

Chapter 1

Who performs outsourcing? A cross-national comparison of companies in the EU-28

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1. Introduction

Outsourcing is an issue for many companies in the EU-28. It seems that many European companies have followed the call to ‘focus on their core business’ that echoed throughout the 1990s.¹ This call urged companies to retain only their core activities and outsource the rest (Domberger 1998; Kakabadse and Kakabadse 2000). For many companies, outsourcing gained prominence in their search for greater competitiveness in an increasingly volatile market environment. Several scholars of business understand outsourcing as a make-or-buy decision (Williamson 1975; see also Gospel and Sako 2010), i.e. a company can either ‘make’ a product or service itself or can ‘buy’ the product or service from a subcontractor. In this sense a company could rely on internal competences or resort to the market to produce a product or service. The growing importance of outsourcing indicates that companies increasingly favour the market over internal competences.

The increasing number of companies outsourcing services increases the relevance of outsourcing beyond the economic considerations of managers. A growing number of researchers point out that outsourcing is restructuring whole economies and altering traditional systems of industry regulation and employee representation (Doellgast and Greer 2007; Ramioul and De Bruyn 2008; Flecker 2009; Batt and Nohara 2009; Doellgast *et al.* 2009). Others emphasize that outsourcing has a major impact on employment conditions and job quality (Warhurst

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et al. 2012). In a shift to so-called 'low road' approaches, companies often resort to downsizing, using outsourcing as a way of cutting labour costs (Kalleberg 2011). Therefore these two aspects seem directly linked. The impact of outsourcing on job quality might be exacerbated by the power of employee representatives and unions being weakened and concessions being demanded in the process of outsourcing (Doellgast and Greer 2007; Flecker 2009). Thus, the growth of outsourcing provides a challenge to employee representatives and unions.

From a cross-national perspective on outsourcing there is a lack of internationally comparable quantitative studies at company level, with the few existing ones focusing on specific types of outsourcing: e.g. outsourcing to call centres (Batt and Nohara 2009; Doellgast, Batt and Sørensen 2009), the outsourcing of HRM functions (Mol *et al.* 2014) as well as the international outsourcing of various functions to other countries (Alajääskö 2009). Moreover, these studies cover only some but not all EU-28 countries.

Against the background of this lack of cross-national research on outsourcing this article seeks to *map* outsourcing in EU-28 companies and to provide a *basic orientation*, focusing on the key question of 'Who performs outsourcing in the EU-28?'

The article focuses on four aspects of outsourcing: (a) differences across EU-28 countries, (b) differences across industries, (c) the relation between these two sets of differences, and (d) differences across countries in partial and full outsourcing.

The article is structured as follows: First I introduce the data set and variables for the empirical analysis. I go on to present my empirical results according to the four aspects of outsourcing, before concluding with a discussion of the results.

2. Basis of the empirical analysis

2.1 The European company survey (ECS) 2013 data set

The basis for the following analysis is the 2013 European company survey (ECS). The ECS was commissioned by the European Foundation for the Improvement of Living and Working Conditions (Eurofound 2013,

2015) and was conducted by Gallup Europe (Gallup 2013).² Conducted in all EU-28 countries, the ECS involved a representative telephone survey of human resource managers in establishments with 10 or more employees in a country. The target for national sample size varies from 300 cases in Montenegro to 1,650 cases in the UK, reflecting country size.

To ensure a high survey quality, Gallup (2013) carried out various measures. These included extensive quality checks with qualitative and quantitative pre-tests, and careful translations to ensure standards in this cross-national survey. Additionally computed weights were used to correct the influence of any sample stratification. The average response rate for management interviews scored a comparably high value of 35 per cent, ranging between 71 per cent in Montenegro to 18 per cent in Austria, overall providing a sound basis for empirical analysis.

The analyses in this chapter are based on all private-sector cases from the EU-28 countries, i.e. 24,251 establishments.³ To foster the comprehensibility of the analysis I will subsequently use the term ‘company’ for the establishments surveyed in the ECS.

2.2 Measuring outsourcing

The ECS included a variable on the outsourcing of production and services, with interviewers asking the following question:

‘Is this establishment partly or entirely outsourcing each of the following activities (this activity) to a third party that is not owned by your establishment or the company you belong to?’

[‘Outsourcing’ refers to ... the contracting of a business function or process to another, independent organisation.]’

One of the activities listed was ‘*Production of goods or services*’. The answers provide the information on outsourcing activities for the analyses in this chapter.

2. Additional information available at the Eurofound website: <http://eurofound.europa.eu/surveys/ecs/2013/european-company-survey-2013>.

3. The subsequent analysis does not cover public sector companies because reliable weights are not available for these 2,829 establishments. An additional analysis of these cases is included.

How reliable are the outsourcing variables in the ECS? The ECS 2013 quality report provided by Gallup (2013) extensively documents quality assurance practices concerning particular variables. According to this report there is no problem or limitation to the variables used. Also, only 3 per cent of all survey respondents reported that the outsourcing question was not applicable. About 1.5 per cent gave no answer or did not know.

3. Analyzing outsourcing by companies across the EU-28

The following section discusses the results of the empirical investigation of outsourcing in the EU-28. In line with the first ECS 2013 reports by Eurofound (Eurofound 2013, 2015), my own analysis also shows that about 27 per cent of companies reported that the production of goods or services is partly or entirely outsourced. So about every fourth company in the EU-28 performs outsourcing.

In the next sections I will investigate outsourcing in four steps: first I will look at cross-national differences in outsourcing. Second, I will show the breakdown of outsourcing by industry. In a third step I will consider the interrelationship between outsourcing in different sectors across countries. Finally I will explore the background to the cross-national differences, looking at the cross-national difference between partial and full outsourcing.

3.1 Differences across the EU-28

Existing empirical research provides many reasons to assume that levels of outsourcing differ substantially across countries. International comparative studies support the importance of national conditions for outsourcing.

For example, Flecker (2009: 261 pp.) found clear national variations in cross-national case studies, with companies in different countries resorting to different forms of flexibility, reflecting national institutional opportunities and constraints. Similarly, several studies that focus on single countries emphasize that outsourcing relates to national conditions (e.g. for France and Spain see Lallement 2011; for the UK see Kelly 2013). In this respect, Germany serves as a prime example. Here,

empirical findings emphasize the role of deregulation on a traditionally highly regulated economy (Doellgast and Greer 2007; Crouch *et al.* 2009; Holst 2014). Outsourcing appears to be an element of economic transformation and, in contrast to the traditional model of coordination, does not seem to be effectively constrained, suggesting that companies are using outsourcing to circumvent the constraints of the highly regulated German economy.

Cross-national research on outsourcing to call centres (Doellgast, Batt and Sørensen 2009; Batt and Nohara 2009) provides another strain of literature helping to understand outsourcing across countries. These extensive analyses of call centre outsourcing show substantial national diversity, reflecting differing national institutions: in our case the industrial relations system as well as the structure of national labour markets including wage dispersion. The studies in various countries show a general trend of outsourcing to call centres.

This call centre research also shows that such restructuring by outsourcing undermines traditional mechanisms of employee representation as well as union strategies. For some companies sub-contracting to call centres is a means of circumventing formal regulations. Furthermore the call centre studies (Doellgast, Batt and Sørensen 2009) show that there is a variety of institutional avoidance. This means that companies in different countries use country-specific regulation loopholes allowing them to evade national institutional constraints. Thus, call centre research provides a strong argument for country-specific outsourcing patterns.

An international comparative study on HRM outsourcing by Mol *et al.* (2014) provides another source of empirical evidence on European companies. Using the so-called Cranet dataset, Mol *et al.* investigated the cross-national differences in various forms of HRM outsourcing. The findings show that HRM outsourcing is present in many countries, as a result of which country patterns are consistent across different forms of HRM outsourcing. However, they do not find a dominant explanation for the cross-national differences. Again, this empirical study finds substantial cross-national diversity, without however being able to explain it.

Eurostat conducted another empirical study that focused on the international outsourcing behaviour of companies in 13 European countries

(Alajääskö 2009). The available survey reports documented the general breakdown, showing that on average about 15 per cent of the surveyed companies outsourced activities internationally. However, there are substantial differences between countries. Companies in Ireland and the UK are the most frequent users of international outsourcing with rates above 30 per cent. Two Nordic countries display high values above 20 per cent, whereas Germany exhibits only a below average value.

Overall, most of the existing empirical studies agree that national institutional set-ups matter. However, the empirical findings provide a mixed picture. The results of my own empirical investigation tend to support this.

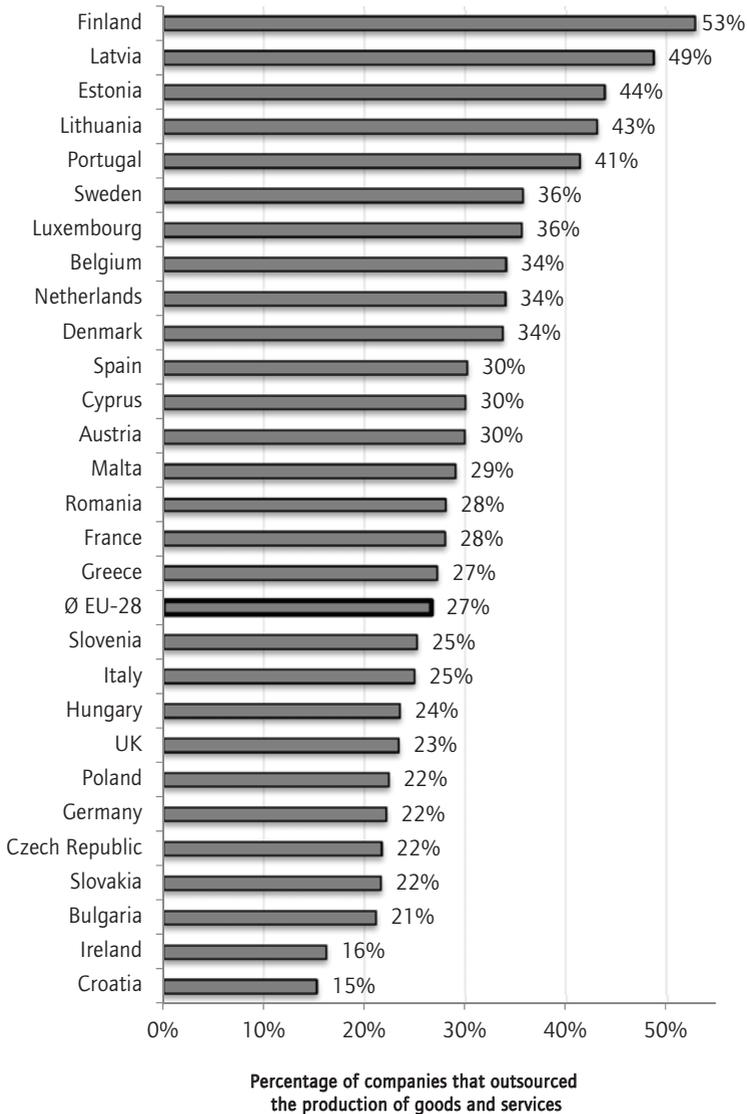
Figure 1 presents the percentages of companies that outsourced the production of goods and services by country. At first glance it is easy to spot the substantial differences across the EU-28 countries, with values ranging from 53 per cent of companies in Finland to just 15 per cent in Croatia, i.e. a huge spread of almost 40 percentage points.

Is there a logic behind the breakdown of outsourcing across countries? The three Nordic countries Finland, Sweden and Denmark are located on the top end of the figure. Interestingly, the three Baltic States Latvia, Estonia and Lithuania are also high in the figure, exhibiting very high values above 40 per cent.

Several Central and Southern European countries range in the middle of the figure. For example countries like Greece, France, Austria and Spain have percentages above the average value of 27 per cent but still below 30 per cent, while Portugal, Luxembourg, Belgium and the Netherlands exhibit values above 30 per cent. By contrast Italy and Germany are below average, with both showing values below 27 per cent.

Interestingly, Ireland and the United Kingdom (UK) come in well below average. At 16 and 23 per cent they range way below the top-end countries. This is surprising as one would assume the liberal institutional frameworks in these countries do not constrain outsourcing (see Kelly 2013). Also, Central Eastern European countries exhibit similar below-average values, with Hungary, Poland, Czechia and Slovakia all situated at the lower end of the figure.

Figure 1 Outsourcing of production of goods or services in the EU-28



Note: ECS 2013, own calculations, weighted by establishment;
 N: 23,326; χ^2 P = 0.0000; countries in ascending order of percentages; excluding public service cases.

Overall the analysis shows that country-specific institutional set-ups have a major influence on the prevalence of outsourcing, even when controlled for company size, industry and employee skill levels.⁴

3.2 Differences across industries

Existing research indicates that companies differ in their outsourcing activities across industries. While in previous decades outsourcing dominated in manufacturing and IT companies (Kakabadse and Kakabadse 2000). Existing cross-industry case study research shows that outsourcing is gaining currency in many other economic sectors (Flecker 2009). Therefore outsourcing should no longer be limited to manufacturing and IT. Accordingly, outsourcing should be prevalent in all economic sectors.

Seminal studies on outsourcing have focused on specific industries, including manufacturing, the automotive sector or the telecommunications industry (Kinkel and Lay 2003; Kinkel and Maloca 2009; Mol *et al.* 2005; Doellgast and Greer 2007; Doellgast, Batt and Sørensen 2009; Batt and Nohara 2009; Holst 2014). This research has provided rich and extensive findings especially on outsourcing to call centres. However, for many other industries such comprehensive research is currently lacking.

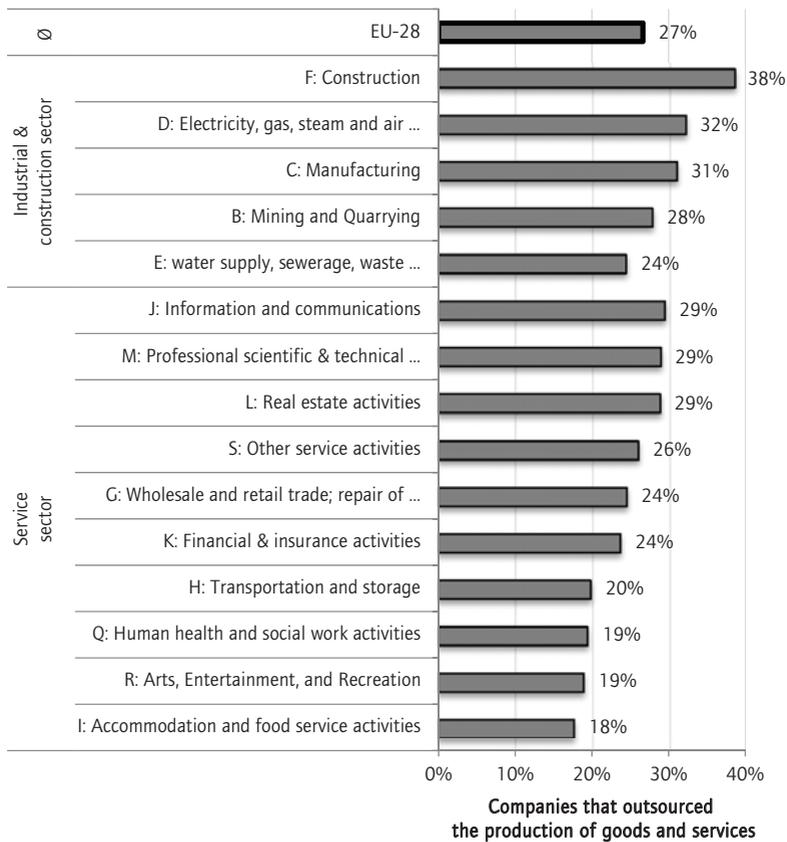
The findings on the sectoral breakdown of outsourcing presented in Figure 2 reveal substantial differences across *industries*, with percentages ranging from 18 per cent to 38 per cent. The average for all industries is 27 per cent. Only three industries exceed the average by more than two percentage points: manufacturing; electricity, gas, steam and air conditioning supply; and construction. By contrast, the three industries with the lowest values, around 18 and 19 per cent, are: accommodation and food service activities; human health and social work activities; and arts, entertainment, and recreation.

Overall, these findings indicate that there are substantial sectoral differences. Companies in the industrial and construction sectors tend to

4. I computed additional regression models, including multilevel models. These models showed that the country differences remain constant even if company size, industry and employee skill levels are introduced into the models. This indicates that the cross-national differences in outsourcing are not a simple result of differences in these variables. By contrast, the country differences seem to be due to differences in other dimensions.

outsource more than service sector companies. Nevertheless, at least one in five companies in a given industry performs outsourcing, underlining the prevalence of outsourcing in many different industries.

Figure 2 Industries and the outsourcing of the production of goods or services in the EU-28



Note: ECS 2013, own calculations, weighted by establishment; N: 23,326; χ^2 P = 0.0000; excluding public service cases.

3.3 Supplementary analysis: differences across industries including the public service sector

The previous analysis summarized in Figure 2 did not include cases from the public service sector. The analysis of public service sector cases with the ECS 2013 data set is difficult because it does not include weights for these cases. However, weights are important to correctly depict general distributions. As a consequence of this limitation due to weighting cases from public services are only included in this supplementary analysis of industry comparison. All other analyses in the article were carried out at company level without the public sector cases.

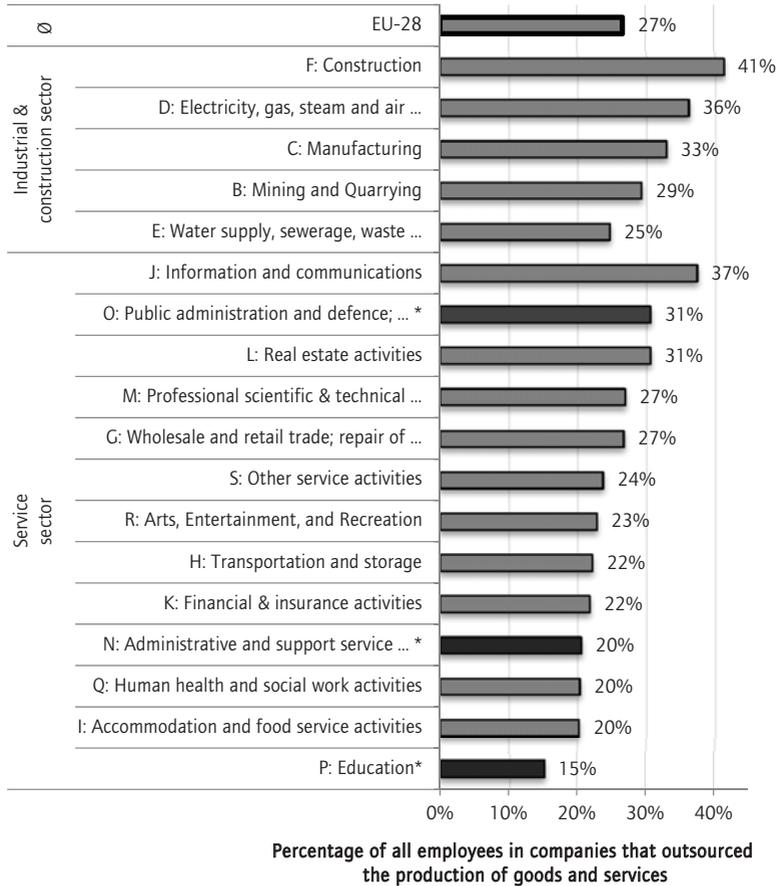
A workaround was used to include the 2,829 ECS sample cases from the public service industries (NACE codes O, P, Q). For these cases no reliable company-level sampling weights are available. However, an alternative weight based on the number of employees allows them to be considered, even though it can only be used as an analytical weight. Note that results with this weighting factor indicate the percentage of all employees working in companies belonging to specific categories, i.e. only allowing approximations of the underlying company distributions and how many employees are affected by outsourcing.

The alternative depiction in Figure 3 includes values for the three public services industries. Due to representativeness issues, outsourcing activities in these three industries can only be depicted as a percentage of employees working therein. Please note that the values differ between the Figure 2 and Figure 3. In the latter one needs to consider that industries made up of many small companies employ on average fewer employees than industries with many large companies which employ on average more employees. However this difference is quite small, as company size has only a limited influence on outsourcing. Therefore figures weighted by establishments roughly resemble the figures weighted by employees. With this limitation in mind, the values of the three public service industries are comparable with the other sectors.

The supplementary analysis in Figure 3 shows that the industry ‘public administration and defence’ belongs to the service sector industries with the highest rates of outsourcing. With a value of 31 per cent of all employees in that sector it is situated closely behind the information and communication sector. The remaining two public service sector industries exhibit values way below average. In fact ‘education’ has the lowest

value in Figure 3. Thus outsourcing in the public service sectors appears to be unevenly distributed.

Figure 3 Alternative depiction to include public service industries - employees working in establishments that outsourced the production of goods or services in the EU-28 (by industries)



Note: ECS 2013, own calculations, weighted by number of employees in establishment; N: 25,834; chi2 P = 0.0000; * public service cases (NACE codes N, O, P) included in this figure, bars highlighted in black.

3.4 The relation between differences across countries and industries

The two previous sections show substantial differences across countries and industries. But how are they related? Only because values are high in a given country does not mean that values in a specific industry in this given country are also high.

Sectoral differences provide an interesting counterpoint to the national models. Bechter *et al.* (2012) emphasize that industrial relations vary substantially from one sector to the next, and called for a reconsideration of national models as recent transformations question the dominance of general patterns. The authors argue that both national models and the sectoral level need to be taken into account. This is in line with other studies emphasizing the growing role of sectors on company-level patterns (Crouch, Schröder and Voelzkow 2009; Lane 2008; Haidinger *et al.* 2014). Thus, outsourcing differences between industries might be as important as differences between countries.

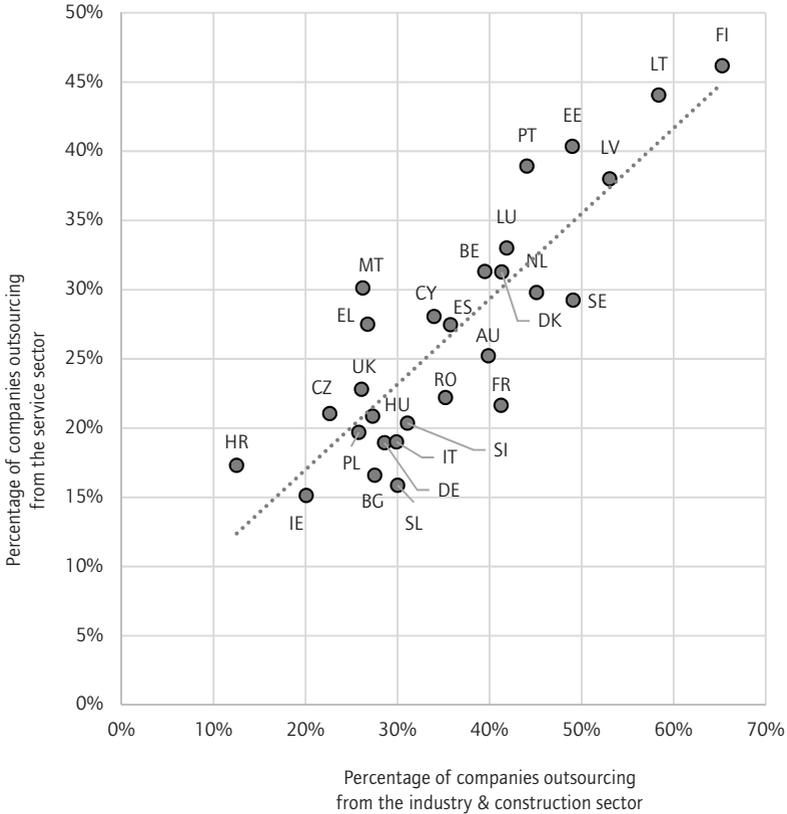
Figure 4 presents an analysis of the relation between outsourcing at country level and at industry level. To reveal the industry patterns I merged the companies in the industrial sectors and construction industries into a single category – industrial and construction sector (similar approach by Eurofound 2015: 3). Similarly, I merged all companies from service sector industries into another category – service sector. For each country and sector category I computed the percentages of companies using outsourcing. The figure thus shows how closely outsourcing in the two sectors is related in a given country.

The 28 countries presented in Figure 4 neatly follow the dotted line, which indicates that across countries the percentage of outsourcing in one sectoral category relates closely to the other category. In short: if in a given country the level of outsourcing is high in the industrial and construction sector it will also be high in the service sector. Values for the industrial and construction sector are approximately 1.3 times higher than in the service sector. On average the sectors differ by about 9 percent points.

Overall, the results show that in a given country the levels of outsourcing across sectors are closely related. While there are substantial transnational differences across industries there is a tendency

of alignment at country level, again indicating that national conditions have a great influence on the outsourcing activities of companies in that country.

Figure 4 Percentage of EU-28 companies using outsourcing by sectors



Note: author's own depiction; N: 28 countries; regression results R² value = 0.73; regression coefficient: 0.616, constant: 0.046; p > |t|: 0.000.

Country abbreviations: BE: Belgium; BG: Bulgaria; CZ: Czechia; DK: Denmark; DE: Germany; EE: Estonia; IE: Ireland; EL: Greece; ES: Spain; FR: France; HR: Croatia; IT: Italy; CY: Cyprus; LV: Latvia; LT: Lithuania; LU: Luxembourg; HU: Hungary; MT: Malta; NL: Netherlands; AT: Austria; PL: Poland; PT: Portugal; RO: Romania; SI: Slovenia; SK: Slovakia; FI: Finland; SE: Sweden; UK: United Kingdom.

3.5 Differences across countries in partial and full outsourcing

The findings on cross-national differences show a surprisingly low value for Irish and UK companies. To better understand this I performed a further analysis, using additional information in the ECS dataset to distinguish between partial and full outsourcing. This additional information refers to the respondent’s statement of whether or not production is an activity at the establishment.⁵ By combining this information with outsourcing data I can distinguish between partial and full outsourcing (see Table 1; similar approach by Eurofound 2015).

Partial outsourcing occurs when production is outsourced in companies where production is an onsite activity. By contrast, full outsourcing occurs when the outsourced production is not an onsite activity. According to this distinction about 20 per cent of EU-28 companies perform partial outsourcing whereas about 7 per cent perform full outsourcing (see Table 1). The distinction between partial and full outsourcing builds on an important attribute of companies. Not all companies are involved in the production of goods and services. Many companies perform non-production tasks or fulfil other functions such as administration or management, product design or development, marketing and sales or retail activities. When companies report no production but the outsourcing of production they are seen to perform full outsourcing.

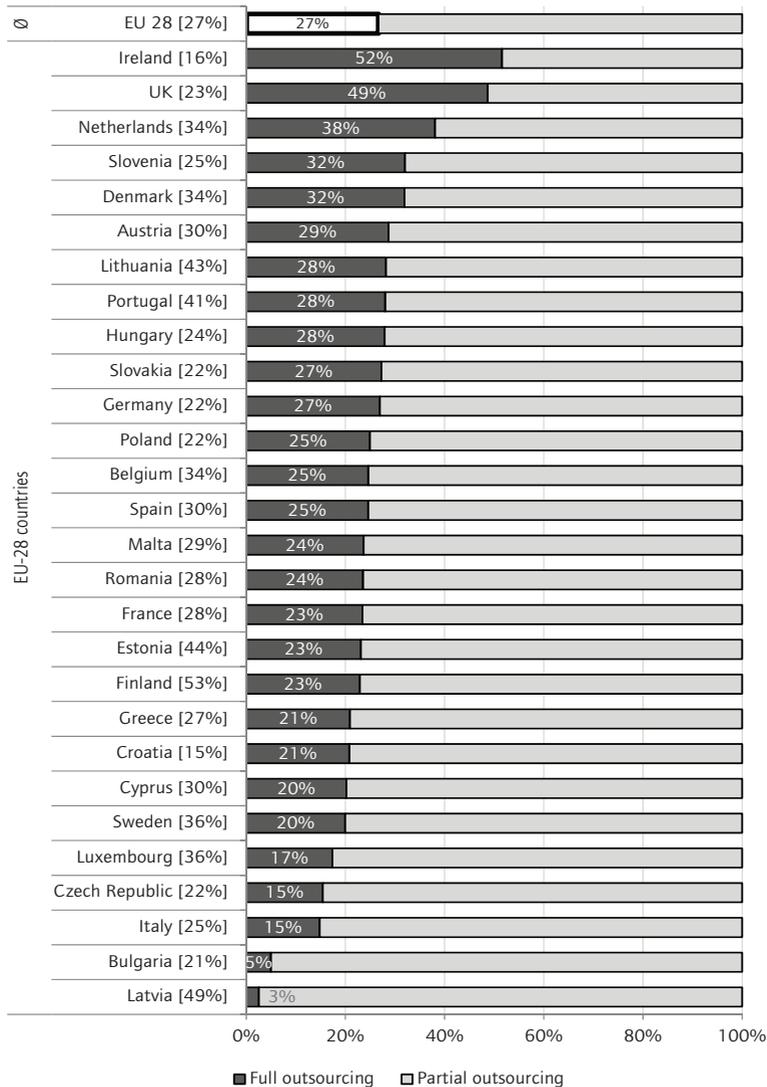
Table 1 Extent of outsourcing – distinguishing between partial and full outsourcing

		Production is an on-site activity	
		Yes	No
Outsourcing of production	Yes	<i>Partial outsourcing</i> (20%)	<i>Full outsourcing</i> (7%)
	No	Production without outsourcing (40%)	Neither production, nor outsourcing (34%)

Note: own depiction; percentages are per cent of companies in the EU-28, weighted, N: 23,240; the total is 100%, differences due to rounding.

5. Respondents were asked to indicate activities at the establishment: ‘Please indicate if any of the following activities are carried out at this establishment?’ One answer category read: ‘Production of goods or services’.

Figure 5 The extent of outsourcing: full vs. partial outsourcing (only companies that outsource)



Note: ECS 2013, own calculations, weighted by establishment; N: 7,354; chi2 P = 0.0000; only cases included that reported outsourcing of production of goods and services; countries in ascending order of percentages; excluding public service cases; [...] percentages of companies that perform outsourcing in a country from Figure 1 above reported in squared brackets for comparison.

How does this distinction between partial and full outsourcing play out at country level? Figure 5 displays the cross-national differences, looking only at companies that use outsourcing. The findings show a different picture to those presented above, with Ireland and the UK coming out on top. This indicates that companies in these countries tend to perform outsourcing in a more radical fashion (please note that companies in countries may overall outsource less frequently. Yet when companies outsource they might resort more often to full outsourcing – as is the case in the UK and in Ireland).

Overall, the results show a considerable difference between partial and full outsourcing, alerting us to the fact that companies might differ by the extent of outsourcing. For employees it makes a huge difference whether production is only partially outsourced or whether the entire production is relocated outside the company. The results show that Ireland and the UK adopt a very different and more radical approach to outsourcing than all other EU-28 countries.

4. Discussion and conclusion

In this chapter I asked the question: ‘Who performs outsourcing in the EU-28?’, putting my focus on the outsourcing of the production of goods and services. Using company-level data from the European Company Survey (ECS) 2013 this chapter has provided a comprehensive overview of the extent to which outsourcing is used by companies in the EU-28.

About 27 per cent of all companies in the EU-28 use outsourcing, handing over the production of goods and services to external providers. This result reveals that about every third company in the EU-28 performs outsourcing. This could be seen as a cue for a general trend. To map the extent of outsourcing I proceeded in four steps.

First, I investigated cross-national differences. My results show that national conditions greatly influence the extent of outsourcing. Finland tops the EU-28, with about 53 per cent companies practising outsourcing, whereas Croatia tails at about 15 per cent – a difference of almost 40 percentage points between the country with the fewest companies outsourcing and that with the most. Considering the positions of the remaining countries the general picture appears fragmented at first glance. Large countries and small countries, new and old EU Member States

appear mixed up, without revealing any clear-cut picture. This seems to support the findings of Mol *et al.* (2014) that there are no general country patterns explaining the cross-national differences in outsourcing. The general trend seems to be determined by country-specific patterns.

However, taking a second look at the country breakdown, an underlying pattern can be discerned. In general, Nordic and Baltic countries come out on top, while Eastern European countries as well as Ireland and UK are at the bottom. Southern and Central European countries tend to range in the middle, though the differences amongst Southern and Central European countries are quite large. Interestingly, a comparable diversity of countries that are expected to be similar is also encountered in other empirical fields (e.g. research on job quality types; cf. Holman 2013). Moreover, the substantial differences between these countries could also indicate the existence of country-specific regulatory loopholes. Several case studies reported that companies performing outsourcing make use of such (Doellgast, Batt and Sørensen 2009). Companies differ in their outsourcing strategies in line with the alternatives available in their countries (Flecker 2009). Instead of outsourcing, companies may for example use fixed-term contracts as functional equivalents. So while a general grouping of countries emerges from the analysis there are country-specific influences that blur the overall picture of outsourcing across the EU-28.

Second, I discussed the breakdown of outsourcing across industries. My analysis shows substantial differences across industries in their tendencies to outsource production. Companies in the manufacturing, information and communication and construction sectors make greater use of outsourcing than companies in other industries. Compared to these pioneers of outsourcing, other industries exhibit considerably lower values, with differences of up to 20 per cent. This indicates that differences across countries and industries are important to understand outsourcing in companies. It could very well be the case that companies in specific industries have high levels of outsourcing even though the country overall has lower levels.

Third, I undertook an additional step to understand the interrelationship between outsourcing in different sectors across countries. Empirically, the country and sector breakdowns could be aligned, but they do not have to be. For example, outsourcing levels might be similar in the manufacturing industry across different countries while other industries

exhibit disparate levels. My analysis shows a strong interrelation between outsourcing across sectors within a given country, i.e. when the level of outsourcing in a given country is high in the industrial and construction sector it is also high in the service sector. This indicates that the tendency of companies to outsource is substantially shaped by the country institutional set-up, regardless of the sector of economic activity.

In my fourth and last step I explored the background of these cross-national differences, investigating the respective levels of outsourcing by distinguishing between partial and full outsourcing. I undertook this step in particular due to the low outsourcing activity in the UK and Ireland, as their low values conflicted with general expectations. This additional analysis showed that full outsourcing is most frequent in UK and Ireland, indicating that companies in these two countries take a more radical approach to outsourcing.

Interestingly, a similar pattern emerged in a study of international outsourcing (Alajääskö 2009). Here too, Ireland and the UK exhibit the highest international outsourcing rates. So it seems that the empirical results are more in line with general expectations when different types of outsourcing are considered. The substantial differences in partial and full outsourcing indicate that the influence of national institutional conditions might be decisive for the type of outsourcing.

Finally concluding, in this chapter I took a first step in mapping outsourcing in the EU-28, providing an overview and charting general tendencies. However underneath a general tendency patterns seem to be very country-specific. Whether or not a company decides to outsource activities depends significantly on the country. While conditions in specific industries matter to a certain extent, national conditions predominate. The existing literature argues that outsourcing has a substantial effect on job quality and puts employee representatives under pressure. From this chapter two aspects emerge which practitioners may like to draw on when tackling outsourcing:

Firstly, the findings suggest that it might be worthwhile to search for solutions at a national level. To some extent the magnitude of outsourcing appears to be a national phenomenon. The strong relation between sectors in a country indicates that union representatives from different sectors should consider joint efforts in tackling outsourcing.

Secondly, considering countries where outsourcing levels are high might help to devise strategies on how to cope with the effects of outsourcing on employees. The differences across the EU-28 countries are substantial. From this it emerges that some countries have much greater experience in outsourcing than others. Accordingly, unions in different countries face the challenges of outsourcing with a different intensity. Union representatives could therefore learn about successful strategies by considering solutions developed in countries with higher levels of outsourcing.

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Appendix

Table 2 Answering patterns for outsourcing of production of goods or services

Outsourcing question	Yes	No	Not applicable	Don't know & no answer
NACE code: Full name of industry				
B: Mining and Quarrying	29.63	68.15	1.48	0.74
C: Manufacturing	34.88	62.58	0.88	1.67
D: Electricity, gas, steam and air ...	32.82	62.55	1.54	3.09
E: water supply, sewerage, waste ...	25.75	69.74	2.82	1.70
F: Construction	40.67	56.21	1.84	1.29
G: Wholesale and retail trade; repair of ...	26.50	68.90	2.96	1.64
H: Transportation and storage	24.18	71.90	2.98	0.94
I: Accommodation and food service activities	23.59	72.12	2.95	1.34
J: Information and communications	38.76	58.91	0.87	1.45
K: Financial & insurance activities	22.24	73.07	2.49	2.21
L: Real estate activities	32.78	61.39	4.44	1.39
M: Professional scientific & technical ...	30.16	64.67	3.76	1.41
N: Administrative and support service ... *	23.18	72.87	2.59	1.36
O: Public administration and defence; ... *	26.36	62.92	8.86	1.86
P: Education *	14.00	70.65	13.88	1.46
Q: Human health and social work activities	18.52	73.15	7.30	1.03
R: Arts, Entertainment, and Recreation	24.42	67.70	6.03	1.85
S: Other service activities	25.66	68.82	5.28	0.24
Total	29.22	66.17	3.09	1.51

Note: ECS 2013, own calculations; full data set;

* public service industries not included in the general analysis