard to regional impacts of Brexit.

Demographic and socio-economic background

In 2016, Hessen had a total population of about 6.2m inhabitants, which accounts for about 7.5% of the population in Germany. This implies a population density of about 290 inhabitants / km², which is above the German national average (230 inhabitants / km²), with the southern part of Hessen more

densely populated than the north. The main cities (in terms of population size) are the international financial centre of Frankfurt (about 730,000 inhabitants), the regional capital Wiesbaden (about 275,000 inhabitants), both of which in the south, and Kassel (about 200,000 inhabitants) in the north.

Also in economic terms, the southern area of Hessen with Frankfurt, Darmstadt and Wiesbaden as main urban centres is stronger than the north. In 2015, the purchasing power standard per inhabitant for Hessen was 1.44 times higher than the EU28 average, with strong regional disparities between the north (district of Kassel: 115%) and the centre (district of Gießen: 105%) on the one side, and, on the other side, the south (district of Darmstadt), with about 163% compared with the EU28 average. In relation to both the EU28 and the German average, the unemployment rate in Hessen is comparatively low. In 2016, only 3.9% of the active population (Germany: 4.1%; EU28: 8.6%) were unemployed, with similar values for all three districts (3.7-4.0%).

The regional economy of Hessen is characterised by strong international economic ties.

In 2015, Hessian enterprises exported goods worth EUR 4.5 billion to the UK, i.e. 7.5% of all exports from Hessen. This makes the UK the third largest sales market for Hessen. The four most relevant economic sectors are the automotive industry (EUR 1.5 billion), chemical and pharmaceutical products (EUR 870 million), electrotechnical products (EUR 435 million) and machinery (EUR 315 million). These four sectors account for almost 70% of all regional exports from Hessen to the UK.

The Hessian economy also imports goods from the United Kingdom. In 2015, total imports from the UK were valued at EUR 3.3 billion, i.e. about 4% of all imports. In import trade, chemical and pharmaceutical products are the most relevant sector (EUR 900 million), followed by the automotive sector (EUR 550 million) and machinery (EUR 480 million). These three sectors account for about 60% of all exports from the UK to Hessen.

In 2014, Hessian enterprises engaged in foreign direct investments (FDI) of about EUR 20 billion to the UK, which corresponds to about 12% of all FDI from Hessen and 20% of all German direct investments in the UK. This makes Hessen the third most important German investor in the UK. Conversely, British enterprises only invested about EUR 6 billion in Hessen, which accounts for about 9% of all FDI in Hessen. This makes the UK the third most important investor for Hessen. Direct investments in both directions are dominated by banking, financial and insurance services between the financial centres of Frankfurt and London.

Issues related to Brexit

What emerges from the survey is that possible impacts refer to both flows of goods and capital, i.e. a lower level of trade relations with the UK due to changes in market conditions or volatile exchange rates, for example, but also to lower direct foreign investment. In addition, it is expected that jobs will be transferred from the UK to other countries.

Trade

Most companies (about 60%) do not expect any consequences for their enterprise. About 30-40% expect rather negative impacts. Looking at differences between economic sectors, two important findings are: (1) Manufacturing companies expect more negative effects than service companies. (2) Service companies also see potential for positive effects, in contrast to manufacturing companies, of which only single enterprises expect rather positive impacts. With regard to companies with real economic links to the UK, about 80% of the enterprises expect no changes in the short term; however 35-45% expect a decline in import and export of goods and services in the long run. Expectations in the financing sector are similar to those in the real economy.

Turnover and employment

With regard to impacts on turnover and employment development, it is important to distinguish between turnover and employment in Hessen and in the UK. A majority of more than 80% of Hessian companies expect no Brexit-related changes in their turnover. However, the proportion of companies expecting an increase or decline in turnover again differ between the manufacturing and the service sectors, with the service sector being more optimistic and expecting higher turnover in Hessen (approximately 14%; in financial and insurance services even as high as 25%). Companies are more pessimistic regarding their turnover in the UK: almost 30% of companies in the manufacturing sector (mechanical engineering: 50%) and 40% in the service sector expect falling turnover in the UK. However, again, the majority expects no changes and only a small minority (2-6%) expects increasing sales. In other words, the negative impact of Brexit on turnover is expected to be significantly higher in the UK than in Hessen. Also, in the field of employment, it can be stated that a majority of companies do not expect changes for Hessen or for the UK, and that the impact is expected to be higher in the UK than in Hessen. With regard to employment development in different economic sectors in Hessen, service companies are more optimistic than the manufacturing sector. Only 2% of manufacturing companies expect employment growth, compared with 14% of service companies. Regarding employment development in the UK, however,

companies in the service sector are more pessimistic. More than 33% of service companies expect a drop in employment, in contrast to 24% of manufacturing companies.

Opportunities linked to Brexit

Although Brexit is considered to be negative for the EU overall, the impact on Hessen as a business region is expected to be more positive than it is on the level of single enterprises.

One main opportunity for companies that already have locations both in Hessen and the UK lies in job relocation to Hessen. Such relocations have already been announced in the financial sector by about 15 major international banks from the United States and Asia. In this context, the pressure on the housing market is to be mentioned, which will most likely increase further if appropriate counter-measures are not taken.

In addition, Hessen may become more attractive for companies from third countries looking for business locations in Europe, where the UK has been a major competitor- Frankfurt can become an even more important bridgehead for entering the European Single Market. The Frankfurt airport is a major European hub located in the centre of Europe, making Hessen an accessible and attractive location for companies from outside the EU.

Another aspect relates to volatile exchange rates. On the one hand, if the British pound depreciates, imports from the UK will become cheaper and exports to the UK more expensive. Furthermore, Germany and particularly Hessen may play a stronger role in the EU after Brexit because its economic and demographic importance will increase, which could be an opportunity for the regional economy.

Remediation actions planned

Three main pillars can be identified for activities regarding Brexit addressed in Hessen by the HessenAgentur and other involved players, such as concerned state ministries, state agencies, chambers of commerce, or business promotion agencies.

- The first main pillar refers to political engagement at state level. The State Government of Hessen is involved in Brexit negotiations via the Federal Council of Germany (“Bundesrat”, the second chamber). Such engagement also includes political exchanges between the State Government (either directly or via the official Representation of Hessen

to the EU) and the European Commission, responsible Commissioners and involved Members of the European Parliament. In the State Chancellery, a Brexit unit has been established to address the main fundamental issues.

- A second main pillar refers to providing information to help enterprises to address the high level of uncertainty. Various activities have been organised to meet this need for information. A series of events has been conducted together with the chambers of commerce to inform business leaders about Brexit and discuss possible implications with experts from the UK, representatives of enterprises etc. Furthermore, information is disseminated through websites and a newsletter. For certain communities, such as the Indian and Chinese community in Hessen, target-group specific events have been organised.
- Marketing activities are the third main pillar. A Brexit Task Force, which brings together the Hessian State Government, public agencies, marketing initiatives, local and regional business promotion agencies and chambers of commerce, has been established to exchange relevant information and coordinate promotional activities. Already in 2016, an economic delegation including the State Minister of Economic Affairs flew to London to meet with decision-makers in the financial sector, insurance companies and investors, and advertise for Hessen as business location. However, marketing activities do not only address business players in the UK, but also aim to attract enterprises from other countries.

2.4 Flanders Region and Ports (Belgium)

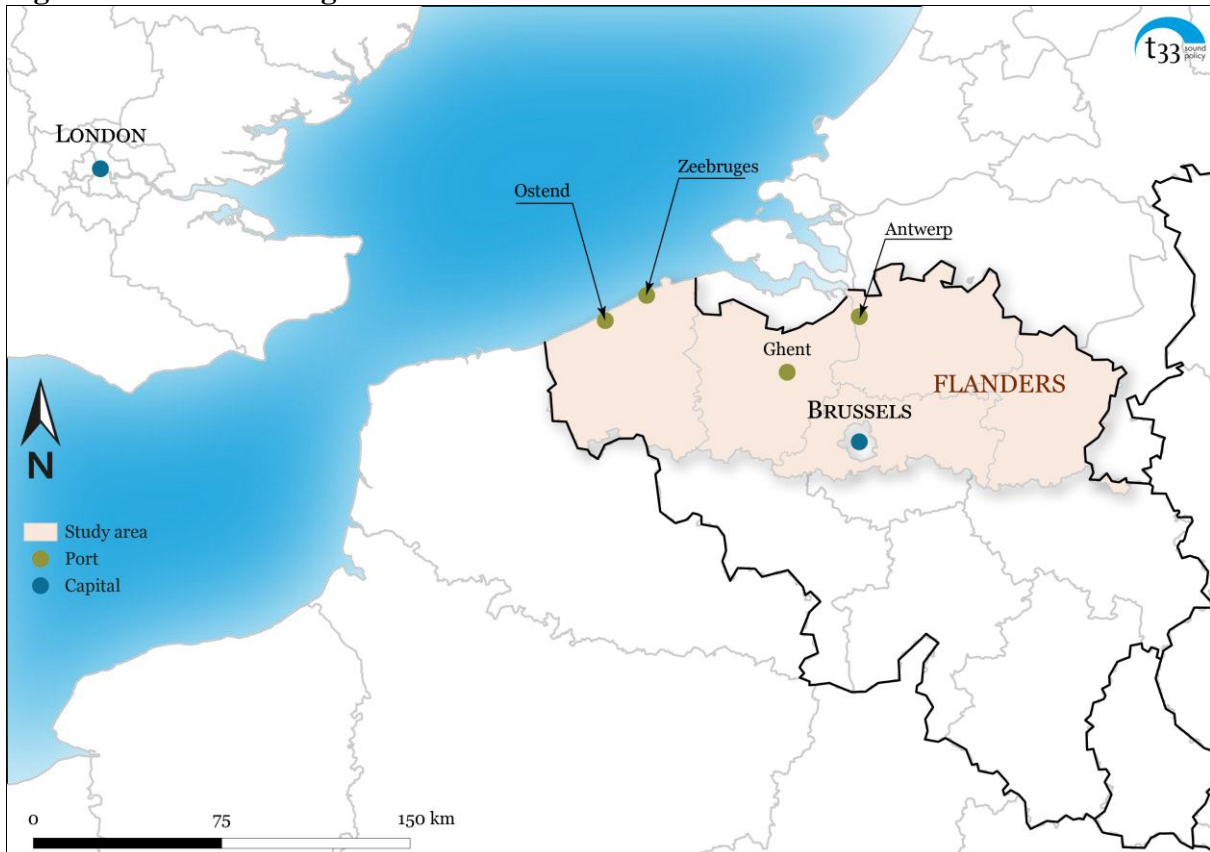
Identification of the LRA

Due to their proximity, the ties between Flanders and the United Kingdom have always been close. Maritime and commercial contacts play a crucial role in their joint history.

The strategic location of major Flemish cities such as Bruges, Ghent and Antwerp, has contributed to making the region a highly desirable partner for the UK.

As a neighbouring country and European partner, the UK is regarded as a priority country in Flemish foreign policy and trade.

Figure 23: Flanders Region



Source: t33

Socio-economic and demographic background

Flanders is home to approximately 6.4 million inhabitants, with the majority of citizens living in the province of Antwerp. Flanders is Belgium's northernmost region and represents 45% of the country's territory and the majority of the country's industry and workforce, providing 58% of the national gross domestic product (GDP). Within Belgian regions, Flanders is ranked second (after the Brussels-Capital Region) in terms of per capita GDP, with EUR 32,801. In 2016, Flemish GDP in purchasing power standard per inhabitant was 20% above the EU average.

In 2013, industry accounted for 20% of the gross value-added in the Flemish region, while trade, transport and restaurants accounted for 21.7%. Flanders is also an important logistic hub, due to its central location and its dense and integrated multimodal transport infrastructure. Exports from Flanders have a value of 80% of Belgian GDP, mostly due to the trade of goods transiting through Belgian ports.

Issues related to Brexit

Based on 2013-2015 data, Belgian exports to the United Kingdom consist mainly of motor vehicles, tractors, cycles and other land vehicles. This sector accounted for 24.1% of total Belgian exports to the United Kingdom over the period considered.²⁵ Exports through the four ports of Antwerp, Ghent, Zeebruges and Ostend have traditionally been oriented towards the British Isles. The automotive sector is of particular interest to Flanders, representing the third largest industry in the region and being at the heart of the logistic hub of the Port of Zeebruges (the world's largest hub for new cars, handling 2.7 million units in 2016). The UK is the first Flemish market with 24.16% of the total Flemish export of vehicles for land transport.

Considering these aspects, Brexit is expected to have an economic and political impact on Flanders, and in particular on Flemish ports, as a result of changed trade relations and the possible exit of the UK from the customs union and the transformation of the Belgian coast into an external border of the EU.

Economy

In a WTO scenario²⁶, the enforcement of customs duties (up to 10% for passenger cars according to current WTO tariffs) and the introduction of customs procedures between the EU and the UK could significantly affect demand and the fluidity of freight flows. As a consequence, Flemish ports could potentially lose an important share of their traffic, affecting port activities and employment in the sector and geographical area.

Policy

The creation of a new external border on the Belgian coast would entail the need to find logistical and political solutions to manage migration flows: Flemish ports would have to build border crossing points and cooperate with the UK authorities to prevent access to the port by illegal migrants trying to enter the UK. Currently, the Port of Zeebruges works together with British authorities, but Brexit might affect this cooperation.

²⁵ Towards an Economic Brexit Strategy—position of the Belgian Employers' Federations, Belgian Government, 2017.

²⁶ A scenario where the UK exits the single market and the customs union.

Remediation actions planned

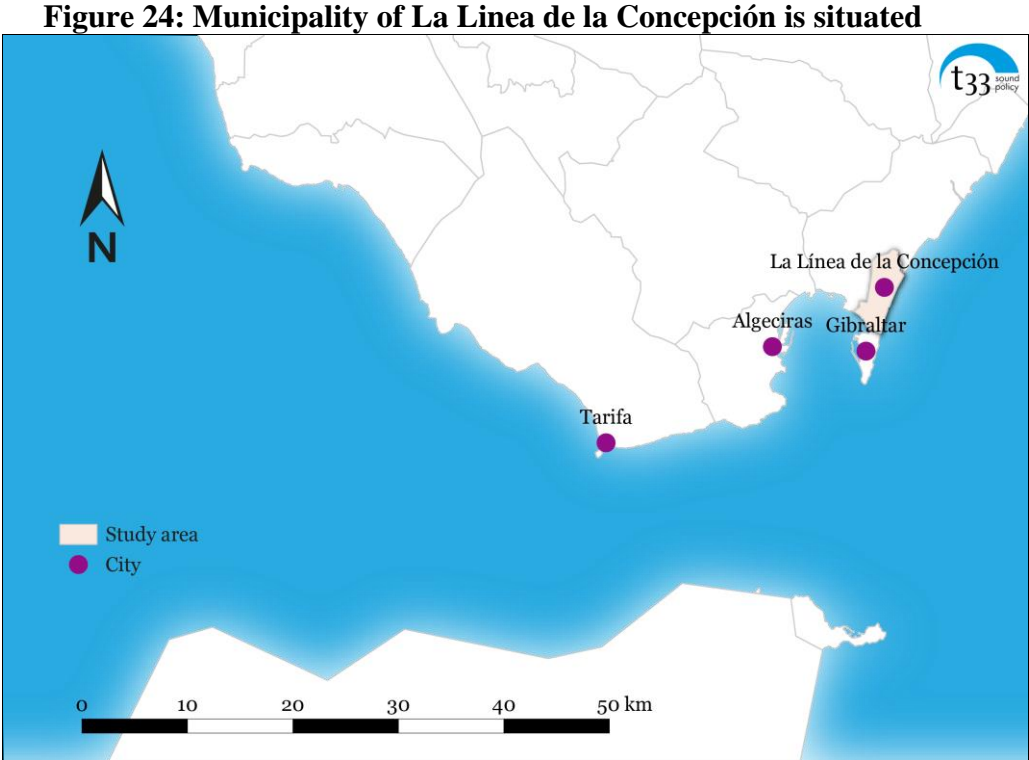
The Belgian government created a high-level group encompassing all trade sectors that have an interest in Brexit. The Port of Zeebruges is represented in this high-level group.

The European Sea Ports Organisation (ESPO), consisting of port authority representatives from Europe’s major ports (including British ports), has also set up a Brexit working group within its trade, customs and security committee in order to debate the aforementioned issues. The Flemish ports of Antwerp, Ghent and Zeebruges are represented in this group. The aim of the working group is to achieve a good overview of the impact that Brexit would have on the European port sector, thus offering a platform for discussion. The collected information can then be passed on to the political negotiators in charge of Brexit negotiations.

2.5 Municipality of La Línea de la Concepción (Spain)

Identification of the LRAs

La Línea de la Concepción is a municipality of the area Campo de Gibraltar, situated in the south of the province of Cadiz and next to the Gibraltar border.



Source: t33

Over its long history, La Línea and Gibraltar have alternated between moments of deep socio-economic integration and extremely difficult periods. The most critical moment in the history of La Línea was 1969, when Francisco Franco decided to permanently close the “fence” built sixty years before by the British government. The fence closure represented for La Línea and Gibraltar the beginning of a strong socio-economic crisis. The interruption of commercial relations, essential for the economy of both areas, caused the loss of many jobs that in turn caused a massive migration of families towards other European countries, such as Belgium, Germany, Switzerland, France and England. The fence was permanently reopened in 1985, making both areas very integrated today, with intense commercial relations.

Considering the geographical position and commercial exposure of la Linea to Gibraltar, this case study aims to provide an overview of the possible impact of Brexit on the city. The study is mainly focused on the social and economic impact of Brexit, highlighting possible effects in the public and private sector and in the lives of Spanish and foreign people living in la Linea.

Demographic and socio-economic background

La Línea counts 63,352 inhabitants (97.27% living in the centre), with almost 10,000 commuters crossing the border every day. During the summer, the number of inhabitants rises to 87,000. Immigrants account for 6.24% of the population, with 50% of immigrants coming from the UK.

The demographic evolution over the years presents, on average, a positive trend. However, the period of interruption of political relations between La Línea and Gibraltar (i.e. during the fence construction in 1969) is characterized by negative demographic troughs.

The municipality of La Línea has one of the lowest educational levels in Spain. In 2016, 4.20% of people had no educational qualifications and 20% did not complete their primary education (Cadiz: 15%, Algeciras: 18%). The low educational level is related to a huge unemployment rate, i.e. almost 35%, in 2016, in the urban area of La Línea de la Concepcion; this figure had remained unchanged since 2009.

In La Línea the most important sector is services, especially related to small-medium businesses. Services represent 87.47% of the total economy, above the provincial and regional averages (Province of Cadiz: 86.39%; Andalusia: 84.01%). One reason for the low development of the industrial sector is the big divergence in taxation level between La Línea and Gibraltar. The lower taxation

of Gibraltar attracted most of the Spanish investments, curtailing the development of industry in Campo de Gibraltar, especially in La Línea.

Due to its geographical position, close to the border with Gibraltar, and the high number of daily commuters for work, the number and the prices of rented and sold dwellings (respectively 41.48% and 18.5%) is higher than in the neighbouring municipalities. The real estate sector represents an important contribution to the economy of La Línea.

In addition, every year a high number of tourists visit the area of Campo de Gibraltar. In 2015, La Línea hosted 3,624 tourists and Gibraltar 10,171,733. Most tourists reach Gibraltar crossing La Línea. This causes daily traffic jams and delays and results in La Línea de la Concepcion's record for the highest level of air pollution in Spain.

Issues related to Brexit

In 1969, the sudden suspension of relations and the interruption of commercial flows between La Línea and Gibraltar had a dramatic socio-economic impact on the municipality of La Línea. Brexit could have similar effects, depending on the withdrawal scenario negotiated between the EU and UK.

Because of the uncertainty surrounding the future Brexit scenario, it is impossible to exactly predict its impact on the municipality. However, based on historic experience and recent estimations provided by the study “Estudio socio-economico del impacto del Brexit en La Linea de la Concepcion”, in the worst scenario, Brexit will have a negative impact on the population and on the economy of La Línea de la Concepcion.

Population

In 2016 the unemployment rate in la Linea de la Concepcion, where labour supply largely exceeds the demand, was 35.2% compared with 1% in Gibraltar. For this reason, many Spanish citizens of La Linea work in Gibraltar. This group of workers suffered the most immediate consequence of Brexit: a reduction of almost 20% of their real wages caused by the GBP depreciation in the days following the referendum.

However, this is not the only effect of Brexit on Spanish workers. In fact, considering a pessimistic scenario, many Spanish workers could lose their jobs. Taking into account that almost one in five citizens of la Linea is employed in Gibraltar, the impact on families would be dramatic, causing a massive

migration toward areas with more favourable employment conditions, as already happened in 1969.

Brexit would have a negative impact also on Gibraltarians living in La Línea de la Concepción who could be forced to move back to Gibraltar, where the cost of living is much higher than in La Línea. Citizens of La Línea and Gibraltarians constitute a significant portion of the 10,000 people commuting every day for work. Considering that Spanish and non-Spanish commuters in Campo de Gibraltar spend about 118 million GBP per year, the consequences in loss of revenue due to Brexit would be especially detrimental for the municipality of La Línea.

Economy

La Línea de la Concepción and Gibraltar have very intense commercial relations and most enterprises in Gibraltar depend on Spanish imports (around 10 million euro per year), mainly from La Línea.

Therefore, both economies would be strongly damaged by Brexit through a collapse of import-export.

The restriction in mobility of citizens of Gibraltar could also have negative effects on the economy of La Línea.

The annual total expenditure for goods and services deriving from citizens of Gibraltar is estimated at around GBP 46 million in Campo de Gibraltar and GBP 26 million in the rest of Spain. In addition, Gibraltar citizens invest around GBP 62 million in real estate, both in Campo de Gibraltar and in the rest of Spain.

Brexit would drastically reduce the number of people buying and renting houses, as well as the consumption and public revenues related to tax paid by the people of Gibraltar.

Remediation actions planned

The “Plan Estratégico de Impulso y Crecimiento de La Línea de la Concepción”, commissioned by the municipality, presents some proposals aiming to address the complex issues linked to Brexit.

The main actions outlined in the plan are related to:

- implementation of the “CARTA ECONOMICA ESPECIAL PARA LA LÍNEA DE LA CONCEPCION”, signed by national and regional authorities in 1997, which recognizes the special status of La Línea and guarantees

financial aid and other supporting measures for the socio-economic development of the area;

- building new infrastructures to make the border more accessible, improve the mobility of people and vehicles and reduce air pollution;
- reducing the difference in taxation between La Línea and Gibraltar to boost investments in La Línea;
- investing more in tourism infrastructures to exploit the potential in La Línea (i.e. around 14 km. of beach);
- creating a professional training centre to help unemployed people find a job within the city perimeter.

3 Conclusions and recommendations

The study has shown that the protracted political and economic instability generated by Brexit will bring additional challenges to those European firms with a significant export share in the UK and that have already been stressed by a long-term economic crisis and competition with low-wage countries, especially in the Far East. Existing challenges will be brought into sharper focus since competitors will use the opportunity to disrupt existing relationships and seize market share. Post-Brexit re-positioning by some multinationals has already begun, so it is important to help European manufacturers – especially SMEs – not to lag behind.

As negotiations for a new trade agreement proceed, socio-economic and institutional stakeholders at the local and regional levels will need to develop an action plan to create new business opportunities and drive future growth.

This study contains a first set of indications, which could assist policy-makers and business players in EU regions, namely by:

- a) informing policy-makers at all levels of government of the potentially asymmetric impact of the UK's withdrawal from certain EU territories and provide the evidence needed for a successful negotiation process for a new trade agreement between the EU27 and the UK;
- b) allowing concerned territories to devise, from the outset, comprehensive policy responses to deal with the expected impact, including the challenges pertaining to SMEs, on the basis of an engagement of all concerned stakeholders, both from the public and the private sector;
- c) providing a starting base and analytical framework for further research.

As Brexit is the first case of withdrawal of a Member State from the EU, the shape of the negotiation process is still undefined up to a certain point, with national governments taking the lead in raising issues and EU institutions conducting negotiations with the UK. However, the economic and empirical analysis carried out in this study has shown that differentiated effects occur across regions in the same country. This calls for a more active and substantial role for LRAs to provide their rationale and arguments for certain aspects of the new trade agreement, considering both territorial and sectoral specificities.

A recommendation to LRAs is to help local economic and social players, in particular SMEs, to prepare for the strong uncertainties they are going to face in

the near future. The UK's exit from the single market means that European firms exporting to the British market should re-position their businesses to better contain and adapt to the changes Brexit will entail. LRAs should prepare stakeholders (investors, customers and employees) by using scenario planning to explain potential effects on the business. They should also help to quantify the impact of Brexit on their existing global and regional business models. This includes adjusting business unit operations and strategies and then developing action plans to enable them to deal with the new scenario.

LRAs can support entrepreneurs in these actions by proposing analytical studies of the possible scenario for their region. This work is a general introduction to this kind of studies, which should then be developed in more detail and with specific reference to the region. Such studies should have a clear focus on how Brexit adds to the complexity of sales, design, manufacture and in-service environments. If the UK exits the single market, companies will potentially be subject to different regulatory regimes and requirements that will be specific to the sector of strategic importance for each region.

In most cases, SMEs cannot afford to undertake this kind of study internally. To help local firms, LRAs should therefore take the lead in such in-depth analyses, identifying critical levers, relationships and regional priorities, and engage throughout what is likely to be a protracted Brexit negotiation. This is why it is extremely important for LRAs to have a clear view of the specific export sectors to which their regions are mainly exposed.

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5 Annexes

1 - Information on FDI

There is widespread awareness of the likelihood of changes to FDI resulting from Brexit. The UK's exit could trigger a migration of investments originally targeted to the UK into other EU27 countries and regions considered more attractive for being part of the EU free trade zone. Since data on FDI after the Brexit vote at the regional level are still rare and scattered, the analysis of potential FDI flow changes can be done only by considering a review of forecasting models proposed by academic literature on the subject. This is, however, not in the scope of the current work. An empirical work on intra-European FDI flows has been recently conducted by ESPON. However, even in this case, we could not find much relevant information: *“Brexit is likely to have an impact on intra-European FDI. If more frictions arise in trade between the EU and the UK, Brexit may cause reallocations of FDI between the UK and other EU member states. European owned firms located in the UK that are dependent on access to the Internal Market may choose to relocate to another EU Member State following Brexit. Likewise, firms located in an EU Member State that sell a large share of their production on the UK market may wish to relocate to the UK in order to avoid tariffs and non-tariff barriers to trade which might arise in the future. The extent to which Brexit will influence the location of future FDI flows within Europe and cause relocations of existing investments remains to be seen.”* (“The World in Europe: global FDI flows towards Europe”, ESPON, p.8)

In the assessment of various regions, we have found evidence that local actors regard FDI changes as both an opportunity and a threat. Opportunity exists in such areas as, for instance, Berlin, Cork and Amsterdam, where the competitiveness of the economic context could enhance localization of firms previously based in the UK now seeking to have a new corporate seat located within EU27 borders. Threats are most likely in areas such as the Canary Islands, Andalusia, Balears and Valencia, where UK purchases in the real estate sector could slow down as a result of potentially diminished access to healthcare and insurance due to change in the status of British citizens in the EU27.

2 – NUTS Code (Regulation EC 1059/2003)

Name of the Region (Country)	NUTS	Name of the Region (Country)	NUTS
Région de Bruxelles-Capitale (BE)	BE10	Auvergne (FR)	FR72
Prov. Antwerpen (BE)	BE21	Languedoc-Roussillon (FR)	FR81
Prov. Limburg (BE)	BE22	Provence-Alpes-Côte d'Azur (FR)	FR82
Prov. Oost-Vlaanderen (BE)	BE23	Corse (FR)	FR83
Prov. Vlaams-Brabant (BE)	BE24	Guadeloupe (FR)	FRA1
Prov. West-Vlaanderen (BE)	BE25	Martinique (FR)	FRA2
Prov. Brabant Wallon (BE)	BE31	Guyane (FR)	FRA3
Prov. Hainaut (BE)	BE32	La Réunion (FR)	FRA4
Prov. Liège (BE)	BE33	Jadranska Hrvatska (HR)	HR03
Prov. Luxembourg (BE)	BE34	Kontinentalna Hrvatska (HR)	HR04
Prov. Namur (BE)	BE35	Piemonte (IT)	ITC1
Severozapaden (BG)	BG31	Valle d'Aosta/Vallée d'Aoste (IT)	ITC2
Severen tsentralen (BG)	BG32	Liguria (IT)	ITC3
Severoiztochen (BG)	BG33	Lombardia (IT)	ITC4
Yugoiztochen (BG)	BG34	Provincia Autonoma di Bolzano (IT)	ITH1
Yugozapaden (BG)	BG41	Provincia Autonoma di Trento (IT)	ITH2
Yuzhen tsentralen (BG)	BG42	Veneto (IT)	ITH3
Praha (CZ)	CZ01	Friuli-Venezia Giulia (IT)	ITH4
Střední Čechy (CZ)	CZ02	Emilia-Romagna (IT)	ITH5
Jihozápad (CZ)	CZ03	Toscana (IT)	ITI1
Severozápad (CZ)	CZ04	Umbria (IT)	ITI2
Severovýchod (CZ)	CZ05	Marche (IT)	ITI3
Jihovýchod (CZ)	CZ06	Lazio (IT)	ITI4
Střední Morava (CZ)	CZ07	Abruzzo (IT)	ITF1
Moravskoslezsko (CZ)	CZ08	Molise (IT)	ITF2
Hovedstaden (DK)	DK01	Campania (IT)	ITF3
Sjælland (DK)	DK02	Puglia (IT)	ITF4
Syddanmark (DK)	DK03	Basilicata (IT)	ITF5
Midtjylland (DK)	DK04	Calabria (IT)	ITF6
Nordjylland (DK)	DK05	Sicilia (IT)	ITG1
Stuttgart (DE)	DE11	Sardegna (IT)	ITG2
Karlsruhe (DE)	DE12	Kypros (CY)	CY00
Freiburg (DE)	DE13	Latvija (LV)	LV00
Tübingen (DE)	DE14	Lietuva (LT)	LT00
Oberbayern (DE)	DE21	Luxembourg (LU)	LU00
Niederbayern (DE)	DE22	Közép-Magyarország (HU)	HU10
Oberpfalz (DE)	DE23	Közép-Dunántúl (HU)	HU21
Oberfranken (DE)	DE24	Nyugat-Dunántúl (HU)	HU22
Mittelfranken (DE)	DE25	Dél-Dunántúl (HU)	HU23
Unterfranken (DE)	DE26	Észak-Magyarország (HU)	HU31
Schwaben (DE)	DE27	Észak-Alföld (HU)	HU32
Berlin (DE)	DE30	Dél-Alföld (HU)	HU33

Brandenburg (DE)	DE40	Malta (MT)	MT00
Bremen (DE)	DE50	Groningen (NL)	NL11
Hamburg (DE)	DE60	Friesland (NL)	NL12
Darmstadt (DE)	DE71	Drenthe (NL)	NL13
Gießen (DE)	DE72	Overijssel (NL)	NL21
Kassel (DE)	DE73	Gelderland (NL)	NL22
Mecklenburg-Vorpommern (DE)	DE80	Flevoland (NL)	NL23
Braunschweig (DE)	DE91	Utrecht (NL)	NL31
Hannover (DE)	DE92	Noord-Holland (NL)	NL32
Lüneburg (DE)	DE93	Zuid-Holland (NL)	NL33
Weser-Ems (DE)	DE94	Zeeland (NL)	NL34
Düsseldorf (DE)	DEA1	Noord-Brabant (NL)	NL41
Köln (DE)	DEA2	Limburg (NL)	NL42
Münster (DE)	DEA3	Burgenland (AT)	AT11
Detmold (DE)	DEA4	Niederösterreich (AT)	AT12
Arnsberg (DE)	DEA5	Wien (AT)	AT13
Koblenz (DE)	DEB1	Kärnten (AT)	AT21
Trier (DE)	DEB2	Steiermark (AT)	AT22
Rheinessen-Pfalz (DE)	DEB3	Oberösterreich (AT)	AT31
Saarland (DE)	DEC0	Salzburg (AT)	AT32
Dresden (DE)	DED2	Tirol (AT)	AT33
Chemnitz (DE)	DED4	Vorarlberg (AT)	AT34
Leipzig (DE)	DED5	Lódzkie (PL)	PL11
Sachsen-Anhalt (DE)	DEE0	Mazowieckie (PL)	PL12
Schleswig-Holstein (DE)	DEF0	Malopolskie (PL)	PL21
Thüringen (DE)	DEG0	Slaskie (PL)	PL22
Estonia (EE)	EE00	Lubelskie (PL)	PL31
Border, Midland and Western (IE)	IE01	Podkarpackie (PL)	PL32
Southern and Eastern (IE)	IE02	Swietokrzyskie (PL)	PL33
Anatoliki Makedonia, Thraki (EL)	EL51	Podlaskie (PL)	PL34
Kentriki Makedonia (EL)	EL52	Wielkopolskie (PL)	PL41
Dytiki Makedonia (EL)	EL53	Zachodniopomorskie (PL)	PL42
Ipeiros (EL)	EL54	Lubuskie (PL)	PL43
Thessalia (EL)	EL61	Dolnoslaskie (PL)	PL51
Ionia Nisia (EL)	EL62	Opolskie (PL)	PL52
Dytiki Ellada (EL)	EL63	Kujawsko-Pomorskie (PL)	PL61
Stereia Ellada (EL)	EL64	Warminsko-Mazurskie (PL)	PL62
Peloponnisos (EL)	EL65	Pomorskie (PL)	PL63
Attiki (EL)	EL30	Norte (PT)	PT11
Notio Aigaio (EL)	EL42	Algarve (PT)	PT15
Voreio Aigaio (EL)	EL41	Centro (PT)	PT16
Kriti (EL)	EL43	Área Metropolitana de Lisboa (PT)	PT17
Galicia (ES)	ES11	Alentejo (PT)	PT18
Principado de Asturias (ES)	ES12	Região Autónoma dos Açores (PT)	PT20
Cantabria (ES)	ES13	Região Autónoma da Madeira (PT)	PT30
País Vasco (ES)	ES21	Nord-Vest (RO)	RO11

Comunidad Foral de navarra (ES)	ES22	Centru (RO)	RO12
La Rioja (ES)	ES23	Nord-Est (RO)	RO21
Aragón (ES)	ES24	Sud-Est (RO)	RO22
Comunidad de Madrid (ES)	ES30	Sud - Muntenia (RO)	RO31
Castilla y León (ES)	ES41	Bucuresti - Ilfov (RO)	RO32
Castilla-la Mancha (ES)	ES42	Sud-Vest Oltenia (RO)	RO41
Extremadura (ES)	ES43	Vest (RO)	RO42
Cataluña (ES)	ES51	Vzhodna Slovenija (SI)	SI03
Comunidad Valenciana (ES)	ES52	Zahodna Slovenija (SI)	SI04
Illes Balears (ES)	ES53	Bratislavský kraj (SK)	SK01
Andalucía (ES)	ES61	Západné Slovensko (SK)	SK02
Región de Murcia (ES)	ES62	Stredné Slovensko (SK)	SK03
Ciudad Autónoma de Ceuta (ES)	ES63	Východné Slovensko (SK)	SK04
Ciudad Autónoma de Melilla (ES)	ES64	Länsi-Suomi (FI)	FI19
Canarias (ES)	ES70	Helsinki-Uusimaa (FI)	FI1B
Île de France (FR)	FR10	Etelä-Suomi (FI)	FI1C
Champagne-Ardenne (FR)	FR21	Pohjois- ja Itä-Suomi (FI)	FI1D
Picardie (FR)	FR22	Åland (FI)	FI20
Haute-Normandie (FR)	FR23	Stockholm (SE)	SE11
Centre (FR)	FR24	Östra Mellansverige (SE)	SE12
Basse-Normandie (FR)	FR25	Småland med öarna (SE)	SE21
Bourgogne (FR)	FR26	Sydsverige (SE)	SE22
Nord - Pas-de-Calais (FR)	FR30	Västsverige (SE)	SE23
Lorraine (FR)	FR41	Norra Mellansverige (SE)	SE31
Alsace (FR)	FR42	Mellersta Norrland (SE)	SE32
Franche-Comté (FR)	FR43	Övre Norrland (SE)	SE33
Pays de la Loire (FR)	FR51		
Bretagne (FR)	FR52		
Poitou-Charentes (FR)	FR53		
Aquitaine (FR)	FR61		
Midi-Pyrénées (FR)	FR62		
Limousin (FR)	FR63		
Rhône-Alpes (FR)	FR71		

3 - List of interviewees

Country	Regions/LRAs	Name	Institution
France	Hauts-de-France	Romain Nivelle – Director of regional office in Brussels	Regional Council (Hauts-de-France)
		Sylvie Duchassaing – International Business Developer Northern Europe	CCI Hauts-de-France
		Sylvie Herlem – Director of Regional Studies	
Poland	Malopolskie	Anna Lobodzinska	Regional Development Observatory
	Lubelskie	Bogdan Kawalko - Director Department for Regional Policy	Marshall's Office of the Lubelskie Voivodenship
Germany	Districts of Darmstadt, Gießen and Kassel (Hessen)	Anja Gauler	Hessen Agency
Spain	La Línea de la Concepción (ES)	Mario Helio Fernández Ardanaz – Former Mayor	Municipality of La Línea de la Concepción

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ISBN 978-92-895-0949-7
doi:10.2863/572180

QG-01-18-277-EN-N



**European Committee
of the Regions**

Created in 1994 following the signing of the Maastricht Treaty,
the European Committee of the Regions is the EU's assembly of 350 regional and
local representatives from all 28 Member States, representing over 507 million Europeans.

Rue Belliard/Belliardstraat 101 | 1040 Bruxelles/Brussel | BELGIQUE/BELGIË | Tel. +32 22822211
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