WIBAR-3

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REPORT ON METAL AND ELECTRONICS MANUFACTURING

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1 The WIBAR-3 project: introduction

1.1 Introduction

The European Trade Union Confederation (ETUC) asked the Amsterdam Institute for Advanced labour Studies (AIAS) to undertake a project, called WIBAR-3, aimed at improving expertise in industrial relations and promoting the exchange of information and comparative experience across Europe among the parties actively involved in industrial relations. WIBAR-3 then, has been designed to enhance knowledge concerning the the interaction between bargaining structures and practices on the one hand and the competitive and employment structures predominant in the European Union on the other hand, and to discuss its results in the European trade union movement.

By providing up to date analysis of industry-level bargaining structures and practices in relation to employment and competitive structures in five industries across 23 EU member states, the WIBAR-3 project aims to stimulate debate within Europe's trade unions about collective bargaining generally but specifically on the opportunities to strengthen multi-employer bargaining (MEB) or industry-wide bargaining (We use these terms in this report as synonyms). Many trade union officials seem to be aware that MEB could offer advantages for the mass of workers over and above those flowing from company-level or single-employer bargaining (SEB) arrangements. This might particularly be the case where employee representatives succeed in achieving spillovers of the relatively positive aspects of working in Multinational Enterprises (MNEs) that have been found empirically in various industries throughout Europe (cf. Van Klaveren *et al.* 2013a, 2013b). The WIBAR-3 project aimed to identify both favourable and unfavourable conditions for creating such spillovers by contrasting bargaining experiences at industry and/or country specific levels.

The WIBAR-3 project has been coordinated by the University of Amsterdam/AIAS (Amsterdam Institute for Advanced labour Studies), specifically by research staff members Maarten van Klaveren and Kea Tijdens, also authors of this report. The AIAS has been working together with research teams from its partners CELSI (Central European Labour Studies Institute) in Bratislava, Slovakia, and Ruskin College in Oxford, United Kingdom, led by respectively Marta Kahancová and Denis Gregory. Moreover, WIBAR-3 has three associate partners, namely: ETUC in Brussels, WageIndicator Foundation in Amsterdam and Hans-Böckler-Stiftung - WSI in Düsseldorf. WIBAR-3 has built in particular on the experiences of the AIAS-coordinated projects WIBAR, WIBAR-2, WISUTIL, and WICARE, supported by the European Commission as part of its Industrial Relations and Social Dialogue Program, Budget Heading 04030301 (VS/2006/ 0178, VS/2007/0534, VS/2010/0382, and VP/2013/001/0155). The first two projects were conducted in close cooperation with the ETUC whilst the third and fourth projects were based on cooperation with the European Federation of Public Service Unions (EPSU). In all projects, cross-country comparative data gathered by the *WageIndicator* web survey was used.

The first WIBAR project resulted in a conference and the book *Bargaining Issues in Europe: comparing industries and countries*, published by the ETUI (European Trade Union Institute), AIAS and WageIndicator Foundation (Van Klaveren and Tijdens 2008), as well as in lasting cooperation between AIAS and ETUC/ETUI, which led to the establishment of the monthly AIAS-ETUI Collective Bargaining Newsletter (2008-current). The WIBAR-2 project resulted in an ETUI Policy Brief (Van Klaveren *et al.* 2013b), and finally in the book *Multinational Companies and Domestic Firms in Europe. Comparing wages, working conditions and industrial relations*, published by Palgrave Macmillan (Van Klaveren *et al.* 2013a). The WISUTIL project resulted in a conference in Vienna and the report *WageIndicator Support for Bargaining in the Utilities Sector* (Van Klaveren *et al.* 2012). The fourth project, WICARE, covering the social services sector, resulted in 28 country reports and eight topical reports discussed at a conference in Amsterdam in November 2014. Also in November 2014, funding for the WIBAR-3 project was granted by the European Commission (nr VS/2014/0533).

1.2 Five objectives

In the WIBAR-3 proposal, five objectives were laid down:

1. To analyse industry-level bargaining structures and practices in relation to employment and competitive structures, exploring opportunities to strengthen multi-employer bargaining for 23 EU member states and five industries, notably Metal and electronics manufacturing, Wholesale, Retail, ICT, and Transport and telecom.
2. To underpin these analyses by collecting data for the five industries in 23 member states, enabling the employment shares of foreign-owned MNEs and their subsidiaries to be mapped alongside those of domestic and state firms as well as enabling mapping the distribution of establishment sizes and ownership in each industry; mapping the prevailing bargaining structures and practices at industry level; and assessing the collective bargaining coverage related to the bargaining preferences of employees in the five industries studied.
3. To research and investigate the data in such ways that the prevalence of, the conditions for, and the feasibility of multi-employer bargaining in the 23 countries and 5 industries could be analysed and assessed in detail.
4. To stimulate debates within trade unions about the outcomes from 1, 2 and 3 above, in particular in assessing the opportunities to strengthen multi-employer bargaining in three conferences (seminars).
5. To report the outcomes of the research by means of five industry reports, one overarching report, 1page-1country-1industry reports (on trade union request) and one policy brief.

1.3 The choice of countries

The WIBAR-3 project covers 23 EU member states, namely: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and United Kingdom.

Five EU member states, Cyprus, Croatia, Greece, Luxembourg, and Malta, have been excluded for several reasons, the most important being the absence of sufficient comparative data from Eurostat's Structural Business Statistics. In addition, the limited size of three of five countries (less than 1.5 million inhabitants) was also a factor.

1.4 The choice of industries

The selection of the five industries for WIBAR-3 differs from those chosen for the earlier WIBAR-2 project in one important respect. WIBAR-3 has replaced the finance and call centre industry with the wholesale industry. Due to considerable structural changes (following the financial crisis of 2008/09) including bailouts and demergers, recent employment data for the finance industry lacks comparability over time and across countries. By contrast, data has been available in greater detail for the wholesale industry; moreover that industry, because of its many links with the retail and transport industries, has already partly been covered in the WIBAR-2 research.

The five industries can be identified with their NACE 2.0 codes. Table A1.1, to be found in the Statistical Appendix, shows the detailed list of the codes covered. Metal and electronics manufacturing, the subject of this report, is covered by NACE code 24 to 30. Wholesale refers to NACE code 46, while Retail covers NACE code 47. Information and communication technology (ICT) refers to NACE codes 62 and 63, while transport and telecommunications is covered by NACE codes 49 to 53 (transport) as well as code 61 (telecom).

As the name indicates, 'metal and electronics' regards *manufacturing* activities. Complications notably arise with the statistical definition of the manufacture of motor vehicles, trailers and semi-trailers, in common parlance car or auto(mobile) manufacturing (NACE 29). Concentrating on manufacturing activities implies the exclusion of sales and repair and related services activities (the dealer networks of car manufacturers), and of warehousing / logistics activities of car manufacturers, for which activities statistical data should be registered respectively under NACE 45 (wholesale and retail trade and repair of motor vehicles and motorcycles, covering dealer networks), under freight transport by road and removal services (NACE 49.4) and under warehousing and support activities for transportation (NACE 52). In this project we cover the latter two (sub-)sectors through our reporting on the transport and telecom industry. Yet, in our reporting on the wholesale and retail industries we do not cover the NACE 45 sector.

1.5 Activities

A number of activities were scheduled in the WIBAR-3 project. In January 2015 a kick-off seminar was held in Amsterdam, in which the project partners discussed the project proposal. Three research activities were agreed and were subject to an evaluation in a mid-term meeting of the project partners in February 2016 in Bratislava. The first research activity aimed at mapping the competitive and employment structures at industry level. The second activity aimed at mapping the prevailing bargaining structures and practices by industry, whereas the third part of the project focussed on assessing collective bargaining coverage in relation to bargaining preferences. The final conclusions are based on the merged data from these three activities.

In the mid-term meeting it was agreed that the preliminary results would be discussed in three one-day seminars, scheduled on three Fridays in 2016, respectively on July 1 in Oxford (for transport and telecom and the ICT industries, with Ruskin College as the main organizer), September 23 in Bratislava (for metal and electronics manufacturing, with CELSI as the main organizer) and October 7 in Amsterdam (for the wholesale and retail industries, with AIAS as the main organizer). These seminars have taken place accordingly.

1.6 Sources of information

The data collection plan applied quantitative methods, based on the following sources:

- for mapping the competitive and employment structures at industry level the project has used Eurostat data, Eurofound's ERM and EIRO databases (since 2014 combined in EurWORK) and Eurofound's EMCC (European Monitoring Centre on Change) factsheets, Forbes and Fortune overviews, company annual reports, investment agency and various press information, thereby partly updating the AIAS MNE database of 2008; this activity was predominantly undertaken by AIAS;
- for mapping the prevailing bargaining structures and practices by industry, the project used data from Eurofound's databases, the ICTWSS database maintained at AIAS by prof. Jelle Visser, the monthly AIAS-ETUI Collective Bargaining Newsletter and various national sources, as well as information gathered through interviewing experts/trade union negotiators using a web-based form with questions per industry/country. This WIBAR-3 Industrial Relations (IR) survey was completed by researchers from the three project partners, AIAS, CELSI and Ruskin College, with completion assigned to persons familiar with the language of the country studied. Eight researchers have been involved in the first two mapping exercises;
- for mapping collective bargaining coverage related to the bargaining preferences of employees the project data from the continuous, multi-country, multi-lingual *Wage-Indicator* web-survey has been used.

1.7 Organisation of the report

The rest of this report is organized as follows. The first two chapters focus on constraints and opportunities for multi-employer bargaining. Chapter 2 goes into the feasibility and the recent history of multi-employer bargaining (MEB) throughout the European Union. The chapter discusses the vicissitudes of MEB in Europe, showing the initial support of 'Europe' for coordinated collective bargaining (CB), with – even before the 2007-08 crisis—the declining power of labour and the growing constraints on CB giving rise to its further erosion and fragmentation (section 2.3). Section 2.4 covers multi-employer bargaining in the crisis period (2007-2015). Section 2.5 presents an overview of changes in CB regime by country. Finally, the chapter considers the relationship between multinational enterprises (MNEs) and foreign direct investment (FDI) on the one hand and industrial relations and collective bargaining on the other. For the sake of our research a MNE has been defined as an enterprise with subsidiaries in more than one country.

.In preparation for Chapter 4, Chapter 3 details developments in employment in the five industries and 23 countries scrutinized, for 2008-2013, with the emphasis on developments in metal and electronics manufacturing. As a follow on from chapter 2, it includes information on employment in affiliates of foreign MNEs. In the final section, the employment shares of foreign and home-based MNEs are compared for 10 countries and four industries.

Chapter 4 analyses the outcomes of the *WageIndicator* survey used for mapping collective bargaining coverage and employees' bargaining preferences, and of the WIBAR-3 IR survey covering industrial relations characteristics, in particular the management – trade union relationship in the 23 countries and 5 industries making up 115 cells. This analysis was further refined by identifying for each country and each sector the five largest companies by employment size in that particular sector; this enabled a more detailed assessment of the outcomes of the management-trade union relationship in these leading firms to be carried out. Finally, the contents of collective agreements (CLAs), collected and coded in the framework of the project, and have been analysed.

Chapter 5 contains a summary and conclusions and finalizes with some recommendations for trade union bargaining practice.

A Statistical Appendix includes the detailed tables (numbered A…) to which the text refers.

1.8 References for Chapter 1

Van Klaveren, M., and Tijdens, K. (eds)(2008), *Bargaining issues in Europe: comparing countries and industries*. Brussels: ETUI-REHS / University of Amsterdam- AIAS / WageIndicator.

Van Klaveren, M., Tijdens, K.G., and Hermann, C. (2012), *WageIndicator Support for Bargaining in the Utilities Sector. WISUTIL Final project report.* Amsterdam/Vienna: AIAS/FORBA.

Van Klaveren, M., Tijdens, K., and Gregory, D. (2013a), *Multinational Companies and Domestic Firms in Europe. Comparing Wages, Working Conditions and Industrial Relations.* Basingstoke: Palgrave Macmillan.

Van Klaveren, M., Tijdens, K., and Gregory, D. (2013b) 'ETUI Policy Brief No. 1/2013. Working in multinationals and domestic firms compared – myths and realities'. Brussels: ETUI.

Abbreviations used in this report:

CB	collective bargaining
CBC	collective bargaining coverage
CEB	centralised (wage) bargaining
CEE	Central and Eastern Europe
CLA	collective (labour) agreement
CME	coordinated market economy
DG ECFIN	Directorate General for Economic and Financial affairs (European Commission)
EC	European Commission
ED	employer density
ECB	European Central Bank
EMU	Economic and Monetary Union
EMU	Economic and Monetary Union
EO(D)	employer organisation (density)
ESD	European Social Dialogue
ESSD	European sectoral social dialogue
EWC	European Works Council
FDI	Foreign Direct Investment
HRM	Human Resource Management
ILO	International Labour Organization
IMF	International Monetary Fund
IR	industrial relations
LME	liberal market economy
ME	mandatory extension
MEB	multi-employer bargaining
MNE	multinational enterprise
NEM	Non-Equity Mode
OECD	Organisation for Economic Co-operation and Development
PO	professional organisation
SEB	single-employer bargaining
SMEs	small and medium-sized enterprises
SSD	Sectoral Social Dialogue
TU(D)	trade union (density)
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
VoC	varieties of capitalism

2 Multi-employer bargaining: feasibility and recent history

2.1 Introduction

In the WIBAR-3 project, the sector or industry is the main locus of our analysis, although often in combination with the national or country level. After 1945, the development of industrial relations (IR) institutions at national level has been analysed widely. Since the 1990s, these studies have been widened towards comparisons across countries to take in developments in the field of IR related with issues of coordination in the spheres of vocational training and education, corporate governance and inter-firm relations. In particular the varieties of capitalism (VoC) approach has been worthwhile here. This line of enquiry draws a distinction between liberal market economies (LMEs), in which firms coordinate their activities primarily via hierarchies and competitive market arrangements, and coordinated market economies (CMEs), whereby firms depend more heavily on non-market relationships (Hall and Soskice 2001). However, against the evolving tradition of 'comparative political economy of work' where efforts have been undertaken to connect the study of national institutions with that of production or business models (cf. Hauptmeier and Vidal 2014), the sectoral level has remained rather under-researched -- though not to the extent sometimes suggested (cf. Bechter *et al.* 2011, 5, and 2012, 186-188).[1] Amongst researchers the debate continues on whether the main characteristics of sectors are converging or diverging, in particular in terms of wages and conditions. Most of the relevant studies tend to conclude towards divergence, though not always explicitly (f.e. Hassel *et al.* 2003; Marginson and Sisson 2004; Gautié and Schmitt 2010; Van Klaveren *et al.* 2013a). Moreover, the outcomes of research in this field may change relatively rapidly over time, notably due to changes in technology and organisation and the related labour demand.

The issue of convergence / divergence across EU member states has been discussed widely, mostly in economic terms (See f.e. EC 2015, Ch. 4). However, the convergence or divergence question is also relevant in the context of national industrial relations and business models. Nevertheless, even within the European Union it seems difficult to generalize about the direction of developments in this respect. Internationalisation and the growing importance of Foreign Direct Investment (FDI) is often suggested as a key factor pushing towards convergence and undermining the role of national institutions but, in practice, FDI may work out quite differently across (groups of) countries and sectors. In this respect, the outcomes of research by Bechter, Brandl and Meardi (2011, 2012) are interesting. On behalf of Eurofound, they studied industrial relations in nine (sub)sectors across the (then) 27 EU member states, comparing sectoral with national IR and aiming to establish a link between developments in the European sectoral social dialogue (ESSD) and sectoral IR structures in the EU. Using a classification of IR regimes at sectoral level inspired by the VoC approach, they found for 2009 that some countries had similar IR regimes across all sectors, some had very different IR regimes from sector

[1] The authors underestimated the growing number of multi-sector studies across countries undertaken in the 2000s, like the major Low-Wage Work in Europe and the United States research project, with its final volume edited by Gautié and Schmitt (2010).

to sector, and some sectors had similar regimes regardless of which country they were in. These authors also showed that both the exposure of sectors to international competition and regulation at EU level could lead to even more similarities of IR structures across countries. In other words, internationalisation seemed to produce a certain degree of convergence, if not necessarily towards one single IR type (Bechter *et al.* 2011, 52). Concerning the 23 countries included in the WIBAR-3 project, Poland and Portugal showed the largest variety of IR across sectors, followed by Italy, Ireland and Belgium; by contrast, Finland, France, Austria, Sweden and the Netherlands showed the most similarities in IR across sectors. Remarkably, a large majority of countries displayed a very similar, and quite high, degree of sectoral variation (Bechter *et al*. 2011, 24).

In Table 2.1 we present the outcomes of Bechter *et al.* for 'our' 23 countries and for the five (sub)sectors included in the WIBAR-3 project. The table shows that only a minority (35 out of 107) country-sector combinations shared rather strong similarities with the hitherto dominant national IR type. Most of these could be found in the Nordic country cluster (Denmark, Finland, Sweden). Clearly, these outcomes underline the conclusions of Bechter *et al.* that "Given that sectors vary more than countries in their industrial relations specifics, the sector is a very promising level for studying European convergence of industrial relations and the potential for European social dialogue" (2011, 3).

Table 2.1 Country clusters of national and sectoral industrial relations in 23 EU member states and five sub-sectors (2009 situation)[2]

Type National cluster	**1 Organized corporatism**	**2 Social partnership**	**3 State-centered**	**4 Liberal**	**5 Mixed**
	DK, FI, SE	AT, BE, DE, NL, SI	ES, FR, IT, PT	IE, UK	BG, CZ, EE, LV, LT, HU, PL, TO, SK
Type sectoral cluster	**1 'Dense'**	**2 'Political'**	**3 'Lean'**	**4 'Fragile'**	**5 'Empty'**
Steel ind. (NACE 27.1-3)*)	BE, **DK, FI,** DE, PL, RO, SK, SI, **SE**	**AT,** CZ, IT, FR, **NL,** ES	LV, **PT,** UK	BG, HU, LT	
Air transport (NACE 62.1-2, 63.23)	BE, **DK, FI**, IT, NL, SI, **SE**	**AT,** CZ, FR, **DE,** LT, RO	BG, LU, PL, **PT,** SK, **ES,** UK	HU, **IE**	**LV**
Railways (NACE 60.1)	AT, CZ, **DK, FI,** DE, IT, PL, RO, SK	FR, **NL, SI,** SE, UK	BE, EE, HU, IE, LV, LT, **PT, ES**	BG	
Sea & coastal water tr. (NACE 61.1) **)	BE, **DK, FI,** IT, IE, NL, **SE**	FR, **DE**	LV, LT	BG, EE, **IE,** SI, ES, **UK**	PT
Telecom (NACE 64.2) ***)	**DK, FI,** FR, **SE**	**AT,** EE, IT, **NL,** SK, ES	BE, HU, LV, LT, RO	DE, PL, SI, **UK**	**BG, CZ**, PT

Source: Bechter *et al.* 2012, 193, 196
*) Lacking: EE, IE
**) Lacking: AT, CZ, HU, PL, SK
***) Lacking: IE
Bold: sector typology close to national typology
Key (Bechter *et al.* 2011, 36-38):

'Dense'	strong actors, at many levels, with extensive levels of engagement in collective bargaining and consultation with the public authorities
'Political'	medium TUD and employer density, very high CBC; source of regulation likely to rely at least in part on the state
'Lean'	similar to 'Dense' (1) in many respects, yet low degree of involvement social partners in policy-making
'Fragile'	high CBC, social partner organisations not strong, no bargaining at central level
'Empty'	low TUD and employer density, low CBC, little or no involvement social partners in policy-making

2.2 Multi-employer bargaining: basic assumptions

Based on an EU social partners' agreement of 1991, the Treaties of Maastricht and Amsterdam adopted specific 'social dialogue' provisions. Since then, the dialogue between management and labour has been an essential part of the 'European Social Model'. Social dialogue forms an integral part of the *acquis communautaire*. Collective negotiations are considered to be at the heart of the European model of social dialogue

[2] Leaving out Croatia, Cyprus, Greece, Luxembourg, and Malta, the five EU member states not included in our project.

(a.o. Eurofound / EurWORK website European Social Model; Guyet *et al.* 2012; EC 2015, Chapter 5). Collective bargaining, according to the Constitution and Conventions No. 98 and No. 154 of the ILO, should be based on three important principles: free and voluntary negotiations; autonomy of the social partners, and equal status or equal rights for each partner. As Van Gyes and Schulten (2015) rightly note, such autonomous collective bargaining --in particular pay bargaining-- was a pillar of Europe's successful socio-economic model in three decades after World War II, providing a wider societal compromise that linked high investment levels, increasing productivity of the economy as a whole and substantial economic growth with rising wages. Strong trade unionism was a main driving force of this model, more so than direct progressive political influence. Until its gradual demise after 1973-75, institutionalised forms of social dialogue were a core feature behind this system, with solidaristic wage formation as its crown jewel. A notable example being the setting of "(….) 'fair' wages which were not to be seen as a function of either the particular business situation or a specific balance of power in a company, but instead should be determined within a framework of multi-employer agreements based on a comprehensive system of job evaluation classifications and occupational pay scales" (Van Gyes and Schulten 2015, 11). For many years, the European Commission underlined the importance of social dialogue and autonomous collective bargaining as core elements of the European Social Model, and the Commission emphasized their contribution to democracy, good governance, economic efficiency, innovation and social cohesion (Keune and Marginson 2013; Keune 2015).

There is a close link between social dialogue and multi-employer bargaining (MEB). MEB can be regarded as being key in industrial relations that contribute to social market economy systems with relatively low social inequality. MEB can convey a number of advantages for labour as well as for employers. First and foremost, MEB, by setting common (minimum) standards for a particular sector and/or region, takes wages and working conditions out of inter-firm competition to a considerable extent. Through this cartelizing effect MEB allows firms collectively to pass on wage increases to final consumers, while expelling less productive and low-quality competitors and concentrating on 'high-road' competition. For Europe, such competition may anyway be needed for economic survival at a global level. Furthermore, in labour-intensive industries the capacity of MEB to avoid cut-throat competition can be advantageous for employers.

On the workers' side MEB, possibly supported by extension mechanisms (see next section), tends to benefit unskilled and vulnerable workers. First, it can foster inclusion and equality by extending collective bargaining coverage to vulnerable groups in the labour market with little bargaining power. Thus, MEB systems can "offer a conducive institutional context for an equality-oriented, solidaristic wage policy", and "can be expected to produce much lower wage inequality than systems in which company bargaining dominates or where bargaining plays no important role at all" (Keune 2015, 291-2). Second, MEB has the ability to promote industrial peace and may help to keep distributional conflict out of the workplace – in many continental European countries a key motive for employers to go along with industry bargaining (Visser 2013, 9, 37). It may be noted that, contrary to these first two arguments, high-skilled workers with strong labour market positions may feel that compared to single-employer bargaining (SEB), MEB provides them with less 'voice' and less control over their representatives.

Such limitations could though be counteracted by ensuring that MEB is flexible enough to include additional opportunities for management and workers to focus on and reward innovative and high-quality production and servicing. Third, for employers (but for trade unions as well) MEB may incur less bargaining or transaction costs, notably in homogeneous industries with a large representation of small and medium-sized enterprises (SMEs). Fourth, governments may use MEB as a quasi-legislative tool, for instance, for setting minimum wages standards in particular industries or establishing 'voluntary' schemes for occupational pensions (Visser 2013, 9). Fifth and last but not least, MEB may have, on top of governmental policies, the capacity to address negative externalities generated by the market, such as environmental damage (Keune 2015, 289, 293).

Changes in business conditions taking place in the last three decades or so suggest that in quite some countries and industries MEB is regarded as a less attractive option for management. It is widely assumed that the predominant conditions in competitive structures, industrial organisation and industrial relations (IR), determine to a considerable degree whether MEB might be effective and a feasible option to regulate IR. In this respect at least three assumptions related to increasing globalisation and international competition are important. First, it has been argued that MEB, in binding firms to national, industry-specific wage rates, hampers the ability of businesses to take advantage of opportunities in foreign markets (Brandl and Lehr 2016). Generally, this argument seems rather weak in view of the growing importance of product and process innovation and quality aspects in international competition, and the diminishing role of competition based purely on wages. A second and related argument is that the current volatility of competition in international markets would not align with MEB (also Brandl and Lehr 2016). This argument suggests that in industries with notably strong international competition (exposed sectors), cuts in nominal wages would be frequent. However, research covering 14 European countries suggested that even (early) in the recent economic crisis such cuts in nominal wages have been quite rare. The overall share of firms having cut wages was a low 2.4 per cent; in these firms 35 per cent of employees were affected. A strong positive association was revealed between collective bargaining coverage and the relevance of labour regulation as a reason for avoiding wage cuts and this held for SEB, MEB and for combinations of both (Du Caju *et al.* 2013).

Considering (international) competition, various trends have diminished the relevance of current industry classifications in use in national and European IR, that in particular until about the turn of the century[3] acted as demarcation lines for trade union activities. First, since the mid-1960s and led in particular by US MNEs in car and electronics manufacturers, production and servicing processes were increasingly fragmented and executed in vertical production networks at separate locations around the globe. The integration of massive pools of cheap labour including China and India, in the

[3] From the late 1990s on, throughout Europe a wave of 'horizontal' trade union mergers took place, partly inspired by analyses concerning changes in competitive structures as indicated here. Examples are the merger of four German trade unions into ver.di (2001), the similar merger into FNV Bondgenoten in the Netherlands (1998), and in LO-Sweden the mergers creating IF Metall for manual workers (2006) and Unionen for white-collar workers (2008).

liberalized world economy acted as a major pull factor. From the 1970s onwards, notably in Asia the emphasis shifted from global value chains (GVCs) driven by producers to buyer-driven chains, controlled by large retail firms and global marketeers. Lead or core MNEs continued to orchestrate 'their' value chains, operating at multiple tiers, as sources of competitive advantage (Van Klaveren *et al.* 2013a, Chapter 1). The expansion of the US-based retail giant Walmart proved to be the catalyst for the upscaling of supply-driven GVCs. The keystone in Walmart's strategy has been its ability to exert strong control over factor inputs, including control over US and international supply chains (Christopherson 2007, 453).

Later still, in the 1980s and 1990s 'economic networks' or 'business clusters' developed at lower and local levels. These included complex relationships between chain, cluster or network managers, main suppliers, co-makers, suppliers, co-suppliers, and 'jobbers', often through several tiers extending down to small firms or even to self-employed workers. The development of these new configurations, stimulated by the exploitation of new technologies and often cutting across 'classical' industry divisions, seems highly relevant when considering the feasibility of MEB. To mention just a few recent examples: the competition of software- versus hardware-based firms (though already existing for over 30 years), currently manifest in self-driving car initiatives like those of Google versus plans of current car manufacturers. Similarly, and already re-shaping wholesale and retail, Internet-based electronic commerce platforms competing with 'classical' sales outlets such as Amazon.com taking on 'classical', mostly country-based booksellers, et cetera. Such developments seem to render increasingly obsolete the existing demarcation lines between industries in national or European IR, as well as IR arrangements and trade union demarcation lines based on them.[4] Most recently, the growth of the 'sharing economy' (or 'platform economy', 'collaborative economy' or 'peer to peer economy' – abstract terms with widely differing implications) has generated a lot of debate. A market model based on the sharing of access to goods and services coordinated through Internet platforms, has received a massive boost from the Internet. Already by 2015 the operators of digital platforms –including Google, Facebook, Amazon, eBay, Uber and Airbnb-- dominated the top 15 of the world's largest Internet-based companies. As the OECD (2016, 60) notes, "Platforms (….) together are reorganising a wide variety of markets, work arrangements, and ultimately value creation and capture". Though assessments of this trend may vary widely, even within the trade union movement, it cannot be denied that the rise of digital platforms undermines classical industry demarcation lines and established trade union positions (cf. Drahokoupil and Fabo 2016). Taking the US economy as an example, it has recently been argued that the recent massive expansion of 'technology superstars' such as Apple, Facebook, Google and Amazon may well give a powerful push to further concentration in large parts of the economy, notably in commerce (*The Economist* 2016).

Let us return to industrial relations. Concentrating on conditions included in IR, Marginson (2014, 98) pointed to vertical and horizontal articulation (Crouch) or

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[4] Though diminishing in importance, it would be wrong to suggest that industry or sectoral divisions have been dismissed totally. Just as an illustration, compare the number of Google hits: as of 18 October 2015, 44.7 million for 'value chain', 59.5 million for 'network economy' and 88.8 million for 'business cluster', against 424 million for 'industrial sector'.

coordination (Traxler) of IR as key conditions for the effectiveness of MEB. Vertical, through strategic capacities of peak or sectoral trade union organisations towards membership at company level; horizontal by (coordination between) peak employers' organisations and trade union federations (eventually including the state, as in the Netherlands, Belgium and Spain), or by pattern bargaining led by well-organized sectors (Germany, Sweden), or state-led (France). Marginson then referred to Traxler's differentation between 'organized' and 'disorganized' decentralization, . In the latter case MEB was swept away, similar to what happened in the UK in the 1980s and 1990s. Regarding 'organized' decentralisation, Marginson (2014, 100-1) indicated a spectrum in the extent to which sectoral agreements maintain the principle of universally applicable standards and in the extent to which they prescribe the parameters of subsequent company negotiations. He saw five options:

1. sectoral framework agreements which specify the main substantive standards but provide scope for variation in their implementation in company negotiations;
2. opening clauses which provide for variation on the basis of equivalence;
3. two-tier bargaining arrangements which distribute competence between bargaining levels according to issue;
4. 'opt-out', 'hardship' or 'discount' clauses which provide for derogation by individual companies from the universal sectoral standard;
5. incomplete framework agreements which form a departure from universal standards since they are predicated on substantive variation between companies.

The first and third options seem most interesting for further consideration in the trade union movement throughout Europe. We will return to these options in Chapter 5 when formulating recommendations.

At the very start of our research we concluded to the following assumptions concerning the conditions for effective MEB arrangements, that is, the feasibility of MEB. Our starting point was that such arrangements needed strong trade unions and employers' organisations as bargaining parties able to attain certain levels of collective bargaining coverage (CBC) at industry or sub-sector level. Concerning the underlying factors, we regarded MEB as likely to be feasible if:

- differences in size (turnover, market share) of main competitors firms in the industry are limited;
- one main firm forces its smaller competitors to join its collective labour agreement (CLA);
- workers are strongly organised, in particular in one general trade union, without inter-union divisions in the industry across occupations;
- employers are strongly organised in one association;
- competition in the industry is mainly fought on non-wage issues.

By contrast, MEB was regarded as not feasible, or at least difficult to achieve, if:

- one main firm forces its smaller competitors to stay away from its collective labour agreement;
- workers are hardly organised, or fragmented in many trade unions or in professional organisations;
- employers are hardly organised, or fragmented in many associations;
- competition on wages (labour costs) is dominant in the industry;
- main features of competition are set outside the industry.

2.3 Multi-employer bargaining before the 2007-2008 crisis

It should be emphasized again that for over four decades the European Union has been a force supportive of social dialogue and coordinated wage bargaining. Affirming the right of workers and employers, or their respective organisations, to negotiate and conclude collective agreements, the European Commission has played a leading role in efforts to establish a system of multi-level industrial relations in Europe (Keune and Marginson 2013). In doing so, the Commission has been a strong proponent of strengthening the European Social Dialogue (ESD) and coordinated collective bargaining. For example, in the early 2000s such strengtheningwas a key demand of the Commission towards the Central and Eastern European (CEE) countries in preparation for their accession to the EU (Keune 2015, 283). It has to be added that pay and wage-setting remain peculiar issues in the EU context. Formally, wage regulation is excluded from the list of competences of the EU as the Treaty on the Functioning of the European Union explicitly recognises the autonomy of the social partners in pay bargaining. However, for over two decades wage setting has been addressed by European institutions such as the Commission, the European Council and the European Central Bank (ECB) through statements or recommendations about wages and wage-related policies (cf. Deakin and Koukiadaki 2013; Eurofound 2014). In everyday practice these interventions have recently gained weight.

Besides the pay issue, EU directives have influenced the shaping of a wide variety of work-related issues such as working time, parental leave, and employee representation, information and consultation, as well as other related HR and employment practices. The directives have lifted minimum standards on these issues in most member states to a higher level. For example, the development of EU social law has put pressure on firms to avoid discrimination particularly on gender and working time issues (Ramos Martin 2008; Van Klaveren and Tijdens 2008, Chapter 3). Beyond these fields, the ESD has mainly delivered outcomes if the social partners agreed that more favourable outcomes could not be achieved through other channels in the European system. The social partners through the ESD at inter-sectoral (macro) level in the 1990s and early 2000s reached five broad framework agreements, although no tangible results have followed on from this. In the 2000s, though, the European *sectoral* social dialogue (SSD) began to gain some importance.

From the 1960s, a rudimentary form of sectoral dialogue had been in existence as a 'soft' form of regulation with purely voluntary results. In 1998, the Commission decided 'on the establishment of Sectoral Dialogue Committees promoting the Dialogue between the social partners at European level' with, as the ultimate goal, 'the development of a real collective bargaining at European level'. New SSDs were created in 14 sectors, bringing the total number of SSD Committees to 43 in December 2016 (EC 2016, Chapter 5; websites EC - (Sectoral) Social Dialogue). However, in very few sectors have SSD Committees adopted framework agreements binding on the signatories and in only a few cases have the social partners managed to conclude contractual arrangements. Also, and rather obviously, this bipartite social dialogue has been barely integrated within national organisations. In the 2000s, the Commission refrained from active intervention and restricted its role to logistic support. As a result, the SSD has not developed into a collective bargaining arena comparable to the national arenas (Gold *et al.* 2007; Keller and Weber 2011). Consequently, the extent to which social issues have been covered at

EU level has remained substantially narrower than at national level. In part because, first and foremost, the social agenda of the Commission is more limited, but also because its power to force the social partners to negotiate is more constrained than the power of national governments as many issues remain subject to unanimous voting at EU level or are explicitly excluded from European regulation (cf. De Boer *et al.* 2005, 54-5).

Quite some time before the outbreak of the crisis in 2007-08, trends were evident showing declining trade union density and the erosion and fragmentation of CB. These trends, systematically documented for the period between 1980 and 2013 (Schnabel 2013; Visser 2016a), were already discernible in some countries as early as the 1970s. An outstanding example here has been the United Kingdom, where between 1979 and 2010 trade union density more than halved and where the anti-union strategies of the ruling Conservative Party ensured that most of the industry-wide negotiating mechanisms in existence had disappeared by the end of the 1990s (Griffin and Gregory 2015). Nonetheless, the relationship between national developments, including those in the UK, and the growing pressure on the European social model that became visible around the turn of the century seems to have been rather indirect – most likely because of the low level of vertical integration between national and European peak organisations (cf. Gold *et al.* 2007). The shift in macroeconomic policies from demand to supply side and the growing criticism of European IR, with key roles for collective bargaining and social dialogue at interconnected levels, as the 'villain of the piece', may well have been of greater importance. In debates among 'leading' economists and politicians the 'hawkish' view tended to predominate that European IR was hampering competiveness and innovation, in particular when compared with the American IR and business models.

This policy shift took place against the backdrop of the development of the Economic and Monetary Union (EMU), the establishment of the European Central Bank (ECB) and the launch of the Euro as a single currency. The consequences for European IR of the EMU/ECB formation have been widely discussed, including the fact that the remit of the ECB is primarily concerned with price stability and not with economic and employment growth as such (see a.o. Marginson and Sisson 2004, 3-10). The design of the EMU implicitly assumes that in case of asymmetric economic shocks, national economies, regions and industries would adapt through a reduction in labour costs, which would generate the conditions to improve national competitiveness. Also, it cannot be denied that EMU rule-setting has created an EU-wide level playing field for MNEs and has given an impetus to 'regime competition'. Moreover, already from the early 1990s on and under sustained pressure from employers decentralization took place in IR throughout Europe, either 'organized' or 'disorganized'. With SEB –with or without trade unions-- gaining importance at the cost of MEB, the effective articulation (coordination) of CB between industry and company levels became increasingly cumbersome and growingly constrained the functioning of MEB systems [5](Marginson

[5] These constraints emerged in those countries where coordination of CB levels was already weak (Bulgaria, Hungary, Poland, Slovakia) but also in countries with stronger coordination mechanisms such as France, Germany, Ireland, Italy, and Slovenia. Nevertheless, also in France, Germany and Slovenia between 2010 and 2013 changes in bargaining patterns have been concerted between employers' organisations and trade unions (Visser 2013; Marginson 2014; Voss *et al.* 2015).

and Sisson 2004; Marginson 2014; Voss *et al.* 2015). The statement is not exaggerated that the combination of these processes has led to a growing gap in the EU between economic goals and social justice, putting labour in a defensive position, both from the viewpoint of worker representation at industry, company or workplace level, and from a macro-political-economic viewpoint.

Around 2000, trade unionists and progressive researchers assessing the effects of the first two EMU stages (1990-93, abolition of exchange and capital controls; 1994-98: preparations of the Euro launch) were seriously concerned that within the EMU the full burden of adjustment of national economies to disruptive economic developments had fallen on the labour market (employment and wages) and social protection systems (Pochet *et al.* 1999; Hassel 2003). The national welfare states that in the 1960s and 1970s had been able to develop rather independently from the European process of market integration, could well be undermined now (cf. Keune 2012, 20). Similarly, the narrow focus on wage-cost competitiveness and fiscal consolidation urged by the EMU bears the potential to fundamentally erode the historically embedded, diverse structures of collective bargaining in existence throughout Europe (cf. Regan 2014, 34-5).

2.4 Multi-employer bargaining during the crisis (2007-2015)

Initially, after the outbreak of the crisis in 2007-08, most national governments in Europe developed a kind of Keynesian macroeconomic crisis management strategy including substantial fiscal stimulus packages and, in particular, the bail-out of banks (which de facto transformed private debt into public debt -- ETUC/ETUI 2014). In 2008-09, government and social partners in those countries with well-developed social dialogue and collective bargaining mechanisms, adopted solutions that helped to facilitate adjustments which initially mitigated the effects of the crisis on workers and firms. For example, a number of Northern and Central European countries saw various forms of working time reductions (reduction of regular working time, increase of part-time work, use of temporary short-term work arrangements) in order to pre-empt the fall in GDP translating into an equivalent decline in employment. The trade unions in particular promoted these forms of employment-securing crisis management tactics at national as well as at company level. Such efforts often coincided with employer practices of labour hoarding initiated to cope with shortages of skilled labour expected by employers (Glassner with Keune 2012; Tijdens *et al.* 2014; Papadakis and Ghellah 2014).

At the European level, discussions among the European social partners initially created some common ground. However, in 2010 it became clear that the severity of the crisis at European level had created an environment in which the differences between labour and management remained, and if anything the pre-existing divergences were intensified. Whereas BusinessEurope, the European employers' peak organisation, continued to support the principles of the market, the liberalisation of services, and 'structural reforms' in different areas, the ETUC, by contrast, focused on the associated social risks, on workers' rights and incomes and on maintaining national welfare systems (Guyet *et al.* 2012, 14). This second phase of the crisis put national IR systems under severe strain. In many countries the trade union movement lost confidence in the national administration as a partner in the recovery processes, not least because most governments took refuge in public sector budget cuts that included serious wage cuts

for public servants. Also, any European coordination of recovery plans remained out of sight. In the course of 2010 the dominant economic policy in the EU shifted from a basically Keynesian approach towards neoliberal policies of austerity and so-called structural reforms aimed at overcoming the crisis by increasing the competitiveness of individual countries. This policy shift was heavily promoted through the institutions of the EU which at European level had developed new forms of economic governance that gave them much stronger supranational influence on national economic policy (Schulten and Müller 2013).

The shift from fiscal stimulus to fiscal consolidation (for a country overview see Theodoropoulou and Watt 2011) was undertaken voluntarily in some countries, as part of a standard Keynesian approach: reversing an expansionary policy once growth rates had seemingly picked up. In others, though, the shift was forced on them either by pressure from creditors within the framework of external support provided by the EU and the IMF (initially Latvia, Hungary and Romania suffered this fate and subsequently Greece, Ireland and Portugal), or, out of a fear of the so-called 'bond vigilantes' driving up interest rates if radical austerity measures were not swiftly introduced. In the latter category the UK led the way, followed by most Euro area countries. With the publishing of the Annual Growth Survey (AGS) by the Commission in January 2011, together with the launch of the Europe 2020 strategy, the entire EU was effectively committed to a path of structural reform, fiscal consolidation and austerity packages. These developments affected the European Social Dialogue to a considerable extent. Both at European and national levels, social dialogue consequently played a minor role (if any) in the design of structural reforms and fiscal consolidation policies. Under these conditions, in most EU member states the room for meaningful social dialogue and multi-employer bargaining (MEB) diminished substantially (cf. Papadakis and Ghellah 2014). In this process, the potential role of MEB in enforcing the strongholds of the EU economy as laid down in the Lisbon Strategy for 2000-2010 and subsequently in the Europe 2020 Growth Strategy, was more or less forgotten.

It is worthwhile recalling here that the European social model had earlier proposed that dialogue between management and employee representatives should extend to a variety of levels, including the firm, establishment and workplace level. Plainly, the particularities of national IR systems would have a direct role in delivering or constraining work organization and competence development at these levels with consequent 'macro' effects on competitiveness, economic growth, employment and welfare development. Nevertheless, social partnership approaches at micro level were seen to be crucial to realise the European ambition of combining economic efficiency and competitiveness with the quality of work and organisation. Indeed, this perspective and linkage was explored and advocated in the Commission's Green Paper *Partnership for a New Organisation of Work* launched in April 1997 (EC 1997). It contended that by developing participative, dialogue-based forms of work organisation, EU member states could gain competitive advantage over those competitors who lacked the traditions and social infrastructure wherein such an approach could flourish (Gregory and Nilsson 2004, 1, 13; Eurofound 2015, 11). Unlike in other such instances, the European Commission after consultation on this Green Paper did not follow it up with a White Paper or specific recommendations. Instead, in 1998 the Commission issued a Communication entitled *Modernising the organisation of work – A positive approach to*

change. This invited the social partners to "to negotiate agreements to modernise the organisation of work (….) at all appropriate levels", within the 'adaptability pillar' of the mainly macro-economic Employment Guidelines adapted by the Luxemburg Council in November 1997(EC 1998, 3-4). Thereafter, the appeal for the social partners to negotiate 'innovation agreements', included through union pressure in the final text of the Lisbon Summit in 2000, seemed to be a heavily watered down specification of the previous social partnership assumptions (Scott 2004, 46).

That said, the renewed Directive 2002/14/EC establishing a general framework for informing and consulting employees in the EU, can perhaps be seen as the concluding piece of this era whereby the European Commission underpinned the case for a social dialogue at micro level. Currently the Commission advertises this Directive as playing "a key role in promoting social dialogue" (website EC - Employee Involvement). In more recent years though EU policy-making has, to put it mildly, been rather ungenerous in stimulating innovative and socially acceptable change at firm and workplace level. It was not until October 2012 that the Commission, while making the case for a reinforced industrial policy, returned to the need to "promote the transformation of workplaces that stimulate new forms of 'active jobs' and encourage the development of new skills" (EC 2012, 14), thereby indirectly connecting their call for a new industrial policy with the relevance of a social dialogue.[6] It is interesting to note that earlier in 2011, the European Economic and Social Committee (EESC)[7] had launched its own opinion on "innovative workplaces as a source of productivity and quality jobs". In much fiercer terms, the EESC said it believed "that although the concept of the 'innovative workplace' is not mentioned in the Commission document, it is at the heart of the Europe 2020 strategy, as it is one of the key prerequisites for the success of this strategy, and therefore recommends that the 'innovative workplace' concept should be incorporated into the strategy"(EESC 2011, C 132/23).

The Europe 2020 Strategy introduced a new platform of governance, known as the European Semester, under which the EU and the Euro zone countries started coordinating their budgetary and economic policies. The European Commission explained that the platform's goal was "to ensure that collective discussion on key priorities takes place at EU level, before and not after national decisions are taken". The Commission's 2011 assessment of the first European Semester concluded that progress in correcting macroeconomic imbalances had been slow in some member states and that some further corrections were required regarding the review of wage-setting systems. Wage policy and wage-setting mechanisms were brought to the forefront of policy debate in March 2011 when the Euro Plus Pact (initially called the Competitiveness Pact) was agreed by the Euro zone heads of state joined by the leaders of Bulgaria, Denmark,Latvia, Lithuania, Poland and Romania. The Pact explicitly outlined wages as

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6 "A strong social dialogue is a common feature in those countries where labour markets have proved to be more resilient to the crisis. It is important, therefore, to involve the European and national social partners in more consistent exchanges of views" (EC 2012, 26).

7 According to their website, "The EESC is a consultative body of the EU besides employers' and workers' groups bringing together a wide range of social, occupational, economic and cultural organisations".

an important economic adjustment factor for overcoming macroeconomic imbalances and improving competitiveness. It highlighted wage-setting mechanisms, the degree of centralisation or decentralisation of collective bargaining, indexation mechanisms, and wage settlements in the public sector as areas that signatory countries to the pact should address review and eventually reform. A subsequent set of legislative initiatives known as the 'Sixpack' (five Regulations and one Directive) for the EU as a whole was adopted by the European Council in December 2011. Amongst other things constraining wage policy played an implicit role here and for member states became almost compulsory since ignoring these recommendations carried an increasing risk of financial sanctions. In 2012, the European Commission in *Towards a job-rich recovery* explicitly appealed for the modernisation of wage-setting systems in order to align wages with productivity developments. The Commission stated that 'wage moderation' could be considered for some sectors of activity or some Member States, though it did not exclude the possibility of 'targeted increases' to sustain demand (Schulten and Müller 2013; Eurofound 2014, 11-3).

The most recent steps on wage-setting from the European Commission have been regarded as a 'frontal assault on multi-employer bargaining arrangements' and have been implemented notably in Southern Europe under pressure from the European institutions and in particular the 'Troika' (European Commission, ECB and IMF) (Keune 2015; Marginson 2014), or as "the destruction of the institutions supporting MEB" (Visser 2016b, 29). The sharpening of the earlier EC policies in this respect can be traced back to measures recommended in 2012 by the Commission's Directorate General for Economic and Financial affairs (DG ECFIN) under the heading of 'employment friendly reforms'. Schulten (2013) has pointed to DG ECFIN's four main recommendations:

- general decentralisation of wage setting and collective bargaining;
- introduction of scope for opportunities to derogate from industry-level agreements at workplace level, or widening that scope;
- limitation or abolition of the 'favourability principle', under which the most favourable agreed term provision in a hierarchy of agreements will apply to employees at lower levels;
- limitations and reduction in the scope for the extension of collective agreements to non-signatory employers.

These recommendations of DG ECFIN directly referred to "decreasing bargaining coverage" and "an overall reduction in the wage-setting power of trade unions" as part of the needed reforms. Though acknowledging that "there is no strong evidence in support of a single superior wage-setting model", DG ECFIN seemed to take a decentralised, company-based bargaining system as the benchmark (Schulten and Müller 2013, 187). According to Schulten (2013), within the Troika, DG ECFIN in particular has set out the guidelines with which national 'reform programmes' should comply. In summarizing its four constituents, he emphasized the termination or abolition of national-level collective agreements as well as the goal of dismantling the trade union monopoly over negotiating terms and conditions while granting scope for non-union employee organisations or groups to conclude workplace collective agreements. It should be added that although Spain and Italy did not conclude loan arrangements with the Troika, both the ECB and the EC exerted significant pressure on their governments to introduce similar policies as in Greece, Portugal and Ireland (cf.

Deakin and Koukiadaki 2013; Leonardi and Sanna 2015; Cruces *et al.* 2015). As the backdrop to these interventions, the countervailing power to the Commission of the Directorate Employment, Social Affairs and Inclusion within the Commission apparatus turned out to be weak.

In 2015 things seemed to change for the better. According to the European Commission, a high level conference on March 5, 2015 marked 'the new start for social dialogue'. The Commission stated it was committed to strengthening the dialogue with social partners, arguing that "social dialogue at all levels is a prerequisite for the functioning of Europe's social market economy and crucial to promote both competitiveness and fairness". As a result, on June 27, 2016, European Commissioners Dombrovskis and Thyssen, together with the Netherlands presidency of the EU Council and the European cross-industry social partners including the ETUC signed a formal statement on a 'new start for social dialogue'. In this statement the Commission and social partners agreed on (European Commission 2016):

- the need for a more substantial involvement of the social partners in the European Semester;
- a stronger emphasis on capacity building of national social partners;
- a strengthened involvement of social partners in EU policy and law-making, and
- clearer relationship between social partners' agreements and the better regulation agenda.

It remains to be seen how this 'new start' will work out. That said, the current policies of quite a number of national governments in the EU cannot give the European trade union movement much comfort regarding the pledge for 'more substantial involvement of the social partners' at national levels, including official support for restoring multi-employer bargaining. On top of this, policy intentions like these may simply get lost amidst the political turmoil at European level following the 'Brexit' decision of the UK government. Such considerations add to the prevailing reasons why the European trade union movement should rely on its own power resources and creativity in efforts to restore (multi-employer) bargaining.

2.5 Changes in collective bargaining regime by country

Tracing the scope and extent of institutional change in industrial relations needs to rely on a number of quantitative indicators. Focusing on changes in national systems of industrial relations and collective bargaining regimes, the following indicators are particularly relevant namely (cf. Visser 2016a, codebook): the coordination of wage-setting, in particular various levels and configurations of centralisation of wage bargaining, including levels of state intervention; the articulation of sectoral or multi-employer bargaining; mandatory extension of collectiveagreements; the existence of (mandatory, national) Minimum Wages; the existence, scope and extent of social pacts. In addition a number of other indicators are also relevant here, in particular those concerning the sectoral organization of employment relations, for instance the relationship between union confederations and affiliated unions; the number of confederations and the effective number of unions; demarcations between confederations and unions; the union density rate (TUD), specified in various ways (gender, age, skill level, industry); employer organisation density (EOD), and collective

bargaining coverage (CBC). We have assumed that a relatively high level of MEB is closely related to a relatively high level of CBC. The first condition for reaching such a CBC level is the existence of strong bargaining parties, that is, relatively high levels of TUD and EOD. A second condition is the existence of supportive state policies, in particular concerning the mandatory extension of collective agreements. We will return to the extension issue at the end of this section.

The box below shows an overview of developments in TUD, EOD, CBC and MEB, referring to detailed tables in the Statistical Appendix. In chapter 4 we dig into industry-level developments in trade union density and collective bargaining coverage. Unfortunately, we were not able to trace reliable data on employer organisation *density* at country and industry level for the majority of countries under scrutiny. Thus, we had to limit our analysis in this respect to the effects of the *number* of employers' organisations (and trade unions) on industrial relations (see section 4.3).

BOX
TRADE UNION DENSITY, EMPLOYER ORGANISATION DENSITY, COLLECTIVE BARGAINING COVERAGE

Before going into the specific developments by country, we refer here to overviews on trade union density (TUD), employer organisation density (EOD), and collective bargaining coverage (CBC) in the 23 countries scrutinized (see Statistical Appendix Tables A1.2, A1.3 and A1.4 respectively), followed by two comparative overviews for 'our' 23 countries (Tables A1.5 and A1.6). Table A6.1 provides an overview for TUDs and CBCs across the 23 countries and the five industries, although it should be noted that the picture for the ICT industry is less complete as such information was scarce. We return to this country/industry table in Chapter 4.

Figures on the share of employees that are trade union members (trade union density (TUD), Table A1.2), show an overall decline across Europe between 2001 and 2007, followed by a stabilisation between 2007 and 2010 in the 13 W/N/S European countries before overall a further decline set in until 2013/14. The average outcomes for all 23 countries were: 2001: 32.7%; 2007: 28.4%; 2010: 28.8% (for 21 countries) and 2013/14: 26.0. The average TUD for the 13 W/N/S countries fell from 39.3 in 2001 and 36.0% in 2007 to 34.8% in 2013/14. At more than 10%points, the average decline between 2001 and 2013/14 was more severe for the 10 CEE countries: 2001: 26.4%; 2007: 20.4%; 2013/14: 14.5%. Between 2001 and 2013/14 TUD in the 23 countries jointly fell by 0.57% yearly. Between 2007 and 2013/14, TUD ratios remained stable in six of 23 countries, in one country (Spain) it increased by over 1%point, and in 16 countries union density decreased by over 1%point. In the latter period TUD overall decreased by 0.35% yearly. Table A1.6 shows that over the full period, TUD fell least in the three Southern European countries, followed by the three Scandinavian countries, the five Mid-Western European countries and the 'Anglo-2', Ireland and the UK. The decrease in TUD was by far the strongest in the CEE countries, where in 2013/14 the TUD value was only 58% of the value it had reached 12/13 years before.

According to Table A1.3, the share of employers who were members of an employers' organisation engaged in collective bargaining (employer organisation density, EOD) had already fallen between 2002 and 2007/08 whilst this decrease accelerated from 56.1% in

2007/08 to 50.6% in 2013/14. The latter decline was most severe in the 10 CEE countries though developments varied widely across these countries. Between 2002 and 2013/14 EOD in 19 countries jointly fell by 0.56% yearly, that is, at the same pace as the decrease in TUD. Between 2007/08 and 2013/14 EOD overall increased in six of 23 countries by over 1%point, remained stable in seven countries and in 10 countries decreased by over 1%point. In the latter period the overall decrease in EOD in the 23 countries was 0.85% yearly, thus, it was faster than the decrease in TUD. In the period at large, EOD went up in the 'Anglo-2', Ireland and the UK while continuing to be high in the Scandinavian countries. The decrease of EOD was strongest in Romania, Slovenia, Portugal and Spain (See Table A1.6).

According to Table A1.4, across Europe collective bargaining coverage (CBC) showed a continuous decline, from 65.8% in 2001 (for 22 countries), to 62.7% in 2007 (for all 23 countries), and finally down to 54.0% in 2013/14. Between 2001 and 2013/14 CBC in 22 countries jointly fell by 0.91% yearly, which was considerably more than the decreases in either TUD on EOD. Between 2007 and 2013/14, CBC was stable in seven of 23 countries, increased in only one country --the Netherlands-- by over 2%points, and decreased in 15 countries by over 2%points. In the 10 CEE countries the fall in CBC was even more substantial, falling by over 15%points from an average 43.3% in 2007 to 28.0% in 2013/14. Table A1.6 shows that in the period under review CBC hardly changed in the three Scandinavian countries and the five Mid-Western European countries. In contrast, there was a serious decrease in the CEE countries (except the Czech Republic) and also in Ireland, the UK, and Spain.

The right-hand columns of Table A1.4 show the shares of employees under CBC that were covered by multi-employer bargaining (MEB) in 2013/14 – as, respectively percentages of CBC and percentages of the total amount of wage-earners (the extreme right-hand column). This calculation was partly based on Eurofound and other public sources and partly on the WIBAR-3 IR survey. Expressed in percentages of the total dependent workforce MEB shares varied widely, from 0% in Ireland and Romania (in both countries due to legal constraints) to nearly 100% in Austria and Belgium and between 75 and 90% in four countries: Finland, France, the Netherlands and Sweden. The MEB average for 22 countries (data for Slovenia is missing) came out at 37%, with a large difference between the averages for the 13 W/N/S countries (58%) and the nine CEE countries covered (6%). Table A1.5 eludicates the massive differences in MEB rates within the various country groups.

Overall the CBC and MEB shares we found for 2013/14 were closely connected: the higher the CBC rate, the higher MEB, as a high correlation coefficient (R=0.941) indicates. This connection can also be expressed in other ways. CBC in the 12 countries where MEB prevailed and made up over 50% of CBC, averaged 80.5 in 2013/14. By contrast, the 11 other countries, where single-employer bargaining (SEB) dominated (UK, Ireland, and the CEE countries minus Slovenia), had an average CBC of 24.9. Unfortunately, we could not trace enough detailed information on MEB rates for 'our' 23 countries in the early 2000s and therefore cannot show developments over time in these rates, let alone correlate them with developments in CBC. However, there is evidence that over the last two decades or so this relationship between CBC and MEB did not change: for 1994-96 Traxler (2003, 151) presented similar outcomes for 'MEB' and 'SEB' country categories.

For 2013/14 we also expressed the relationships between TUD, EOD and CBC rates as correlation coefficients. The TUD and EOD values were to quite an extent correlated (*R*=0.498) as were TUD and CBC (*R*=0.599) but the correlation between EOD and CBC showed up as much stronger (*R*=0.841). A dynamic analysis, correlating the mutual relations between TUD, EOD and CBC rates for the 23 countries (or a few less due to missing values) during two periods, 2001/02-2007 and 2007-2013/14, clarified the major influence of employer density (including the existence of employers' organisations as such) on the spread of collective bargaining (Table 2.2, below). This influence was strongly visible in the first period (a highly significant *R*=0.658), and to a lesser extent also from 2007 on (*R*=0.370). By contrast, the relationship between the development of TUD on that of EOD was slightly negative and on the development of CBC hardly any different, that is, negative in the first period and about neutral in the second. Thus, the slowdown in the decrease of TUD we observed seemingly did not effect EOD positively nor did it imply a stimulus for boosting CBC.[8] We analysed whether the CBC rate in 2013-14 was dependent on the TUD 2007 rate or the EOD 2007 rate, using a regression model. The previous findings were confirmed. EOD 2007 indeed had a significant effect on CBC 2013-14, whereas TUD 2007 did not have a significant effect. If the EOD rate had been 1% higher in 2007-08, the CBC rate in 2013-14 would have increased by 1.5%.

Table 2.2 Correlations between annual growth of trade union density, employers' organisation density and collective bargaining coverage, 23 countries, 2001/02-2007-2013/14

Indicator	period	corr./N	TUD	EOD	CBC
TUD	2001/02-2007	*R*		-.154	-.197
		N		19	22
	2007-2013/14	*R*		-.149	0.034
		N		23	23
EOD	2001/02-2007	*R*	-.154		0.658***
		N	19		19
	2007-2013/14	*R*	-.149		0.370*
		N	23		23
CBC	2001/02-2007	*R*	-.197	0.658***	
		N	22	19	
	2007-2013/14	*R*	0.034	0.370*	
		N	23	23	

Sources: see Tables A1.2, A1.3, A1.4.
Note: (*) significant at 10% (***) significant at 1%

Although our research concentrates on the industry level, we judged it necessary to present a basic overview of industrial relations processes and outcomes in the 23 countries studied, focusing on changes in processes and outcomes related to the economic crisis: see Table 2.3. Most data could be derived from the Eurofound /

[8] Based on Table A1.6, demonstrating changes in TUD, EOD and CBC in percentages of the start value during the period covered at large (2001/02-2013/14), we found the following coefficients for the mutual correlations between these percentages: TUD-EOD: *R*=-.211; TUD-CBC: *R*=0.279; EOD-CBC: *R*=0.530. These outcomes confirm the relations indicated in the main text.

EurWORK website[9] supported by additional sources (see underneath table). Clear changes in collective bargaining regime at national level could be noted for the Czech Republic (decentralisation in 2013-14); Finland (centralisation in 2010-11); Ireland (decentralisation in 2009-10); Romania and Slovakia (decentralisation in 2013-14). More detailed analyses, partly based on the WIBAR-3 survey, suggest that this is a rather stylized picture that may underestimate threats for MEB arrangements across the EU at least pending until mid-2015. Other researchers too came at similar findings. For instance, Marginson (2014) recently observed the growing decentralisation of collective bargaining in a number of countries (Germany, Austria, the Nordic countries, France and Slovenia), leading to further corrosion of the capacity of multi-employer agreements to specify universal standards applicable at company level through concertation between employers and trade unions.

Table 2.3 Industrial relations processes and outcomes related to the economic crisis, 23 countries, 2007-2014

	General	IR processes	IR outcomes 2007-2014
Austria	Limited changes in IR structure and CB pattern, though changes in pattern-setting and some decentralisation	Increase of opening clauses, though still rather limited; growing number of protests and strike action	Lower pay increases and pay pauses. TUD: decrease EOD: stable CBC: stable
Belgium	Trends toward centralisation, from bipartism toward tripartism and inclusion of the state in decision-making continue	European Council recommended steps to reform existing indexation system and facilitate the use of opt-out clauses from sectoral CLAs; unilateral government decisions in 2011 and 2013, imposing draft wage agreement for 2011-12 and limit ing wage increases in 2013-14. Growing number of protests and strikes.	Limited wage increases, decline of number of sector CLAs in 2013-14; minimum wage frozen in 2009-10 and 2013-15. TUD: stable EOD: stable CBC: stable
Bulgaria	Anti-crisis agreement reached in the national council for tripartite partnership. Mixture of sector- and company-level CB remains though latter level grows in importance	Decrease in influence of tripartism. Increasing use of opening clauses in sectoral CLAs and decentralization in CB towards company CLAs. 2012 amendments on labour code, tighten criteria for legal recognition of unions.	Growing number of inconclusive CLAs and non-renewal of CLAs; decrease of CLA duration; increasing use of (existing) opt-out clauses, cuts to bonuses. TUD: stable EOD: decrease CBC: decrease
Czech Rep.	In 2010 tripartite agreement agreed on short-term measures aimed at dealing with the crisis, later more controversies. In 2012 trade unions left tripartite	Growing number of protests and strike action.	Growing number of inconclusive CLAs, decrease of number of CLAs; minimum wage freeze from 2007-13. TUD: decrease EOD: increase

[9] See *EurWORK/Collective wage bargaining website (*based on Visser 2013 [2015], partly modified and extended by EIRO, Eurofound); see for details Eurofound 2014, 36-7, and Marginson and Welz 2014.

	General	IR processes	IR outcomes 2007-2014
	councils.		CBC: decrease
Denmark	Debate on pay adjustment mechanism, regulating wage increases between private and public sectors	Shorter duration of CLAs	Duration of CLAs increased. TUD: decrease EOD: increase CBC: stable
Estonia	Trade unions and employers jointly criticised governmental crisis interventions, particularly concerning unemployment insurance policy. In 2012 new law, making continuation of CLAs conditional.	Change of law in 2012 allows CLAs to be terminated by one of social partners after expiry. Growing number of protests and strike action.	Decrease of number of CLAs, shortening of duration of CLAs, and non-renewal of CLAs; minimum wage freeze from 2008-11 TUD: decrease EOD: increase CBC: decrease
Finland	In 2009 agreement between social partners on welfare and employment.	In 2011-12 centralisation through re-introduction of national-level CB, as advocated by the trade unions. Growing use of opening clauses.	Duration of CLAs increased. Impact on outcomes rather limited, mainly through lower pay increases. TUD: stable EOD: decrease CBC: stable
France	Recently governmental reform of labour law, aiming at larger labour market, working time and CB flexibility.	Until 2016 sectoral CB rather strong. In spite of trade union rejection, labour market reform effected: company CLAs prevail over sector CLAs even when less favourable. Employers are now free to choose most favourable CLA level.	Lower wage increases; growing incidence of hourly wage rates below minimum wage (SMIC) TUD: stable though low EOD: stable CBC: stable at high level
Germany	Initial cooperation between employers and unions. Increase of sectors where minimum wages were declared binding, followed by 2015 introduction of statutory minimum wage; (re)strengthening of CB notably through vaguer extension criterium.	Increasing differentiation in CB pattern, growing use of opening clauses.	Initial increase of duration of CLAs, followed by shortening; decline of number of CLAs including wage paragraphs, and quite limited or lacking real wage increases. TUD: decrease EOD: decrease CBC: decrease
Hungary	Trade unions and employers criticised changes in tripartite consultation system in 2011 by new government.	Tripartism abandoned at national and sectoral levels, remaining mainly informal or ad hoc. Labour Code 2012 limits CB agenda and manouvering space of unions, union rights at plant level and individual workers' rights limited.	Nominal pay cuts, substantial in public sector, freezes or pauses, and cuts to bonuses; government lowers minimum wage for long-term unemployed participating in public works. TUD: decrease EOD: decrease CBC: decrease
Ireland		Decrease in influence of tripartism. In 2009 Non-Payment of Wages Act for public sector; tripartite national Social Partnership abandoned, disorganized	Large variation in duration of CLAs. Substantial nominal pay cuts, in particular from 2010 on in public sector; minimum wage freeze from 2008-15.

	General	IR processes	IR outcomes 2007-2014
		decentralisation of CB; increase of opening clauses. In 2011-13 High and Supreme Courts declare binding sectoral CB system unconstitutional, 2012 partly reinstituted. 2014-current: recovery of mainly company CB in private sector	TUD: decrease EOD: increase CBC: decrease
Italy		Opening or hardship clauses allowed, growing use. In 2009 cross-sector agreement; 2009 and 2012 agreements not signed by CGIL, with in 2011-14 three cross-sector agreements setting rules for derogations in sectoral CLAs: partial recentralisation. 2015-16 reforms: less room for CB.	Nominal pay cuts in the public sector (yet repealed following ruling of Constitutional Court); shortening of duration of CLAs. TUD: stable EOD: decrease CBC: stable
Latvia		Changes to wage-setting mechanisms in the area of bonuses, freezing of any indexation mechanisms; government decreases number of consultation councils. In 2013 rules on union representation extended.	Decrease of number of CLAs, substantial pay cuts both in public and private sector; minimum wage freeze in 2011. TUD: decrease EOD: increase CBC: decrease
Lithuania	In 2013, legal guarantees introduced for functioning unions at company level.	Legal amendment allowing CLAs laying down standards below Labour Code; expansion of main social dialogue institution yet growing number of protests.	Substantial pay cuts in the public sector (in particular by shortening the working week), freezes or pauses; shortening of duration of CLAs, minimum wage freeze from 2008-12. TUD: decrease EOD: stable CBC: decrease
Netherlands	Initially closer co-operation, central agreement employers – trade unions in 2010.	Hardly any impact.	Lower nominal pay increases and pay freezes in public sector; shorter duration of CLAs in private sector; delays in renewal of CLAs; growing employers' use of fixed-term contracts and outsourcing. TUD: decrease EOD: stable CBC: increase
Poland	Initially closer co-operation, central level social partners were first to negotiate 2009 anti-crisis agreement, then addressed the need to amend the anti-crisis legislation in 2010	Decrease in influence of tripartism. In 2013, trade unions left Tripartite Commission in protest at government's approach to social dialogue, followed by general strike and mass demonstrations, focusing on	Public sector wage freezes and Growth of precarious jobs and flexibilisation in virtually all sectors. TUD: decrease EOD: stable CBC: decrease

	General	IR processes	IR outcomes 2007-2014
		'junk contracts'.	
Portugal		Forced decentralisation to company CB; new 2012 Labour Code inverts favourability principle, allows opening clauses, limits application of extension procedures. In 2009 legislation continuation of CLAs beyond expiration limited; growing number of protests and strike action.	Drastic decrease of number of CLAs, both MEB and SEB, shorter duration of CLAs; abolition of four public holidays, reductions in overtime payments; minimum wage freeze from 2011-14. TUD: decrease EOD: decrease CBC: decrease
Romania		2011 Social Dialogue Act: unions not allowed to negotiate cross-national CLAs; extension options for sectoral CLAs left out; high representative demands for unions, below 51% no right to conclude CLAs; before strike action concilation obligatory	Drastic decrease of number of CLAs, shortening duration of CLAs; substantial pay cuts in public sector; cuts in unemployment and welfare benefits; minimum wage freeze 2012-13. TUD: decrease EOD: decrease CBC: decrease
Slovakia	In 2013 re-introduction of extension of CLAs to sector through amendment on Collective Bargaining Act.	Changes in indexation mechanisms; new anti-crisis council created, with social partner involvement. 2016: Constitutional Court forbids mandatory extension.	Pay moderation in public sector, increasing use of (existing) opt-out clauses. TUD: decrease EOD: increase CBC: decrease
Slovenia		Decrease in influence of tripartism. Introduction of derogation clauses in major sectoral CLAs; decentralisation through more company-level bargaining; changes in dispute resolution; growing number of protests and strike action.	Decrease of number of CLAs and pay freezes or pauses. TUD: decrease EOD: decrease CBC: decrease
Spain	2012 cross-sectoral agreement.	2011-2012 reforms, inverting favourability principle and priority for company-level CLAs, invalidating intention of 2012 agreement; allowing opening clauses, debate on wage indexation, changes to dispute resolution.	Drastic decrease number of CLAs at all levels; growing number of inconclusive CLAs and non-renewal; shortening duration of CLAs; lower pay increases; minimum wage freeze from 2011-12, limited minimum wage increases from 2013-15. TUD: increase EOD: decrease CBC: decrease
Sweden		Changes in CB patterns, in 2010 change in pattern-setting; growing number of plant-level CLAs aiming at job saving	Shorter duration of CLAs TUD: decrease EOD: decrease CBC: stable
UK		Changes in CB patterns ,	Pay freezes, mainly in public

	General	IR processes	IR outcomes 2007-2014
		introduction of opening clauses; changes to dispute resolution; growing number of protests and strike action.	sector; shortening duration of CLAs and less CLAs agreed; limited increases of National Minimum Wage (NMW), freezing NMW rate for young workers. TUD: decrease EOD: stable CBC: decrease

Sources: WIBAR-3 survey; Broughton and Welz 2013; Clauwaert and Schömann 2012, 2013; Cruces 2015; Delahaie *et al.* 2015; EC 2015, Chapters 1 and 3; ETUC/ETUI 2014, 2015; Eurofound/EurWORK 2015, 2016; Glassner with Keune 2012; Guyet *et al.* 2012; Marginson and Welz 2014; Marginson *et al.* 2014; Nathali 2014; Nathali and Vanhercke 2015; Schulten and Müller 2013, 2015; Visser 2013, 2016b; Voss *et al.* 2015; Welz *et al.* 2013; *AIAS-ETUI Collective Bargaining Newsletter*; *WSI Minimum Wage Database*; inputs of participants in WIBAR-3 seminars Oxford, Bratislava, Amsterdam.
Note: see Tables A1.2, 1.3, 1.4 for definitions of increase/stable/decrease in TUD, EOD and CBC.

An additional overview can be produced for 2011-14 that focuses on qualitative changes in IR and CB patterns mostly related to country-specific agreements between the Troika and national governments, or solely between the IMF and national governments within the framework of Memorandums of Understanding (MoU's, 'surveillance') (Schulten and Müller 2013, 2015; Visser 2013, 2016b; Deakin and Koukiadaki 2013; Marginson 2014), namely:

- abolition/termination of national cross-sectoral collective agreements: Ireland, Romania;
- facilitating derogation of firm-level agreements from sectoral agreements or legislative (minimum) provisions: Spain, Italy, Hungary, Portugal;
- general priority of company agreements and abolition of the favourability principle: Spain;
- more restrictive representativeness criteria for the extension of collective agreements, or dismantling of the extension mechanism: Portugal, Romania;
- reduction of the 'after-effect' of expired collective agreements: Portugal, Spain;
- possibilities for non-union groups of employees to conclude company agreements: Spain, Hungary, Italy, Portugal;
- removal of the social partners from decision-making on minimum wage levels: Hungary, Latvia, Spain.

In at least eight of the 12 countries showing the heaviest losses in CBC (Table A1.6), this decline was associated with, or caused by, regulatory change as summarised above: in Ireland, Hungary, Latvia, Portugal, Romania, Slovakia, Slovenia and Spain (cf. Visser 2016b, 5). As exceptions we should note Estonia, Poland, United Kingdom and, possibly, Bulgaria. These reforms were mostly effected through outside or state imposition rather than by 'organised' negotiation (concertation) between social partners. Invariably, they contributed to the weakening of MEB (Marginson and Welz 2014; Visser 2016b).

Against this backdrop, the maintenance and restoration of supportive state policies as the second condition for effecting high CBC levels becomes even more relevant. The main instrument here is (mandatory) extension whereby the provisions of a collective

labour agreement (CLA) are declared generally applicable for a whole industry or profession, provided certain quantitative criteria are met. Basically two approaches can be seen. First, bargaining coverage can be extended to non-organised employees in organised enterprises. For such cases most European countries have a legal *erga omnes* provision in place, implying that CLA provisions in enterprises bound by those provisions are also applicable to their non-organised employees. Second, through a governmental *declaration of general applicability* extension of CLAs has been used to oblige non-organised companies to conform to negotiated wages and conditions. Both ways, the state may stimulate or stabilise MEB without direct interference in the bargaining autonomy of the social partners. Only four of the 23 countries scrutinized here did not have legal extension requirements: Denmark, Sweden, UK and Italy, though the last country has a functional equivalent of extension in place through its labour courts (Schulten 2016).

However, the way in which administrative extension operates varies in practice substantially. According to Visser (2016a,b), for 2013 three extension regimes could be distinguished across countries[10]:

1. virtually automatic extension, applied to nearly all CLAs: Austria, Belgium, France, Finland, Slovenia, Spain, Portugal (until 2011), and Romania (until 2011);
2. frequent and regular use, subject to majority thresholds: Bulgaria, Czech Republic, Estonia, and the Netherlands;
3. limited use, subject to high thresholds, public policy test or veto power: Czech Republic, Germany, Hungary, Latvia, Lithuania, Poland, Portugal, and Slovakia.

Visser (2016b, 7) calculated coverage effects (the share of employees under CBC through extension only) for 12 of the 23 countries at stake. For 2013 these effects varied from zero in Slovakia and 0.4% in Germany up to 9.1% in the Netherlands[11], over 15% in Belgium, 16.0% in Finland, and over 20% in France. High extension rates help to lift already comparatively high CBC rates, as indicated by their 2013/14 values (Table A1.4), resulting in a high correlation coefficient (R=0.85[12]).

We should add that administrative extension is not by definition advantageous for major trade unions. For example, in the Netherlands, where the industry's employer density rate is decisive for the application of extension, small unions have seized the

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10 Schulten *et al.* (2015) and Schulten (2016) also distinguished three groups of countries but applied a somewhat different criterion, namely, whether extension is used 'frequently' (1), 'limited' (2) or 'rarely' (3). Compared to Visser's division this resulted in the following differences: the Netherlands now have been rated in group 1; Czech Republic, Germany, Ireland, Portugal (recently), Slovakia and Slovenia in group 2; Estonia in group 3, adding the note that Austria and Italy, where most sectoral CLAs were *de facto* generally applicable, had functional equivalents in place. See also Marginson *et al.* 2014 and Voss *et al*. 2015.

11 For the Netherlands we calculated, based on the CLA database of the FNV confederation to which AIAS has access, the extension effect rate as of December 2015 for the five industries scrutinized in total at 12.3%, divided as follows: metal and electronics manufacturing 17.4%; wholesale 7.6%; retail 13.4%; ICT 0%, and transport and telecom 12.4%.

12 Setting the extension rate for Belgium at 15% and for France at 20%.

opportunity, and have recently agreed CLAs in retail sub-sectors without the much larger union sections affiliated with the major FNV confederation; these CLAs have been declared legally binding for the whole sub-sector workforce.

2.6 Inequality, trade union density and collective bargaining coverage

Recently various studies have become available that confirm the positive relationship between labour market institutions and overall income equality (mostly measured by the Gini coefficient) or wage equality, measured either through the ratio between the upper and the lower 10% of the wage distribution or, by the incidence of low pay which in turn is usually measured by the percentage of wage-earners earning less than two-thirds of national median gross hourly wage. As the ILO notes in the *Global Wage Report* 2014/15: "Collective bargaining is another labour market institution that has long been recognized as a key instrument for addressing inequality in general and wage inequality in particular (….) In practice, countries where a large proportion of workers are covered by collective agreements tend to have lower wage inequality" (59). The ILO report provides a further refinement of this latter conclusion, noting "(….) the extent to which unionization and collective bargaining affect the wage distribution also depends on whether the collective bargaining system is narrow (where collective bargaining takes place at the company or workplace level) or more inclusive and encompassing (where collective bargaining takes place at the national, industry and/or branch level in multi-employer settings with coordination across levels" (60). Earlier studies that supported this position, like those of Visser and Checchi (2009) and Hassel *et al.* (2009), more recently have basically been confirmed by the findings of Garnero *et al.* (2013), Grimshaw *et al.* (2014), Fernández-Macías and Vacas-Soriano for Eurofound (2015), and Visser *et al.* (2015) for the ILO. In particular, the studies of Grimshaw *et al.* and Visser *et al.* showed statistical proof of the significant effects of relatively high CBC on pay equity in highly developed countries, with Visser *et al.* and Visser (2016b) concentrating on the decisive impact across countries of the existence of in particular MEB.

Garnero *et al.* (2013) and Grimshaw *et al.* (2014) also covered the pay equity effects of statutory minimum wages (SMWs), and discussed possible causal relations with high bargaining coverage: trade-offs or more effective combinations? Grimshaw *et al.* seemed inclined to conclude to a trade-off here. By contrast, Garnero *et al.*, using both national and sectoral data, concluded that SMWs (or sectoral wage floors) combined with high CBC had been quite effective in reducing earnings inequality (see also Kampelmann *et al.* 2013).

On the negative side, there is evidence that between 1980 and 2011 in advanced economies the decline of unionization and less (and less inclusive) collective bargaining has been related to the rise of in particular inequality at the top of the income distribution, that is, enlarging the share of the top 10% earners (Jaumotte and Buitron 2015). For the period 1980-1995, Pontusson (2013) also found a significant positive effect of change in union density on redistribution of income in OECD countries, but no such effect for 1995-2010. This author concluded that "union decline seems to have become a less powerful explanation of inegalitarian labour market trends and retreat from redistribution over time" (814). Pontusson hypothesized that trade unions had become more representative of high-wage workers, referring to the finding based on the 2006-08

ESS (European Social Survey) in which in 13 of 15 countries TUD in the top 20% income earners was higher than union density in the bottom 20% -- assuming that this would have been different in, say, the 1970s. Such a changing composition would have left more room in the national union movements to accept rising wage differentials (Pontusson 2013, 816-8) – in our words, accept less inclusive collective bargaining. We return to this issue after our next calculations.

It is worthwhile investigating whether the relations noted above hold true if we correlate the data we found for TUD, CBC and MEB with data on income/wage inequality in the 23 ountries we scrutinized. For measuring income inequality we used data on the Gini coefficient (available for 2000 and 2010-11) and for wage inequality data on the incidence of low pay (available for 12 countries [13 W/N/S countries except Sweden] for 2000 and for all 23 countries for 2010): see Table A1.9. To calculate correlation coefficients we used information on TUD and CBC for 2001 and 2013-14 and on MEB solely for 2013-14 (see Tables A1.2 and A1.4[13]). Table 2.4 shows the outcomes. As could be expected, a low incidence of low pay correlated negatively with relatively high TUD and CBC. To some extent this was already the case for 2000-2001, covering the 12 countries with low pay data that spanned a decade. However, for these 12 countries the correlation had grown much stronger when using 2010-2013/14 data and showed up as quite convincing for both TUD and CBC. When applying 2010-2013/14 data for all 23 countries, the correlation was even stronger, for both TUD and CBC. Contrary to other calculations (Grimshaw *et al.* 2014) the coefficient remained high for MEB. When returning to the basic statistics, the stronger correlations for the 12 countries shown in more recent years appear to be caused mainly by developments in two country groups: a. in Belgium, Denmark and Finland where the low pay incidence decreased considerably between 2000 and 2010, although between 2001-2013/14 TUD and CBC remained at the same level or fell only slightly; b. in Ireland and the UK the incidence of low pay grew while TUD and CBC fell. Finally, we note that our correlations relating TUD, CNC and MEB to the Gini coefficient pointed in much the same direction and remained at about the same level in 2010-2013/14. It should be noted here that the Gini coefficient reflects inequality among the whole population whereas measurements of low pay focus only on the wage-earning labour force.

[13] MEB has for this purpose been recalculated in percentages of total number of employees instead in percentages of CBC.

Table 2.4 Correlations between wage / income inequality indicators and industrial relations characteristics, 12 and 23 countries, 2000-2001 and 2010(/11)-2013/14

Indicator	years	corr./N	TUD	CBC	MEB
Low pay incidence	2000 (Low pay)	*R*	-.342	-.116	
	2001 (TUD, CBC)	N	12*)	12	
Low pay incidence	2010 (Low pay)	*R*	-.772	-.679	
	2013/14 (TUD, CBC)	N	12	12	
Low pay incidence	2010 (Low pay)	*R*	-.820	-.823	-.780
	2013/14 (TUD, CBC, MEB)	N	23	23	22
Gini coefficient	2000 (Gini)	*R*	-.429	-.431	
	2001 (TUD, CBC)	N	22	23	
Gini coefficient	2010/11 (Gini)	*R*	-.332	-.391	-.401
	2013/14 (TUD, CBC, MEB)	N	23	23	22

Sources: Low pay incidence, Gini coefficient: see Table A1.9; TUD, CBC, MEB: see Tables A1.2 and A1.4.

*) Austria, Belgium, Denmark, Germany, Finland, France, Ireland, Italy, Netherlands, Portugal, Spain, UK

Following the contribution of Pontusson, it is relevant to trace how the trends towards declining TUD and CBC effect the various layers of wage earners. On this behalf we could use data from the continuous, multi-country, multi-lingual *WageIndicator* web survey on work and wages.

BOX
ABOUT THE WAGEINDICATOR WEB SURVEY

The *WageIndicator* web survey is posted continuously on the national *WageIndicator* websites (www.wageindicator.org).[14] The websites consist of job-related content, labour law and minimum wage information, and a free Salary Check. To date they have received millions of visitors. In return for the free information provided, web visitors are invited to complete voluntarily a questionnaire with a lottery prize incentive. Between one and five per cent of the visitors do so. Each survey is in the national language(s) and the answers to a number of questions, such as education, are adapted to the respondent's particular country.

Being a volunteer web survey, the data is not representative of the national labour forces. In most countries the survey data deviates to some extent from representative surveys with regard to age, gender and education (Steinmetz *et al.* 2013). In almost all countries the labour force aged 40 years and over is slightly underrepresented in the *WageIndicator* survey, more so for women than for men. Given the budget constraints for Social Dialogue projects and the desire to have detailed cross-country comparative survey data, the data from the *WageIndicator* web survey seems sufficiently detailed, and the bias not too large. Nevertheless, the research results should be considered explorative rather than representative. One ought also to note that in common with other web surveys, the *WageIndicator* web survey has a substantial drop-out rate during survey completion.

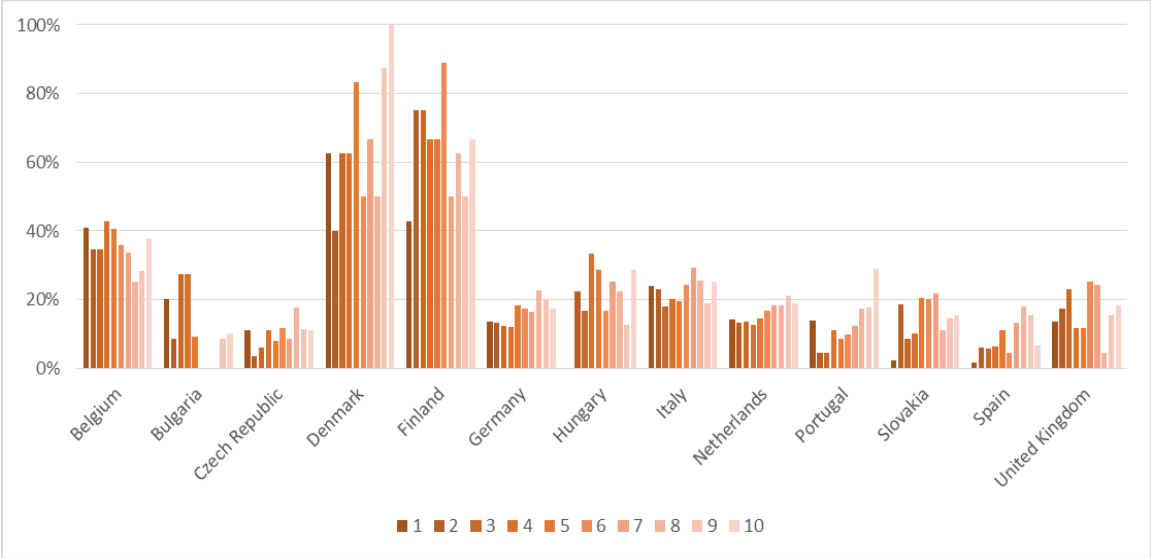
WageIndicator data for 2015 allow us to calculate CBC and TUD rates per decile of the wage distribution among the respondents, that is, for each 10% of that distribution, from

[14] For more information about the *WageIndicator* web-survey, see the codebook: www.wageindicator/main/publications/2010.

the top 10% (tenth decile) of wage-earners to the lowest 10% (first decile). We did so for the 13 countries for which sufficient data was available. Figure 2.1 shows the distribution of TUD rates across wage deciles and countries and Figure 2.2 that for CBC rates. When looking at the above-average TUD scores per country, the highest concentration was in the tenth wage decile or the top 10% of responding wage earners (in 10 of 13 countries), followed by the fifth, sixth, seventh and eight deciles (all in seven countries above average). Changing our focus to the above-average CBC scores, we found the highest score not in the top but in the next decile, the ninth (in nine of 13 countries), followed by the sixth and seventh deciles (both in eight countries) and the fourth, eight and top deciles (above average in seven countries). The correlations between the TUD and CBC outcomes per decile were all positive and mostly rather high with coefficients oscillating around R=0.70, except for the fifth decile (R=0.377) and the tenth decile (R=0.332). As the figures indicate, though in the majority of countries rather similar for TUD and CBC, the distribution of these rates varied considerably across countries. Both union membership and bargaining coverage were consistently highest in the highest five deciles in Germany and the Netherlands, and for TUD in Spain as well. For four countries (Belgium, Bulgaria, Czech Republic and Portugal) the TUD and CBC outcomes both were U-shaped, with the highest percentages in the lower and the higher deciles. For the other six countries the outcomes did not produce a distinct pattern.

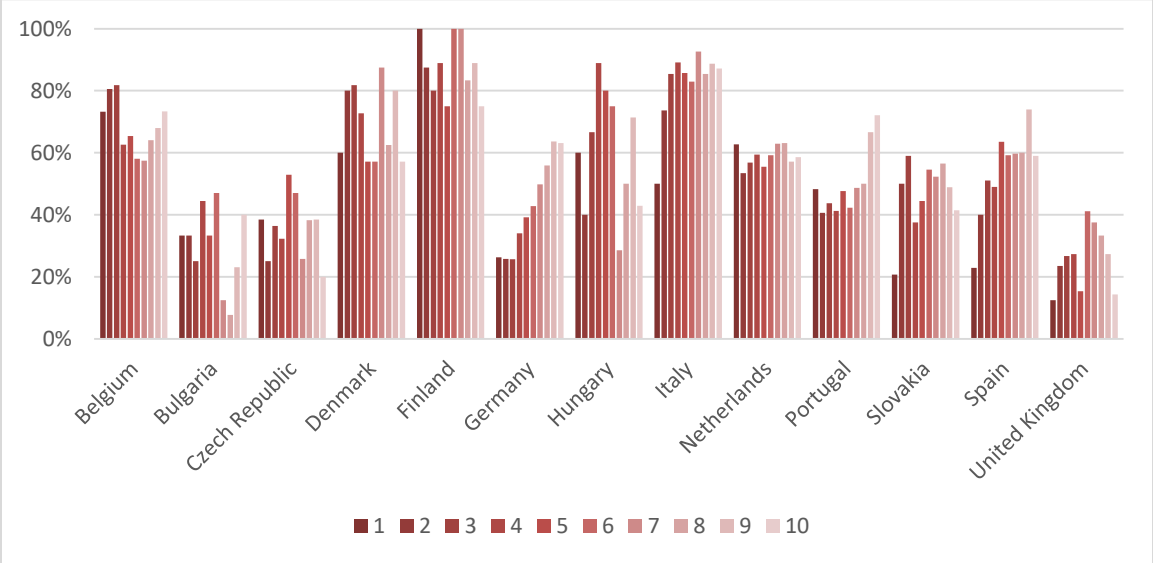
Due to the lack of comparable data we can neither decide whether Pontusson's hypothesis of major changes in the composition of union membership related to the wage distribution spanning some decades holds, nor whether similar changes in bargaining coverage have taken place. Yet, based on our long standing experience, the available literature, and (data gathered for) the TUD and CBC rates by industry (Table A6.1), we judge it unlikely that such changes occurred for at least Germany, the Netherlands, Italy and the UK.

Figure 2.1 **Trade union density per decile of wage distribution, 13 countries, 2015**



Source: *WageIndicator* data 2015 (N=20,727)

Figure 2.2 **Collective bargaining coverage per decile of wage distribution, 13 countries, 2015**



Source: *WageIndicator* data 2015 (N=18,592)

2.7 Multinational enterprises, foreign direct investment and multi-employer bargaining

Already in the 1980s, anticipating the emergence of a single 'regulatory space' in the European Union, two major waves of cross-border mergers, joint ventures and acquisitions in the EU could be traced, respectively in 1985-1990 and 1995-2000. As for example Katz and Darbishire (2000) showed, convergence in production and work organisation, technology and product strategy of major firms in the automotive and

telecom sectors from the 1960s onwards prepared the ground across countries for growing similarities in inter-firm relations that extended to aspects of industrial relations and collective bargaining.

Joint ventures and strategic alliances also led to the 'Europeanization' of business structures, or, the creation of European-scale firms and firm structures. Many MNEs strengthened their European management structures. Europe-based MNEs were the first to initiate such changes, though American and Japanese MNEs soon followed suit.The MNEs in question increasingly aimed at securing the EU-wide coordination of marketing, production and HR efforts. The most internationalized firms often did so through splitting off European structures from their global governance systems. Such strategic integration at European level took shape in major car and electronics manufacturing MNEs. Already in its first preparatory stages, the EMU speeded up developments in this direction. The launch of the Euro and steps towards EU corporate governance, including the EWC Directive, the European Company Statute Directive (ECSD) and the 13th Takeover Directive, all provided further stimuli to the Europeanisation of management structures in MNEs, both broadening (across a variety of industries) and deepening (including relatively small MNEs) such structures (cf. Edwards 2004; Marginson and Sisson 2004; Arrowsmith and Marginson 2006).

We focus here on the qualitative relationship between MNEs on the one hand and industrial relations and collective bargaining on the other. The observation of Marginson and Meardi (Eurofound 2009) that the significance of MNEs as employers has important implications for the structure, agenda and outcomes of CB, seems a good starting point. These authors have indicated that these implications centre on three issues:

1. MNEs have been prominent in pressing for changes in national CB systems, including the call for greater scope for negotiation at company level and for bringing considerations of competitiveness to the fore in the bargaining agenda;
2. the agenda and outcomes of local negotiations can be influenced by cross-border comparisons of costs, performance and 'best practice' working and employment practices within MNEs;
3. increased flows of FDI between countries with different labour costs and conditions have led to growing concerns about the relocation of employment, actual or threatened.

The first issue has mainly been covered by our treatment of the qualitative changes in IR and CB patterns. Neither in our IR survey nor in the presentations and debates in the three WIBAR-3 seminars (see Chapter 3) there was much reporting of explicit MNE pressure for changes in national CB systems. One got the impression that in 2015-16 MNE policies did not focus on IR but instead were concentrating on renewed strong competition, as far as it concerned HR policies in particular coping with labour shortages and competence development.

We now focus on the second issue, that of influencing the agenda and outcomes of local negotiations. In shaping their internal structures, MNEs of various kinds have confronted choices concerning the degree of global integration (globalisation) they seek to achieve versus the degree of local adaptation (localisation) that is deemed necessary. This confrontation has become particularly visible in their HRM strategies and practices, not least because HR practices are more subject to national IR legislation and practices

than production structures and the use of technology (Léonard *et al.* 2014). Not surprisingly, the relationship between the two strategic orientations has developed into a central theme in the international management literature. Until the 1990s, integration and diffusion of management and production structures and strategies through benchmarking standards, 'best practices' and modes of governance derived from HRM strategies and industrial relations in the home countries of MNEs were supposed to dominate. Indeed, where company-level bargaining prevailed in industrial relations, MNE headquarters have increasingly been able to influence local bargaining outcomes with the help of monitoring and benchmarking performance. These have proven to be powerful instruments, that MNE management has also deployed in more centralised bargaining settings with larger shares of MEB. In particular in the automotive sector more recently national union negotiators often remained under pressure from management's cross-border coordination of local negotiations. In the WIBAR-3 seminars examples of such pressure were mentioned stemming from the automotive industry but also wider from metal and electronics manufacturing as well as from the retail and telecom industries. These examples were by and large consistent with the evidence below presented for notably Germany-based MNEs.

In the 2000s it became clear that complex interaction processes were continuously evolving. For example, it has been found for Germany that US MNEs, though formally accepting German IR institutions and the dominance of MEB in that country at the time, have also sought to weaken links with those institutions and orient themselves towards SEB with less union influence. Similarly, in the last two decades the IR systems of smaller economies like those of the Netherlands, Belgium, Denmark and Sweden have been exposed to a substantial extent to Anglo-Saxon, shareholder-oriented governance and HRM practices (Van Klaveren *et al.* 2013a, Chapter 1, sections 1.5.2 and 1.5.4; in particular referring to Sisson *et al.* 2003; Visser 2005; Pulignano 2006; Farndale *et al.* 2008; Marginson 2009). In the WIBAR-3 seminar on transport and telecom and the ICT industry reference was made to the latter trend in the Netherlands.

MNEs from different home countries tend to follow different routes concerning HR management and industrial relations. This is likely to be the case when the economies of home countries play dominant roles within the world economy at a particular period of time. Thus, the prevailing mode of production together with institutional influences (for example trade agreements, national legislation on internal controls [like the US Sarbanes-Oxley Act] and annual reporting), and modernisation strategies at MNE level all tend to create 'dominance effects' (cf. Smith and Meiksins 1995). American MNEs have favoured a more centralized approach to HRM and IR issues compared with their Europe-based competitors. This has involved more formalised and standardized systems with the emphasis on procedures for internal benchmarking and monitoring. American MNEs and American management style were dominant in the 1950s, the 1960s and most of the 1970s, setting the worldwide standard for what were perceived as best practices and pushing the global convergence of HRM practices.

The management practice of Germany-based MNEs has often been regarded as the antithesis of that of the Americans. However, German MNEs have also 'exported' elements of their domestic HR practices, for instance on vocational training, though often more subtly than their US competitors. In the 1970s and 1980s, the Japanese management model clearly rivalled that of the US. In the 1990s, however, the Japanese

economy and with it the Japanese management model went into a crisis from which neither have fully recovered. Consequently, Japanese management associated strongly with 'lean production' has lost much of its attractiveness throughout Europe. Most of the evidence concerning 'home country effects' as indicated here has been based on (sets of) case studies (Van Klaveren *et al.* 2013a, Chapter 1, section 1.5.3, referring to Marginson and Meardi 2006; Tempel *et al.* 2006; Rees and Edwards 2009). A few quantitative studies have articulated these differences between MNEs from various origins. For instance, Pudelko and Harzing (2007) found strong dominance effects whereby US-based MNEs tended to stick more closely to their own HRM system, whilst Japanese and German MNEs also aligned themselves with US practices -- the Japanese even more so than the Germans. Krzywdzinski (2014) found that US automotive companies tried to avoid countries with strong wage-bargaining coordination but there was no similar effect for German companies. Conversely, German MNEs tried to avoid government intervention in collective bargaining, whereas US firms did not. Against expectations, neither German nor US FDI seemed to be negatively influenced by union density.

Next to home and host country differences variations across industries reflecting the interplay of market forces and organizational structures are also quite relevant. Labour-intensive service industries such as retail, hotels and catering with major MNE players have globally displayed the rise of 'low quality' standardised and 'industrialized' processes. For the retail industry participants in the WIBAR-3 seminar confirmed that here benchmarking and monitoring showed up as management instruments to control labour input and labour costs, accompanied by union avoidance and –as confirmed in our IR survey—rather low trust in management – worker relationships. By contrast, the literature indicates that MNEs in more capital- and skill-intensive production or servicing seem less likely to impose centralized control on the HRM and IR practices of their European subsidiaries. As a result, power relations between the actors at the subsidiary and local level have become crucial. Thus, the analysis of host-country institutions must also embrace the (confrontation of) strategies of management and workers' representatives at those levels. In countries with weakly developed IR, like a number of CEEs, workers and their representatives in MNEs may be left to the discretion of managers to quite an extent (Van Klaveren *et al*. 2013a, Chapter 1, section 1.5.4, referring to Edwards and Kuruvilla 2005; Ferner *et al.* 2005; Rees and Edwards 2009; Kahancová 2010; see also Edwards *et al.* 2013 and Drahokoupil 2014).

In the book originating from the WIBAR-2 project, we summarized the outcomes of that project concerning the three core industrial relations indicators against which we compared, based on *WageIndicator* data for nine EU countries covering 2006-2011, MNEs and domestic firms (non-MNEs), namely, the incidence of union membership (TUD, trade union density); the extent of collective bargaining coverage (CBC) and the incidence of workplace employee representation (Van Klaveren *et al.* 2013a, Chapter 8). On all three indicators, MNEs showed higher scores than domestic firms. For TUD, this advantage was the least marked with our results showing that in 23 out of 47 cells (country-industry combinations) union density was higher in MNEs than in domestic firms, in six cells it was on a par, and in 18 cells lower in MNEs. The MNE advantage was more marked for CBC which was higher in MNEs in 34 out of 44 cells. Finally, workplace employee representation in MNEs was more widespread than in non-MNEs

in 41 out of 45 cells. Our combined results concerning IR were not unequivocal, but in 18 out of 42 cells the MNE scores were higher than those of domestic firms on all three indicators used. Conversely, a threefold advantage for domestic firms was the case in only two cells. These results may be surprising, though the larger average size of MNE establishments may have played a key role in producing them. We added that "The effects of growing political, legal and societal pressure on MNEs operating in the European Union, varying from the EU directives dealing with information, consultation and participation of workers to pressure towards Corporate Social Responsibility, cannot be overlooked either" (Van Klaveren *et al.* 2013a, 297).

The limited evidence from other research, notably concerning collective bargaining coverage (CBC), mainly supports our findings. In their 2009 report for instance, Marginson and Meardi indicated that according to expert estimates of the national EIRO centres in 10 EU member states CBC was higher for MNEs than for home-based companies, in nine countries it was about equal[15], and only for two countries (Estonia and Latvia) lower. They stated that where multi-employer bargaining (MEB) dominated, CBC tended to be the same for MNEs and home-based companies, though mentioning Ireland, the Netherlands, Slovakia, Spain and Sweden as the exceptions.[16] Yet, where single-employer bargaining (SEB) prevailed, these authors argued, there is greater scope for bargaining coverage among MNEs to deviate from the pattern elsewhere in the private sector.[17] We can summarize the overview of Marginson and Meardi on the role of MNEs related to MEB (Eurofound 2009, 10) as follows:

- in much of continental western Europe, MNEs were included in MEB arrangements for 'their' sector. Partial exceptions were most notably found in the Netherlands and Spain, with a few examples in Germany, Portugal and Denmark;
- where MNEs were part of sector-based MEB, second-tier negotiations at company level were common; these negotiations resulted in company-specific improvements of working conditions, if not also in pay levels, specified in the sector agreement;
- in CEEs, if MEB existed MNEs were often relatively detached from its outcomes: second-tier company bargaining resulted in levels of pay and working conditions significantly better than those specified in sector agreements; this was notably the case in Bulgaria, Romania and Slovakia.

In the reporting of Marginson and Meardi, home-based MNEs were regarded as an important source of change in IR and CB patterns in five countries: the Netherlands, Germany, Sweden, Finland and Italy. As said, in 2015-16 such changes seemed to have

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15 We left out Norway.

16 However, if the six countries in which according to Marginson and Meardi due to across-the-board extension CBC was virtually 100% (Austria, Belgium, France, Italy, Romania and Slovenia) would be left out, only five EU countries combined dominance of MEB and about equal CBC in MNEs and locally-based companies (Denmark, Germany, Finland, Greece, and Sweden -- cf. Eurofound 2009, 8-9).

17 Regrettably, Marginson and Meardi did not explain how this conclusion related to their division of predominant private sector CB arrangements over manufacturing and services (their Table 6). Three of five countries in which SEB dominated in both major sectors, had higher CBC in MNEs (Czech Republic, Malta and UK), whereas in Hungary and Portugal similar CBC in MNEs and locally-based companies showed up (cf. Eurofound 2009, 8-9).

been of minor importance throughout Europe. No instances were reported where the outcome of these company negotiations breached the provisions of industry-wide agreements. According to the reporting of Marginson and Meardi, until 2009 there were rather few instances of MNEs opting out of MEB agreements by leaving (or not joining) the relevant employer organisation, in favour of company-based arrangements. Cases reported in this respect were from Ireland, Slovenia and Slovakia. More recently Germany should be added in this respect (Schulten and Bispinck 2015). Finally, it was noted that a slightly more common practice was agreement switching where an MNE transferred all or some of its activities to the coverage of a different agreement, which specified less favourable conditions and/or wage levels and enabled greater flexibility. Examples in this respect came from Austria, Belgium, Denmark, France, the Netherlands, Spain, and Italy. Inputs of participants at the WIBAR-3 seminars underlined that in recent years outsourcing practices have developed into a larger threat for wages and conditions negotiated under MEB arrangements than was the case in 2009. Examples of such 'switching' practices related to restructuring of CB patterns were mentioned from the metal and electronics industries and from transport and telecom, taking place in quite some countries (cf. Drahokoupil 2015; Drahokoupil *et al.* 2016).

Concerning SEB, Marginson and Meardi concluded that MNEs often have set the pace for other companies. In the Czech Republic, Estonia, Hungary, and Lithuania this has been reflected in the negotiation of higher wages and better working conditions in MNEs than those found among locally-owned companies, particularly in the manufacturing sector. Yet, these authors also presented indications that MNEs while recognizing trade unions for CB at existing operations were not doing so at more recently established sites, noting examples of such 'double breasting' practices in the UK, Ireland, Bulgaria, Hungary and Lithuania. Participants in the WIBAR-3 seminars referred to similar cases in Portugal, Spain and, again, Hungary. Further, Marginson and Meardi presented a catalogue of 'innovations' in CB driven by MNEs, in particular concerning (variable) pay systems; (flexible) working time arrangements; restructuring arrangements; and the use of temporary agency workers (Eurofound 2009, 14-17). Participants in the WIBAR-3 seminars from notably CEE countries indeed provided examples in which MNEs had been leading in implementing arrangements on these four issues in these countries.

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3 Employment in the selected five industries

3.1 Introduction

In this chapter we present data on developments in employment in the five industries and 23 countries under scrutiny, covering 2008-2013 and wherever possible 2008-2014. We first focus on the wholesale and retail industries, followed by a brief treatment of the other three industries and a general overview. Concerning the time frame, we wrote "wherever possible", because currently the latest Eurostat statistics (the so-called inward FATS) concerning employment in foreign-owned affiliates are those for 2013, and it is yet unclear when such data for 2014 will be available in full.[18] Moreover, the FATS statistics on the number of *employees* in foreign-owned affiliates contain many gaps and do not allow a consistent overview. Therefore, we abstain from including these figures; we have to rely for calculating the share of employment in foreign-controlled enterprises on figures regarding the *total employed*. In section 3.3 we will return to the statistical implications of calculating the shares of FDI-related employment under these conditions.

According to Eurostat data (last accessed 14-12-2016), in 2014 throughout the 23 countries the five industries employed 49.4 million employees (wage-earners, headcount), making up 23.8% of total (private and public) employment (207.5 million) in these countries (see Table A6.5 and Table A6.7, Statistical Appendix). For our detailed data, we concentrate on employees or wage-earners instead of all employed, while counting in headcounts and not in Full-Time Equivalents (FTEs).

3.2 Employment by industry and country in 2014

Metal and electronics manufacturing in 2014 showed as the second largest industry of the five under study, accounting for nearly 12.5 million employees or 6.0% of total EU employment: n 9.8 million were located in the Western/Northern/ Southern (W/N/S) European countries and almost 2.7 million in the CEE countries. The joint employment share of metal & electronics was higher in the latter country group (6.5%) than in the W/N/S country group (5.9%). Yet the national employment shares varied widely. The very high employment share of metal and electronics manufacturing in the Czech Republic (12.3%) contributed to the industry's relatively high share in the CEE countries, though the shares of over 9% in Slovakia and Slovenia were remarkable as well, only to be surpassed by the German share (10.2%). In these four countries and in four others (Finland, Italy, Sweden and Hungary), metal and electronics was the largest employer among the five industries. By contrast, this industry's share remained below 4% in Ireland, the Netherlands, Portugal, Spain, the UK, Latvia and Lithuania.

Table A2.2 details for 2014 employment in the seven sub-sectors of metal and electronics manufacturing. Accounting for over 3.2 million employees in the 23 countries, fabricated

[18] By December 14, 2016, Eurostat had published inward FATS statistics for 10 of 23 countries studied in this project.

metal products except machinery and equipment (NACE 25) showed up as the largest sub-sector, followed by the rather heterogeneous sub-sector manufacture of machinery and equipment n.e.c. (NACE 28, 2.8 million) and by the manufacture of motor vehicles etc. (NACE 29, usually called the car industry, totaling over 2.3 million employees). This order was different in the CEE countries; though with more than 700,000 employees fabricated metal products etc. was again on top, car manufacturing (649,000 employees) here ranked second and machinery and equipment n.e.c. third (445,000). In both country categories the four other sub-sectors remained substantially smaller.

Counting in 2014 over 8.6 million employees in the 23 countries (nearly 7 million in the W/N/S countries and over 1.6 million in the CEE countries), wage employment in **the wholesale industry** was fourth in rank among the five industries studied. The total employment share of the wholesale industry came at 4.2%, with a small difference between the average in the W/N/S countries (4.2%) and that of the CEE countries (4.0%). The variation in employment shares across countries was somewhat lower than in other industries though still considerable, with the lowest shares found for Italy (3.2%) and Finland (3.5%), and the highest for Denmark (7.3%) and Lithuania (5.9%). .[19]

According to the available Eurostat information **the retail industry** was by 2014 the largest single sector overall of the five industries studied, accounting in the 23 countries for more than 14.5 million employees: over 12.1 million in the W/N/S EU countries and over 2.3 million in the CEE countries (Table A6.5). Retail employment took 7.0% of total wage employment (headcount) in the 23 countries, 7.3% in the W/N/S EU country group and 5.7% in the CEE group. Across countries the employment shares of retailing varied widely, from 4.6% in Italy and the Czech Republic up to nearly 10% in Ireland, 10.2% in the United Kingdom and 10.3% in Latvia. It should be noted that their shares calculated in FTEs would be one or two %points lower because of the large incidence of part-time workers in the retail industry (authors' calculations based on Eurostat Annual enterprise statistics; Trawinska 2012).

Employing in 2014 just over 3.2 million wage-earners in the 23 countries at stake (Table A4.2), or 1.6% of all employed (Table A6.7), **the ICT industry** was the smallest industry of the five scrutinized. Its average share in total employment was substantially higher in the W/N/S European countries (1.7%) than in the CEE countries (1.1%). As for individual countries, with 4.1% the ICT industry in Ireland showed by far the highest employment share whereas the lowest ICT shares were found in Poland (0.7%), Romania (0.9%) and Slovakia (1.0%).

By 2014, across the 23 countries **the transport and telecom industry** was the third largest industry of the five studied, employing altogether nearly 10.5 million employees: over 8.3 million in the Western/Northern/Southern European countries and 2 million in the CEE country group (Table A5.2) – averaging 5.0% of wage-earner employment in the 23 countries, respectively 5.1% in the W/N/S European countries and 4.8% in the CEE

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[19] It can be argued that the demarcation lines between the retail and wholesale industries are often difficult to disentangle and may be interpreted differently by national statistical offices. Nevertheless, Table A6.7 shows that quite a number of countries with relatively low shares employed in wholesale also showed modest employment shares in retail. This was notably the case for Belgium, Italy, Sweden, Czech Republic, Poland, Romania and Slovakia.

countries (Table A6.7). The latter table reveals substantial variation in employment shares across countries, for transport and telecom ranging from 3.7% in total employment in Portugal and 4.1% in Poland and Spain up to 8.8% in Lithuania and 9.5% in Latvia.

As the figures *in italics* in Table A6.7 show, the joint employment share of **the five industries** ended up at 23.8% of total wage employment in the 23 countries in 2014 –- 24.2% for the W/N/S European countries and 22.1% for the CEE countries. Latvia showed the highest joint share (29.5%), whereas Germany and Denmark shared the second-highest (29.4%). By contrast, Poland (19.2%), Romania (19.4%) and Belgium (19.6%) displayed the lowest shares and remained below an overall 20%.

3.3 Developments in employment by industry and country, 2008-2013/14

Tables A2.3, A3.4, A.3.7, A4.2 and A5.3 show developments in employment in the period 2008-2014 more in detail for the respective industries. Tables A2.1, A3.2, A3.5, A4.1 and A5.1 add the development of the shares of employment in foreign-owned affiliates of MNEs between 2008 and 2013 – that is, indicating the importance of inward Foreign Direct Investment (FDI) and the economic internationalization of countries and industries in employment terms. As said, the Eurostat FATS statistics on the *number of employees* in foreign-owned affiliates contain many gaps, and so we have to rely for FDI-related figures on the *total employed*. As a consequence, the employment shares we calculated in the three right-hand columns of these tables are somewhat overestimated; based on our calculations for 2008 in the WIBAR-2 book, varying from 1.5-2%points for most country-industry combinations to about 4%points for a few of these combinations. Nevertheless, these shares do indicate both the order of magnitude of FDI-related employment in the respective countries and industries and its development between 2008 and 2013.

3.3.1 Metal and electronics manufacturing

Development of employment

For metal and electronics manufacturing, Table A2.1 reveals that in the early crisis years 2008-2010, the industry's wage-earner employment in the 23 countries fell sharply, by over 4%; in the CEE countries the decrease was closer to 5%. Afterwards, between 2010 and 2013, employment continued to fall, by about the same amount in both country groups. Comparing Tables A2.1 and A2.2 shows that in 2014 a further decrease took place, slightly (by 0.1% or 12,000 employed) in the 11 W/N/S European countries and more substantial (by 3.7% or 107,000) in the CEE countries. As a result, some 1,250,000 jobs in metal and electronics manufacturing overall were lost in six years. In the first two years, employment in foreign-owned affiliates fell much further, by nearly 10% overall, whereas in the next three years FDI-related employment partly recovered by nearly 8% -- the net effect in the 23 countries being a decrease of some 110,000 employed in foreign-owned affiliates between 2008 and 2013.

Interestingly, the development of metal and electronics employment across Europe is not clearly negatively influenced by (comparatively) high trade union density (TUD), collective bargaining coverage (CBC) or multi-employer bargaining (MEB) rates. The coefficients we found for the correlation between employment growth or decline

(EMPL) in the period 2008-2014 and TUD, CBC and MEB values according to the latest available data (at least 2010, see Tables A1.2, A1.3 and A1.4) remained, though either slightly positive or slightly negative, quite weak:
TUD/EMPL: *R*=0.20 (22 countries)
CBC/EMPL: *R*=0.27 (22 countries)
MEB/EMPL: *R*=0.31 (21 countries[20])

Table A2.3 details for the period 2008-2014 the development of employment in the seven sub-sectors, calculated for the total employed (thus not only for employees). Decrease of employment was the dominant trend. For only 33 out of 147 cells (22%) using available Eurostat data could net employment growth be noted in these six years (13 of 77 cells in the 11 W/N/S European countries for which we have data, 20 of 70 cells in CEE countries), whereas 115 cells (78%) indicated net employment decline. As for sub-sectors, the decline was largest in the manufacture of basic materials (NACE 24, a fall of almost 16%), followed by computer, electronic and optical products (NACE 26, minus 13%) and fabricated metal products except machinery and equipment (NACE 25, minus 9%). The other sub-sectors displayed lower but still substantial employment losses. The car industry was the exception, here employment decreased by less than 1%.

Germany was the only country between 2008 and 2014 where employment in metal and electronics manufacturing increased overall, including growth in five of seven sub-sectors (cells). Other countries showed employment growth in only three cells (Lithania and Poland) or less, or no growth at all in any cell (Belgium, Italy, Portugal, Spain and Slovenia). The development in Spain though, where nearly one-third of employment in metal and electronics manufacturing was lost, was the most dramatic, with all sub-sectors suffering their share of job loss. The downward trend was only slightly less visible in Belgium, Finland, Italy, Portugal, Sweden, Bulgaria and Slovenia. In these countries, between one-sixth and one-quarter of jobs in metal and electronics manufacturing disappeared, with hardly a sign of recovery in any sub-sectors. By contrast, in seven CEE countries employment in car manufacturing grew, resulting in net growth of nearly 10% or about 60,000 jobs in this sub-sector (whereas in 11 W/N/S European countries nearly 80,000 jobs in this sub-sector disappeared). Yet, even in these CEE countries this latter growth could not compensate for the negative developments in the industry overall and in most of the other sub-sectors.

Although for 2015 and 2016 official statistics are lacking, an overview of restructuring plans announced by metal and electronics employers as covered by the Restructuring Events database of Eurofound's EMCC (European Monitoring Centre on Change) for January 2014 – September 2016 might provide some clues of employment developments in the industry. To this end, we have summarized the detailed data from Table A2.5, based on 315 messages in this database and additionally in the trade press, in Table 3.1 (next page). The total number of employees covered was 173,000, some 95,500 covered by 182 positive messages and approximately 77,000 by 133 negative messages. It should be added that these amounts were based on initial announcements, the final employment outcomes –'good' or 'bad'—of the processes at stake may have been considerably higher. As such the total numbers should not be exaggerated, as the

[20] TUD and CBC: except Latvia; MEB: except Latvia and Portugal.

following comparison clarifies. The estimate that yearly labour turnover (attrition) in metal and electronics in the 23 countries amounts to approximately 12% would imply mobility on the labour market of yearly some 1.6 million workers in the industry. Over January 2014 – September 2016 this would result in some 3.6 million mutations, of which the 173,000 covered by the EMCC database would make up less than 5%. Nevertheless, it remains worthwhile to have a closer look at this information.

The available messages suggest further improvement in metal and electronics employment from 2014 to 2015-16 for in particular six CEE countries (Bulgaria, Czech Republic, Hungary, Poland, Romania and Slovakia) with mainly positive news (jointly 119 positive against 16 negative messages), but also for Austria and France, all countries showing a growing number of expansion announcements and employees involved. On the other hand, in 2015-16 the negative employment trend in metal and electronics seems to have deepened in particularly in Germany and the UK, and positive figures turned into negative in Finland and Spain. If these messages would be indicative for the trend in metal and electronics employment across countries, their net outcomes would for the six CEE countries imply a break with the decline in employment that the official statistics displayed for the years 2008-2014. By contrast, the negative net outcome of the amounts of employees covered by the messages for Germany suggests a break with the positive development for that country registered in the same period (see Table A2.3). A breakdown by industries shows that positive developments were strongly driven by expansion in the automotive industry, accounting for 116 positive messages covering over 69,200 jobs –the latter being over two-thirds of the positive number-- and only 29 negative announcements with job threats for 19,300 employed. Positive announcements for the automotive sub-sector made up the largest share of net positive figures for the six CEE countries mentioned above; their contributions varied from 65% of the positive job balance for Poland up till 95% of that balance for Bulgaria and Romania.

Table 3.1 Overview of restructuring events in metal and electronics manuafacturing in 23 EU member states, January 2014-September 2016

	positive		negative		No. empl./messages / years		
	no. empl.	no. mess.	No. empl.	no. mess.	2014	2015	Jan-Sep 2016
Austria		*2*		*3*	*2*	*1*	*2*
	3,250		843		-573	-270	+3,250
Belgium		*2*		*4*	*1*	*4*	*1*
	550		3,076		-313	-112	-2,101
Bulgaria		*13*		*0*	*3*	*4*	*6*
	6,650		0		+1,350	+2,900	+2,400
Czech Rep		*18*		*4*	*7*	*5*	*10*
	9,410		840		+2,110	+1,000	+5,460
Denmark		*1*		*4*	*3*	*2*	*0*
	200		653		-93	-360	0
Estonia		*1*		*1*	*0*	*1*	*1*
	150		840		0	+150	-840
Finland		*5*		*6*	*2*	*3*	*6*
	1,180		3,063		+410	-578	-1,715
France		*8*		*7*	*5*	*3*	*7*
	5,808		3,220		-947	-563	+4,528
Germany		*9*		*40*	*23*	*15*	*11*
	14,100		31,942		-10,177	-2,135	-5,530
Hungary		*9*		*1*	*5*	*4*	*1*
	4,455		1,800		+330	+1,725	+600
Ireland		*2*		*1*	*2*	*1*	*0*
	260		140		+260	-140	0
Italy		*2*		*10*	*6*	*4*	*2*
	750		4,501		-3,141	-538	-72
Latvia		*0*		*1*	*0*	*0*	*1*
	0		*153*		*0*	*0*	*-153*
Lithuania		*3*		*0*	*2*	*1*	*0*
	590		0		+440	+150	0
Netherlands		*0*		*3*	*1*	*1*	*1*
	0		2,200		-300	-1,400	-500
Poland		*35*		*4*	*11*	*12*	*16*
	15,030		1,637		+2,808	+3,510	+7,075
Portugal		*3*		*0*	*0*	*2*	*1*
	1,200		0		0	+700	+500
Romania		*19*		*3*	*14*	*1*	*7*
	12,160		1,137		+6,908	+500	+3,615
Slovakia		*25*		*4*	*13*	*8*	*8*
	8,089		1,365		+2,240	+1,164	+3,320
Slovenia		*7*		*5*	*5*	*3*	*4*
	1,560		1,682		-39	-723	+640
Spain		*4*		*4*	*3*	*2*	*3*
	3,636		1,506		+2,836	+400	-1106
Sweden		*5*		*9*	*5*	*6*	*3*
	2,950		5,741		+127	-3,318	+400
UK		*9*		*19*	*12*	*9*	*7*
	3,587		10,985		-423	-3,856	-3,119
TOTAL	**95,565**	***182***	**76,894**	***133***	***125***	***93***	***97***
Balance			**18,671**		**+3,813**	**-1,794**	**+16,652**

Source: Eurofound European Monitoring Centre on Change (EMCC) *Restructuring events database,* January 2014-July 2016, and additional press messages; for AT, BE, CZ, FR, DE, HU, IT, NL, PL, PT, RO, ES, SE, UK:

events affecting employment of 250 employees or more; for BG, DK, EE, FI, IE, LT, LV, SK, SI: events affecting employment of 100 employees or more.

FDI-related employment

Though between 2008 and 2013 the amount of employed in metal and electronics manufacturing showed a net decrease, due to the relatively larger decrease of total employment the share of those employed in foreign-owned firms in the industry increased, from 29.2% in 2008 to 31.0% in 2013 (see Table A6.8). In the CEE countries the employment shares of foreign-owned affiliates in this industry, already high, grew even further to reach on average over 50% in 2013. Such large shares were reached in six countries, namely, in four CEE countries: Czech Republic (58% FDI-related employment), Hungary, Romania and Slovakia (all three 66%), and elsewhere in Ireland (64%) and Spain (55%)– except for the telecom sub-sector in transport and telecom shares not reached in the other four industries researched. For three countries shares between 40 and 50% could be noted: Belgium (45%), Estonia (47%) and Poland (44%). We found the lowest FDI employment shares in Italy (15%) and Germany (just below 20%).

Data detailing developments in sub-sectors (not shown) revealed that for the 23 countries in that year the total FDI-related share) was highest in car manufacturing with 48%, implying that in the 23 countries nearly half of those employed in car production were employed by foreign investors. This sub-sector was followed by the manufacture of basic materials (37%); of computer, electronic and optical products (NACE 26) and other transport equipment (NACE 30, both 35%); of electrical equipment (NACE 27, 32%), and of machinery and equipment n.e.c. (NACE 28, 28%), whereas the employment share of FDI in fabricated metal products except machinery and equipment (NACE 25, 17%) was last in the ranks.

In Table A2.2 the country/sub-sector combinations (cells) in which *in 2013* the share of FDI-related employment was at least 50% have been indicated in *italics*. It turns out that for 58 out of 161 cells (36%) this was the case: for 21 of the 91 cells of the W/N/S European countries and for 37 of 70 cells of the CEE countries. As for sub-sectors, car manufacturing (NACE 29) was on top with such shares in 16 of 23 countries, and FDI-related dominance in nine of the 10 CEE countries (Slovenia being the exception). The high degree of internationalization of car production was plainly manifest in the very high shares of FDI-based employment for 2013 found in this sub-sector for Portugal (100%), Slovakia (91%), Romania (90%), Hungary (86%) and the Czech Republic (84%). High FDI-related shares here could also be noted in Spain and Poland (both 77%), Belgium (73%), Austria (69%), UK (65%), Sweden (62%), and the Netherlands (60%). As could be expected, Germany (20%), France (26%) and Italy (22%), the large countries that were home to major car manufacturers, showed much lower percentages. Compared to 2008 figures (cf. Van Klaveren *et al.* 2013a, 88), FDI-related employment shares in car manufacturing even fell in France and Italy (by 4-5%points). Between 2008 and 2013 the FDI-related shares remained constant in the UK and the Czech Republic and increased in most countries, modestly in Germany, Hungary and Poland (with 3-6%points), and strongly in the Netherlands, Spain and Sweden (with 14-16%points).

Concerning FDI-related employment, the manufacture of electrical equipment ranked second, with a majority of such employment in 11 countries and shares predominantly

in the 55-70% range. Eight countries had majorities of employment in foreign-owned firms in both basic materials manufacturing and the manufacture of computer, electronic and optical products, whereas the manufacture of other transport equipment followed with six cells. Remarkably, the latter sub-sector included Germany with a FDI-related share of about 65%. Machinery and equipment n.e.c. (three cells) and fabricated metal products except machinery (two cells) also had the lowest level of FDI penetration measured along this yardstick. As for countries, two (Finland and Italy) had no sub-sectors at all with majorities in FDI-related employment, while six countries (Denmark, France, Germany, Slovenia, Sweden, and the UK) had just one sub-sector in this category. At the other end of the spectrum, in Hungary and Romania six of seven sub-sectors included majorities in FDI-related employment, in Slovakia five, and in Ireland and Poland four sub-sectors.

Concentration

We now add some notes on economic concentration in metal and electronics manufacturing. Relating data from our Industrial Relations survey and the AIAS MNE database to Eurostat employment statistics, we found that in the 23 countries overall the largest five metal and electronics employers in 2014 accounted for 15.3% (unweighted average) or 14.5% (weighted average[21]) of metal and electronics employment. These 'top-5' concentration ratios varied widely across countries, from 3% in Poland, 7% in Lithuania and Portugal, and 8% in Czech Republic and Spain up to 28% in Sweden, 32% in Denmark and 43% in Ireland. We calculated 'top-5' percentages separately for the car manufacturing sub-sector (NACE 29), though it should be noted that only in Hungary and Romania were the largest five companies in metal and electronics all car and related (automotive) manufacturers; in five countries four automotive manufacturers were among the top-5, in two countries it was three car manufacturers, in four countries two, whereas in five countries only a single car manufacturer figured in the top-5. We included employment in these 18 countries and 49 car manufacturing firms in calculating unweighted and weighted averages, leaving out the five countries without car manufacturers among their largest five metal and electronics employers (Denmark, Estonia, Finland, Ireland and Latvia). The subsequent calculation of the concentration ratio for sub-sector NACE 29 resulted in respectively 37.4% (unweighted average) and 50.7% (weighted average).[22] We found the highest ratios in car manufacturing in Sweden (80%), Germany (71%) and the Netherlands (70%). Table A6.2 presents the detailed outcomes for all five industries and for three sub-sectors.

We used the figures on concentration ratios and on FDI-related employment shares to look at the relationship between these two indicators and calculated correlation coefficients for the metal and electronics manufacturing overall and for the car

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21 'Unweighted' refers here to the average of the percentages of the 23 countries, 'weighted' to the total employed in the top 5 firms in the 23 countries divided by the overall total employed.

22 The large mutual difference is mainly caused by the massive amount of employees in the 'top-5' German car manufacturers (of which four in the 'top-5' in German metal and electronics manufacturing) influencing the weighted average whereas in the unweighted average Germany only counted as one of 23 countries.

manufacturing sub-sector, covering the 23 countries. For the industry overall the relationship proved to be weakly negative (R= -0.18 for FDI shares / top 5%), and even more negatively for car manufacturing (R= -0.37[23]). For a few countries (like Sweden) a high level of concentration combined with high FDI-related employment shares, but for most countries that connection was rather minimal or lacking altogether.

In a number of countries a high FDI share notably in car manufacturing combined with modest or even low shares of automotive manufacturers in top-5 employment. This was in particular the case for the Czech Republic, Poland and Portugal. Developments within the car industry can, by and large, explain what may appear at first sight as a contradiction. Even if well-established car producers remained in the core of the national metal industry, efficiency gains have been massive due to automation /robotisation and the same output in numbers of cars as some two decades ago are now well within the reach of a much reduced workforce -- some 30-40% smaller than 20 years ago. Also, new sourcing patterns grew throughout Europe adjusted to integrate the best emerging suppliers in the core producers' supply chains. The refining of outsourcing relationships in the European automotive industry has allowed an increased role for independent suppliers, growingly acting as co-makers, and has shifted employment from core companies to these –often quite large-- suppliers (cf. Sturgeon *et al.* 2008; Schmitt and Van Biesebroeck 2013; Krzywdzinski 2014). At first sight another and rather obvious explanation for the shrinking weight for employment in the car industry would be an observed increase in diversification and growth of other sub-sectors in metal and electronics. Yet considering the available statistics this explanation is less likely. Table A2.3 shows that between 2008 and 2014 employment in car manufacturing either fell but less than average in the industry at large (Czech Republic and Portugal), or continued to grow while employment fell in the other sub-sectors of metal and electronics (Poland).

Ownership categories

Table A2.4 in the Statistical Appendix provides an overview of the 115 metal and electronics manufacturing companies in our database, including an indication of their ownership and employment data as of 2014. Subsequently, Table A6.3 presents the distribution of employment across countries and industries according to the shares in the respective companies included in the 'top 5' by ownership category. Four ownership categories have been distinguished: foreign-based multinational enterprises (MNEs); home-based MNEs; state-owned firms, and domestic firms. As said, we have defined a MNE as an enterprise with subsidiaries in more than one country. By contrast, a domestic company has only locations within one country and either wholly or majority domestic ownership. Taking into account the number of employees within each company, we have computed the employment share of each ownership category in the five companies p**er** cell.

First, we explored the employment share of the foreign-owned MNEs in the five largest companies within each cell. Table A6.3 shows that in a total of 14 cells all five companies were subsidiaries of foreign-owned MNEs, resulting in a 100% score, of course also for

[23] Again, leaving out the five countries in which car manufacturers in their 'top-5' metal and electronics manufacturers were lacking.

their joint employment share. The same was true for five cells in retail as well as in metal and electronics manufacturing, and four in the ICT industry. The five 100% scores in metal and electronics manufacturing were found in Ireland, Poland, Portugal, Romania and Slovakia. There were none in wholesale and none in transport and telecom. By contrast, in 12 cells none of the five companies were foreign-owned MNEs, thus resulting in a 0% score. This was true for three cells in wholesale and four cells in both retail and transport and telecom, but only one in metal and electronics and none in the ICT industry. Germany, home to large MNEs, was the leader with three such scores, in retail, metal and electronics, and transport and telecom.

Second, we focused on the employment share of the (subsidiaries of) home-based MNEs in the five largest companies. In retail and in metal and electronics manufacturing all five firms in Germany were home-based MNEs. This was also the case for France and Spain in retail. On the other hand, in 37 cells none of the companies were home-based MNEs. These cells were found across all industries (including eight in both wholesale and retail) and almost all countries, except for the large economies Germany, France, Spain and the UK.

Third, we traced the employment share of the state-owned firms in the five largest companies within each cell. In no cell were all five companies state-owned, and in 92 cells none of the five companies were state-owned. In the remaining cells, one or more companies were state-owned and – not surprisingly – these were only found in transport and telecom (in 22 countries, and not in the UK), with the exception of ICT in Latvia and Slovenia. In metal and electronics no state companies were found among the top-5 firms. Fourth, we explored the respective employment shares of the domestic firms. Only in two cells, Latvian and Swedish wholesale, were all five largest companies domestic firms. In contrast, in 69 cells none of the five companies were domestic firms. This pattern was found across all industries and across all countries, with metal and electronics and transport and telecom showing the highest numbers (18 of 23 countries).

As the last row in Table A6.3 indicates (through the unweighted averages for the 23 countries), by 2014 the employment share of foreign-owned MNEs in the top 5 companies was highest in the ICT industry (unweighted average 73% over the 23 cells), followed by metal and electronics manufacturing (average 57%), with retail (46%) immediately followed by wholesale (45%) and a much lower share (11%) in transport and telecom. Employment in home-based MNEs was most prominent among the top-5 employers in retail (39%), with metal and electronics ranked second (35%), followed by transport and telecom (28%) and wholesale (27%) with the ICT industry (17%) bringing up the rear. As noted, outside transport and telecom where state-owned firms had the largest employment share (59%), they hardly (ICT industry, 2% of those employed in top 5 companies) played a role. Overall, the employment shares of domestic firms were quite modest, most prominent in wholesale (28%), less so in retail (15%), metal and electronics and ICT (both 8%), and at quite low level in transport and telecom (2%). Overall, the foreign-owned MNEs included in the 575 companies by 2014 accounted for 24.2% of their employed (2.0 million out of 8,26 million), the home-based companies for 53.0%, the domestic firms for 6.2%, and the state-owned firms for 16.6% (not in Table).

Major companies

We now have a brief look at the major companies we identified in metal and electronics manufacturing. Outside of their home countries, ten MNE names figured three or more times among the five largest metal and electronics employers per country in 2014, if we include the three 'special cases' ABB, Autoliv and Ford (as not strictly meeting our criteria):

- Volkswagen Group (DE, NACE 29). According to our data, across Europe VW was the most internationalized metal and electronics manufacturer, with subsidiaries running production facilities in Belgium, Czech Republic (Skoda), Hungary, Poland, Portugal, Slovakia, Spain (Seat), and Sweden. In these eight countries VW employed 86,100 in 2014, as well as 265,300 in its home country Germany. Jointly these employees represented 59% of the 592,600 that VW employed in total by the end of 2014. In August 2014 and January 2016, Skoda made expansion plans public for two Czech factories and in January 2016 made a similar announcement for its establishment in Poznań, Poland; by contrast, in December 2015 and March 2016 VW announced substantial job cuts in Germany.
- ArcelorMittal (LU, NACE 24). The steel producer, with the statutory seat in Luxembourg and 46% of the shares owned by the Indian Mittal family, had manufacturing subsidiaries in four countries, Belgium, Czech Republic, Finland and Spain, totalling 31,600 employees, or 14% of the 222,300 employees worldwide of ArcelorMittal.
- Siemens (DE, NACE 27). The German-based metal and electronics conglomerate also had manufacturing subsidiaries in four countries, Czech Republic, Denmark, Portugal and the UK, jointly employing 27,910, as well as 114,000 employees in Germany (jointly 41% of Siemens' total). In March 2016, Siemens made restructuring plans public, for German establishments leading to massive job cuts, similar to announcements in February and September 2015 regarding France. By contrast, in July 2015 Siemens announced expansion plans regarding its UK facilities.
- Groupe Renault (FR, NACE 29). The French car producer had manufacturing subsidiaries among the five largest firms in three countries, Romania (Dacia), Spain and Slovenia (Revoz), jointly employing 27,800, as well as 31,800 employees in its home base France (or 50% of the Groupe's total). Between March and July 2016, Renault announced expansion in France, Romania and Slovenia.
- PSA Peugeot Citroën (FR, NACE 29). This French car manufacturer also had manufacturing subsidiaries, including those of automotive parts manufacturer Faurecia[24], among the largest five firms in three countries, Portugal (also Faurecia), Poland (Faurecia) and Slovakia, jointly employing 14,200, as well as 71,700 employees in France. Most recently, in July 2016, PSA announced considerable expansion in France.
- Robert Bosch (GE, NACE 29). The German conglomerate with major interests in car and industrial technology, had manufacturing subsidiaries among the five

[24] Faurecia is said to be run as an independent company, delivering to many car producers, but PSA is the company's majority (54%) shareholder.

largest firms in three countries, Austria, Czech Republic and Hungary, jointly employing 16,600, as well as 128,400 employees in Germany (or 50% of Bosch' total by the end of 2014). In 2014-2015 and Spring 2016, Bosch announced on the one hand expansion in Germany but job cuts in its German Bosch Rexroth and Solar Energy subsidiaries on the other hand; similarly, Bosch' announced job cuts in Belgium were opposite expansion in Hungary, Poland and Romania.

- ABB (CH/SE, NACE 27), the Swiss/Swedish MNE focusing on power and automation technologies owned manufacturing subsidiaries in three countries, Bulgaria, Finland and Sweden, including Sweden (19,200) employing 27,420, one-third of the ABB total.
- Autoliv (SE, NACE 29): the Swedish (yet registered in Delaware, US) automotive parts supplier had production facilities in Estonia and Romania employing 8,420, and about 7,500 in Sweden, jointly one-third of its worldwide 50,800 employed by December 2014. In June 2016, Autoliv came up with plans for considerable expansion in Romania.
- Volvo AB (SE), employing 3,500 in Belgium in truck-producing facilities and 21,400 in its home base Sweden, as well as 14,400 in France in the Renault Truck subsidiary, jointly making up 40% of its 2014 total of 94,600 employees. In June 2016, Volvo AB announced expansion in its Swedish Tuve truck factory after earlier job cuts in other Swedish establishments.
- Ford Motor Cy. (US, NACE 29). The American car producer had manufacturing subsidiaries in Spain and the UK, jointly employing 19,050 in 2014, and in Germany employing 24,000, together making up 23% of Ford's worldwide 187,000 employed.

A number of metal and electronics MNEs had by 2014 more dispersed interests:

- Daimler Group (DE, NACE 29), employing 3,540 in Hungary and 168,900 in its home base Germany, as well as 280,000 worldwide. After major restructurings and job losses in Germany in 2014-2015, Daimler in Spring 2016 announced expansion in Romania.
- Ericsson (SE, NACE 26), employing 1,500 in Estonia and 17,600 in its home base Sweden, by December 2014 making up only one-sixth of Ericsson's 117,200 staff. Afterin 2015 having announced massive job cuts in Sweden, in 2016 Ericsson announced further cuts Italy.
- Fiat Chrysler Group (Exor Group, IT, NACE 29), employing 2,640 in manufacturing facilities in Poland and employing 61,300 in Italy as well as 232,200 worldwide by December 2014.
- Tata Group (India, NACE 24), employing by the end of 2014 22,800 in steel-works in the Netherlands and the UK. Throughout 2014 and 2015 and in early 2016, Tata Steel announced closures and job cuts in its UK steel-works. Most recently, rumours showed up concerning a take-over of the Dutch Tata subsidiary by German steel producer ThyssenKrupp.

- Zhejiang Geely (China, NACE 29), employing in 2014 through its Volvo Car subsidiary 20,850 jointly in Belgium and Sweden. In November 2014 and October 2015, the Chinese firm unfolded expansion plans for its Swedish facilities.

Table A2.5 shows that --besides Robert Bosch and Autoliv-- a number of independent automotive suppliers expanded substantially in Austria, Bulgaria, Hungaria and Romania, shaping the trend towards outsourcing and co-makership in the car industry indicated earlier. This was in particular the case for Continental Automotive Group (Germany); LEONI Group (Germany); Magna International (Canada); Sensata Technologies (US); Sumitomo Electric Industries (Japan); Takata Corporation (Japan), and Yazaki Corporation (Japan). Between January 2014 and July 2016 the messages of expansion by these seven firms in the four countries mentioned jointly covered over 11,800 jobs.

BOX
OUTCOMES OF THE BRATISLAVA WIBAR-3 SEMINAR

Presentations and debates in the WIBAR-3 seminar on metal and electronics manufacturing, on 23 September 2016 organized by CELSI in Bratislava at the Crown Plaza Hotel, jointly gave an illuminating overview of major developments in competitive structures, technology and employment in the industry.

The seminar gathering remained in plenary format throughout as group work was not envisaged. Seven presentations took place. Besides the introduction to the WIBAR-3 project and the preliminary results from the draft report just mentioned, six presentations from participants covered:

- collective bargaining in the metal sector in the Slovak Republic;
- the Slovak case study: experience from Volkswagen;
- introduction to industrial relations in metal and electronics in Hungary;
- collective bargaining on company level in the electronics sector in Hungary: trade union experiences, strategies, obstacles and achievements;
- industrial relations in Italy and collective bargaining in the Italian metal and electronics sector;
- collective bargaining in the UK car industry.

The major issues in the debate embraced: developments in employment, competitive structures, technology and employment; developments in industrial relations, including political conditions and the position (and the lack) of employers' organisations; and the implications for collective bargaining practice.

Developments in competitive structures, technology and employment

Internationalisation / globalisation showed up as a dominant factor, with major implications for employees. In particular in the CEE countries, unions and employees have come under pressure of the combination of internationalisation and the weakening of the social dialogue, including the weakening of the position of the trade unions and the decrease of collective bargaining coverage. Also, the tensions around growing migration and the multicultural society put the opportunities for collective action under pressure. In most countries a sharp division can be seen between subsidiaries of multinational firms with an often high union density and the large majority of small

firms with low or totally lacking union presence. In some sub-sectors and in some countries, collective bargaining was a near-impossibility due to the lack of any employer organisation. Notably the Czech and Polish delegates noted this as a problem. By contrast, in Italy the existence of a multitude of employer federations has led to about 700 nation-wide collective agreements in the metal industry, creating coordination and similar problems for the unions as well. It was also noted that in particular Volkswagen seems to export elements of the German industrial relations model to countries like Italy, and that –partly in contradiction with the literature—this could work out negatively for the position of trade unions, for example if the creation of works councils were advertised. It was noted that, at least in some countries, the dominance of MNEs in sub-sectors like the car industry led to multi-employer bargaining mainly existing in rather marginal sub-sectors with much lower pay levels.

In particular for the car industry various recent developments in **technology and organisation** were highlighted. It was noted that, in spite of the breakdown of the Japanese (country) model, world-class manufacturing and lean production have remained as leading trends, and have spread from the car industry to other parts of metal and electronics manufacturing. These organisational models imply the growth of ever more complicated subcontracting chains. It was argued that this growth on the union side asks for forms of multi-level bargaining while at the same time maintaining forms of internal coordination. In large countries like Italy and the UK, it was suggested, regional coordination may be more effective than national coordination, in particular when it comes to detailing pay scales and developing claims on specific arrangements, like concerning the work – life balance.

Developments in industrial relations

The general discussion focussed on the **role of governments**. In particular delegates from the Czech Republic and Poland reported worrisome developments concerning the Labour Codes in their respective countries. A major but growingly difficult task for the union movement under such conditions is to force employers and their organisations to the negotiation table. In this respect some participants put some hopes from the revival of the social dialogue as recently announced by the European Commission while others indicated to expect more from genuine international trade union cooperation like through international framework agreements (IFAs). It was noted that, at least in some countries, the dominance of MNEs in sub-sectors like the car industry led to multi-employer bargaining mainly existing in rather marginal sub-sectors with much lower pay levels. The issue of the relationship between trade unions and works councils returned in the debate. Various participants argued that governments currently seem to gamble on strengthening councils with the implication of weakening the unions.

In particular the presentation on (pay bargaining in) the UK car industry gave rise to a discussion on **how to strengthen collective bargaining preparation** and related trade union policy-making. The importance was acknowledged of including as many lay unionists as possible in preparing pay claims, and of using training facilities and other supportive facilities like cooperation with workers' consultants and progressive researchers to the utmost. It was argued that the inclusion of broader layers of the rank-and-file may in particular be important for developing specific demands, like concerning

the adaptation of work for older workers and concerning the creation of challenging jobs for young workers related to vocational training schemes.

3.3.2 The other four industries

Concerning employment in **the wholesale industry**, Table A3.2 shows diverging developments in the W/N/S European countries compared to those in the CEE countries. From 2008-2010, wage employment in the 23 countries increased by 2.4%, comprising an increase of nearly 5% in the first country group and a fall of nearly 8% in the second. Whereas employment in foreign-owned affiliates fell overall in the first two years, it recovered substantially in the W/N/S European countries but continued to fall in the CEE countries. As a result, the shares of FDI-related employment increased in both country groups. These shares were highest in the Scandinavian countries, Austria, Ireland, the Netherlands, Latvia and Hungary. The employment figures for 2014 recently published by Eurostat allow comparison with 2013. The longer-term trend seemed reversed: wholesale employment decreased slightly (by 0.6%) in the W/N/S European countries while increasing by 1.3% in the CEE countries. The result over 2008-2014 was an overall increase in employment of 1.4, however divided in 4.6% increase in the W/N/S European country group against a decrease of 10.0% in the CEE country group.

Employment in **the retail industry** as captured in Table A3.5 also shows diverging developments across Europe. Both in 2008-2010 and 2010-2013 overall wage employment increased slightly. Yet, the underlying developments varied: in 2008-2010 employment in the W/N/S European countries grew somewhat while in the CEE countries a considerable decrease (nearly 7%) had to be noted. The 2010-2013 period showed less growth for the first country group and a slight decrease for the second. Whereas in the first group employment in foreign-owned affiliates initially fell in the first two years, it grew in the CEE countries. The picture reversed from 2010 on, with nearly 20% growth in W/N/S Europe but less than 5% growth in CEE countries. In 2013-14, retail employment in the W/N/S Europe country group showed substantial growth (1.8%); by contrast, retail employment in the CEE country group overall remained constant. In the end, this implied a strong growth of the shares of FDI-related employment, but to a considerably higher level in CEE countries than elsewhere. Measured by their shares in employment, foreign retailers had by 2013 penetrated relatively strongly in Austria, Ireland, the Czech Republic, Estonia, Latvia, Hungary, and Slovenia. The data we found confirmed the evidence gathered in previous WIBAR-2 research that internationalization proceeds relatively slow in the retail industry and that global retailing remains in an early stage compared to the internationalization of metal and electronics manufacturing and ICT in particular.

As Table A4.1 shows, in 2008-2013 wage employment in **the ICT industry** increased throughout Europe, except for Slovakia (moreover, growth in Spain was minimal and the Netherlands already peaked in 2010). Both in 2008-2010 and in 2010-2013 the CEE countries displayed much stronger growth of ICT employment than the W/N/S European countries, up to 27% in 2010-2013. If we include 2014, the employment growth rates for 2008-2014 were respectively 24.8% for the 23 countries, 22.1% in the W/N/S European country group and 50.7% in the CEE group. Latvia and Lithuania even noted triple-digit growth figures.

Also in the ICT industry FDI-related employment showed different growth patterns. In 2008-2010 foreign ICT investors displayed rather hesitant behaviour in W/N/S European countries while employment in their subsidiaries expanded strongly in CEE countries. The latter growth continued in 2010-2013 and though by then growth in the W/N/S European country group picked up it lagged behind that in CEE countries. In the CEE country group at large the share of employment in foreign ICT affiliates grew by nearly 10%points to 41%. Outside the CEE region a similar strong presence of foreign MNEs could only be noted in the Irish and Swedish ICT industries. Overall in the W/N/S European group the share of foreign firms in ICT employment came at a halt at 26%.

Employment in **the transport and telecom industry**, depicted in Table A5.1, showed a decrease throughout Europe in 2008-2010 (overall minus 3%), and a quite modest recovery in the next three years (plus 0.2%). With nearly 6%, the initial decrease was strongest in the CEE countries, though the recovery in 2010-2013 was also somewhat stronger here. By contrast, 2014 showed a substantial growth rate (1.9%) in the W/N/S European country group but only minimal growth (0.3%) in the CEE countries. In the end, between 2008 and 2014 employment in transport and telecom fell by 1.2% overall – decreasing 0.4% in the W/N/S European country group and 4.4% in the CEE group. As a result, the 2014 employment level lagged behind some 130,000 that of 2008 – nearly 40,000 in W/N/S Europe and 90,000 in the CEE countries. By contrast, and with the exception of 2008-2010 in W/N/S Europe, employment in foreign-owned affiliates increased considerably in transport and telecom. As a result, in 2008-2013 the share of FDI-related employment grew in both country groups, in particular in the CEE countries. Nevertheless, in this industry the employment shares of foreign affiliates remained relatively modest.

3.4 Developments in employment in multinational enterprises

We already discussed the development of employment in foreign-owned affiliates and compared this development with that of total employment in the five industries. Table A6.8 provides an overview of the figures presented and discussed in section 3.3. The last rows indicate that by 2013 the affiliates of foreign-owned MNEs accounted for about 22% of employment – approximately 20% in the W/N/S European country group and over 31% in the CEE countries.

Finally, in this section we have tried to arrive at estimates of the employment shares of all multinational enterprises (MNEs), both the foreign and the home-based MNEs, per country and industry. Here, we can only partly rely on official data. There is no overview available of employment in MNEs differentiated by countries and industries across Europe. Recently, the ILO (webpage Multinational Enterprises) stated that some 50,000 MNEs and their 450,000 affiliates employ over 200 million people throughout the world. The UNCTAD (2015, 18) indicates that worldwide by 2014 75.1 million were employed by affiliates of foreign firms, implying that around 37 per cent of total MNE staff would be employed abroad, that is, not in the respective MNE home countries. Yet, neither ILO nor UNCTAD provides detailed country or industry information on

employment in MNEs or foreign MNE affiliates.[25] Therefore, we had to complete the available Eurostat FDI data with *WageIndicator* data and data from the AIAS MNE Database. We selected those *WageIndicator* respondents that in 2006-11 were employed in MNEs. These were respondents who ticked 'yes' in response to the survey questions that asked whether their employer had more than one location, and if so, whether at least one location was abroad.[26] The resulting samples were large enough to contribute to estimates for ten EU member states[27] and for metal and electronics manufacturing, retail, ICT, and transport and telecom (See Van Klaveren *et al.* 2013a, Chapter 2, Tables 2.5 and 2.6). For these ten countries and four industries we added data from the AIAS MNE Database, updating the original 2008 information to 2013 wherever possible, an exercise mainly based on employment figures from the annual reports of large MNEs, EurWORK database and EMCC factsheets, recent *Fortune Global 500* and *Forbes Global 2000* overviews, and various press information.

Table A6.4 shows the outcomes of our estimates. For all 23 countries and five industries we provide for the employment shares of foreign-owned MNE affiliates, as well as for four industries (except wholesale[28]) and 10 countries the total MNE shares in employment, both estimated for 2013. Metal and electronics manufacturing showed the highest estimated shares of employment concentrated in MNEs, in particular in the Czech Republic (63%), Spain (68%) and Hungary (69%). ICT followed suit with relatively high MNE employment shares, across countries between 32 and 51% (the latter again in the Czech Republic). Except for the Czech Republic (52%) and to some extent for the UK (41%), the level of MNE employment shares was substantially lower in retail. With 36% of retail employment in MNEs, Germany ranked third. The MNE shares in transport and telecom were also lower than those in metal and electronics and in ICT, though in transport and telecom these shares for the Netherlands and the UK (both 42%) remained considerable. Based on these –admittedly, far from complete—figures a rough estimate of the recent employment share of home-based MNEs in the five industries and 23 countries ends up at 15%: about 17% in the W/N/S European countries and about 6% in the CEE countries. Jointly with the employment shares of foreign-owned MNE affiliates, these figures bring the total share of MNEs in employment of these industries and countries at an estimated 37%, for both country groups.[29]

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25 Moreover, these figures tend to systematically underestimate the numbers of those whose employment is controlled by MNEs, as they only consider companies that are majority foreign-owned while excluding other forms of control than ownership, so-called Non-Equity Modes (NEMs) of international production such as through contract manufacturing, services outsourcing, franchising, licensing, and management contracts in global value chains (Van Klaveren *et al.* 2013a, Chapter 1, section 1.2). In, for example, the global value chain for clothing (garment) production direct control of major MNE buyers through FDI hardly plays a role (Van Klaveren 2016).

26 The foreign-owned MNEs included all companies with foreign ownership, fully or partly.

27 Belgium, Czech Republic, Germany, Spain, Finland, Hungary, Netherlands, Poland, Sweden, United Kingdom.

28 The reason being that the wholesale industry was not included in the WIBAR-2 project.

29 For the W/N/S European countries, 20% foreign-owned and 17% home-based MNE shares; for the CEE countries, 31% and 6% respectively.

From the figures presented it can be derived that in Germany the shares of those employed by home-based, that is in majority German-owned, MNEs were larger than those employed by foreign companies in three industries (metal and electronics manufacturing, retail, transport and telecom). Here they even about doubled the shares of FDI-related employment. In the German ICT industry, the employment shares of foreign-owned and home-based MNEs were about equal. The only other cell with larger home-based MNE employment concerned the Finnish retail industry, whereas UK retail and Finnish transport and telecom came close. In the large majority of cells in the seven W/N/S countries employment in home-based MNEs accounted only for about 40 to 70% of employment related to foreign investment. This was also the case in the transport and telecom industries of Belgium and the UK (about 60%), the Netherlands (50%), and Spain and Sweden (both about 40%). In the three CEE countries scrutinized and with the exception of ICT in Poland where it was about 60%, this share was even much smaller. Jointly with the results of the WIBAR-3 survey, these outcomes seem to confirm the weak development of MNEs based in CEEs and consequently of outward FDI from these countries – though in commerce and in transport some MNEs based in notably Hungary are expanding, as are ICT companies notably based in Poland (cf. Van Klaveren *et al.* 2013a, Chapters 1 (section 1.1) and 2).[30]

3.5 References for Chapter 3

Eurofound (2009) (P. Marginson and G. Meardi), *Multinational companies and collective bargaining*. Dublin.

Eurofound European Monitoring Centre on Change (EMCC), *Restructuring events database* (factsheets) (http://www.eurofound.europa.eu/observatories/emcc/erm/factsheets, last accessed July 27 2016).

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Krzywdzinski, M. (2014) 'How the EU's Eastern Enlargement Changed the German Productive Model. The Case of the Automotive Industry'. *Revue de la régulation - Capitalisme, institutions, pouvoirs* 15(1): 1-61.

Schmitt, A., and Van Biesebroeck, J. (2013) 'Proximity strategies in outsourcing relations: The role of geographical, cultural and relational proximity in the European automotive industry'. *Journal of International Business* 44: 475-503.

[30] Based on estimates of EIRO national centres, Marginson and Meardi for Eurofound (2009, 3-7) under the heading 'Employment profile of MNCs' presented a rather different picture, suggesting that in most West European countries home-based MNEs by 2006 employed more workers than foreign-owned companies. Partly this contradictory outcome may be explained by the larger growth of FDI-related employment compared to home-based MNE employment after 2006, though already by 2006 the picture Marginson and Meardi suggested could be questioned. Also, Eurostat's more recent registration of employment (and other indicators) in foreign-owned MNEs from 2007 on for all EU member states (see Van Klaveren *et al.* 2013a, 309) has been a massive improvement compared to the scattered UNCTAD, EIRO and OECD data Marginson and Meardi had to rely on. As a result, these researchers grossly underestimated the extent of foreign ownership in many EU member states.

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webpage ILO / *Multinational Enterprises* (http://www.ilo.org/global/topics/employment-promotion/multinational-enterprises/lang--en/index.htm, last accessed June 14, 2016).

4 Analyses based on the WageIndicator and WIBAR-3 Industrial Relations surveys

4.1 Introduction

In this chapter we use the *WageIndicator* survey to map collective bargaining coverage and employees' bargaining preferences, together with the results of the WIBAR-3 IR survey covering industrial relations characteristics. In particular, we focus on the management – trade union relationship in the 23 countries and 5 industries studied. Thus we provide ratings for individual companies as well as for 115 country/industry combinations (cells). We are especially interested in examining the extent to which management-trade union relationships are related to the development of employment; to the influence of ownership categories; to company and establishment size, and to the degree to which employment is concentrated in the five largest companies in each cell. Finally, the contents of 181 collective agreements (CLAs), collected and coded for the WIBAR-3 project, have been analysed and differentiated according to whether they were the outcome of multi- or single-employer bargaining.

4.2 Employees' bargaining preferences

or 10 of 23 countries we were able to relate the bargaining preferences of individual employees with the extent in which they are covered by a collective agreement. In order to trace this relationship, we again used data from the *WageIndicator* web survey on work and wages. The main survey questions analysed here relate to bargaining coverage and perceived importance of being covered by a collective agreement. The *Wageindicator* survey includes two relevant questions / statements, notably 'Are you covered by a collective agreement' and 'I think it is important to be covered by a collective agreement'. It should be recognised that more than one in five workers in the relevant industries answered 'Don't know' to the question about bargaining coverage. These percentages turned out to be particularly high in Belgium, the Netherlands, Germany and Portugal.

Table 4.1 (next page) shows that according to the *WageIndicator* survey, the collective bargaining coverage (CBC) cited by respondents in the retail sector was highest in Italy (82%), followed by the Netherlands (75%) and Belgium (73%), and lowest in the Czech Republic (29%). In the wholesale sector CBC was again highest in Italy (79%) and lowest in the Czech Republic and particularly the UK (26% respectively 5%). In the metal and electronics industry CBC was highest in Finland and Italy (above 90%) and lowest in Bulgaria and the United Kingdom with less than 30%. Similar outcomes showed transport and telecom, where Finland and Italy stood out showing shares over 90%, with the UK (35%) and Bulgaria (23%) in the rear. In the ICT industry again coverage was highest in Finland and Italy (both above 80%) though here more countries showed

low rates, including the UK, Germany and the Netherlands, and in particular the Czech Republic (8%).[31]

The table also shows respondents overall expressed a high preference for being covered by a collective agreement. In almost all countries and all industries this preference was higher than 50%. In wholesale and retail preference scores were in particular high in Italy and Spain. In ICT however, preferences were repeatedly lower, notably in the Czech Republic (16%) but also in Germany (37%) and the Netherlands (38%).

Did workers covered by a collective agreement exhibit a higher preference for being covered? In order to answer this question, we undertook a correlation analysis for the ten countries for which sufficient data were available. The results are shown in the two extreme right-hand columns of Table 4.1. For eight countries, the relationship is positive and significant. The remaining two countries, Italy and Spain, showed a positive but not significant relationship. Hence, in Belgium, Bulgaria, Czech Republic, Finland, Germany, the Netherlands, Portugal, and the UK the respondents who were covered also showed a higher preference for being covered. This relationship was independent of a country's overall high or low CBC rate.

Table 4.1 **Share of employees covered by collective agreement; share that thinks it is important to be covered by collective agreement; correlations between covered and preference to be covered, five industries, by country and industry, January**

	Covered by collective agreement					Important to be covered					Correlation	
	M&E	**Retail**	**Whol.**	ICT	T&T	M&E	**Retail**	**Whol.**	ICT	T&T	Corr.	N
Belgium	64%	**73%**	**63%**	52%	72%	51%	**64%**	**57%**	43%	58%	.245**	456
Bulgaria	27%	**35%**	**33%**	41%	23%	-	**53%**	**-**	65%	-	.396**	52
Czech R.	54%	**29%**	**26%**	8%	50%	52%	**45%**	**43%**	16%	55%	.476**	347
Finland	94%	**76%**	**-**	85%	91%	89%	**93%**	**-**	70%	69%	.238*	105
Germany	52%	**38%**	**34%**	18%	54%	69%	**68%**	**55%**	37%	71%	.366**	4591
Italy	91%	**82%**	**79%**	82%	92%	78%	**82%**	**83%**	82%	81%	0.097	332
Netherl.	68%	**75%**	**42%**	17%	63%	64%	**78%**	**61%**	38%	70%	.375**	3795
Portugal	63%	**48%**	**42%**	39%	59%	51%	**76%**	**67%**	59%	75%	.246**	192
Spain	68%	**51%**	**47%**	67%	63%	82%	**84%**	**79%**	84%	85%	0.068	586
UK	29%	**44%**	**5%**	19%	35%	59%	**77%**	**71%**	58%	71%	.344**	185

Source: *WageIndicator* data Jan 2014-Apr 2016. Selection waged workers in the five industries in 23 countries.
Note: cells with less than 10 observations are not shown.

[31] In comparing these *WageIndicator* (WI) outcomes with CBC data from other sources as reported in Chapter 2 and shown in Table A2.3, it is striking to note that the outcomes are quite close in particular for Germany, Italy, the Netherlands and the UK. Compare for example Germany: metal and electronics according to WI 52%, other sources 50%; wholesale according to WI 34%, other sources 30%; retail according to WI 38%, other sources 40%; ICT according to WI 18%, other sources 15%; transport and telecom according to WI 54%, other sources 51%. Overall, in 24 of 45 comparable country/industry combinations (cells) the differences between the two sets of outcomes were less than 15%points. In Germany and Italy the differences were less than 15%points in all four comparable cells, and in the Netherlands and the UK in four of five cells.

4.3 The presence of trade unions and employers' organisations

Our database based on the WIBAR-3 IR survey holds information for 115 cells, combining 23 countries by 5 industries. For each cell, the database holds four industrial relations characteristics, indicators allowing an assessment of opportunities for strengthening or restoring collective bargaining, in particular multi-employer bargaining: trade union density (TUD), collective bargaining coverage (CBC), the share of employees that is covered by an industry agreement (MEB), and finally the average rating of the five largest companies in the industry with respect to the management – trade union relationship (MAN-TU-relationship). Here we focus on TUD, MEB and CBC whereas in the next section we will explore the fourth indicator.

We first treat the effects of the presence of trade unions and employers' organisations. It is interesting to investigate how the number of these organisations involved in collective bargaining at industry level relates to the preconditions of bargaining, that is, to TUD, CBC and MEB rates. Concerning the amount and size of trade unions, various views circulate. On the one hand, both IR researchers and trade union practitioners have latterly argued, for instance in the context of union mergers like that of ver.di in Germany, that large(r) union entities are indispensable for the maintainance of trade union power in collective bargaining. On the other hand, it has been noticed that such entities –in particular multi-industry unions-- may lack the levers of identification, cohesion and affinity between union leaders and their rank and file members. Increasing membership heterogeneity may be coupled to concurrent membership decline (Cf. Waddington 2006; Undy 2008). In order to measure the effects of the number of trade unions per country/industry cell, we selected those single unions with a proven practice of collective bargaining in the five industries scrutinized.

For the trade union side of the matter we made use of a separate database, ie., the AIAS-WageIndicator Trade Union Database. This database contains information on the trade union movement in many countries across the world, including names of confederations and affiliated unions as well as their mutual ('vertical') relations. Concerning the 23 countries under scrutiny, as of January 2016 the Trade Union Database included the names and numbers of 84 confederations and 1,134 affiliated unions, of which 51 confederations with 982 unions were ETUC affiliates. We made use of information from this database to invite participants for the three seminars organized within the framework of WIBAR-3, but we also used it in our research. Table A1.7 presents an overview of the relevant number of unions according to the latest available data (at least 2013). It shows that by far the largest number of unions, 205 in the 23 countries, were present at negotiating tables in transport and telecom. It should be added that unions in this industry frequently represented specific sub-sectors, regions or occupations, or combinations of these. Nevertheless, it can be seen, particularly in the transport sector, that workers organized in such relatively small entities were still able to attain good preconditions to deploy structural power. Examples of such constellations can be found in France, the Netherlands, Poland and Portugal. By contrast, we found only 32 trade unions maintaining a collective bargaining practice in the ICT industry. In eight countries[32] we could not even detect any unions with genuine bargaining practices

[32] Czech Republic, Estonia, Latvia, Lithuania, Portugal, Slovakia, Slovenia, and Spain.

covering ICT or parts or companies therein. In the metal and electronics manufacturing, wholesale and retail industries we found 78, 59 and 57 trade unions respectively with collective bargaining practices, and unions involved in bargaining in each of the 23 countries. The reader should be aware that these numbers cannot simply be totalled per country. In most countries the same sector-related unions negotiate in both wholesale and commerce and other overlaps like this are behind these figures, for example between (parts of) wholesale and transport.

We return to the question whether the number of trade unions involved in collective bargaining at industry level is related to levels of TUD, CBC and MEB. Using the full sample for which data was available, we found for four industries positive though mostly not quite strong correlations indicating that a larger number of unions would work out favourably for TUD, CBC and MEB (Table A4.2A, next page). By contrast, in transport and telecom a higher number of unions were to some extent negatively correlated with TUD, CBC and MEB. In this industry and in some countries mergers among the relatively large amount of unions may well result in more attractive unions and higher bargaining coverage. Nevertheless, most indications of possible relations remained counterintuitive. We tested the assumption whether this might change if the '0' values were left out, in other words, if in the correlations exercise we left out those situations without any collective bargaining practice (occurring only in ICT) or multi-employer bargaining practice (occurring in all five industries). As the three right-hand columns show, this hardly caused differences with the earlier calculation. The signs remained positive, again, with the exception of transport and telecom.

Based on various sources we traced the employers' organisations involved in multi-employer bargaining (MEB) in the 23 countries and five industries at stake. Like for the trade unions, we found by far the largest number of employers' organisations in transport and telecom (220), though even this may not be the full picture.[33] Only in Ireland and Romania we did not trace an employers' organisation involved in MEB in transport and telecom. Concerning the other industries, we found 81 employers' organisations involved in MEB in metal and electronincs manufacturing (not in Ireland and Romania); 87 in wholesale and 104 in retail (in both industries again not in Ireland and Romania), but only 16 in ICT (not in 14 countries[34]). Our research confirmed that Italy is home to a large amount of employers' organisations; we found them in particular in transport and telecom (49), retail (29) and wholesale (26). We traced considerable amounts as well in the Netherlands, notably in retail (32) and metal and electronics manufacturing (18) with separate employers' organisations bargaining in sub-sectors, and in France, particularly in transport and telecom (22) and metal and electronics manufacturing (15) (see Table A1.8).

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33 We based ourselves on six (out of possibly 10) sub-sectors covered by Eurofound's Representativeness Studies: ports (2016); road transport and logistics (2015); maritime transport (2016); civil aviation (2010); post & courier services (2008); telecom (2007), while updating information concerning the latter three sub-sectors. We left out: sea fisheries (2012); inland water transport (2009/10); sea and coastal water transport (2008). No Eurofound study covered warehousing.

34 Bulgaria, Czech Republic, Estonia, Ireland, Italy, Latvia, Lithuania, Poland, Portugal, Romania, Slovenia, Spain, Sweden, and the UK.

Table 4.2B shows that the number of employers' organisations correlated positively with TUD (except for metal and electronics manufacturing), CBC and MEB, in particular strongly with MEB in retail, ICT and transport and telecom. All correlation coefficients reached (much) higher levels than the similar correlations for the number of trade unions. Again, we tested the assumption whether the evidence might change if the '0' values were left out, and again the results hardly differed except one outcome, that is, that on CBC in wholesale with a change in sign. Plainly, the rule 'the more employers' organisations, the higher bargaining coverage' dominates. Notably for retail and transport and telecom Eurofound's Representativeness Studies underpin that this outcome is mainly due to the widespread practice of separate employers' organisations without much overlap bargaining in different sub-sectors. We will return to these outcomes in Chapter 5 more generally, integrating them with our findings in section 2.5 on TUD, EOD and CBC at national level.

Table 4.2A Correlations between number of trade unions per industry, by industry and industrial relations characteristics, 2013-2015

		full sample			without '0' values		
		TUD	CBC	MEB	TUD	CBC	MEB
Metal and electronics manufacturing	Correlation	0.154	0.305	0.307	0.154	0.305	0.221
	N	23	22	21	23	22	16
Wholesale	Correlation	0.242	0.120	0.157	0.242	0.120	0.087
	N	23	19	18	23	19	11
Retail	Correlation	0.144	0.212	0.349	0.144	0.212	0.161
	N	23	20	18	23	20	11
ICT	Correlation	0.162	0.464	0.716	0.162	0.444	0.814
	N	10	15	12	10	10	6
Transport and telecom	Correlation	-.070	-.243	-.165	-.070	-.243	-.122
	N	23	23	23	23	23	15

Source: AIAS-WageIndicator Trade Union Database

Table 4.2B Correlations between number of employers' organisations per industry, by industry and industrial relations characteristics, 2015

		full sample			without '0' values		
		TUD	CBC	MEB	TUD	CBC	MEB
Metal and electronics manufacturing	Correlation	-.084	0.382	0.493	-.143	0.383	0.384
	N	23	22	21	20	19	16
Wholesale	Correlation	0.256	0.243	0.241	0.238	-.010	0.269
	N	23	19	18	21	16	11
Retail	Correlation	0.158	0.367	0.505	0.149	0.401	0.386
	N	23	20	18	21	18	11
ICT	Correlation	0.344	0.253	0.849	0.162	0.464	0.717
	N	10	15	12	10	9	7
Transport and telecom	Correlation	0.432	0.586	0.616	0.387	0.637	0.467
	N	23	23	23	21	21	15

Source: see Table A1.8.

We also checked whether the numbers of trade unions and employers' organisations were mutually correlated (though the time basis of both samples does not fully correspond). For four industries we found positive correlations, indicating that a relatively large number of unions connected with a relatively large number of employers' organisations. This was most strongly the case for metal and electronics (R=0.489) and ICT (R=0.441), and more modestly for wholesale (R=0.190) and retail

(*R*=0.233). Again, for transport and telecom the relationship was, though weak, inverse (*R*=-.055).[35] Thus, except for the latter industry a higher number of trade unions corresponded with a higher number of employers' organisations.

4.4 The management – trade union relationship

As indicated, we used the management – trade union relationship (MAN-TU-relationship) of the five largest companies in the each country/industry cell in terms of employment as our fourth indicator to arrive at an assessment of the opportunities for strengthening or restoring collective bargaining.

The WIBAR-3 research team selected the five largest companies in terms of employment in each country/industry cell, for which companies the team traced employment figures for 2012, 2013 and 2014[36] and the relationship between management and trade unions. This relationship has been rated from 5 'Very cooperative' to 1 'Non existent' and 2 'Non cooperative' (See Box below for criteria). When calculating the outcomes, the ratings '1' and '2' (which in practice proved difficult to separate) were combined and counted as 1.5 points, '3' as 3 points, '4' as 4 points, and '5' as 5 points. Thus, the last part of our database holds data for 115 times 5 or 575 companies on employment and the relationship between management and trade unions.

For various reasons we chose in an early stage an assessment of the largest five employers in each country/industry cell as a major entry for our research. First, their sheer importance for employment should be noted. In 2014 these 575 companies employed 8.26 million out of nearly 49.4 million employees in the five industries and 23 countries (cf. Table A6.5), or exactly one in six (16.7%). In 2012 the same 575 companies employed 8.13 million, implying that they grew 1.7% between 2012 and 2014. Table A6.2 adds that in the three sub-sectors scrutinized more closely (automotive industry, supermarkets and department stores, telecom) the average share of companies ranking among the largest five in the wider industries was around 50%, and in quite some countries even considerably higher.[37] Second, in many industries large companies are leading in quite some fields: innovation, technological change, product strategy, marketing, location decisions (including offshoring), the shaping of work organisation, and HRM strategies and practices. This is definitely the case if a few large companies dominate the industry in question and exert major influence on prices and other market parameters, including wages (the price of labour) and conditions of employment. In majorities of cases MNEs may be among these so-called oligopolies, as our data on ownership category confirmed for four of five industries (Table A6.3). In section 2.6 we already covered based on a brief literature review the relationship between MNEs on the one hand and industrial relations and collective bargaining on the other. While

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35 Leaving out the '0' values led to marginal differences in outcomes: *R*=0.489 (Metal and electronics manufacturing, N=21); *R*=0.190 (wholesale, N=20); *R*=0.233 (retail, N=21); *R*=.435 (ICT, N=6); *R*=-.055 (transport and telecom, N=21).

36 Including, if relevant, the number of employees in the (ultimate) parent company for 2012, 2013 and 2014.

37 Admittedly, in much of the following five is a rather arbitrary figure, but of course we could not avoid to choose a certain number.

overseeing these arguments, to put it negatively, (re)building multi-employer bargaining may be assessed as difficult if management and unions related to large firms and in particular MNEs do not find a basis of mutual trust and contact, albeit rather business-like. However, as a more positive approach one may depart from the outcomes of our WIBAR-2 project for which we called attention in the same section. Based on *WageIndicator* data for nine EU countries[38] covering 2006-2011 we found that on three important indicators, namely, TUD, CBC and the incidence of workplace employee representation MNEs showed higher scores than domestic firms.

Eight members of the WIBAR-3 research team, based on the three participating institutes, were involved in mapping the prevailing bargaining structures and practices by industry, including looking after employment data and rating the companies according to their management – trade union relationship. To this end, a multitude of written sources was used, including the monthly AIAS-ETUI Collective Bargaining Newsletter, as well as information gathered through interviewing experts/trade union negotiators using a web-based form with questions for each industry/country. As the IR survey was undertaken in July 2015-April 2016, the information presented basically reflects the situation in 2015 and the first months of 2016 though wherever possible developments and events in the three preceding years 2012, 2013 and 2014 have also been considered.

BOX
CRITERIA FOR RATING THE MANAGEMENT – TRADE UNION RELATIONSHIP

Preliminary remarks:
- if a subsidiary of a foreign MNE is involved, the answer basically concerns the relationship with local management
- in countries where Works Councils exist, answers combining the relationship with both trade unions and works council(s) may be relevant

The criteria used were the following:

1. *Non-existent:*
- no contacts management – trade union(s) whatsoever

2. *Non-cooperative:*
- management explicitly refuses to negotiate CLA
- management agrees on quite minimal CLA
- management allows trade unions less room than laid down in labour law and / or CLA (low compliance rate)
- strike(s) happened in 2012-2015, relationship remains full of tensions
- major tensions in 2012-2015, also in the absence of strike(s)

3. *Purely business-like:*
- management negotiates / agree on 'regular' CLA, without extras
- management does not allow unions more room than laid down in labour law and / or CLA
- if strike(s) happened in 2012-2015, relationships normalized afterwards

4. *Cooperative:*

[38] Belgium, Czech Republic, Finland, Germany, Netherlands, Poland, Spain, Sweden, United Kingdom.

- management negotiates / agrees on CLA with above-average wage increase and/or other extras
- management explicitly allows unions more room than laid down in labour law and / or CLA
- if strike(s) happened in 2012-2015, relationships improved afterwards

5. Very cooperative

- same criteria as 4 but more clearly marked (agreements and/or statements)

Our first analysis was *at the level of country/industry combinations (cells),* with averages calculated for these values in the cells. This regarded 23*5 or 115 cells, for which we tried to trace data on trade union density (TUD), collective bargaining coverage (CBC) and the share of industry agreements in bargaining coverage (MEB). In total we looked for 115*3 or 345 values. It should be noted that this is uncharted territory and to our knowledge has not been covered by other recent research. Nevertheless, based on various external sources and *WageIndicator* survey outcomes we found 293 values, or 85% of our target. Most problems in finding TUD, CBC and MEB occurred in the ICT industry, where nearly half (32 of 69) of the values could not be found. By contrast, for transport and telecom we were able to find all the values and for metal and electronics manufacturing we only lacked three. For the retail industry we were not able to find eight values (11.5%), and for the wholesale industry nine (13%) (see Table A6.1). As said, for the management-trade union relationship we focused on average ratings per country/industry cell based on the 575 ratings for individual companies: see Table 4.4.

To what extent then are the four industrial relations characteristics related? For three of the four the findings were clear and straightforward:

- the higher the bargaining coverage, the higher trade union density;
- the higher the bargaining coverage, the higher the share of multi-employer bargaining.
- the higher trade union density, the higher the share of employees covered by industry agreement.

For the averaged management-trade union relationship we encountered a similar, although not that strong, relationship with any of the other three indicators. The higher the relationship is rated, the higher the trade union density. The correlations of the management-trade union relationship with bargaining coverage and with multi-employer bargaining were also positive but not significant. Table 4.3 (next page) provides the statistical evidence.

Table 4.2 Correlations between the four industrial relations characteristics for the 115 cells (country/industry combinations), 2015

		TUD	CBC	MEB
Pearson Correlation	MAN-TU relationship, mean in 5 largest companies	.205	.162	.073
Sig. (2-tailed)		.040	.107	.505
N		101	100	86
Pearson Correlation	TUD		.398	.373
Sig. (2-tailed)			.000	.001
N			101	83
Pearson Correlation	CBC			.813
Sig. (2-tailed)				.000
N				86

Source: WIBAR-3 IR survey

We now dig into the evidence concerning the management – trade union relationship *for the individual companies.* For these and subsequent calculations, we have combined data for wholesale and retail under the label 'commerce' for the reasons explained in Chapter 1. The exception is Table 4.4 (next page) where we present both overall commerce and separate wholesale and retail figures. This table shows the country/industry cells with average ratings for five, 10 (for commerce) and 25 (overall) companies. As for other industries, the outcomes can be somewhat surprising. For the 23 countries overall the management – trade union relationship was highest rated in transport and telecom (3.15 averaged), followed by metal and electronics manufacturing (3.11 averaged). The ratings gap found for the two other industries was quite large since this relationship averaged 2.85 for commerce (2.89 for wholesale, 2.81 for retail) whilst by far the poorest relationship was found in the ICT industry (2.64).

At first sight, a superficial comparison of these outcomes with the employment figures discussed in section 3.2 seems rather disquieting for the trade union movement. Metal and electronics and transport and telecom, the industries where employment has been declining, showed the highest management –union relationship ratings. By contrast for commerce and ICT, where employment has generally been growing, much lower ratings were recorded. However, these seemingly obvious relations may be subject to composition effects and thus deserve closer scrutiny. We will return to the employment – union-management relationship nexus in section 4.6.

Table 4.4 also reveals that for four of five industries – namely, metal and electronics manufacturing, wholesale, retail and ICT-- the averages for the W/N/S European countries were higher than those for the CEE countries. The opposite was the case for transport and telecom. In the latter industry relatively high ratings (averaged 3.00 or higher) prevailed in eight out of 10 CEE countries, against inseven out of 13 W/N/S European countries. In metal and electronics, 11 W/N/S European countries and five CEE countries showed such ratings. In commerce and ICT the differences were even sharper, with seven against three relatively high averages in commerce and six against one (Hungary) in the ICT industry. Though the respective total averages for wholesale and retail were close, for most countries the average ratings for both industries varied considerably, in 13 cases by 0.50 points or more. A majority of eight W/N/S European countries showed higher averages for wholesale, whereas the reverse picture was the case for the CEE countries with retail scoring higher in six cases.

For individual countries, Denmark at 3.50 clearly recorded the highest average rating, followed by Slovenia (3.32), with Sweden and Latvia (3.22) jointly in third place and Spain and Hungary (3.18) next. The Czech Republic (3.14), Austria and the Netherlands (both 3.10) and Finland (3.02) could also be found in the upper half of the average ratings distribution. On average the lowest ratings were found for Lithuania (2.10), Estonia (2.46) and Portugal (2.52). Overall, the within-country variation in ratings as indicated by the standard deviation figures in the most right-hand column was considerably higher in the CEE countries than in W/N/S European countries. For Portugal the low standard deviation figure indicates company ratings that were consistently low whereas in Italy, Latvia, Lithuania, Poland, Slovakia and Slovenia the ratings showed substantial variation across industries, even where the overall outcome was low as in Lithuania and Slovakia. It may be noted that the average rating for the nine countries and four industries (excluding wholesale) overlapping with those covered by the WIBAR-2 project, was 3.04.

Table 4.4 Management - trade union relationship by country and industry, averages per cell, 2015

	metal & electr.	commerce			ICT	transpo rt & tel.	Total	*Std. deviation*
		total	wholes.	retail				
No. per cell	**5**	**10**	**5**	**5**	**5**	**5**	**25**	
Austria	3.40	2.90	2.90	2.90	3.60	2.70	3.10	*0.75*
Belgium	3.40	2.90	3.20	2.60	2.60	3.10	2.98	*0.87*
Denmark	3.30	3.80	4.00	3.60	3.60	3.00	3.50	*0.71*
Finland	2.90	3.10	2.60	3.60	2.90	3.10	3.02	*0.90*
France	3.40	3.05	3.40	2.70	2.70	2.70	2.98	*0.67*
Germany	3.60	2.65	2.90	2.40	2.60	2.70	2.84	*0.86*
Ireland	3.00	2.40	2.10	2.70	3.00	3.10	2.78	*0.71*
Italy	1.80	3.30	2.80	3.80	3.20	2.70	2.86	*1.05*
Netherlands	3.40	3.15	3.40	2.90	2.90	2.90	3.10	*0.75*
Portugal	3.00	2.10	2.40	1.80	2.40	3.00	2.52	*0.71*
Spain	3.20	3.20	3.60	2.80	3.20	3.10	3.18	*0.79*
Sweden	3.60	3.10	3.00	3.20	3.40	2.90	3.22	*0.85*
UK	3.40	2.95	3.20	2.70	2.40	3.10	2.96	*0.76*
Total 13 W/N/S	**3.18**	**2.97**	**3.04**	**2.90**	**2.96**	**2.93**	**3.00**	***0.82***
Bulgaria	2.90	2.80	3.20	2.40	2.80	2.60	2.78	*0.90*
Czech Rep.	3.40	3.25	3.40	3.10	2.40	3.40	3.14	*0.77*
Estonia	2.40	2.35	2.20	2.50	1.80	3.40	2.46	*0.97*
Hungary	3.60	2.75	2.70	2.80	3.40	3.40	3.18	*0.84*
Latvia	2.50	3.50	3.70	3.30	2.90	3.70	3.22	*1.39*
Lithuania	2.20	1.65	1.50	1.80	1.80	3.20	2.10	*1.16*
Poland	3.40	2.25	1.80	2.70	1.50	4.40	2.76	*1.23*
Romania	2.70	2.80	2.90	2.70	1.80	2.60	2.54	*0.84*
Slovakia	3.60	2.25	2.00	2.50	1.80	3.40	2.66	*1.12*
Slovenia	3.60	3.40	3.60	3.20	2.00	4.20	3.32	*1.15*
Tot. 10 CEE	**3.03**	**2.70**	**2.70**	**2.70**	**2.22**	**3.43**	**2.82**	***1.10***
Tot. 23 c.	**3.11**	**2.85**	**2.89**	**2.81**	**2.64**	**3.15**	**2.92**	***0.96***
Std. Deviation	**0.82**	**0.99**	**0.97**	**0.99**	**0.98**	**0.92**	**0.96**	

Source: WIBAR-3 IR Survey, N=575

4.5 Industrial relations and ownership categories

The question arises as to whether the management – trade union relationship might show up differently for the four ownership categories we introduced in section 3.3, namely, foreign-owned MNEs, home-based MNEs, state-owned firms and domestic firms. Before answering that question, we return to the division of ownership categories over the 575 companies scrutinized. In section 3.3 we noted that in 2014 they jointly employed 8.26 million, an average of 14,371 employees per company. As Table 4.5A will show, foreign-owned MNEs accounted for 289 of 575 companies, or a small majority of 50.3%. However, according to the combined AIAS MNE database and the IR survey they jointly employed 1.98 million in 2014, implying a share in all employed of only 23.9% and an average size of 6,838 employees. The table confirms the dominance of foreign-owned MNEs in terms of the amount of companies in the ICT industry (71%) and metal and electronics manufacturing (over 61%). Their presence was less prominent in commerce (47%) and transport and telecom (24%).

The home-based MNEs showed a distinctly other picture. While counting 162 of 575 or 28.2%, they employed just over 4.4 million making up a share of 53.3% and had an average per company of no less than 27,192 employees.[39] In three of four industries the shares of home-based MNEs hovered around 30% in numbers whereas in the ICT industry it remained below 20%. In particular the large subsidiaries of German and French MNEs in both home countries contributed to the impressive average size in this category. The state-owned firms were 70 (9.4%) in number but with 1.37 million employed or 16.6% their average size (25,407 employees) was also considerable. In transport and telecom this category appeared most frequently, making up 43% in numbers and with large post and telecom firms lifting the average size considerably. Finally, the 70 domestic firms among the 575 companies (12.2%) employed just over half a million (509,000), implying a share of 6.2% in employment and a relatively modest average size (7,282 employees). Overall, domestic firms were found to be rather scarce and with 21% showed a substantial presence only in commerce.

Three tables present the outcomes for combinations of ownership categories and industries as well as the ratings on the management – trade union relationship for the 575 companies. Table 4.5A shows the distribution of companies over the four ownership categories and four industries, Table 4.5B the average ratings per category / industry cell, and Table 4.5C shows the distribution over the rating categories 1-2, 3, 4 and 5. The average ratings were clearly highest for the state-owned firms (3.48), though it should again be emphasized that the incidence of this category was almost completely limited to transport and telecom. Overall the home-based MNEs came second (averaged 2.93), followed by the domestic firms (2.89) and the foreign-owned MNEs closed the ranks (2.81). Across industries the differences in ranking order were substantial. In metals and electronics manufacturing the management – trade union relationship for the home-based MNEs was rated highest, in commerce and ICT this was the case for domestic

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[39] In comparison with our estimates for the overall employment shares of MNEs in the 23 countries and five industries (section 3.4), foreign-owned MNEs were slightly overrepresented in the top 5 ranks (24% versus 22%) whereas home-based MNE subsidiaries were clearly overrepresented among the top 5 companies (53% versus 15%). This last finding points to massive economic concentration in most countries.

firms, and in transport and telecom for state-owned firms followed by home-based MNEs. In three industries the relationship was on average rated higher in home-based MNEs, but not in the commerce sector.

Again, we calculated average ratings for the nine countries and the four industries (excluding wholesale) similar to those covered by the WIBAR-2 project, now specified for the four ownership categories. The outcomes were respectively 2.81 for foreign-owned MNEs, 3.14 for home-based MNEs, 3.59 for state-owned firms, and 3.35 for (only 10) domestic firms. Whereas the average rating for foreign-owned MNEs were at exactly the same level as that for 23 countries and five industries, the average ratings for the other three categories ended up considerably higher than the overall averages. It should be noted that the average sizes in this sub-sample composed like the WIBAR-2 sample differed substantially from those in our total sample: now the foreign-owned companies averaged 9,947 employees, the home-based MNE subsidiaries no less than 55,622 employees, the domestic firms averaged 11,955 whereas with 20,669 employees averaged the state-owned firms were somewhat less large than in our 'regular' sample.

Table 4.5A Distribution of ownership categories over industries, 2015

	metal and electr. man.		commerce		ICT		transport & telecom		TOTAL	
	N	%	N	%	N	%	N	%	N	%
Foreign-owned MNE	71	*61.7*	108	*47.0*	82	*71.3*	28	*24.3*	289	*50.3*
Home-based MNE	35	*30.4*	73	*31.7*	22	*19.1*	32	*27.8*	162	*28.2*
State-owned firm	0	*0*	0	*0*	3	*2.6*	51	*44.3*	54	*9.4*
Domestic firm	9	*7.8*	49	*21.3*	8	*7.0*	4	*3.5*	70	*12.2*
TOTAL	**115**	***100.0***	**230**	***100.0***	**115**	***100.0***	**115**	***100.0***	**575**	***100.0***

Source: WIBAR-3 IR survey, N=575

Table 4.5B Management - trade union relationship by ownership category and industry, averages per cell, 2015

	metal and electr. man.	commerce	ICT	transport & telecom	TOTAL	Std. Deviation
Foreign-owned MNE	3.10	2.83	2.51	2.91	**2.81**	0.90
Home-based MNE	3.31	2.77	2.70	3.02	**2.93**	0.93
State-owned firm	0	0	(4.67)	3.41	**3.48**	0.97
Domestic firm	(2.39)	2.99	(3.00)	(2.50)	**2.89**	1.07
TOTAL	**3.11**	**2.85**	**2.64**	**3.15**	**2.92**	0.96
Std. Deviation	0.82	0.99	0.98	0.92	0.96	

Source: WIBAR-3 IR survey, N=575; () = based on less than 10 observations

Table 4.5C Management - trade union relationship by ownership category and industry, numbers by rating categories, 2015

	metal and electr. man.					commerce					ICT					transport & telecom					TOTAL				
	1/2	3	4	5	T	1/2	3	4	5	T	1/2	3	4	5	T	1/2	3	4	5	T	1/2	3	4	5	T
Foreign-owned MNE	8	45	17	1	71	31	50	26	1	108	34	37	11	0	82	5	19	3	1	30	78	151	57	3	289
Home-based MNE	4	14	17	0	35	23	34	14	2	73	7	11	4	0	22	5	20	6	1	28	39	79	41	3	62
State-owned firm	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	6	20	20	5	41	6	20	21	7	54
Domestic firm	5	2	2	0	9	13	20	13	3	49	2	3	3	0	8	2	1	1	0	3	22	26	19	3	70
TOTAL	17	61	36	1	115	67	104	53	6	230	43	51	19	2	115	18	60	30	7	115	145	276	138	16	575

Source: WIBAR-3 IR survey, N=575

Following the body of research referred to in Chapter 2 we now look at the management – trade union relationship for MNEs comparing their respective home countries (countries of origin). We have limited the detailed comparison to the nine home countries with the largest numbers of companies in our sample (eight EU member states and the US): see Table 4.6. We have grouped companies based in other countries either as 'the other 15 of the 23 countries' under scrutiny; or 'other European countries' or as 'outside Europe except US'. The column 'total' shows that (MNEs from) the Netherlands –though limited in number-- had the highest overall average rating (3.53), followed by Sweden and at some distance by Denmark, Spain and Finland, with Germany (2.91) and France (2.82), the two countries contributing the largest numbers of MNEs and subsidiaries bringing up the rear. UK-based companies also came out with a rather low score (2.84). MNEs based in the other 15 of 'our' 23 countries had a quite low rating (2.51 averaged), though this group had a relatively large standard deviation (not shown), implying that across MNEs here the management – union relationship ratings varied widely. At 2.53, the US-based firms showed the second-lowest average. This result of the American group –the third in numbers after the German and French MNEs-- may not be that surprising for students of industrial relations in MNEs (cf. Van Klaveren *et al.* 2013a, 38), but the gap with the average ratings of MNEs from other countries of origin may be seen as being unexpectedly wide. By contrast, the average rating for companies based in European countries outside 'the 23' looks surprisingly high.

It is also interesting to trace the average management – trade union relationship scores of MNEs based in the 23 countries covered in their home countries in comparison with the averages for subsidiaries (affiliates) abroad: see the two main right-hand columns of Table 4.6.[40] Averaged respectively at 2.93 and 2.83, the ratings for the MNEs based on the 23 countries in their home countries were higher than for their subsidiaries abroad. Whilst the mutual differences varied across home countries, the reader should keep in mind that for most countries the number of observations remain limited. Closer scrutiny reveals that Danish, French, Spanish, Swedish and British MNEs had a higher average rating at home whereas Dutch MNEs did better abroad. The average scores for German firms, contributing by far the largest amounts of subsidiaries abroad, hardly differed, neither did those for Finnish MNEs. Concerning MNEs based in the other 15 EU countries the right-hand columns show that the average for their subsidiaries abroad were quite low (2.21), even lower than the average found for US-based MNEs.

40 This is a statistical comparison only partly relating to the same companies home and abroad. Only 34 MNEs were included with ratings both in their home countries (implying being registered among the five largest companies in one of 23 countries as 'home') and in at least one country abroad: see the end of this section.

Table 4.6 Management – trade union relationship in MNE subsidiaries by home country, 2015

	Total		In home country		abroad	
Home country	N	mean	N	mean	N	mean
Denmark	14	3.11	9	3.67	5	2.10
Finland	19	3.03	13	3.04	6	3.00
France	63	2.82	18	3.00	45	2.74
Germany	93	2.91	19	2.89	74	2.92
Netherlands	17	3.53	8	3.38	9	3.67
Spain	13	3.08	12	3.08	1	3.00
Sweden	25	3.26	9	3.56	16	3.09
United Kingdom	22	2.84	11	3.05	11	2.64
Other 15 of 23 c.*)	80	2.51	63	2.60	17	2.21
Total 23 countries	**346**	**2.87**	**162**	**2.93**	**184**	**2.83**
Other European countries**)	23	3.30				
United States	56	2.53				
Outside Europe except US***)	26	2.90				
TOTAL	**451**	**2.85**				

Source: WIBAR-3 IR survey, N=451

*) Austria (total 7), Belgium (8), Bulgaria (2), Czech Republic (4), Estonia (5), Hungary (5), Ireland (10), Italy (6), Latvia (2), Lithuania (8), Poland (8), Portugal (8), Romania (1), Slovakia (1), Slovenia (5).

**) Croatia (3), Greece (1), Luxembourg (3), Norway (2), Russian Federation (3), Serbia (1), Switzerland (9), Ukraine (1).

***) Brazil (1), Canada (6), China (5), India (2), Japan (6), South Korea (2), Philippines (1), South Africa (2), United Arab Emirates (1).

Note: on behalf of this tabulation, we used the following classification for companies with shared ownership across countries: ABB (CH/SE) under CH; Air France/KLM (FR/NL) under FR; Celesio AG (DE)/McKesson (US) under DE; COWI Group (DK/SE) under DK; PostNord (SE/DK) under SE; SAS (DK/NO/SE) under DK; TeliaSonera (SE/FI) under SE.

Table 4.7 (next page) shows the management - union relationship scores and their division across countries for 23 major MNEs, that is, for those MNEs in our database to be found in the 'top-5' of the respective countries and industries *in at least four* of 23 countries.[41] Our information covered 157 subsidiaries of these 23 firms. The overall outcome (averaged 2.84) was a fraction lower than the average for all MNEs –foreign-owned and home-based—covered by our survey (2.85). Clearly, the average ratings for the three MNEs in metal and electronics manufacturing –all three Germany-based— were relatively high, higher also than the industry average. Six of eight MNEs in commerce showed average ratings above the industry average; only the averages for the German-based discounters Aldi and Lidl (Schwarz Gruppe) were clearly below that average, and were at the same time the lowest rates of all 23 companies. Additional information on industrial practices of the two discounters in countries where they not yet belonged to the top-5 employers, confirm this position.[42] Yet, trade union negotiators argued in the WIBAR-3 Amsterdam seminar that even in Aldi and Lidl they experienced differences across countries in management approaches towards unionism and in

41 Thus, the countries included in Table 4.7 do not necessarily represent all countries in which these companies were active in 2015.

42 For example, in the UK the USDAW union has negotiated CLAs with supermarket chains such as Tesco and Co-operative Group but has not been recognised at Aldi and Lidl (and at Asda and Waitrose)(information D. Gregory).

human relations practices, obviously underpinning the variation in scores visible in Table 4.7.

Table 4.7 Management – trade union relationship in selected MNE subsidiaries (foreign-owned and home-based) by home country, 2015

	Rating 1-2	Rating 3	Rating 4	No. Countr.	Mean rank.
Metal and electronics manufacturing					
Robert Bosch (DE)		AT, CZ, PT	**DE**, HU	5	3.40
Siemens (DE)		**DE,** HU, PT, UK	CZ, DK	6	3.33
Volkswagen (DE)		HU, PT, SE	BE, CZ, **DE,** PL, ES, SK	9	3.67
Industry average					3.11
Commerce					
Aldi (DE)	AT, BE, PT, **DE**	IE	SI	6	2.17
Auchan FR)	PT	**FR,** PL, RO	HU	5	2.90
Carrefour (FR)		AT, BG, **FR,** IT, RO	PL	6	3.17
ICA Gruppen (SE)	EE	EE, LT	LV, **SE**	4	3.10
Lidl (Schwarz Gruppe) (DE)	BE, **DE,** BG(2x), CZ, SK(2x), RO, SI	AT, FI, HU, IE		11	1.96
Metro Group (DE)	PT	AT, BE, BG, CZ, FR, HU, IT, PL, RO, **DE (2x)**	NL, ES, SK	14	3.10
REWE (DE)	LT	AT (2x), BG, CZ, **DE,** RO	SK	7	2.94
Tesco (UK)	HU	CZ, IE, PL, **UK**	SK	6	2.92
Industry average					2.85
ICT					
Accenture (IE)	LV, RO, UK	ES, NL, CZ		6	2.75
Atos (FR)		DE**, FR**	AT, NL	4	3.50
Capgemini (FR)	DE**, FR**, UK	AT, NL, PL, ES		7	2.36
CGI (CA)	EE	FI, FR, SE	DK	5	2.90
Hewlett-Packard (US)	BE, BG, CZ, DE, HU, RO	IE, IT, NL		9	2.33
IBM (US)	BG, SK, SI	CZ, FR, ES, SE, UK, IE	DK, HU	11	2.77
Microsoft (US)	FI	EE, IE, PT, RO, UK		6	2.75
SAP (DE)		HU	AT, BG, **DE**	4	3.75
Tieto (FI)	CZ, LV	**FI**	SE	4	2.50
Industry average					2.64
Transport and telecom					
Deutsche Telekom (DE)	RO, SK	CZ, **DE,** SK	HU (2x)	6	2.86
Orange (FR)		AT, **FR,** PL, RO, SK		5	3.00
TeliaSonera (SE/FI)		DK, EE, **FI**	**SE**, LT	5	3.40
Industry average					3.15
Total					
23 MNEs with 157 subsidiaries	39	85	33		2.84
Average all MNEs (N=451)					2.85
Average all companies rated (N=575)					2.92

Source: WIBAR-3 IR survey
Bold = home country

In the ICT industry, three of nine MNEs remained below the (low) industry average: France-based Capgemini, US-based Hewlett-Packard and the Finnish ICT firm Tieto. However, only the averages for the ICT MNEs Atos (French) and SAP (German) survived when taking the higher average (2.92) for all companies rated as a yardstick. In transport and telecom only the average rating for Swedish-Finnish TeliaSonera was above the industry average, the other two firms remained below that average.

Interestingly, the within-company variation of the management-trade union ratings was rather high for a number of companies, where ratings in all three categories (we found no '5's) were shown. In commerce this was particularly the case for MNEs with rather low averages (Auchan, REWE and Tesco), but at a higher level was also true for Metro Group. The latter outcomes confirm the variation across countries in industrial relations practices of these MNEs noted by union negotiators participating in the WIBAR-3 seminars. In this respect it is also relevant to note that at an average of 3.02 the rating in their home countries of the 18 MNEs based in European countries was higher than their overall average and, of course, their average rating abroad (2.92, over exactly 100 subsidiaries). For a second group of 16 MNEs, that we found to be in the employment 'top-5' *in less than four* of 23 countries, the outcomes were just the opposite, with a considerable higher average score (2.95) for their 21 subsidiaries abroad than their average rating at home (2.76).[43] As a result, for the 34 MNEs overall where a direct comparison between management-trade union ratings home and abroad was possible, the average scores hardly differed: 2.91 for their home-country subsidiaries and 2.93 for those abroad. Nevertheless, the underlying variation within companies and across countries was substantial, in particular in the commerce and ICT industries. We will return to these outcomes in Chapter 5.

One of our research objectives was to examine whether the relationship between the share of employment of the five largest companies in the respective countries/industries and the four industrial relationship characteristics was different for the four ownership categories. As Table 4.8 (next page) indicates, differences did indeed show up. We found that the larger the employment shares of home-based MNE subsidiaries and domestic firms in the five largest companies, the higher the trade union density. For foreign-owned MNEs and state-owned firms we found a similar positive relationship though at a lower significance level. For state-owned firms we also found a positive relationship between their employment share and MEB, whereas this relationship was negative for domestic firms. Remarkably, collective bargaining coverage did not show up as related to the employment shares of the five largest companies. Similarly, the employment

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43 These 16 MNEs were: in metal and electronics manufacturing: ABB (CH/SE), Ericsson (SE); in commerce: Ahold (NL), CBA (HU), Delhaize (BE), DIA (ES), Globus (DE), H&M (SE), IKEA (SE), Maxima Grupe (LT), S-Group (FI), Sonepar (FR); in ICT: Asseco (PL); in transport and telecom: Altice (FR), International Airlines Group (IAG), Schenker/DB (DE). The amount of MNEs in this category remains limited in particular as some MNEs active in various of 23 countries did not qualify for the 'top-5' in their respective home countries. It may be added that these 16 MNEs were on average smaller (averaged 130,030 employees in 2014, with six employing over 100,000) than the 18 Europe-based MNEs more widely active in the 23 countries (averaged 241,600 employees, 13 larger than 100,000 employees).

shares did not reveal any correlation with the management-trade union relationship for any of the ownership categories.

Table 4.8 Correlations between employment shares of the five largest companies in total by ownership category and industrial relations characteristics, 2014 -- 2015

		Mean relationship MAN-TU in 5 largest companies	TUD	CBC	MEB
Foreign-owned MNE	Correlation	-.049	0.187**	0.014	0.026
	N	289	239	240	200
Home-based MNE	Correlation	-.030	0.327***	-.005	-.043
	N	162	150	154	136
State-owned firm	Correlation	-.095	0.270*	.128	0.235*
	N	54	51	51	51
Domestic firm	Correlation	0.086	0.511***	-.056	-.362*
	N	70	65	55	43
Total	Correlation	0.044	0.285***	0.009	-.031
	N	575	505	500	430

Source: WIBAR-3 IR survey
Note: (*) significant at 10% (**) significant at 5% (***) significant at 1%

4.6 Industrial relations and company size

It is also relevant to look at the management - union relationship scores in connection with 'company size', that is, the numbers of employees of the companies scrutinized. We undertook this analysis at two levels: that of single companies or subsidiaries (affiliates), and that of (ultimate) parent companies. First, we analysed the size of the companies (for state-owned and domestic firms) or subsidiaries (affiliates) within countries (for foreign-owned and home-based MNEs[44]) measured by numbers of employees[45]. For this, we divided the respective companies / subsidiaries into three employment size categories for 2014, namely: 'smaller than or equal to 1,000 employees'; '1,001-5,000 employees', and 'more than 5,000 employees'. Table 4.9A (next page) shows the distribution of the three size categories over *the four ownership categories*. The table reveals that the size distributions for the affiliates of foreign MNEs and the domestic firms were rather similar, with the shares of companies / subsidiaries with more than 5,000 employees respectively at 32% and 36%. Large domestic firms could be found in particular in the Scandinavian countries, Italy and the UK. In line with the average company sizes presented in the preceding section, the share of such large companies was much higher among the home-based MNEs (67%), notably due to large subsidiaries in Germany and France. Not surprisingly, the state-owned companies came first in this respect with 76%

44 We defined the total of employees working for a multinational enterprise in a certain country in the same industry as work for one subsidiary (affiliate), similarly if they were employed in various establishments in that country (like in extremis in many supermarkets belonging to one retail chain). That said, subsidiaries have been counted separately if a MNE owned subsidiaries in different industries in one country, as in the case of Metro Group in retail and wholesale (see for a more extensive explanation Van Klaveren *et al.* 2013a, Chapter 2).

45 As far as possible (and indicated in the sources used) we have used headcounts and not FTEs.

employing over 5,000. State companies remained below the 5,000-mark only in relatively small economies like the Baltic countries, Portugal and Slovenia. Overall the largest size category dominated, with 269 (46.8%) employing over 5,000, whereas 104 (18.1%) of 575 companies / subsidiaries employed 1,000 of less.

Table 4.9B presents the results of our analysis of the linkage between ownership category, employment size at the company/subsidiary level and the management – trade union relationship. Except for the state-owned firms, a clear-cut relationship shows up: the larger the company in terms of employment, the higher the average ratings for management – union relationship. Obviously, 'size' matters here. This was most clearly the case for the domestic firms. The limited numbers of smaller state-owned firms have to be taken into account when considering the outcomes for this ownership category.

Table 4.9A Distribution of company / subsidiary employment size by ownership categories, 2014

	foreign MNE		home-based MNE		state-owned firm		domestic firm		TOTAL	
	N	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
=< 1000	59	*20.4*	18	*11.1*	6	*11.1*	21	*30.0*	104	*18.1*
1001-5000	136	*47.1*	35	*21.6*	7	*13.0*	24	*34.3*	202	*35.1*
> 5000	94	*32.5*	109	*62.3*	41	*75.0*	25	*35.7*	269	*46.8*
TOTAL	**289**	***100.0***	**162**	***100.0***	**54**	***100.0***	**70**	***100.0***	**575**	***100.0***

Source: WIBAR-3 IR Survey, N=575

Table 4.9B Management - trade union relationship by company / subsidiary employment size and ownership category, averages per cell, 2014 – 2015

	foreign MNE	home-based MNE	state-owned firm	domestic firm	TOTAL
=< 1000	2.62	2.72	(4.00)	2.52	**2.70**
1001-5000	2.86	2.93	(3.71)	2.85	**2.90**
> 5000	2.87	2.96	3.37	3.22	**3.02**
TOTAL	**2.81**	**2.93**	**3.48**	**2.89**	**2.92**

Source: WIBAR-3 IR survey, N=575
Note: () = based on less than 10 observations

It is worthwhile analyzing the connection between employment size at the company/subsidiary level and the management - union relationship grouped *for the industries* as well. To this end, Tables 4.10A and 4.10B denote respectively the distribution of the three size categories over the industries and the average management – trade union relationship ratings per size category/industry. It should be noted that metal and electronics manufacturing and transport and telecom contained very few companies in the smallest size category. The outcomes showed up as being quite industry-specific. Overall, in metal and electronics manufacturing and (albeit with minimal difference) in commerce the largest category had the highest scores on management - union relationship, but in the ICT industry and in transport and telecom the middle-sized companies / subsidiaries came up with the highest scores. In the commerce sector the differences across size categories were smallest. Table 4.10C presents the detailed figures and provides some further differentiation. In commerce the relatively large amount of large companies / subsidiaries with '1-2' ratings attached (67 or 29%) was striking, though relatively speaking their share in ICT was even higher

(37%). In commerce the concentration of these low ratings among the largest sized was strongest (13%, against 9.5% overall).

Table 4.10A Distribution of company / subsidiary employment size by industry, 2014

	metal and electr. man.		commerce		ICT		transport & telecom		TOTAL	
	N	%	N	%	N	%	N	%	N	%
=< 1000	15	*13.0*	46	*20.0*	39	*33.9*	4	*3.5*	104	*18.1*
1001-5000	39	*33.9*	72	*31.3*	58	*50.4*	33	*28.7*	202	*35.1*
> 5000	61	*53.0*	112	*48.7*	18	*15.7*	78	*67.8*	269	*46.8*
TOTAL	115	*100.0*	230	*100.0*	115	*100.0*	115	*100.0*	575	*100.0*

Source: WIBAR-3 IR Survey, N=575

Table 4.10B Management - trade union relationship by company / subsidiary employment size and industry, averages per cell, 2014 – 2015

	metal and electr. man.	commerce	ICT	transport & telecom	TOTAL
=< 1000	2.47	2.79	2.59	(3.50)	**2.70**
1001-5000	3.12	2.85	2.68	3.14	**2.90**
> 5000	3.26	2.87	2.61	3.13	**3.02**
TOTAL	**3.11**	**2.85**	**2.64**	**3.15**	**2.92**

Source: WIBAR-3 IR survey, N=575
Note: () = based on less than 10 observations

Table 4.10C Management - trade union relationship by company / subsidiary employment size and industry, numbers by rating categories, 2014 – 2015

	metal and electr. man.					commerce					ICT					transport & telecom					TOTAL				
	1/2	3	4	5	T	1/2	3	4	5	T	1/2	3	4	5	T	1/2	3	4	5	T	1/2	3	4	5	T
=< 1000	8	4	2	1	15	15	20	9	2	46	18	12	7	2	39	0	2	2	0	4	41	38	20	5	104
1001-5000	3	27	9	0	39	22	29	20	1	72	19	29	10	0	58	5	18	8	2	33	49	103	47	3	202
> 5000	6	30	25	0	61	30	55	24	3	112	6	10	2	0	18	13	40	20	5	78	55	135	71	8	269
TOTAL	17	61	36	1	115	67	104	53	6	230	43	51	19	2	115	18	60	30	7	115	145	276	138	16	575

Source: WIBAR-3 IR survey, N=575

The second way to examine the management - union relationship scores in connection with 'size' is to look at the numbers of employees in the (ultimate) parent companies.[46] For this purpose we divided the respective employment sizes found for these companies in 2014 into three categories: MNE companies smaller than or equal to 100,000 employees; those with 100,001-250,000 employees, and those with more than 250,000 employees. Similar to the earlier Tables 4.9A and 4.9B, Tables 4.11A and 4.11B show respectively the distribution of the three MNE size categories over the industries and the average management – trade union relationship ratings per MNE size category/industry. This information covers 328 subsidiaries of MNEs controlling at least one subsidiary/affiliate in one of the 23 countries under scrutiny in the period 2012-2014.[47]

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46 These are the ultimate responsible or controlling MNEs. For example, according to this classification the parent firm of Tata Steel Nederland and Tata Steel UK is Tata Group, a huge India-based conglomerate, and not Tata Steel Group.

47 Including 279 subsidiaries earlier noted under 'foreign-owned MNE' and 49 subsidiaries earlier noted under 'home-based MNE'. Adequate employment data was missing for 10 foreign-owned MNEs with one subsidiary each.

Table 4.11A shows that according to this classification one-third of companies in three industries: metal and manufacturing, commerce and the ICT industry, were related to MNEs with over 250,000 employed. However, in transport and telecom this was just 15%, and insofar as MNEs played a role in this industry, the large majority of subsidiaries here was linked to MNEs with less than 100,000 employed. The small number of larger MNEs does not allow conclusions as for the order of management - union relationship ratings in transport and telecom. The other industries show a contrasting picture (Table 4.11B). Whereas the rule 'the bigger the parent firm the higher the average rating' was evident in metal and electronics manufacturing, the opposite was the case in commerce and ICT, where the largest parent firm category convincingly showed low averages. For metal and electronics these outcomes were quite in line with those from our earlier exercise concerning company size (Table 4.10B), but in commerce and ICT the results were the opposite. Companies related to metal and electronics MNEs with over 250,000 employed showed by far the highest average rating (3.40), but those linked with ICT MNEs in the same size category by far the lowest (2.33).

Table 4.11A Distribution of MNE parent firm employment size by industry, 2014

	metal and electr. man.		commerce		ICT		transport & telecom		TOTAL	
	N	%	N	%	N	%	N	%	N	%
=< 100000	22	*28.3*	47	*36.4*	37	*41.6*	20	*58.8*	126	*38.4*
100001-250000	30	*38.5*	37	*28.7*	21	*24.1*	9	*26.5*	97	*29.6*
> 250000	26	*33.3*	45	*34.9*	29	*33.3*	5	*14.7*	105	*32.0*
TOTAL	**78**	***100.0***	**129**	***100.0***	**87**	***100.0***	**34**	***100.0***	**328**	***100.0***

Source: WIBAR-3 IR Survey, N=328

Table 4.11B Management - trade union relationship by MNE parent firm employment size and industry, averages per cell, 2014 – 2015

	metal and electr. man.	commerce	ICT	transport & telecom	TOTAL
=< 100000	3.05	2.88	2.72	2.88	**2.86**
100001-250000	3.10	2.84	2.50	(3.11)	**2.87**
> 250000	3.40	2.66	2.33	(2.70)	**2.75**
TOTAL	**3.19**	**2.79**	**2.53**	**2.91**	**2.83**

Source: WIBAR-3 IR survey, N=328
Note: () = based on less than 10 observations

4.7 Industrial relations and development of employment: the industry level

What about the influence the increase or decrease of employment might have had on the four industrial relations characteristics (TUD, CBC, MEB and the management – trade union relationship)? This question can be answered at both the industry level (this section) and the individual company level (the next section). We start at *the industry level*, rephrasing the question as: 'Are management - union relations better in industries with growing employment compared to industries with declining employment?' Based on Eurostat statistics we computed for the 115 country/industry combinations (cells) employment growth or decline between 2008 and 2014: see Table A6.6. No less than 66 cells (59%) showed a decline in employment, ranging from -0.4% to -32%. With employment decreasing in 22 of 23 countries (the exception being Germany) metal and electronics manufacturing was plainly overrepresented among the declining industries. Wholesale and transport and telecom both showed decreases in 16 of 23 countries and

retail in 12. The remaining 49 cells (41%) showed employment growth between 2008 and 2014, ranging from 0.1% to 111% -- the latter being Latvia's ICT industry. In the ICT industry cells only 'growers' could be detected, with strong increases also noted in Austria, Germany, Portugal, the other Baltic countries, Bulgaria, Hungary, Poland and Romania.

First, let us explore the possible connection between management – trade union relations and employment growth on a country-by-country basis. For the calculation of correlations we measured employment growth per cell in two ways: 2008-2014 growth/decline according to the Eurostat data (Table 4.12, columns A) and 2012-2014 growth/decline of employment in the five largest companies according to our IR survey (Table 4.12, columns B). For union – management relationship data we related the ratings per cell to the national average. Measured along both lines, in 11 out of 23 countries the results pointed to a negative relationship between employment growth and the management – union relationship, for nine countries (Belgium, France, Portugal, Czech Republic, Estonia, Poland, Romania, Slovakia and Slovenia) convincingly. However, the opposite was clearly the case for Denmark, Italy and Hungary. Moreover, the results were contradictory for six countries (Austria, Finland, Germany, Netherlands, UK, and Latvia). Changes of signs in the direction of overall employment per cell officially measured versus that in the five largest companies may at least partly explain these varying outcomes. Our database reveals that the six countries mentioned above showed contrasting signs in exactly three of five industries averaged, whereas the other 17 countries had contrasting signs in averaged slightly less than two industries. As the total coefficients *(R*=.239 and *R*=.108) indicate, there is some support for the conclusion that declining employment relates to relatively high management –union relationship ratings, though this is weaker than might be expected due to considerable differences across countries.

Table 4.12 Correlations between employment growth (Eurostat statistics and WIBAR-3 IR survey) and management – trade union relationship on a country-by-country basis, 2008-2014 – 2015 and 2012-2014 – 2015

	A: Eurostat empl. 2008-2014	B: empl. 5 largest companies 2012-2014		A: Eurostat empl. 2008-2014	B: empl. 5 largest companies 2012-2014
	R	*R*		*R*	*R*
Austria	0.755	-.373	Bulgaria	-.131	-.262
Belgium	-.807	-.613	Czech Rep.	-.848	-.961
Denmark	0.175	0.615	Estonia	-.348	-.944
Finland	0.306	-.483	Hungary	.419	0.630
France	-.532	-.402	Latvia	-.352	0.741
Germany	-.580	0.420	Lithuania	-.125	-.269
Ireland	-.006	-.151	Poland	-.474	-.330
Italy	0.834	0.393	Romania	-.965	-.210
Netherlands	-.491	0.841	Slovakia	-.425	-.519
Portugal	-.199	-.627	Slovenia	-.954	-.840
Spain	-.058	-.008	**Total 23 c.**	**-.239**	**-.108**
Sweden	-.228	-.367			
UK	-.889	0.577			

Sources: A: based on employment growth 2008-2014 per cell: Eurostat, Annual Enterprise statistics (see Tables A2.3, A3.4, A3.7, A4.2, A5.3) / distance management – trade union rating per cell to national average (see Table 4.4); based on WIBAR-3 IR Survey, N=575, employment growth 2012-2014 per cell / distance management – trade union rating per cell to national average.

We have also explored relationships between all four industrial relations indicators and employment growth or decline in the respective country/industry cells, using the 2008-2014 Eurostat employment data. Our analysis set out in Table 4.13A does not reveal any significant correlation whereas the results vary considerably across industries. For wholesale, retail and transport and telecom the coefficients concerning TUD, CBC and MEB were largely positive, but for the ICT industry these outcomes suggested a negative (though again not significant) connection. The coefficients for metal and electronics manufacturing did not clearly point in any direction. The outcomes concerning the relation between official employment growth and the management - union relationship largely contradicted those for the other three indicators, though here except for metal and electronics manufacturing the correlations for the two country groups turned out to be mutually different. For the W/N/S European country group employment growth and management - union relationship were positively correlated in wholesale, whereas for the CEE countries this was the case for metal and electronics production, ICT and transport and telecom. We repeated the latter correlation calculation based on 2012-2014 employment growth in the five largest companies found through the IR survey: Table 4.13B. Again, in general the correlations were weak, though for wholesale they suggested a negative overall relationship between employment growth measured this way and the ratings assigned for the management - union relationship. Overall, the correlations based on calculations per cell were much weaker than those based on a country-by-country approach.

Table 4.13A Correlations between employment growth (Eurostat statistics) and industrial relations characteristics by industry and country, 2008-2014 – 2015

			metal and electr. man.	wholesale	retail	ICT	transport & telecom
TUD		Correlation	0.042	0.201	0.385	-.421	0.465
		N	23	23	23	10	23
CBC		Correlation	-.078	0.274	0.097	-.331	0.290
		N	22	19	20	15	23
MEB		Correlation	-.133	0.310	0.317	-.332	0.149
		N	21	18	18	12	23
MAN-TU relationship	total	Correlation	0.234	0.212	-.045	-.087	-.065
		N	23	23	23	23	23
	W/N/S countries	Correlation	0.250	0.311	0.018	0.042	-.388
		N	13	13	13	13	13
	CEE countries	Correlation	0.218	-.236	-.239	0.483	0.217
		N	10	10	10	10	10

Source: WIBAR-3 IR survey; employment growth 2008-2014: Eurostat, Annual Enterprise statistics (see Tables A2.3, A3.4, A3.7, A4.2, A5.3).

Table 4.13B Correlations between employment growth (WIBAR-3 IR survey) and management – trade union relationship by industry and country, 2012-2014 – 2015

			metal and electr. man.	wholesale	retail	ICT	transport & telecom
MAN-TU relationship	total	Correlation	0.195	-.258	0.032	0.015	0.108
		N	115	115	115	115	115
	W/N/S countries	Correlation	0.009	-.382	-.050	0.230	0.092
		N	65	65	65	65	65
	CEE countries	Correlation	0.375	-.266	0.208	0.276	-.046
		N	50	50	50	50	50

Source: WIBAR-3 IR survey, N=575; employment growth 2012-2014 per cell.

It may also be worthwhile to explore the relationship between the four industrial relations indicators and the development of FDI–related employment as charted in Chapter 3 as a measure for the economic internationalization of the industry/country cell in question, using the currently available 2008-2013 Eurostat data. We based our calculations for correlations related to TUD, CBC and MEB on the same data as before; for the management –union relationship data we again took the distance of these ratings per industry/country cell to the national average. We start this exercise in Table 4.14A with a static picture, relating the four characteristics to the shares of FDI-related employment in employment per cell as of 2013. The outcomes for MEB in ICT and in transport and telecom showed negative coefficients, suggesting a negative relation between a high FDI share and multi-employer bargaining. The connection with the management – union relationship stood out quite negatively in transport and telecom for both country groups. By contrast, for the other industries these correlations clearly had a positive sign or were only slightly negative.

Table 4.14B permits a more dynamic approach, relating the four indicators to the growth/decline of the shares of FDI-related employment in employment per cell between 2008 and 2013, expressed in percentages of the value of the FDI share as of 2008. Comparison of Tables 4.13A and 4.14B is highly interesting. In no less than 14 of 30 cells the values showed a change of sign (positive turned negative, or the other way around), in particular for TUD, CBC and MEB. In transport and telecom such a change was most outspoken. The positive correlation between employment growth and the

values for TUD, CBC and MEB radically turned negative when the growth of *FDI-related* employment was introduced. Thus, in transport and telecom a higher level of internationalization seems at odds with trade union density and bargaining activity. In the ICT industry the opposite change could be noted, from clearly negative to slightly positive correlated when FDI-related employment replaced employment as such. The differences were smaller in the other three industries. In the retail industry the positive correlations remained for TUD, CBC and MEB, and in the wholesale industry for CBC and MEB. All three signs changed in metal and electronics manufacturing though here the correlations remained weak. With the introduction of the connection with FDI-related employment the main changes in correlations for the management – union relationship concerned: in metal and electronics manufacturing, for the 23 and W/N/S countries a change from positive to slightly negative correlations; in wholesale, a change from negative to highly positive correlations; in retail, a change from very weak correlations to rather strong negative correlations; and in ICT, for the CEE countries a strong positive correlation changing to hardly any relationship. Other than for TUD, CBC and MEB, only minimal changes occured for transport and telecom.

Table 4.14A Correlations between shares of FDI-related employment and management – trade union relationship by industry and country, 2013 – 2014-2015

			metal and electr. man.	wholesale	retail	ICT	transport & telecom
TUD		Correlation	-.198	0.394	-.280	0.064	0.185
		N	23	23	23	10	23
CBC		Correlation	0.362	-.004	-.123	-.280	0.041
		N	22	19	20	15	23
MEB		Correlation	0.156	-.008	-.092	-.574	-.323
		N	21	18	18	12	23
MAN-TU relationship	total	Correlation	0.323	0.171	0.119	-.034	-.192
		N	23	23	23	23	23
	W/N/S countries	Correlation	0.245	-.164	0.022	0.345	-.201
		N	13	13	13	13	13
	CEE countries	Correlation	0.446	0.460	0.461	0.558	-.376
		N	10	10	10	10	10

Source: WIBAR-3 IR survey, N=575; FDI-related employment 2013: Eurostat, Annual Enterprise and FATS statistics (see Tables A2.1, A3.2, A3.5, A4.1, A5.1).

Table 4.14B Correlations between *growth of* shares of FDI-related employment and management – trade union relationship by industry and country, 2008-2013 – 2014-2015

			metal and electr. man.	wholesale	retail	ICT	transport & telecom
TUD		Correlation	-.017	-.018	0.080	0.195	-.535
		N	23	23	23	10	23
CBC		Correlation	0.190	0.171	0.264	0.113	-.403
		N	22	19	20	15	23
MEB		Correlation	0.110	0.100	0.252	-.033	-.397
		N	21	18	18	12	23
MAN-TU relationship	total	Correlation	-.135	0.288	-.289	-.233	0.181
		N	23	23	23	23	23
	W/N/S countries	Correlation	-.078	0.168	-.336	0.116	-.261
		N	13	13	13	13	13
	CEE countries	Correlation	0.181	0.456	0.009	0.006	0.298
		N	10	10	10	10	10

Source: WIBAR-3 IR survey, N=575; FDI-related employment growth 2008-2013: Eurostat, Annual Enterprise and FATS statistics (see Tables A2.1, A3.2, A3.5, A4.1, A5.1).

4.8 Industrial relations and development of employment: the company level

We now turn to the management – trade union relationship with employment growth or decline *per company*, that is, whether firms between 2012 and 2014 showed more than 5% employment growth or decline, or were somewhere in between. According to our survey and the AIAS MNE database, employment grew by over 5% in 228 companies (39.7%), fell by over 5% in 151 companies (26.3%), and remained in between these extremes in 196 (34.0%) of 575 companies. Table 4.15 shows the matrix of this development of employment at company level and the scores on management – trade union relationship. The average management – trade union relationship score for the 'growers' (2.84) was lower than that for those companies with substantially declining employment (3.05), and also the companies with moderate ('in between') employment development came out with a higher average management –trade union relationship score (2.90).

Among the 'growers' the share of companies with the lowest (1-2, or 1.5 points) rating was considerable (29%) while a '4' rating was assigned to less than 22% of growing companies; by contrast, among the declining companies these shares were respectively 21% for '1/2' and 32% for '4'. The last row, 'mean growth', indicates that the strongest employment growth (0.23 on a scale of -1.00……1.00) showed up in the category with the lowest management –union relationship rating, and that minimal growth (0.01) was linked with the above-average '4' rating. From a trade union viewpoint these results seem quite remarkable, and rather disquieting. As they may be quite relevant for trade union policy-making, we deepen the analysis after this first table, thus adding materials for further refinement of possible explanations.

Table 4.15 Distribution over management-trade union relationship categories per company by employment growth categories per company and mean employment growth per relationship category, 2012-14 – 2015

	1-2		3		4		5		Total		Mean
	N	%	N	%	N	%	N	%	N	%	
>5%	66	*28.9*	106	*46.5*	49	*21.5*	*7*	*3.1*	228	*100.0*	**2.84**
In between	47	*24.0*	103	*52.6*	41	*20.9*	5	*2.6*	196	*100.0*	**2.90**
<5%	32	*21.2*	*67*	*44.4*	48	*31.8*	4	*2.6*	151	*100.0*	**3.05**
TOTAL	**145**	***25.2***	**276**	***48.0***	**138**	***24.0***	**16**	***2.8***	**575**	***100.0***	**2.92**
mean growth*)		0.23		0.14		0.01		0.19		0.13	

Source: WIBAR-3 IR survey, N=575
Key: >< in between : increase / decrease employment (5% in 2012-2014)
1/2-5: rating MAN-TU relationship
*) based on calculation: -1.00 = >5% decline, 0=in between, 1.00=>5% growth

Tables 4.16A and 4.16B detail the three employment growth/decline categories by industries, showing their industry distribution and the management – trade union relationship averaged per growth/decline category and industry. As could be expected at 48% of companies the ICT industry had the largest share of 'growers' and transport and telecom (20%) the lowest. Metal and electronics manufacturing and commerce remained close to ICT and had even lower shares of declining companies. In spite of these differences in composition, Table 4.16B shows the outcomes that we have called 'disquieting' for all four industries. In each industry the 'grower' category had low average management – union relationship ratings, in ICT and transport and telecom even the lowest, whereas with the exception of transport and telecom, the declining category had the highest averages. The differences were smallest in commerce.

Table 4.16A Distribution of employment growth per company by industry, 2012-14

	metal and electr. man.		commerce		ICT		transport & telecom		TOTAL	
	N	%	N	%	N	%	N	%	N	%
>5%	50	*43.5*	100	*43.5*	55	*47.8*	23	*20.0*	228	*39.7*
In between	39	*33.9*	93	*40.4*	26	*22.6*	38	*33.0*	196	*34.0*
<5%	26	*22.6*	37	*16.1*	34	*29.6*	54	*47.0*	151	*26.3*
TOTAL	**115**	***100.0***	**230**	***100.0***	**115**	***100.0***	**115**	***100.0***	**575**	***100.0***

Source: WIBAR-3 IR Survey, N=575

Table 4.16B Management - trade union relationship by employment growth per company and by industry, averages per cell, 2012-14 – 2015

	metal and electr. man.	commerce	ICT	transport & telecom	TOTAL
>5%	3.13	2.84	2.55	2.91	**2.84**
In between	2.92	2.83	2.65	3.22	**2.90**
<5%	3.35	2.91	2.76	3.19	**3.05**
TOTAL	**3.20**	**2.86**	**2.68**	**3.11**	**2.92**

Source: WIBAR-3 IR survey, N=575

When focussing on the differences between the average management – union relationship ratings across the 23 countries, it turns out that the contradiction of relatively low averages for the 'growers' versus relatively high averages for companies with declining employment in 2012-2014 was most widespread and intensive in the CEE countries. For the 13 W/N/S European countries and calculated per country, the average rates for the growing companies were 0.14%points above those of the declining ones. In seven countries (Austria, Belgium, Denmark, Germany, Italy, the Netherlands, Spain) the difference favoured the 'growers', in five (France, Ireland, Portugal, Sweden, UK) it was in favour of the 'decline' category, and in Finland there was no difference. By contrast, in the 10 CEE countries the average rates for the growing companies remained 0.54%points below those of the companies with employment under pressure. This disadvantage showed up in eight of these countries. The 'growers' only had a higher average rating in Hungary, and for Romania we found no difference.

It may be useful to trace whether the development of employment at company level coincided with that at the level of the parent MNE firms, and how this related to the management – union relationship ratings. For employment development in the parent firms we again applied the following growth/decline categories: more than 5% employment growth or decline, or somewhere in between. We again selected the period 2012-2014. Tables 4.17A and 4.17B show the confrontation of employment developments at both levels. Like in Tables 4.10A and 4.10B, this information covers 328 subsidiaries of MNEs over the period 2012-2014 where at least one subsidiary/affiliate operated in one of the 23 countries under scrutiny. The matrix of Table 4.17A shows that in 74 of 328 cases (22.5%) employment in both the parent MNE firm and the subsidiary grew over 5%, whereas the opposite, a decline of over 5% in both parent and subsidiary, happened in only 34 cases (10.5%). Thus, 66% of cases were covered by the seven other options of the matrix. When considering the average ratings shown in Table 4.17B, it is striking that in expanding parent MNEs with subsidiaries as 'growers' the management – union relationship got the lowest average rating (2.70), while in declining parents and subsidiaries the average rating (2.93) remained above the overall average (2.83). This result may once more confound the expectations of students of industrial relations, and may in particular deliver food for thought for those who sympathise with the trade union movement.

Finally, comparison of Table 4.17B with Table 4.16B reveals some further notable outcomes. The combination with the parent firms led to lower average ratings for the 'higher than 5%' and 'lower than 5%' categories whereas the combined ratings for the 'in between' category went up. Obviously, if related to the parent companies the management – union relationship does best when parents neither grow nor decline substantially.

Table 4.17A Distribution of employment growth per company and MNE parent firm, 2012-14

Company	>5%		In between		<5%		TOTAL	
MNE parent	N	%	N	%	N	%	N	%
>5%	74	*54.4*	42	*38.9*	26	*31.0*	142	*43.3*
In between	28	*20.6*	32	*29.6*	24	*28.6*	84	*25.6*
<5%	34	*25.0*	34	*31.5*	34	*40.4*	102	*31.1*
TOTAL	**136**	***100.0***	**108**	***100.0***	**84**	***100.0***	**328**	***100.0***

Source: WIBAR-3 IR Survey, N=328

Table 4.17B Management – trade union relationship by employment growth per company and MNE parent firm, averages per cell, 2012-14 – 2015

Company	>5%	In between	<5%	TOTAL
MNE parent				
>5%	2.70	2.70	2.77	**2.71**
In between	2.95	3.05	3.07	**3.02**
<5%	2.81	2.79	2.93	**2.84**
TOTAL	**2.78**	**2.83**	**2.92**	**2.83**

Source: WIBAR-3 IR survey, N=328

4.9 Industrial relations and employment concentration

Are industrial relations related to the level of economic concentration in the industry? In order to answer this question we calculed concentration ratios, dividing the 2014 employment figures of the top 5 companies we calculated in the 115 country/industry combinations (cells) and by the total 2014 employment figures in the country/industry

combinations from the Eurostat data. We found that in total 18.0% (unweighted average) or 16.7% (weighted average) of employment was taken by the five largest companies. Table A6.2 shows the detailed outcomes. With 29.1% (unweighted) and 27.2% (weighted) averages, transport and telecom showed the highest ratio of employment concentration. Retail with respectively 22.5% and 19.6% averages came next and metal and electronics manufacturing ranked third (15.3% respectively 14.6% averages), followed by the ICT industry (15.6% and 11.3% averaged). Wholesale had the lowest concentration ratio, with on average the largest five companies taking 7.6% (unweighted) and 4.7% (weighted) of employment.

Returning to the question whether industrial relations using our four characteristics were better in highly concentrated industries with employment as the yardstick, we can see the opposite turns out to be the case. Our analysis set out in Table 4.18 reveals that the higher the concentration ratio ie. the larger the employment share of the five largest companies in the country/industry cell, the poorer the relationship between management and trade union in that cell. However, our analysis also showed that the larger the employment share of the five largest companies, the higher the trade union density (TUD). The other two indicators of industrial relations, CBC and MEB, did not reveal a significant relationship with employment concentration.

Table 4.18 Correlations between employment concentration and industrial relations characteristics per cell, 2014 -- 2015

	Average relationship MAN-TU in 5 largest companies	TUD	CBC	MEB
Correlation	-.199**	0.302***	-.007 ns	-.046 ns
N	98	96	99	88

Source: WIBAR-3 IR survey; Eurostat, Annual Enterprise statistics (see Table A6.2)
Note: (*) significant at 10% (**) significant at 5% (***) significant at 1%; ns: not significant

4.10 Collective bargaining in the five industries

In our study, we collected and coded 181 collective agreements (CLAs) covering any of the five industries in the 23 countries. Most agreements were found in metal and electronics manufacturing, and the lowest number in the ICT industry (53 versus 11, see Table 4.19 below). Most agreements were keyed in from the Netherlands, the least from Ireland, Lithuania, and United Kingdom (23 versus one each). This outcome is in part due to the fact that in the latter countries agreements are to a much lesser extent published on the Internet. It should be noted that five agreements covered more than one industry, specifically the wholesale and the retail industries jointly; these agreements were found in Sweden, Italy and Austria.

The IR survey contained a couple of questions concerning the signatories of the agreements. Here, we define multi-employer bargaining (MEB) as resulting in an agreement concluded with an employers' organisation or with more than one employer. This information is available for 173 agreements, showing that 60% of CLAs were based on MEB and that another 40% has been concluded with a single employer (SEB). For eight agreements this information was lacking, including the five covering more than one industry. The reader should be aware that this collection of CLAs is not at all a representative sample of all CLAs agreed in the 115 country/industry combinations for

the simple reason that many agreements are not accessible to researchers and are not distributed widely.

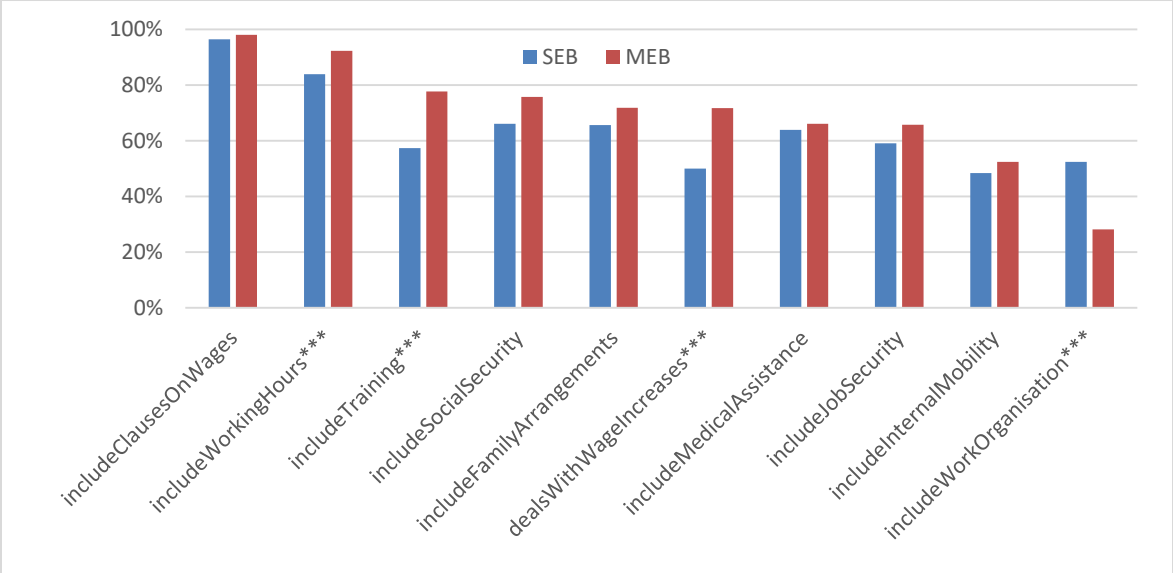
Table 4.19 Number of collective agreements coded by industry, 2015

		M & E	Wholes	Retail	ICT	Transp & tel.	**Total**
Agreements		53	30	37	11	50	**181**
of which info about signatories		52	25	36	11	49	**173**
	of which MEB	60%	80%	67%	36%	51%	**60%**

Source: WIBAR-3 IR survey

In order to establish what topics were negotiated in the collective agreements, the CLAs were coded according to ten options: see Figure 4.1. The figure indicates – not surprisingly - that almost all agreements had clauses on wages (97%). Yet, only two-thirds dealt with wage *increases* (65%). Almost nine in ten agreements contained clauses on working hours, schedules and holidays (88%). About half to three quarters of the CLAs included clauses on sickness and disability (76%); social security (72%); training (69%); work - family arrangements (68%); medical assistance (65%); job security (63%), and internal mobility (50%). Fewer agreements had clauses on work organisation (38%) and relatively few contained clauses on agreed workforce numbers (8%). The latter outcomes could be expected. The figure shows that collective agreements based on MEB more often included any of the 10 topics, apart from those on work organisation. However, in this respect the difference between MEB and SEB outcomes was not that big. The incidence of clauses on working hours (MEB: 92%), SEB: 84%), training (MEB: 78%, SEB: 57%), and wage increases (MEB: 72%, SEB: 50%) was significantly higher in the agreements based on MEB, whereas the incidence of work organisation regulations was more likely to be found in the SEB agreements (SEB: 52%, MEB: 28%). The six other differences were not significant.

Figure 4.1 Mean values in collective agreements for the 10 topics for MEB and SEB agreements



Source: WIBAR-3 IR survey

4.11 References for Chapter 4

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5 Summary and conclusions

Despite the continuous decline of collective bargaining coverage (CBC) in the European Union over the last couple of decades, outcomes from the *WageIndicator* web survey suggest that widespread support remains among the wage-earners across Europe for being covered by collective agreement (CLA). In a *WageIndicator* sample of 10 countries covering the five industries we scrutinized respondents expressed a high preference for being covered by CLA. In almost all countries and all industries this preference was higher than 50% with any exceptions mostly concentrated in the ICT industry. Similarly, we found that in eight of these countries where respondents were covered by a CLA a significantly higher preference was shown for being covered than those who were not -- irrespective of a country's overall high or low CBC rate (Table 4.1). It is unlikely that a full sample of 23 countries would contradict these results, in view of the diverse composition of the 10-country sample. These research results confirm that from the workers' side throughout Europe, the CLA continues to be broadly supported as an instrument for regulating labour and employment relations. Thus it makes sense to analyse how this instrument can be maintained and, wherever needed, further strengthened and revitalised.

In line with these outcomes, multi-employer bargaining (MEB) in particular should also be regarded as a worthwhile process to be maintained and expanded. In the WIBAR-3 seminars quite some presenters and discussants, notably those from the CEE countries, had the potential of MEB in high esteem. Yet, current trends and employer preferences for company level bargaining suggest that trade unions will have to find creative ways to re-establish the potential for MEB. The same is likely to be true for employers' organisations and (when it comes to extension of CLAs) governments keen on shaping 'coalitions of the willing'. We should note here that our collection of CLAs –whilst not representative revealed a higher incidence of clauses on specific issues in CLAs based on MEB than was the case for single-employer bargained CLAs (SEB) (Figure 4.1).

The scope for strengthening and revitalising CLAs particularly through MEB will plainly differ according to the well established industrial relations and business models at national level. As elaborated in Chapter 2, research from the 2000s already questioned the extent to which any convergence in this field has been developing within the EU. It has also turned out to be far from easy to generalize about the role Foreign Direct Investment (FDI) has played here. Internationalisation seems to have produced a certain degree of convergence, although not necessarily towards one single IR type: thereby potentially increasing cohesion within existing country clusters. It is, however, not that clear whether convergence within these clusters has taken place if we focus on the developments between 2001/2002 and 2013/14 in three industrial relations characteristics, namely, trade union density (TUD), employer organisation density (EOD), and collective bargaining coverage (CBC). In exploring the relationship between the start values for 2001/02 and the development between 2001/2002 and 2013/14 for the five country clusters we distinguished (see Box in section 2.5: CEE-10, MW-5, Anglo-2, South-3, and Scand-3), we found positive though rather modest correlation coefficients for TUD (R=0.266) and CBC (R=0.384), and a slightly negative correlation coefficient for CBC (R=-.008). In other words, the TUD and CBC rates fell most in

country clusters where these rates were already low and less in clusters with relatively high rates. However, this was not the case for the EOD rates which developed rather independently over the period.

Given these outcomes, the two other IR characteristics included to our analysis, namely, the share of multi-employer bargaining (MEB) and the management – trade union relationship (MAN-TU relationship) at company level may be highly relevant. A major part of our research consisted of an effort to examine in-depth the relationships between TUD, CBC and MEB, at the level of country/industry cells, and to relate these IR characteristics to the MAN-TU relationship at company level. Admittedly, we lacked data to track MEB and the MAN-TU relationship over time. However, we were able to trace 85% of the CBC, MEB, and TUD rates for 23*5 or 115 country/industry cells (Table 4.3). On this basis we found that:

- the higher CBC, the higher TUD;
- the higher CBC, the higher the MEB share;
- the higher TUD, the higher the MEB share.

Of course, these correlations are static and cannot simply be transplanted into the dynamics of industrial relations and collective bargaining at industry level. Nevertheless, with reference to IR literature and the experience of trade union negotiators which illuminated the WIBAR-3 seminars, these outcomes seem to imply that relatively high TUD rates may promote (a return to) high MEB once a rather high CBC rate is in place. In return, higher CBC rates could stimulate greater TUD. However, an essential precondition for restoring or enlarging CBC and MEB for employers' organisations to be willing and able to negotiate binding CLAs at industry level. Here, of course, the scale of employer organisation density (EOD) is likely to play a decisive role.

Although we could not find enough EOD data at the level of country/industry cells, we can point to the importance of the relationship between unions and employers for collective bargaining for two reasons. First, our dynamic correlation and regression analysis based on national data in section 2.5 showed the major influence of EOD (including the existence of employer organisations as such) on the spread of collective bargaining. This influence was strongest in the period 2001/02-2007 but was also visible between 2007 and 2013/14. We should recall that the level of EOD in 2007 had a significant positive effect on the level of CBC in 2013-14, whereas the TUD 2007 level did not have such a significant effect. It is likely that this mechanism would work out similarly for the majority of country/industry cells. First of all because the fact that at country/industry level the *number* of employers' organisations correlated positively with TUD, CBC and MEB was striking and reached (much) higher coefficient levels than similar correlation calculations for the number of trade unions (Tables 4.2A and B). In the second place because a number of union participants in the WIBAR-3 seminars endorsed this line of reasoning and identified the need for employers' organisations able and willing to bargain collectively at industry level. They emphasized that many country/industry combinations, notably in CEE countries, lacked such organisations. Regarding the number of trade unions, as could be expected, a relatively large number would to some extent work out favourably for TUD, CBC and MEB. However, for transport and telecom the optimal amount of unions involved in collective bargaining seems to be lower than the current amount.

A second line in our research used the company-level management – trade union relationship as a proxy for EOD. Rather uniquely, our expert survey enabled us to attach a MAN-TU relationship rating to the five largest companies in each of the 115 cells. Using these ratings we found a statistically significant correlation: the higher the MAN-TU relationship average per cell, the higher TUD. Correlations of the MAN-TU relationship with CBC and MEB were positive as well but not significant (Table 4.3).

We now summarize the assessments for the MAN-TU relationship rates for the 575 individual companies. As far as industries were concerned, these rates were highest in transport and telecom (3.15 averaged), followed by metal and electronics manufacturing (3.11) and at quite some distance by commerce (2.85 averaged: 2.89 for wholesale, 2.81 for retail) with the ICT industry in the rear (2.65). Except for transport and telecom, the industry averages for the 13 W/N/S European countries were higher than those for the CEE countries (Table 4.4). Concerning the four ownership categories we identified, considerable differences showed up again. The average MAN-TU relationship ratings were highest for the state-owned firms (3.48), though it should be noted that this category was almost completely limited to transport and telecom. Overall the subsidiaries of home-based MNEs came second (averaged 2.93), followed by the domestic firms (2.89) whereas the subsidiaries of foreign-owned MNEs closed the ranks (2.81). In metals and electronics manufacturing the MAN-TU relationship average for the home-based MNEs was rated highest whereas in commerce and ICT this was the case for domestic firms and in transport and telecom for state-owned firms. Across industries the averages for foreign-owned firms remained modest to low (Tables 4.5A-C).

Calculating average ratings for foreign-owned MNEs for the nine countries and the four industries (excluding wholesale) covered by our WIBAR-2 project allowed comparison with the outcomes from this later WIBAR 3 project. In our earlier analysis MNEs (not then divided in home-based and foreign-owned) scored higher than domestic firms on TUD, CBC and the incidence of workplace employee representation. Though the research methods differed (WIBAR-2 was based on *WageIndicator* data of individual respondents), it may be concluded that our WIBAR-3 outcomes on the MAN-TU relationship did not confirm our earlier results, in particular for the *foreign-owned* MNEs. On average the WIBAR 3 project found these MNEs exhibited less advantageous conditions than the other three categories for the deployment of trade union power and collective bargaining. Relatively low TUD ratings were part of these conditions. We found that the larger the employment shares of *home-based* MNE subsidiaries and domestic firms in the five largest companies, the higher was TUD. We should add that neither CBC nor the MAN-TU relationship was related to the employment shares of the five largest companies, whatever their ownership category (Table 4.8).

As we dug deeper into the MAN-TU relationship for MNEs, comparing as a first step their respective home countries (Table 4.6), we found rather high average ratings for MNEs from the Netherlands, Sweden, Denmark, Spain and Finland. These were considerably higher than those for Germany (2.91) and France (2.82), the two countries contributing the largest numbers of MNEs and subsidiaries. The average ratings for the MNEs based on the 23 countries in their home countries (2.93) were higher than for their subsidiaries abroad (2.83). Danish, French, Spanish, Swedish and British MNEs had a higher average rating at home whereas Dutch MNEs did better abroad. The average

'home' and 'abroad' scores for German and Finnish firms hardly differed. The low average found for subsidiaries of US-based MNEs (2.53) may not surprise though the gap with the averages for MNEs from other countries of origin was substantial.

We also selected 23 MNEs in our database to be found to be among the 'top-5' of the respective industries in at least four of 23 countries. Their high level of internationalization did not lead to higher MAN-TU relationship ratings. Indeed, their overall outcome was a fraction lower than the average for all MNEs. The averages for seven of 23 MNEs were considerably below the respective industry averages (Table 4.7). Nevertheless, the available data pointed to considerable variation of the MAN-TU ratings within these MNEs related to variation across host countries. Such variations showed up particularly in the commerce and ICT industries and were confirmed by union negotiators participating in the WIBAR-3 seminars.

From two further aspects we found evidence for the importance of 'size' for the MAN-TU relationship. First, we focused on the size of the 575 single companies. Except for the state-owned firms, a clear-cut relationship showed up: the larger the company in terms of employment, the higher the average MAN-TU relationship ratings (Tables 4.9A and B). The outcomes were seemingly industry-specific. The effects of 'size' were most clearly visible in metal and electronics manufacturing, followed by commerce (Tables 10A-C). Secondly, we examined the MAN-TU relationship scores related to the numbers of employees in the (ultimate) parent companies, covering 328 affiliates/subsidiaries. Again, the results varied across industries. Whereas the rule 'the bigger the parent firm the higher the average rating' was evident in metal and electronics manufacturing, the opposite was the case in commerce and ICT (Tables 4.11A and B).

Our next aim was to trace the influence of an increase or decrease in employment on industrial relations. We concentrated first on *the industry level,* computing employment growth or decline in the 115 country/industry cells, in two ways: based on Eurostat statistics growth/decline between 2008 and 2014 (Table 4.12, A) and 2012-2014 growth/decline in the five largest companies according to our IR survey (Table 4.12, B). Measured both ways in 11 out of 23 countries a clear negative relationship between employment growth and the MAN-TU relationship emerged, for nine countries. We found some support for the conclusion that declining employment related to relatively high MAN-TU relationship ratings (Table 4.13A and B). Concerning TUD, CBC and MEB the correlations were once more rather industry-specific; for commerce and transport and telecom they were largely positive, but for ICT quite negative (Table 4.13A).

Replacing the growth/decline of employment as such by the growth/decline of the shares of *FDI-related* employment between 2008 and 2013 caused marked changes in (the sign of) correlations. In transport and telecom the positive correlation between employment growth and TUD, CBC and MEB turned negative, while the opposite took place in ICT. Concerning the MAN-TU relationship major changes could be seen in wholesale and retail (Table 4.14B). It was obvious that internationalization through the increase of FDI-related employment had different effects on TUD, CBC and MEB across industries, being positive in ICT and negative in transport and telecom. The latter outcome may be related to privatisation though our evidence does not clearly support

this assumption. Introducing the 'FDI factor' hardly changed correlations for the MAN-TU relationship in transport and telecom.

We also researched the influence of the increase/decrease in employment *at company level* on the MAN-TU relationship, defining employment increase/decrease as more than 5% employment growth/decline between 2012 and 2014. According to this criterion 40% of 575 companies grew, 26% declined and 34% remained about the same or 'in between' growth and decline. The average MAN-TU relationship score for the 'growers' (2.84) turned out to be lower than that for those with declining employment (3.05), and also the 'in between' category came out with a higher average (2.90). By and large, these outcomes also emerged at industry level. With the exception of transport and telecom, the declining category showed the highest averages (Tables 4.15, 4.16A and B). We contend that these results are rather disquieting from a trade union viewpoint. At a closer look the problems can be seen to be concentrated in five N/W/S countries (France, Ireland, Portugal, Sweden, UK) and eight CEE countries (exceptions being Hungary and Romania) where the average MAN-TU rates of the growing companies were (much) lower than those of the declining ones.

We investigated whether the development of employment at company level combined with that of the parent MNE firms, would influence the MAN-TU relationship ratings. In 23% of companies employment in both the parent MNE firm and the subsidiary grew by over 5%, whereas a decline of over 5% in both parent and subsidiary took place in only 11%. In the 'both growth' category the MAN-TU relationship got the lowest average rating (2.70), while in the 'both decline' category the average rating (2.93) remained above average (2.83). The highest scores were found in the 'in between' category for the parent MNEs: obviously the MAN-TU relationship did best in a kind of steady state, when parent firms neither grew nor declined substantially (Table 4.17A and B). Plainly, such results serve as food for thought for those who sympathise with the trade union movement.

In order to find out whether industrial relations are related to the level of economic concentration we calculated concentration ratios for each country/industry cell, dividing 2014 employment figures of the top 5 companies by 2014 Eurostat employment data for country/industry combinations. In the five industries in total 18% of employment was taken by the five largest companies. At industry level, transport and telecom (29%) showed the highest concentration ratio and wholesale (less than 8%) the lowest. We found an inverse relation: the higher the concentration ratio in the cell, the lower the MAN-TU relationship. However, we also found that the higher the concentration ratio, the higher TUD. By contrast, CBC and MEB had no significant relationship with employment concentration (Table 4.18).

We now highlight two sets of outcomes from the above summary. The first set relates to the national and industry levels of industrial relations and collective bargaining:

1. relatively high TUD rates may prompt (a return to) high MEB once a rather high CBC rate is in place;
2. in turn, rather high CBC rates may stimulate TUD;
3. EOD, and the existence of employers' organisations as such, has a positive effect on CBC, more so than TUD;

4. the proliferation of employers' organisations willing and able to negotiate binding industry CLAs is crucial for restoring or enlarging CBC and MEB;
5. the number of employers' organisations bargaining at industry level correlated positively with TUD, CBC and MEB, and to some extent this was also the case for the number of trade unions (except for transport and telecom).

If we return to our assumptions from section 2.2, these outcomes trigger the following considerations. A rather high CBC turns out to be a crucial factor for restoring or keeping up MEB. If extension mechanisms are in place, for a certain period of time a modest TUD may suffice (though in the longer run the issue of union representativeness may show up). The finding that rather high CBC rates may stimulate TUD is interesting. It suggests that in spite of the large differences between TUD and CBC rates with many 'free riders' in the countries where such differences occur, there may be room to break the vicious circle often suggested in the IR literature. Also, except for transport and telecom the negative effects of fragmentation in many unions and professional (employers') organisations on CBC and MEB may be less than was initially expected. The practice of collective bargaining along sub-sector lines, as found in a number of countries notably in retailing, may play a substantial role here.

Nevertheless, as noted, the availability of employers' organisations willing to engage in MEB remains the most crucial factor. In a number of countries the lack of such organisations may continue to hamper MEB and, to some extent, collective bargaining overall. We should remind the reader that by 2013/14 EOD at national level in seven of 23 countries (Bulgaria, Estonia, Hungary, Lithuania, Poland, Romania, Slovakia) had fallen to less than one-third of all employees in the private sector, and in only another seven countries were over one-third (cf. Table A1.3). Hopefully, the 'new start for social dialogue' agreed at EU level in June 2016 may provide an impetus in this respect to the employers' side. It may also be hoped that the national authorities, in particular of the 'low EOD' countries just cited have understood the 'new start' message and will act accordingly. For the time being experiences of participants in the WIBAR-3 seminars suggest some scepticism in this particular regard.

Our second set of outcomes concentrates on the company level, with the MAN-TU relationship as the central concept and eventually zooming out to the industry or national (or international in case of MNEs) bargaining levels:

1. the higher the MAN-TU relationship average per country/industry cell, the higher TUD;
2. average MAN-TU relationship ratings were highest for state-owned companies (mainly in transport and telecom), followed by the subsidiaries of home-based MNEs and the domestic firms whereas those for the subsidiaries of foreign-owned MNEs were lowest;
3. on average the most internationalized MNEs did not score better on MAN-TU relationship than all MNEs;
4. within MNEs the variation in MAN-TU relationship ratings related to host countries was considerable;
5. the MAN-TU relationship averages were lowest for those companies with employment growth of over 5% in 2012-14 whereas companies declining by over 5% had the highest ratings;

6. the MAN-TU relationship rating was lowest for those subsidiaries and parent MNEs both growing by over 5% while the 'both decline' category scored above average;
7. for nine countries a negative relationship between employment growth at industry level and the MAN-TU relationship emerged, whereas that was not clear for TUD, CBC and MEB;
8. growth of FDI-related employment at industry level worked out differently, positively on TUD, CBC and MEB in ICT and negatively in transport and telecom;
9. the higher the economic concentration per country/industry cell, the lower the MAN-TU relationship rating.

This second set of outcomes prompt the following considerations. It may be reasonable to assume that the restoration of collective bargaining as such may have its starting point at company level. Strengthening company-level will, in any event, be most appropriate in countries with little or no MEB traditions, like the UK, Ireland and some CEE countries. Its logic has also grown in countries such as Portugal and Spain where legal constraints have hollowed out MEB. Company-level bargaining (SEB) has positive aspects for the trade union movement on which a restoration of MEB could build. For instance SEB has the potential to bring the negotiations (and the union negotiators) closer to the membership thereby improving knowledge of the competitive position of firms. SEB may also facilitate creativity in union negotiators and permit a widening of traditional bargaining agendas, notably towards work organisation issues. It turn, the latter may stimulate broader union attention for the quality of work and for health and safety aspects that can easily be integrated in industry-wide arrangements.

However, our outcomes concerning the MAN-TU relationship suggest that in many country/industry combinations it will not be easy to find leading companies whereby collective bargaining can bring about improvement in SEB arrangements than could then prove to be a basis for (the revitalisation of) MEB practices. None of this will make for encouraging reading for trade unionists and neither will our finding that the average MAN-TU relationship ratings were lowest for companies and industries with substantial employment growth and highest for companies and industries with substantially declining employment. Further disquiet arises from our finding that the higher the economic concentration per country/industry cell, the lower the MAN-TU relationship rating. Taken together, these outcomes imply that trade unions in growing companies and growing and highly concentrated industries across Europe will often find themselves in a defensive position. The opportunities for advancing CLAs, possibly starting at company level and subsequently expanding to industry level, are likely to be constrained in these companies and in these industries. Obviously, the trade union movement in Europe has to invest heavily not just in capacity building but also in ways and means that can lead to sustainable improvements in their relationships with management.

The outcomes and considerations just presented together with the literature overviews from chapters 2 and 3 and the inputs from the WIBAR-3 seminars, give rise to the following practical recommendations:

1. Trade unions have to invest considerably in the whole process of collective bargaining. As well as continually building their strengths and refreshing their

own capacity, they should not exclude the use of external resources including employee consultants, labour lawyers and researchers able to cooperate effectively with them, and equally to enable lay trade unionists and works councillors to use such resources.

2. It is essential to develop trade union demands, in particular vis-a-vis MNEs and other companies leading in (sub)sectors, that are soundly based on informed social dialogue and meaningful access to management decision-making and strategic planning. Union officials should recognise that these are continuous processes which can to a significant extent be based on the insights of lay trade unionists and works councillors. In these processes, union officials, lay unionists and works councillors have to be(come) aware of the various policies and positions of parent firms and subsidiaries regarding their relationships with the trade unions, and act accordingly.
3. Trade unions have to exert greater pressure on employers for information disclosure in order to build strong information and knowledge positions in leading companies enabling the continuous analyses of their competitive positions. Improving the social aspects in company reporting is also urgently needed.[48] Hence, revisiting, refreshing and if needed renegotiating information disclosure agreements to ensure that bargaining is evidence-based should be a continuing priority for union negotiators and their counterparts at company and industry levels. Related to improved information disclosure, trade unions need to find more effective ways to ensure employers' compliance with CLA arrangements.
4. Trade unions have to find ways to connect the standards set in multi-employer bargaining (MEB) with the potential and achievements of single-employer bargaining (SEB), in particular where SEB is the dominant practice. Viable options in this respect may be the development of sectoral framework CLAs specifying the main substantive standards but leaving scope for variation in their implementation at company level, or two-tier bargaining arrangements in which MEB and SEB are more or less equivalent.
5. Trade unions have to invest substantially in creative and appealing public campaigns, focusing on the use of social media wherever possible in combination with member surveys, advertising positive collective bargaining results in particular to young people.
6. Trade unions dealing with MNEs should step up their efforts to co-ordinate and harmonise their bargaining activities. For specific MNEs operating throughout the EU this might involve making better use of the information flows that surround European Works Councils (EWCs). Union negotiators might also embark upon negotiation campaigns at MNE level aimed at transcending national boundaries by harmonising bargaining objectives, for example in crucial areas such as working time and work organisation.

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48 It was striking to discover in searching company data for 2012-2014 in the current project that a considerable amount of companies did not publish time series on their number of employees. In this respect, disclosure of company information even seems to have worsened compared to the 2008-2010 situation as experienced in the WIBAR-2 project.

7. Information about breakthrough CLAs and bargaining innovations[49] should be more widely and in a more detailed manner exchanged across countries within and between union negotiators. To this end, in particular greater use of CLA databases should be encouraged.

[49] For example, the pioneering work of Nautilus International in developing single MNE agreements that cover employees from a wide range of countries.

6 Statistical Appendix

Table A1.1 The industries covered in WIBAR-3 and their NACE2.0 codes

METAL AND ELECTRONICS MANUFACTURING
C24 Manufacture of basic metals
C25 Manufacture of fabricated metal products, except machinery and equipment
C26 Manufacture of computer, electronic and optical products
C27 Manufacture of electrical equipment
C28 Manufacture of machinery and equipment n.e.c.
C29 Manufacture of motor vehicles, trailers and semi-trailers
C30 Manufacture of other transport equipment
WHOLESALE
G46 Wholesale trade, except of motor vehicles and motorcycles
RETAIL
G47.1 Retail sale in non-specialised stores (supermarkets and department stores)
G47.2 Retail sale of food, beverages and tobacco in specialised stores
[G47.3 Retail sale of automotive fuel in specialised stores]
G47.4 Retail sale of information and communication equipment in specialised stores
G47.5 Retail sale of other household equipment in specialised stores
G47.6 Retail sale in specialised stores (cultural and recreation goods)
G47.7. Sale of other goods in specialized stores (clothing, footwear and leather goods; dispensing chemist in specialized stores; retail sale in specialized stores: sale of medical and orthopaedic goods; cosmetic and toilet articles; flowers, plants, seeds etc; watches and jewellery)
G47.8-9 Other retail sale (via stalls and markets; via mail order houses or via Internet)
TRANSPORT AND TELECOMMUNICATIONS
H49 Land transport and transport via pipelines
H50 Water transport
H51 Air transport
H52 Warehousing and support activities for transportation
H53 Postal and courier activities
J61 Telecommunications
INFORMATION AND COMMUNICATION TECHNOLOGY
J62 Computer programming, consultancy and related activities
J63 Information service activities

Table A1.2 Trade union density (TUD) in 23 EU member states, 2001, 2007, 2010, 2013/14

	2001	2007	2010	2013/14	2007-2013/4
Austria	35.9	29.9	28.4	27.0	decrease
Belgium	56.3	54.7	53.8	55.1	stable
Bulgaria	23.0	17.2		17.5	stable
Czech Rep.	23.8	18.3	16.6	12.7	decrease
Germany	23.7	19.9	18.6	17.7	decrease
Denmark	73.3	67.9	67.0	66.8	stable
Estonia	14.3	7.8	7.7	6.3	decrease
Finland	74.5	70.3	70.0	69.3	stable
France	7.9	7.5	7.7	7.7	stable
Hungary	20.0	15.0		10.7	decrease
Ireland	37.8	31.0	35.0	28.0	decrease
Italy	34.2	34.0	36.0	34.3	stable
Latvia	23.1	16.6	15.0	13.1	decrease
Lithuania	16.8	9.3	10.0	8.0	decrease
Netherlands	21.2	19.3	19.3	17.8	decrease
Poland	15.5	15.6	14.2	12.4	decrease
Portugal	22.4	20.8	19.3	18.9	decrease
Romania	34.2	36.0	32.0	30.0	decrease
Slovakia	30.5	18.8	15.2	13.3	decrease
Slovenia	40.8	29.0	25.0	21.2	decrease
Spain	16.4	15.5	17.3	16.9	increase
Sweden	78.0	71.0	69.3	67.4	decrease
United Kingdom	29.4	27.3	27.0	25.7	decrease
Av. 23 c	**32.7**	**28.4**	**28.8 (21)**	**26.0**	
of which 13 W/N/S	**39.3**	**36.0**	**36.1**	**34.8**	
of which 10 CEE	**26.4**	**20.4**	**17.0(8)**	**14.5**	

Sources: ICTWSS database 5.1 (Visser 2016); Eurofound, Working life country profiles (2015); national sources (derived from CAWIE-1 and CAWIE-2 research projects); WIBAR-3 Industrial Relations survey.
Increase/decrease: >1%point variation 2007-2013/14

Table A1.3 Employer organisation density (EOD)*) in 23 EU member states, 2002, 2007/08, 2011/12, 2013/14

	2002	2007/08	2011/12	2013/14	2007/08-2013/14
Austria	100	100	100	100	stable
Belgium	82	82	82	82	stable
Bulgaria		55	50	14	decrease
Czech Rep.	35	35	41	64	increase
Germany	63	60	58	58	decrease
Denmark	60	58	68	68	increase
Estonia	35	23	25	25	increase
Finland	66	73	70	65	decrease
France	74	75	75	75	stable
Hungary		40		21	decrease
Ireland	60	57	60	68	increase
Italy	62	58	56	56	decrease
Latvia	20	35	33	41	increase
Lithuania		20	18	19	stable
Netherlands	85	85	85	85	stable
Poland		20	20	20	stable
Portugal	58	40	38	34	decrease
Romania	80	60	55	25	decrease
Slovakia	33	29	32	31	increase
Slovenia	100	85	68	60	decrease
Spain	72	75		36	decrease
Sweden	83	84	82	82	decrease
United Kingdom	40	35		35	stable
Av. 23 c	**58.9(19)**	**56.1**	**55.8(20)**	**50.6**	
of which 13 W/N/S	**69.6**	**70.1**	**70.4(11)**	**67.3**	
of which 10 CEE	**30.5 (6)**	**40.2**	**38.0(9)**	**32.0**	

*) Percentage of employees in private sector covered by members of employer organisations engaged in collective bargaining

Sources: ICTWSS database 5.1 (Visser 2016); Eurofound, Working life country profiles (2015); national sources (derived from CAWIE1 and 2 projects, and ETUI)

Note: 15c. comp. = 15 countries with data comparable over time (2002-2013/14)

2011/12: 2011 data for CZ, DE, EE, IE, LV, PT, SK, SI. Other countries 2012 data.

2013/14: 2013 data for CZ, DE, DK, EE, FR, IE, LV, PL, PT, SK, SI. Other countries 2014 data.

Increase/decrease: >1%point variation 2007/08-2013/14

Table A1.4 Collective bargaining coverage (CBC) in 23 EU member states, 2001, 2007, 2013-14

	2001	2007	2013-14	2007-2013-14	*MEB 2013-14*	
					in % CBC	*in % total*
Austria	98.0	98.0	98.0	stable	*99*	*97*
Belgium	96.0	96.0	96.0	stable	*98*	*94*
Bulgaria	40.0	30.0	26.0	decrease	*34*	*8*
Czech Rep.	42.7	50.6	47.3	decrease	*30*	*14*
Germany	67.8	61.4	57.6	decrease	*90*	*52*
Denmark	85.0	81.5	83.0	stable	*72*	*60*
Estonia	28.5	25.0	20.0	decrease	*12*	*2*
Finland	91.0	89.5	90.0	stable	*95*	*86*
France	96.5	97.8	98.0	stable	*88*	*86*
Hungary	38.8	35.9	23.0	decrease	*50*	*12*
Ireland	42.1	39.1	32.4	decrease	*0*	*0*
Italy	80.0	80.0	80.0	stable	*85*	*68*
Latvia	18.0	20.3	13.0	decrease	*16*	*2*
Lithuania	12.5	15.0	11.0	decrease	*7*	*1*
Netherlands	92.6	78.6	84.8	increase	*89*	*76*
Poland	?	25.5	15.0	decrease	*8*	*1*
Portugal	77.3	82.5	67.0	decrease	*20*	*13*
Romania	82.5	98.0	35.0	decrease	*0*	*0*
Slovakia	48.0	40.0	24.9	decrease	*65*	*16*
Slovenia	100.0	92.0	65.0	decrease	*?*	*?*
Spain	80.5	80.2	56.6	decrease	*68*	*39*
Sweden	94.0	91.0	89.0	stable	*90*	*80*
United Kingdom	35.2	33.6	29.5	decrease	*4*	*1*
Average 23c	**65.8 (22)**	**62.7**	**54.0**		***50.9 (22)***	***36.6 (22)***
of which 13 W/N/S c.	**79.6**	**72.2**	**74.0**		***69.1***	***57.8***
of which 10 CEE c.	**44.6(9)**	**43.2**	**28.0**		***24.7 (9)***	***6.2 (9)***

Sources: ICTWSS database 5.1 (Visser 2016); Eurofound, Working life country profiles (2015); national sources (derived from CAWIE-1 and CAWIE-2 projects, and ETUI)
Note: 2001: BG 2003 data; no PL data; 2013-14: BG, LT, LV, RO: 2012 data;
Increase/decrease: >2%points variation 2007-2013/14
MEB: percentage of employees covered by CLA that is covered by industry agreement (MEB), incl. Mandatory Extension)

Table A1.5 Comparative statistics on trade union density (TUD), employer organisation density (EOD), collective bargaining coverage (CBC) and multi-employer bargaining (MEB) in 23 EU member states by country clusters, latest available data

	TUD	EOD	CBC	MEB	TUD	EOD	CBC
	2013/14	2013/14	2013/14	2013/14	2007-2013/14	2007-2011/2-2013/14	2007-2013/14
Bulgaria	18	14	26	8	stable	decrease	decrease
Czech Rep.	13	64	47	14	decrease	increase	decrease
Estonia	6	25	20	2	decrease	increase	decrease
Latvia	13	41	13	2	decrease	increase	decrease
Lithuania	8	19	11	1	decrease	stable	decrease
Hungary	11	21	23	12	decrease	decrease	decrease
Poland	12	20	15	1	decrease	stable	decrease
Romania	30	25	35	0	decrease	decrease	decrease
Slovakia	13	31	25	16	decrease	increase	decrease
Slovenia	21	60	65	?	decrease	decrease	decrease
Average CEE-10	**14.5**	**32.0**	**28.0**	**6.2 (9c)**			
Austria	27	100	98	97	decrease	stable	stable
Belgium	55	82	96	94	stable	stable	stable
France	8	75	98	86	stable	stable	stable
Germany	18	58	58	52	decrease	decrease	decrease
Netherlands	18	85	85	76	decrease	stable	increase
Average MW-5	**25.2**	**80.0**	**87.0**	**81.0**			
Ireland	28	68	32	0	decrease	increase	decrease
United Kingdom	26	35	27	1	decrease	stable	decrease
Average Anglo-2	**27.0**	**51.5**	**29.5**	**0.5**			
Italy	34	56	80	68	stable	decrease	stable
Portugal	19	34	67	13	decrease	decrease	decrease
Spain	17	36	57	39	increase	decrease	decrease
Average South-3	**23.3**	**42.0**	**68.0**	**40.0**			
Denmark	67	68	83	60	decrease	increase	stable
Finland	69	65	90	86	stable	decrease	stable
Sweden	67	82	89	80	decrease	decrease	stable
Average Scand-3	**67.7**	**71.7**	**87.3**	**75.3**			
Average 23c	**26.0**	**50.6**	**54.0**	**36.6(22c)**			
increase					**1**	**6**	**1**
stable					**6**	**7**	**7**
decrease					**16**	**10**	**15**

Sources: see Tables A1.2, A1.3, A1.4.

Table A1.6 Comparative statistics on trade union density (TUD), employer organisation density (EOD), and collective bargaining coverage (CBC) in 23 EU member states by country clusters, 2013/14 in % of 2001 or 2002

	TUD	EOD	CBC
	2013/14 in % 2001	2013/14 in % 2002	2013/14 in % 2001
Bulgaria	76	25*)	65
Czech Rep.	53	183	111
Estonia	44	71	70
Latvia	57	205	72
Lithuania	48	95*)	88
Hungary	54	53*)	60
Poland	59**)	100	59**)
Romania	88	31	42
Slovakia	44	94	73
Slovenia	52	60	65
Average CEE-10	**57.5**	**91.7**	**70.5***)**
Austria	75	100	100
Belgium	98	100	100
France	97	101	102
Germany	74	92	85
Netherlands	84	100	92
Average MW-5	**85.6**	**98.6**	**95.8**
Ireland	74	113	77
United Kingdom	87	100	77
Average Anglo-2	**80.5**	**106.5**	**77.0**
Italy	100	90	100
Portugal	93	59	67
Spain	103	50	70
Average South-3	**98.7**	**66.3**	**79.0**
Denmark	91	113	98
Finland	93	98	99
Sweden	86	99	95
Average Scand-3	**90.0**	**103.3**	**97.3**
Average 23c	**75.2**	**92.6**	**81.1****)**

Sources: see Tables A1.2, A1.3, A1.4.

*) in % 2007/08

**) in % 2007

***) 71.8 for 9 countries (excl. Poland)

****) 82.3 for 22 countries (excl. Poland)

Table A1.7 Number of trade unions involved in collective bargaining*), in 5 industries and 23 EU member states, latest available data (at least 2013)

	metal & electr.	wholesale	retail	ICT	transport & tel.
Austria	**2**	2	2	1	3
Belgium	**8**	6	6	3	6
Bulgaria	**5**	3	3	1	8
Czech Rep.	**1**	1	1	0	3
Germany	**1**	1	1	1	2
Denmark	**4**	2	2	1	5
Estonia	**2**	2	2	0	6
Finland	**4**	2	2	4	10
France	**15**	7	6	6	17
Hungary	**1**	1	1	1	7
Ireland	**2**	2	2	2	6
Italy	**3**	3	3	3	7
Latvia	**1**	1	1	0	6
Lithuania	**1**	2	2	0	8
Netherlands	**3**	5	4	2	15
Poland	**6**	5	5	1	36
Portugal	**3**	2	2	0	15
Romania	**5**	1	1	1	5
Slovakia	**1**	1	1	0	3
Slovenia	**2**	2	2	0	13
Spain	**2**	2	2	0	6
Sweden	**4**	3	3	2	10
UK	**2**	3	3	3	8
TOTAL	**78**	**59**	**57**	**32**	**205**

Source: AIAS-*WageIndicator* Trade Union Database

*) Only trade unions involving in bargaining CLAs covering >=5% of employees per industry

Table A1.8 Number of employers' organisations involved in multi-employer bargaining (MEB), in 5 industries and 23 EU member states, latest available data (at least 2013)

	metal & electr.	wholesale	retail	ICT	transport & tel. *)
Austria	**5**	4	3	1	13
Belgium	**3**	4	4	4	15
Bulgaria	**3**	1	1	0	5
Czech Rep.	**3**	1	1	0	4
Germany	**1**	3	2	0	10
Denmark	**2**	4	2	3	10
Estonia	**1**	1	1	0	2
Finland	**1**	1	1	2	15
France	**15**	3	3	2	22
Hungary	**2**	4	4	0	6
Ireland	**1**	3	4	0	2
Italy	**9**	26	29	0	49
Latvia	**1**	1	1	0	1
Lithuania	**0**	1	1	0	2
Netherlands	**18**	13	32	1	4
Poland	**1**	1	1	0	2
Portugal	**7**	8	3	0	7
Romania	**3**	1	1	0	9
Slovakia	**2**	1	1	1	3
Slovenia	**2**	3	3	0	6
Spain	**1**	4	8	0	16
Sweden	**3**	2	2	0	18
UK	**1**	1	1	0	6
TOTAL	**85**	**91**	**109**	**14**	**227**

Sources: Eurofound/EurWORK 2016 (Representativeness studies) and additional Internet search; information UNI Europa ICTS sector; *AIAS-ETUI Collective Bargaining Newsletter;* Netherlands, Belgium: WIBAR-3 IR Survey

*) Based on information on six sub-sectors: ports; road transport and logistics; maritime transport; civil aviation; post & courier services; telecom.

Table A1.9 Inequality (low pay incidence and Gini coefficient) in 23 EU member states, 2000/2001 and 2010/11

	low-pay incidence		Gini coefficient	
	2000	2010	2000	2010/11
Austria	11.2	15.0	0.269	0.282
Belgium	12.2	6.4	0.288	0.270
Bulgaria		22.0	0.327	0.357
Czech Republic		18.2	0.260	0.256
Germany	15.7	22.2	0.257	0.280
Denmark	10.8	7.7	0.226	0.252
Estonia		23.8	0.349	0.326
Finland	10.8	5.9	0.249	0.259
France	17.2	16.1	0.295	0.303
Hungary		19.8	0.273	0.312
Ireland	18.7	20.7	0.324	0.302
Italy	9.7	12.4	0.333	0.347
Latvia		27.2	0.363	0.348
Lithuania		29.4	0.319	0.352
Netherlands	16.6	18.1	0.292	0.298
Poland		24.2	0.316	0.305
Portugal	10.9	16.1	0.369	0.342
Romania		25.6	0.303	0.300
Slovakia		19.0	0.265	0.262
Slovenia		17.1	0.241	0.246
Spain	15.6	14.7	0.331	0.345
Sweden		2.5	0.313	0.325
UK	19.4	22.1	0.353	0.341

Sources:

- low pay incidence, 2000: European Commission (2004) *Employment in Europe: Recent trends and Prospects.* Brussels, 168; 2010: E. Bezzina (2012) 'In 2010, 17% of employees in the EU were low-wage earners'. *Eurostat Statistics in Focus* 48/2012, except France: data from D. Demailly (2012) 'Les bas salaires en France entre 1995 et 2011'. *Dares Analyses* 068, Octobre.
- Gini coefficients, 2000 and 2010/11: A.B. Atkinson and S. Morelli (2016) 'The Chartbook of Economic Inequality' (at http://www.chartbookofeconomicinequality.com/); World Bank Poverty database (http://iresearch.worldbank.org/PovcalNet/index.htm).

Notes:

- low pay incidence: percentage of wage-earners earning less than two-thirds of national median gross hourly wage.
- Gini coefficient: inequality measure calculated over net (=after taxation/social transfers) = (equivalent) disposable household income of total population.

METAL AND ELECTRONICS MANUFACTURING

Table A2.1 Total employment and employed in affiliates of foreign-owned MNEs, Metal and Electronics manufacturing, 23 EU member states, 2008-2013, x 1,000 employees (total employment) / 1,000 persons employed (foreign-owned affiliates) and in %

	Total employment (employees)			Foreign-owned affiliates (persons employed)			*% empl. in foreign-owned aff.*		
Host country	**2008**	**2010**	**2013**	**2008**	**2010**	**2013**	***2008***	***2010***	***2013***
13 W/N/S c									
Austria	290.0	288.1	286.3	102.6	98.5	103.9	*35.4*	*34.2*	*36.3*
Belgium	220.4	207.5	180.4	78.3	84.0	81.3	*35.5*	*40.5*	*45.1*
Denmark	166.3	159.4	148.9	36.9	36.4	46.5	*22.2*	*22.8*	*31.2*
Finland	203.3	189.2	163.2	46.2	40.2	35.5	*22.7*	*21.2*	*21.8*
France	1299.6	1253.3	1192.5	436.0	341.7	317.7	*33.5*	*27.2*	*26.6*
Germany	3881.4	3951.8	3943.8	674.1	596.0	767.4	*17.4*	*15.1*	*19.5*
Ireland	61.0	45.2	41.6	34.7	20.5	26.6	*56.9*	*45.4*	*64.1*
Italy	1684.3	1546.3	1444.4	259.1	234.1	217.7	*15.3*	*15.1*	*15.1*
Netherlands	281.8	274.0	262.7	77.2	74.1	82.9	*27.4*	*27.0*	*31.6*
Portugal	192.5	178.6	148.0	51.4	42.6	45.7	*26.7*	*23.9*	*30.9*
Spain	878.5	747.8	611.3	212.0	214.0	338.1	*24.1*	*28.6*	*55.3*
Sweden	367.1	355.3	316.6	118.0	117.2	113.5	*32.1*	*33.0*	*35.8*
UK	1155.0	1064.0	1053.4	418.1	382.3	382.5	*36.2*	*35.9*	*36.3*
Total 13 c.	**10681.2**	**10260.5**	**9792.7**	**2544.6**	**2281.6**	**2482.8**	***23.8***	***22.2***	***25.4***
% growth		**-3.9%**	**-4.6%**		**-10.4%**	**+8.8%**			
CEEs									
Bulgaria	164.4	148.7	136.9	40.3	36.4	42.4	*24.5*	*24.5*	*31.0*
Czech Rep.	656.7	615.1	588.5	364.4	316.1	322.5	*55.5*	*51.4*	*54.8*
Estonia	35.1	32.0	31.7	16.3	13.2	14.8	*46.4*	*41.4*	*46.7*
Latvia	27.9	25.8	25.0	8.0	5.9	8.8	*28.6*	*22.9*	*35.2*
Lithuania	38.6	35.2	31.2	9.4	6.5	9.3	*24.3*	*18.7*	*29.8*
Hungary	349.0	318.4	306.7	214.0	190.4	203.2	*61.3*	*59.8*	*66.3*
Poland	828.4	812.3	778.0	329.8	329.6	345.3	*39.8*	*40.6*	*44.4*
Romania	424.1	418.0	400.9	255.1	231.6	259.2	*60.1*	*55.5*	*64.7*
Slovakia	228.9	224.1	210.5	146.3	130.6	133.2	*63.9*	*58.3*	*63.3*
Slovenia	103.4	95.2	86.1	23.2	19.5	22.0	*22.4*	*21.1*	*25.6*
Total 10 CEE	**2856.5**	**2724.8**	**2595.5**	**1406.8**	**1279.8**	**1360.7**	***49.2***	***49.7***	***52.4***
% growth		**-4.7%**	**-4.7%**		**-9.0%**	**+6.3%**			
Total 23 c.	**13537.7**	**12985.3**	**12388.2**	**3951.4**	**3561.4**	**3843.5**	***29.2***	***27.4***	***31.0***
% growth		**-4.2%**	**-4.6%**		**-9.9%**	**+7.9%**			

Source: Eurostat, Annual Enterprise and FATS statistics

*) authors' estimate based on AIAS MNE database

Table A2.2 Employment in Metal and Electronics manufacturing by sub-sector, 23 EU member states, 2014, x 1,000 employees

	C24 basic met.	C25 fabric. metal	C26 comput er etc.	C27 electric al eq.	C28 mach., equipm.	C29 motor veh.	C30 other transp.	Total met & electr
13 W/N/S c								
Austria	35.2	71.3	20.6	*45.0*	78.3	*30.7*	6.7	287.8
Belgium	*25.4*	50.3	10.2	14.2	32.3	*34.8*	6.6	173.8
Denmark	*5.7*	39.2	20.0	13.4	65.3	4.4	2.8	150.8
Finland	14.7	39.5	26.9	17.9	49.0	6.9	8.5	163.4
France	*90.4*	315.1	124.7	107.6	175.4	230.1	152.9	1196.2
Germany	261.9	844.9	318.8	502.8	1092.7	836.5	*128.2*	3985.8
Ireland*)	*1.7*	*8.7*	*13.9*	*3.4*	9.5	2.8	1.6	*41.6*
Italy	115.2	416.2	93.4	145.8	423.1	156.6	80.1	1430.4
Netherlands	*19.4*	81.9	26.2	19.8	79.8	*18.3*	17.6	263.0
Portugal	8.0	71.8	*8.9*	*17.6*	20.9	*19.3*	3.7	150.2
Spain	57.4	*197.2*	23.5	56.3	95.1	*134.8*	43.1	*607.4*
Sweden	30.1	70.2	37.4	24.3	69.0	*63.2*	15.0	309.2
UK	71.0	299.2	126.0	81.8	181.4	*149.6*	136.5	1045.5
Total 13 c.	**736.1**	**2505.5**	**850.5**	**1049.9**	**2371.8**	**1688.0**	**603.3**	**9805.1**
CEEs								
Bulgaria	11.4	52.2	8.5	*20.6*	30.6	*17.6*	4.8	145.7
Czech Rep.	43.9	143.6	*39.2*	*88.9*	119.1	*146.5*	21.8	*603.0*
Estonia	0.5	12.7	*5.8*	*5.6*	3.7	*3.5*	0.6	32.4
Latvia	1.0	11.0	1.7	*2.9*	3.5	*1.7*	*2.2*	24.0
Lithuania	0.6	13.0	3.4	5.0	6.4	*3.7*	*1.6*	33.7
Hungary	*17.1*	69.1	*42.9*	*39.4*	*59.1*	*82.5*	*5.0*	*315.1*
Poland	60.4	265.3	*55.7*	*96.6*	116.5	*170.0*	*42.3*	806.8
Romania	*30.4*	87.8	*29.2*	*38.1*	*52.2*	*149.8*	*30.5*	*418.0*
Slovakia	*23.2*	51.2	*14.8*	*30.0*	*40.9*	*61.2*	4.2	*225.5*
Slovenia	7.8	27.8	4.9	20.0	12.9	12.2	0.6	86.2
Total 10 CEE	***196.3***	**733.7**	***206.1***	***347.1***	**444.9**	***648.7***	**113.6**	***2690.4***
Total 23 c.	**932.4**	**3239.2**	**1056.6**	**1397.0**	**2816.7**	**2336.7**	**716.9**	**12495.5**

Source: Eurostat, Annual detailed enterprise statistics – industry and construction

*) 2012

In *italics*: FDI-related employment share >= 50%

Table A2.3 Growth of employment in Metal and Electronics manufacturing by sub-sector, employees, 23 EU member states, 2008-2014, in %

NACE-2 code	C24 basic met.	C25 fabric. metal	C26 comput er etc.	C27 electric al eq.	C28 mach., equipm.	C29 motor veh.	C30 other transp.	Total C24-30
13 W/N/S c								
Austria	-0.3	-0.5	-9.0	0.5	5.3	-8.2	-19.1	-3.1
Belgium	-42.2	-8.7	-50.1	-4.8**)	-21.7	-17.4	-6.1	-23.7
Denmark	-9.5	-11.0	6.0	-2.4	-9.3	-33.5	-46.1	-12.3
Finland	2.6	-14.2	-33.2	-16.4	-10.4	-16.7	-26.7	-19.4
France	x	x	x	x	x	x	x	x
Germany	-5.9	4.1	-1.1	0.3	1.2	5.0	8.9	2.8
Ireland	x	x	x	x	x	x	x	x
Italy	-13.2	-20.9	-18.4	-14.1	-5.7	-14.2	-22.1	-16.8
Netherlands	-13.3	-11.4	-7.6	-0.7	0.1	-21.4	7.2	-5.4
Portugal	-18.9	-17.5	-10.9	-6.6	-14.2	-13.5	-55.9	-19.7
Spain	-24.0	-40.3	-38.6	-31.7	-25.9	-23.5	-15.7	-31.6
Sweden	-12.9	-16.2	-12.5	-18.2	-17.4	-19.7	1.9	-16.9
UK	-15.6	-10.9	-13.8	-14.4	-14.0	-15.5	11.1	-10.8
Total 13 c.*)	**-12.6**	**-12.5**	**-11.6**	**-7.5**	**-4.9**	**-5.0**	**-4.3**	**-8.6**
10 CEE								
Bulgaria	-40.4	-14.3	-14.7	1.2	-16.8	68.5	-33.2	-2.2
Czech Rep.	-20.1	-0.2	-21.5	-0.4	-12.4	-6.7	28.7	-10.3
Estonia	14.0	-7.9	-9.3	3.7	-22.4	-12.5	-25.1	-11.7
Latvia	-72.8	1.4	-4.0	-18.8	-24.7	14.9	-26.5	-14.0
Lithuania	-55.4	-20.9	-17.5	5.1	8.0	32.4	-57.7	-15.3
Hungary	-23.2	-7.6	-31.3	-29.0	14.8	7.0	-42.9	-10.9
Poland	-11.0	6.8	-12.7	1.5	-21.5	11.6	-20.9	-3.1
Romania	-42.4	-6.3**)	7.7	-21.1	-24.7	32.4	-25.3	-3.4
Slovakia	-13.1	-18.5	-30.1	-3.4	1.0	6.8	-10.1	-5.7
Slovenia	-27.8	-6.2	-4.8	-9.5	-24.2	-11.8	-59.3***)	-16.2
Total 10 CEE	**-32.8**	**2.1**	**-18.0**	**-7.4**	**-13.8**	**9.9**	**-21.4**	**-5.4**
Total 23 c.	**-15.7**	**-9.1**	**-13.1**	**-7.5**	**-6.7**	**-0.9**	**-7.5**	**-7.9**

Source: Eurostat, Annual detailed enterprise statistics – industry and construction

x no data provided by Eurostat

*) excl. France and Ireland

**) 2009-2014

***) 2008-2013

Table A2.4 Five largest companies in Metal and Electronics manufacturing in 23 EU member states, 2014, names (in alphabetical order), employment and ownership

Austria	Böhler-Uddeholm	Bosch	FACC	Magna Steyr	Plansee Group
	Voestalpine	Robert Bosch (DE)	Aviation Industry Corp. of China (CN)	Magna International (CA)	Plansee Group
	20525	2800	2633	12600	6253
Belgium	ArcelorMittal Belgium	Audi Brussel	Van Hool	Volvo Cars Belgium	Volvo Europa Truck
	ArcelorMittal (LU)	Volkswagen Group (DE)	Van Hool	Zhejiang Geely (CN)	Volvo AB (SE)
	4715	2528	2100	5000	3500
Bulgaria	ABB Bulgaria	EPIQ EA	IMI Bulgaria	Liebherr Domestic Appliances Marica	Yazaki Bulgaria EOOD
	ABB (CH/SE)	EPIQ Systems (US)	Integrated Microelectron.(PHL)	Liebherr Group (CH)	Yazaki Corporation (JP)
	2900	1400	1850	1590	4597
Czech Rep.	ArcelorMittal Ostrava	Bosch Diesel	Siemens	Skoda Auto	Třinec Iron and Steel Works
	ArcelorMittal (LU)	Robert Bosch (DE)	Siemens (DE)	Volkswagen Group (DE)	Moravia Steel Group
	9060	4200	6773	25889	5600
Denmark	Danfoss	NKT Holding	Siemens Wind Power	Vestas Wind Systems	William Demant Holding
			Siemens (DE)	Vestas	
	5300	9078	5872	17905	9799
Estonia	BLRT Grupp	Ericsson Eesti AS	HANZA Mechanics Tartu	Norma AS	PKC Eesti
	BLRT Grupp	Ericsson (SE)	HANZA Group (SE)	Autoliv (SE)	PKC Group (FI)
	2300	1350	500	750	1100
Finland	ABB	KONE	Nokia	Outokumpu	Wärtsilä
	ABB (CH/SE)	KONE	Nokia	Outokumpu	Wärtsilä
	5327	4500	6886	12540	3441
France	Airbus	Alstom	PSA Peugeot Citroën	Renault sas	Thales
	Airbus Group (-2014: EADS) (SE EU Firm)	Alstom	PSA Peugeot Citroën	Groupe Renault	Thales Group
	54000	18069	71708	31887	33292
Germany	BMW Group	Daimler Group	Robert Bosch	Siemens	Volkswagen Group
	BMW Group	Daimler AG	Robert Bosch	Siemens	Volkswagen Group
	116324	168909	128400	114000	265274
Hungary	Audi Hungaria Motor	Bosch	Denso Manufact. Hungary	Mercedes-Benz Manuf. Hungary	Videoton
	Volkswagen Group (DE)	Robert Bosch (DE)	Denso (JP)	Daimler AG (DE)	Videoton Holding
	11274	9600	3465	3544	8389
Ireland	Apple Ireland	Dell Ireland	HP Ireland	IBM	Intel
	Apple (US)	Dell (US)	Hewlett-Packard (US)	IBM (US)	Intel (US)
	4000	783	4700	3000	5200
Italy	Fiat	Finmeccanica	Gruppo Riva Forni Elettrici	Indesit	Marcegaglia
	Fiat Chrysler Automobiles (EXOR)		Gruppo Riva	Whirlpool (US)	Marcegaglia
	61289	54380	5043	4200	4900
Latvia	Axon' Cable	East Metal	KKV Liepajas Metalurg *)	Riga Electric Machine Building	Riga Shipyard
	Axon' Cable (FR)	East Metal (DK)	KVV Group (UA)		
	380	550	500	520	565

Lithuania	UMEGA	Kitron	Mechel Nemunas	Ryterna	Schmitz Cargobull
		Kitron (NO)	Mechel (RU)		Schmitz Cargobull (DE)
	728	409	326	400	330
Netherlands	ASML	DAF	Philips	Tata Steel	VDL Groep
	ASML	Paccar (US)	Kon. Philips	Tata Group (IN)	VDL Groep
	14031	5503	12769	11300	7435
Poland	Faurecia Automotive Polska	Fiat Auto Poland SA	Philips Lighting (Lumileds) Poland	Valeo Poland	Volkswagen Poznań
	PSA Peugeot Citroën (FR)	Fiat Chrysler Automobiles (IT)	Philips (NL)	Valeo Group (FR)	Volkswagen Group (DE)
	7010	2640	4454	4028	6800
Portugal	Volkswagen AutoEuropa	Faurecia Automot. Portugal	OGMA	PSA Peugeot Citroen	Siemens Portugal
	Volkswagen Group (DE)	PSA Peugeot Citroën (FR)	Embraer (BR)	PSA Peugeot Citroen (FR)	Siemens (DE)
	3572	3720	1574	780	1264
Romania	Autoliv Romania	Automobile Dacia	Continental Autom. Romania	LEONI Wiring Systems Romania	Sumitomo Electric Wiring Systems
	Autoliv (SE)	Groupe Renault (FR)	Continental Group (DE)	LEONI Group (DE)	Sumitomo Electric Industries (JP)
	7800	14063	13600	11750	7254
Slovakia	Kia Motors	PSA Peugeot Citroen	Samsung Slovensko	U.S. Steel Kosice	Volkswagen Slovakia
	Kia Motors (KR)	PSA Peugeot Citroen (FR)	Samsung (KR)	U.S. Steel (US)	Volkswagen Group (DE)
	3550	2718	1462	10368	8938
Slovenia	Gorenje	Impol Group	LTH Group	Revoz	Slovenian Steel Industry
	Gorenje Group			Groupe Renault (FR)	SIJ Group
	4121	1826	1350	2870	3220
Spain	Acerinox	ArcelorMittal Espana, S.A.	Ford Espana SL	Renault Espana S.A.	SEAT S.A.
	Acerinox Group	ArcelorMittal (LU)	Ford Motor Cy. (US)	Groupe Renault (FR)	Volkswagen Group (DE)
	6701	6210	9794	10312	14045
Sweden	ABB	Ericsson	Scania	Volvo Cars	Volvo Trucks
	ABB (CH/SE)	Ericsson	Volkswagen Group (DE)	Zhejiang Geely (CN)	Volvo AB
	19188	17580	13061	15850	21416
UK	BAE Systems	Ford Motor	Tata Steel UK	Rolls-Royce plc	Siemens UK
	BAE Systems	Ford Motor Cy. (US)	Tata Group (IN)	Rolls-Royce Holdings plc	Siemens (DE)
	34800	9244	11300	24500	14000

Source: WIBAR-3 Industrial Relations survey

*) Defunct in 2016

Notes:

1. Foreign MNE owner indicated by country code after company name; home-based MNE ownership indicated by not indicating country code after company name; domestic firm indicated by not including company name in second country row.
2. Employment if possible indicated in headcounts (Though often unclear in annual reports and press messages).

Table A2.5 Restructuring events in Metal and Electronics manufacturing in 23 EU member states, January 2014-September 2016

	Company name	Owner(s)	Date announcem.	NACE code	Restructuring type	Affected employ.
Austria	FACC	Xi'an Aircraft Industrial Corp (CN)	Jul 2016	30	Expansion	+250
	Magna Steyr	Magna Steyr (AT)	May 2016	29	Expansion	+3000
	Maco	Maco (AT)	Apr 2015	25	Restructuring	-270
	Siemens Vai Metals Technol.	Siemens (DE)	May 2014	27	Restructuring	-290
	Knowles Electronics Austria	Knowles Corp. (US)	Apr 2014	26	Offshoring	-283
Belgium	Caterpillar Gosselies	Caterpillar (US)	Sep 2016	28	Offshoring	-2101
	Cofely (ENGIE) Fabricom	ENGIE (FR)	Sep 2015	25	Expansion	+250
	Bosal Westerlo	Bosal (BE)	Sep 2015	29	Restructuring	-350
	Bosch Tienen	Robert Bosch (DE)	May 2015	29	Restructuring	-312
	DAF Westerlo	Paccar (US)	Jan 2015	29	Expansion	+300
	Doosan Infracore	Doosan (KR)	Sep 2014	28	Off(re)shoring	-313
Bulgaria	Willi Elbe Automotive	Willi Elbe Group (DE)	Sep 2016	29	Expansion	+150
	Yazaki Bulgaria	Yazaki (JP)	Jul 2016	29	Expansion	+300
	Visteon Electronics	Visteon Electronics (US)	Apr 2016	29	Expansion	+150
	Sensata Technologies	Sensata Technologies (US)	Apr 2016	29	Expansion	+1200
	Kostal Bulgaria	Kostal (DE)	Jan/Apr 2016	29	Expansion	+400
	Witte Automotive	Witte Automotive (DE)	Jan 2016	29	Expansion	+200
	ABB Bulgaria	ABB (CH/SE)	Jun 2015	27	Expansion	+200
	Sensor-Nite Industrial	Sensata Technologies (US)	Jan 2015	29	Expansion	+1500
	Arkomat Bulgaria	Globe (US)	Jan 2015	29	Expansion	+600
	Nexans Autoelectric	Nexans Autoelectric (DE)	Jan 2015	29	Expansion	+600
	BHTC Bulgaria	BHTC (Behr Hella) (DE)	Sep 2014	29	Expansion	+350
	Sumitomo Electric Bordnetze	Sumitomo Electric Industries (JP)	Sep 2014	29	Expansion	+800
	Yazaki Bulgaria	Yazaki Corp (JP)	Apr 2014	29	Expansion	+200
Czech Rep	Varroc Lighting Systems	Varroc Group (IN)	Sep 2016	29	Expansion	+400
	SSI Technologies	SSI Technologies (US)	Sep 2016	29	Expansion	+250
	Valeo Automatizace	Valeo Group (FR)	Aug 2016	29	Expansion	+500
	INA Lanškroun	Schaeffler Group (DE)	Jul 2016	29	Expansion	+960
	Foxconn	Hon Hai Precision Industry Ltd (TW)	Apr / Jun 2016	26	Expansion	+420
	ZKL	ZKL (CZ)	Mar 2016	29	Restructuring	-400
	Witte Automotive	Witte Automotive (DE)	Feb/May 2016	29	Expansion	+500
	Megatech Industries	Megatech Industries (AT)	Jan 2016	29	Expansion	+300
	Skoda Auto Kvasiny	Volkswagen Group (DE)	Jan 2016	29	Expansion	+2000
	Karsit Group	Karsit Group (CZ)	Jan 2016	29	Expansion	+300
	Aero Vodochony Aerospace	Aero Vodochony Aerospace (CZ)	Jan 2016	30	Expansion	+250

	Company name	Owner(s)	Date announcem.	NACE code	Restructuring type	Affected employ.
	Simoldes Plasticos	Simoldes Plasticos (PT)	Sep 2015	29	Expansion	+300
	Vitkovice Heavy Machinery	Vitkovice Steel (CZ)	Sep 2015	28	Restructuring	-300
	MURR CZ	Murrelektronik (DE)	Sep 2015	26	Expansion	+250
	BWI	BWI (CN)	Sep 2015	29	Expansion	+250
	CommScope CZ	CommScope (US)	Sep 2015	26	Expansion	+500
	Toyota Peugeot Citroen (TPCA)	Toyota (JP) / PSA (FR)	Dec 2014	29	Restructuring	-500
	Motorpal	Motorpal (CZ)	Sep 2014	29	Restructuring	-340
	FEI Czech Rep.	FEI (US)	Sep 2014	26	Expansion	+500
	Skoda Auto Mlada Boleslav	Volkswagen Group (DE)	Aug 2014	29	Expansion	+800
	Ideal Automotive	Ideal Autom. (DE)	Apr 2014	29	Expansion	+600
	Toyota Peugeot Citroen (TPCA)	Toyota (JP) / PSA Peugeot-Citroen (FR)	Mar 2014	29	Expansion	+800
	Třinecké železárny	Třinecké železárny (CZ)	Feb 2014	24	Expansion	+250
Denmark	Martin Professionals	Harman Group (US)	Aug 2015	27	Restructuring	-235
	Bang & Olufsen (B&O)	Bang & Olufsen (B&O) (DK)	Mar 2015	27	Restructuring	-125
	Bladt Industries	Bladt Industries (DK)	Nov 2014	25	Restructuring	-160
	Grundfos	Grundfos (DK)	Nov 2014	28	Restructuring	-133
	Cobham Satcom	Cobham Satcom (US)	Apr 2014	26	Expansion	+200
Estonia	OU Shroma	OU Shroma (EE)	Aug 2016	25	Expansion	+150
	PKC	PKC Group (FI)	Aug 2014/ Feb 2016	27	Offshoring	-840
	Widex Estonia	Widex (DK)	Feb 2015	26	Expansion	+150
Finland	Valmet Automotive	Valmet Automotive (FI)	Sep 2016	29	Expansion	+150
	Meyer Turku	Meyer Werft (DE)	Sep 2016	30	Expansion	+350
	Microsoft Mobile	Microsoft (US)	May 2016	26	Restructuring	-1350
	Wärtsilä	Wärtsilä (FI)	Sep 2015/ Apr 2016	30	Restructuring	-293
	Nokia	Nokia(FI)	Apr 2016	26	Restructuring	-1032
	Outokumpu	Outokumpu (FI)	Apr 2016	24	Restructuring	-103
	Turing Robotics Industries (TRI)	Turing Robotics Industries (TRI)(US)	Feb 2016	26	Expansion	-270
	SSAB	SSAB Group (SE)	Dec 2015	24	Restructuring	-180
	Outotec	Outotec (FI)	Nov 2015	28	Restructuring	-105
	Valmet Automotive	Valmet Automotive (FI)	Jun 2014	29	Expansion	+300
	Rettig ICC	Rettig ICC (FI)	May 2014	27	Offshoring	+110
France	Alstom	Alstom (FR)	Sep 2016	30	Restructuring	-400
	Intel	Intel Corp (US)	Jul 2016	26	Restructuring	-750
	PSA Peugeot-Citroen	PSA Peugeot-Citroen (FR)	Jul 2016	29	Expansion	+850
	SOVAB	Groupe Renault (FR)	May/Jul 2016	29	Expansion	+508
	Daher Aerospace	Daher Group (FR)	May 2016	30	Expansion	+400
	Thales Alenia Space	Thales Group (FR) /Finmecchanica (IT)	May 2016	30	Expansion	+270
	Thales	Thales Group (FR)	Apr 2016	26	Expansion	+2000
	Safran	Safran S.A. (FR)	Feb 2016	30	Expansion	+500
	STMicroelectronics	STMicroelectronics (FR/IT)	Jan 2016	26	Restructuring	- 430
	GE Energy Products France	General Electric (US)	Dec 2015	28	Expansion	+250
	Vallourec	Vallourec (FR)	Jun 2015	24	Restructuring	-550
	Cenntro Motors	Cenntro Motors	Jun 2015	29	Restructuring	-263

	Company name	Owner(s)	Date announcem.	NACE code	Restructuring type	Affected employ.
	France	France (US)				
	ArcelorMittal	ArcelorMittal (LU)	Sep 2014 / Apr 2015	24	Expansion	+980
	ThyssenKrupp Elevator Manuf. France	ThyssenKrupp (DE)	Sep 2014	28	Restructuring	-258
	PSA Peugeot-Citroen	PSA Peugeot-Citroen (FR)	Sep 2014	29	Restructuring	-300
	Renault Trucks	Volvo (SE)	Mar 204 / Apr 2015	29	Restructuring	-1099
	Thales Alenia Space	Thales Group (FR) /Finmecchanica (IT)	Jan 2014	30	Restructuring	-270
Germany	MAN Diesel &Turbo	Volkswagen (DE)	Sep 2016	28	Restructuring	-1000
	Bosch AS	Robert Bosch (DE)	Sep 2016	28	Restructuring	-760
	Porsche	Porsche (DE)	Jul 2016	29	Expansion	+1500
	Schletter	Schletter (DE)	Jun 2016	27	Restructuring	-300
	Bosch	Robert Bosch (DE)	Mar/May/ Jun 2016	28	Restructuring	-1190
	Schaidt Innovations	Schaidt Innovations (DE)	Jun 2016	27	Restructuring	-280
	SMS Group	SMS Group (DE)	May 2016	28	Restructuring	-1200
	Nokia	Nokia (FI)	Apr 2016	26	Restructuring	-1400
	Bosch	Robert Bosch (DE)	Mar 2016	28	Expansion	+2800
	Siemens	Siemens (DE)	Mar 2016	27	Restructuring	-1980
	Bombardier	Bombardier (CA)	Feb 2016	30	Restructuring / offshoring	-1430
	Siempelkamp	Siempelkamp (DE)	Feb 2016	28	Restructuring	-350
	General Electric	General Electric (US)	Jan 2016	27	Restructuring	-1700
	Volkswagen	Volkswagen Group (DE)	Dec 2015 /Mar 2016	29	Restructuring	-2800
	Kathrein	Kathrein (DE)	Nov 2015	27	Closure	-700
	Globalfoundries	Globalfoundries (US)	Nov 2015	26	Restructuring	-700
	Siemens Power	Siemens (DE)	Sep 2015	27	Restructuring	-1100
	Nordic Yards	Nordic Yards (DE)	Sep 2015	30	Restructuring	-500
	Schaeffler	Schaeffler (DE)	Aug 2015	28	Restructuring	-450
	Bosch Rexroth	Robert Bosch (DE)	Jul / Nov 2015	28	Restructuring / offshoring	-1450
	Mann+Hummel	Mann+Hummel (DE)	Jul 2015	29	Restructuring	-495
	MAN	MAN (DE)	Jun 2015	29	Restructuring	-1800
	KME	KME (DE)	May 2015	24	Restructuring	-340
	Johnson Controls	Johnson Controls (DE)	May 2015	29	Restructuring	-880
	Vallourec	Vallourec (FR)	Apr 2015	24	Restructuring	-600
	BMW	BMW Group (DE)	Mar 2015	29	Expansion	+5000
	Siemens	Siemens (DE)	Feb 2015	27	Restructuring	-1100
	Hanwha Q Cells	Hanwha Q Cells (DE/KR)	Jan 2015	27	Restructuring	-470
	Daimler	Daimler AG (DE)	Nov / Dec 2014	28	Restructuring	-1450
	Morpho Cards	Safran S.A. (FR)	Nov 2014	26	Restructuring / offshoring	-252
	Opel	General Motors (US)	Nov 2014	29	Expansion	+400
	AB Elektronik	TT Electronics (UK)	Nov 2014	29	Restructuring / offshoring	-325
	Linde Hydraulics	Linde Hydraulics (DE)	Oct 2014	28	Restructuring	-350
	Opel Bochum	General Motors (US)	Oct 2014	29	Closure	-2835
	Nordex	Nordex (DE)	Sep 2014	28	Expansion	+600
	Gea	Gea Group (DE)	Aug 2014	28	Restructuring	-360

	Company name	Owner(s)	Date announcem.	NACE code	Restructuring type	Affected employ.
	Osram	Osram (DE)	Jul 2014	27	Restructuring	-1800
	Whitesell	Whitesell (US)	Jul 2014	29	Restructuring	-650
	Ford Koeln	Ford Motor Cy. (US)	Jun 2014	29	Expansion	+500
	Bosch Rexroth	Robert Bosch (DE)	May / Nov 2014	28	Restructuring	-890
	Eberspächer	Eberspächer Group (DE)	May 2014	29	Restructuring	-500
	Audi	Volkswagen Group (DE)	May 2014	29	Expansion	+2000
	ZF Friedrichshafen	ZF Friedrichshafen (DE)	May 2014	29	Expansion	+500
	SMA Solar	Danfoss (DK)	Apr 2014	26	Restructuring	-800
	KSB	KSB (DE)	Mar/Jun 2014	28	Restructuring	-505
	Bosch Automotive	Robert Bosch (DE)	Mar 2014	29	Expansion	+800
	Bosch Solar Energy	Robert Bosch (DE)	Mar 2014	28	Restructuring	-350
	ThyssenKrupp Material Services	ThyssenKrupp	Mar 2014	25	Closure	-260
	Hella	BHTC (Behr Hella) (DE)	Feb 2014	29	Restructuring / offshoring	-750
	Dillinger Hütte (DH)	Dillinger Hütte (DH) (DE)	Jan 2014	24	Restructuring	-400
	Airbus Defense & Space	Airbus Group (NL)	Jan / May 2014	30	Restructuring	-2500
Hungary	Samsung SDI	Samsung (KR)	Aug 2016	27	Expansion	+600
	Audi Hungaria Motor	Volkswagen Group (DE)	Oct 2015	29	Expansion	+380
	Bosch Energy & Body Systems	Robert Bosch (DE)	Sep 2015	29	Expansion	+425
	Harman	Harman Group (US)	Mar 2015	29	Expansion	+420
	Opel Magyarország	General Motors (US)	Jan 2015	29	Expansion	+500
	Diehl Aircabin Hungary	Diehl (DE)	Nov 2014	28	Expansion	+280
	Wescast	Bohong Group (CN)	Oct 2014	29	Expansion	+250
	Nokia Komarom	Microsoft (US)	Jul 2014	26	Closure	-1800
	Eagle Ottawa	Eagle Ottawa (US)	Jun 2014	29	Expansion	+600
	Takata Safety Systems	Takata Corp (JP)	Jun 2014	29	Expansion	+1000
Ireland	Intel	Intel (US)	May 2016	26	Restructuring	-350
	Bose	Bose Corp (US)	Jan 2015	26	Closure / Offshoring	-140
	Valeo Vision	Valeo Group (FR)	Nov 2014	29	Expansion	+140
	Ericsson	Ericsson (SE)	May 2014	26	Expansion	+120
Italy	Ericsson	Ericsson (SE)	Jun 2016	26	Restructuring	-332
	Blutec	Metec Industrial Materials (IT)	Apr 2016	29	Expansion	+250
	Automobili Lamborghini	Volkswagen Group (DE)	Sep 2015	29	Expansion	+500
	Whirlpool	Whirlpool (US)	Jul 2015	27	Restructuring	-350
	AnsaldoBreda	Hitachi (JP)	Jun 2015	30	Restructuring	-282
	Tenaris Dalmine	Techint Group (AR)	Feb 2015	24	Restructuring	-406
	TRW Automotive	TRW Automot. (US)	Nov 2014	29	Closure	-450
	Antonio Merloni	Antonio Merloni (IT)	Oct 2014	27	Bankruptcy	-1450
	Iveco	CNH Industrial (IT)	Oct 2014	29	Restructuring	-275
	Electrolux	Electrolux (SE)	Feb 2014	27	Restructuring	-316
	Beltrame	Beltrame (IT)	Jan 2014	24	Closure	-310
	Alcatel Lucent	Nokia (FI)	Jan 2014	26	Restructuring	-330
Latvia	KVV Liepājas metalurgs	KVV Liepājas metalurgs (LV)	Apr 2016	24	Restructuring	-153

	Company name	Owner(s)	Date announcem.	NACE code	Restructuring type	Affected employ.
Lithuania	Oppenhejm & Jansson	Oppenhejm & Jansson (DK)	Oct 2015	29	Expansion	+150
	Hugaasgruppen	Hugaasgruppen (NO)	Jun 2014	24	Expansion	+120
	PKC	PKC Group (FI)	Jun 2014	28	Expansion	+320
Netherlands	Pegatron Netherlands	Pegatron Corp. (TW)	Mar 2016	26	Closure / offshoring	-500
	IHC	IHC (NL)	Jun 2015	30	Restructuring	-1400
	Aldel	Aldel (NL)	Jan 2014	24	Bankrupcty	-300
Poland	Pronar	Pronar (PL)	Sep 2016	29	Expansion	+550
	Kopex Machinery	Kopex Group (PL)	Sep 2016	28	Restructuring	-250
	Safran Transmission Syst.	Safran (FR)	Aug 2016	30	Expansion	+300
	Henniges Automotive	Henniges Automotive (US)	Jul 2016	29	Expansion	+500
	IFA Powertrain	IFA Powertrain (DE)	Jul 2016	29	Expansion	+430
	Johnson Matthey Battery Systems	Johnson Matthey Battery Systems (UK)	Jun 2016	27	Expansion	+250
	Groclin Auto	Groclin Auto (PL)	May 2016	29	Expansion	+300
	Mubea	Mubea (DE)	May 2016	29	Expansion	+900
	NGK Ceramics Poland	NGK Ceramics (JP)	May 2016	29	Expansion	+300
	Kongsberg Automotive	Kongsberg Automotive (NO)	Apr 2016	29	Expansion	+250
	Kopex Machinery	Kopex Machinery (PL)	Apr 2016	28	Restructuring	-305
	Johnson Electric	Johnson Electric (HK/CN)	Apr 2016	27	Expansion	+1000
	MAN Truck & Bus Poland	MAN (DE)	Mar 2016	29	Expansion	+300
	Pentair Poland	Pentair Technical Solutions (US)	Feb 2016	25	Expansion	+250
	Volkswagen Poznań	Volkswagen Group (DE)	Jan 2016	29	Expansion	+1500
	Paradigm Precision	Paradigm Precision (US)	Jan 2016	30	Expansion	+250
	Haering Polska	Haering Polska (DE)	Jan 2016	30	Expansion	+300
	BSH Sprzęt Gospodarstwa Domowego	Bosch and Siemens Household Appliances (DE)	Oct 2015	27	Expansion	+500
	Pilkington Autom. Poland	NSG Group (JP)	Oct 2015	29	Expansion	+400
	Azura Group	Nimrod Group (UK)	Aug 2015	30	Expansion	+300
	Johnson Controls	Johnson Controls (DE)	Aug 2015	29	Expansion	+400
	ZEM Elk Autom. Electrotechnical	ZEM Elk Autom. Electrotechnical (PL)	Jul 2015	27	Expansion	+250
	Uniwheels	Uniwheels (DE)	Jul 2015	29	Expansion	+270
	Hispano-Suiza Poland	Hispano-Suiza Poland (PL)	Jun 2015	30	Expansion	+250
	MTU Aero Engines	MTU Aero Engines (DE)	Jun 2015	28	Expansion	+250
	Gdańsk Shipyard Group	Gdańsk Shipyard Group (PL)	Jun 2015	30	Expansion	+250
	PZL Mielec	United Technologies (UTX)(US)	Jun 2015	30	Restructuring	-510
	Volkswagen Poznań	Volkswagen Group (DE)	Mar 2015	29	Expansion	+900
	Samsung Electronics	Samsung Electronics (KR)	Feb 2015	27	Expansion	+250
	General Electric	General Electric (US)	Dec 2014	27	Expansion	+400

	Company name	Owner(s)	Date announcem.	NACE code	Restructuring type	Affected employ.
	Pilkington Autom. Poland	NSG Group (JP)	Nov 2014	29	Expansion	+300
	Opel Gliwice	General Motors (US)	Oct 2014	29	Expansion	+300
	PKC	PKC Group (FI)	Oct 2014	27	Restructuring	-502
	Toyota Manufact. Poland	Toyota (JP)	Jun 2014	29	Expansion	+380
	IQ Metal Poland	IQ Metal (DK)	Jun 2014	25	Expansion	+350
	Pojazdy Szynowe PESA Bydgoszcz	Pojazdy Szynowe PESA Bydgoszcz (PL)	Jun 2014	30	Expansion	+500
	Sopem	SOMFY Group (FR)	Jun 2014	27	Expansion	+800
	Tabor Szynowy Opole	Tabor Szynowy Opole (PL)	May 2014	30	Bankrupcty	-320
	Polaris Industries	Polaris Industr. (US)	Mar 2014	29	Expansion	+350
	Boryszew	Boryszew (PL)	Jan 2014	29	Expansion	+250
Portugal	Autoeuropa Volkswagen	Volkswagen (DE)	Aug 2015	29	Expansion	+500
	Faurecia	Faurecia (FR)	Jul 2015	29	Expansion	+400
	Fujitsu	Fujitsu (JP)	Apr 2015	26	Expansion	+300
Romania	Autoliv Romania	Autoliv (SE)	Jun 2016	29	Expansion	+500
	Bosch Service Solutions	Robert Bosch (DE)	May 2016	29	Expansion	+840
	Sumitomo Electric Wiring Systems (SEWS)	Sumitomo Electric Industries (JP)	May / June 2016	29	Expansion	+275
	Automobile Dacia	Groupe Renault (FR)	Mar 2016	29	Expansion	+600
	Yazaki Braila	Yazaki Corp (JP)	Mar 2016	29	Expansion	+400
	Star Transmission	Daimler AG (DE)	Mar 2016	29	Expansion	+500
	Prolyte Products	Prolyte Group (NL)	Mar 2016	25	Expansion	+500
	Leoni Wiring Systems Arad	LEONI Group (DE)	Apr 2015	29	Expansion	+500
	Faurecia	Faurecia (FR)	Dec 2014 / Sep 2015	29	Expansion	+2100
	Kromberg and Schubert	Kromberg and Schubert (DE)	Dec 2014	27	Expansion	+1000
	Ford Romania	Ford Motor Cy. (US)	Nov 2014	29	Restructuring	-490
	Upet	Industrial Group Generation (RU)	Nov 2014	28	Restructuring	-263
	Yazaki Romania	Yazaki Corp (JP)	Sep 2014	29	Expansion	+970
	Sumitomo Electric Wiring Systems	Sumitomo Electric Industries (JP)	Jul 2014	29	Expansion	+500
	TRW Automotive	TRW Automot. (US)	Apr 2014	29	Expansion	+300
	Sisteme de Producţie Cablaje	Draexlmaier Group (DE)	Apr 2014	29	Expansion	+500
	Bosch Service Solutions	Robert Bosch (DE)	Apr 2014	29	Expansion	+425
	DeLonghi Romania	DeLonghi (IT)	Apr 2014	27	Expansion	+250
	Leoni Wiring Systems Arad	LEONI Group (DE)	Mar 2014	29	Expansion	+500
	Continental Sibiu	Continental Automotive (DE)	Mar 2014	29	Expansion	+1000
	Autoliv Romania	Autoliv (SE)	Feb 2014	29	Expansion	+500
	Rulmenti Barlad	Rulmenti Barlad (RO)	Feb 2014	25	Restructuring	-384
Slovakia	Brose Prievidza	Brose Int'l (DE)	Sep 2016	29	Expansion	+700
	Leyard Shenzen Opto Electronics	Leyard Shenzen Opto Electr. (CN)	Aug 2016	27	Expansion	+150
	PSA Peugeot-Citroen Trnava	PSA Peugeot-Citroen (FR)	Jun 2016	29	Expansion	+800
	Sensus Slovakia	Sensus EME&AP (SK)	Feb 2016	28	Expansion	+100

	Company name	Owner(s)	Date announcem.	NACE code	Restructuring type	Affected employ.
	Dongit Rubber Belt Slovakia	Dongit (KR)	Feb 2016	29	Expansion	+150
	Faurecia Slovakia	Faurecia (FR)	Feb / Aug 2016	29	Expansion	+1000
	Nissens Slovakia	Nissens (DK)	Feb 2016	28	Expansion	+120
	Otolift	Otolift (NL)	Jan 2016	30	Expansion	+300
	PSA Peugeot-Citroen	PSA Peugeot-Citroen (FR)	Dec 2015	29	Expansion	+800
	Lear Corp. Seating Slovakia	Lear Corp. (US)	Nov 2015	29	Expansion	+132
	Getrag Ford Transmissions	Magna Steyr (AT)	Sep 2015	29	Expansion	+100
	SK C Foundry	Funderia Condals (ES)	Sep 2015	24	Expansion	+300
	Leyard Europe	Leyard Shenzhen Opto Electr. (CN)	Sep 2015	27	Expansion	+300
	Sumitomo Electric Wiring Systems (SEWS)	Sumitomo Electric Industries (JP)	Jul 2015	27	Restructuring / offshoring	-398
	Railway Casted Components	Railway Casted Components (SK)	Mar 2015	30	Restructuring	-200
	Leader Light	Leader Light (SK)	Feb 2015	27	Expansion	+130
	Kovaco	Kovaco (SK)	Nov 2014	28	Expansion	+300
	Volkswagen Slovakia	Volkswagen Group (DE)	Oct 2014	28	Expansion	+500
	Panasonic AVC Networks	Panasonic (JP)	Oct 2014	26	Restructuring / offshoring	-656
	Unex Unicov	Unex Unicov (CZ)	Sep 2014	28	Expansion	+100
	Trim Leader	Johnson Controls (DE)	Aug 2014	29	Expansion	+150
	Martinrea Slovakia Fluid Systems	Martinrea Comp. (CA)	Aug 2014	29	Expansion	+210
	CZ Slovensko	MSM Martin (SK) / CZC (CZ)	Jul 2014	25	Expansion	+140
	Hyunnam Automotive	Youngson Glonet Corp. (KR)	Jun 2014	29	Expansion	+150
.	Korea Fuel-Tech	Korea Fuel-Tech (KR)	May 2015	29	Expansion	+120
	Magneti Marelli	Magneti Marelli (IT)	Apr 2015	29	Expansion	+617
	Johnson Controls	Johnson Controls (DE)	Mar 2014	29	Expansion	+570
	Delphi Slovakia	Delphi Automotive (US)	Feb 2014	29	Expansion	+150
	Emerson Electric	Emerson Electric (US)	Feb 2014	28	Restructuring / offshoring	-111
Slovenia	Slovenian Steel Industry	Koks Group (RU)	Jul 2016	24	Expansion	+140
	BSH Hišni aparati	BSH Home Appliances (DE)	Jul 2016	27	Expansion	+100
	Novem Car Interior Design	Novem Group (DE)	Jun 2016	29	Expansion	+150
	Revoz	Groupe Renault (FR)	Jun 2016	29	Expansion	+250
	Odelo Slovenija	Bayraktarlar (TR)	Dec 2015	29	Expansion	+100
	Slovenian Steel Industry	SIJ Group (SI)	Jun 2015	24	Restructuring	-100
	Seaway Yachts	Seaway (SI)	Jan 2015	30	Bankrupcty	-123
	Revoz	Groupe Renault (FR)	Jan / Sep 2015	29	Restructuring	-600
	Revoz	Groupe Renault (FR)	Oct 2014	29	Expansion	+450
	Prevent Halog	Prevent Halog (SI)	Sep 2014	29	Closure	-499
	Akrapovič	Akrapovič (SI)	Jul 2014	29	Expansion	+100
	Revoz	Groupe Renault (FR)	May 2014	29	Expansion	+270

	Company name	Owner(s)	Date announcem.	NACE code	Restructuring type	Affected employ.
	Secop Kompresorji	Aurelius (DE)	Feb 2014	28	Restructuring / offshoring	-360
Spain	Nokia	Nokia (FI)	Apr 2016	26	Restructuring	-320
	Delphi Barcelona	Delphi Automotive (US)	Mar 2016	29	Closure	-536
	TRW Pamplona	TRW Automot. (US)	Feb 2016	29	Restructuring	-250
	Seat	Volkswagen Group (DE)	Oct 2015	29	Restructuring	-400
	Nissan Truck	Nissan Motor (JP)	Oct 2015	29	Expansion	+800
	Ford Valencia	Ford Motor Cy. (US)	Dec 2014	29	Expansion	+900
	Nissan	Nissan Motor (JP)	Oct 2014	29	Expansion	+686
	Renault	Groupe Renault (FR)	Jan / Jun 2014	29	Expansion	+1250
Sweden	Volvo Cars	Zhejiang Geely (CN)	Aug 2016	29	Expansion	+400
	Volvo Trucks Tuve	Volvo Trucks (SE)	Jun 2016	29	Expansion	+300
	Kalmar	Kalmar (SE)	Mar 2016	30	Restructuring	-260
	Bombardier Transp. Sweden	Bombardier (CA)	Feb 2016	30	Restructuring	-300
	CEVT Goteborg	Zhejiang Geely (CN)	Oct 2015	29	Expansion	+350
	SSAB	SSAB (FI/NO/SE)	Sep 2015 / Feb 2016	24	Restructuring	-643
	Electrolux	Electrolux (SE)	Jun 2015	27	Closure / Offshoring	-250
	Scania Södertälje	Volkswagen Group (DE)	May 2015	29	Expansion	+400
	Ericsson	Ericsson (SE)	Mar 2015	26	Restructuring	-2200
	Sony	Sony Corp. (JP)	Mar 2015	26	Restructuring	-975
	Volvo Trucks	Volvo Trucks (SE)	Nov 2014	29	Restructuring	-350
	Volvo Cars	Zhejiang Geely (CN)	Nov 2014	29	Expansion	+1500
	Bombardier Transp. Sweden	Bombardier (CA)	Mar 2014	30	Restructuring	-250
	Volvo Construction Equipment	Volvo Trucks (SE)	Mar 2014	28	Restructuring	-450
	Whirlpool	Whirlpool (US)	Jan 2014	27	Closure	-323
UK	GKN	GKN (UK)	Jul 2016	29	Restructuring	-251
	Seagate Technologies	Seagate Technologies (UK)	Jul 2016	26	Closure	-324
	Bombardier Belfast	Bombardier (CA)	Feb 2016	30	Restructuring	-580
	UK for Rail	Bombardier (CA)	Feb 2016	30	Restructuring	-270
	Tata Steel	Tata Group (IN)	Jan 2016	24	Restructuring	-1050
	McLaren	McLaren (UK)	Jan 2016	29	Expansion	250
	Leaderflush shapland	Laidlaw interiors Group (UK)	Jan 2016	25	Closure	-394
	BAE Systems	BAE Systems (UK)	Dec 2015	30	Restructuring	-371
	Tata Steel	Tata Group (IN)	Oct 2015	24	Restructuring	-1170
	Aston Martin	Aston Martin (UK)	Oct 2015	29	Restructuring	-295
	SSI Redacar	Sahaviriya Steel Industries UK (IN)	Oct 2015	24	Closure	-2200
	JCB	JCB (UK)	Sep 2015	28	Restructuring	-400
	Tata Steel	Tata Group (IN)	Jul / Aug 2015	24	Restructuring	-970
	General Dynamics	General Dynamics (US)	Jul 2015	30	Expansion	+250
	Siemens	Siemens (DE)	Jul 2015	28	Expansion	+1000
	Nissan Sunderland	Nissan (JP)	Jun 2015	29	Expansion	+300
	Rolls-Royce	Rolls-Royce(UK)	Dec 2014	30	Restructuring	-590
	BAE Systems	BAE Systems (UK)	Oct 2014	25	Restructuring	-440
	Bombardier Belfast	Bombardier (CA)	Sep 2014	30	Restructuring	-390
	Vauxhall	General Motors (US)	Jul 2014	29	Expansion	+550
	Tata Steel	Tata Group (IN)	Jul 2014	24	Restructuring	-400

	Company name	Owner(s)	Date announcem.	NACE code	Restructuring type	Affected employ.
	Jaguar Land Rover	Tata Group (IN)	Jun 2014	29	Expansion	+250
	Dyson	Dyson (UK)	Jun 2014	27	Expansion	+400
	Aston Martin	Aston Martin (UK)	May 2014	29	Expansion	+250
	Glen Dimplex Home Appliances	Glen Dimplex Home Appliances (UK)	Apr 2014	27	Expansion	+300
	Honda Swindon	Honda Motors (JP)	Mar 2014	29	Restructuring	-340
	Alcatel-Lucent	Nokia (FR)	Mar 2014	26	Closure	-300
	BAE Systems	BAE Systems (UK)	Feb 2014	25	Expansion	+287

Source: Eurofound European Monitoring Centre on Change (EMCC) *Restructuring events database,* January 2014-September 2016 (https://www.eurofound.europa.eu/nl/observatories/emcc/erm/factsheets), and additional press messages; for AT, BE, CZ, FR, DE, HU, IT, NL, PL, PT, RO, ES, SE, UK: events affecting employment of 250 employees or more; for BG, DK, EE, FI, IE, LT, LV, SK, SI: events affecting employment of 100 employees or more.

COMMERCE

Table A3.1 Employment in Commerce (Wholesale and Retail), 23 EU member states, 2014, x 1,000 employees. and share of Wholesale

	G46 wholesale	G47 retail (ex. 47.3 – fuel)	Total commerce	% wholes. in tot. commerce
13 W/N/S c				
Austria	185.4	312.3	497.7	37.3
Belgium	190.9	241.1	432.0	44.2
Denmark	179.6	162.6	342.2	52.8
Finland	82.7	154.6	237.3	34.9
France	1019.4	1644.5	2663.9	38.2
Germany	1712.3	3065.8	4778.1	35.8
Ireland*)	81.7	180.7	262.4	31.1
Italy	698.5	1008.2	1706.7	40.9
Netherlands	454.4	706.3	1160.7	39.1
Portugal	188.2	310.6	498.8	37.7
Spain	854.6	1108.8	1963.4	43.5
Sweden	217.6	261.9	479.5	45.4
UK	1120.6	3005.1	4125.7	27.2
Total 13 c.	**6985.9**	**12162.5**	**19148.4**	**36.5**
CEEs				
Bulgaria	137.9	208.6	346.5	39.8
Czech Rep.	210.9	224.0	434.9	48.5
Estonia	27.2	44.7	71.9	37.8
Latvia	45.5	88.7	134.2	33.9
Lithuania	75.6	109.0	184.6	40.9
Hungary	155.7	227.1	382.8	40.8
Poland	572.1	856.1	1428.2	40.1
Romania	305.3	429.8	735.1	41.5
Slovakia	95.9	124.9	220.8	43.4
Slovenia	35.6	49.1	84.7	42.0
Total 10 CEE	**1661.7**	**2362.0**	**4023.7**	**41.3**
Total 23 c.	**8647.6**	**14524.5**	**23172.1**	**37.3**

Source: Eurostat, Annual detailed enterprise statistics for trade

*) no data provided by Eurostat, data based on AIAS MNE Database

Table A3.2 Total employment and employed in affiliates of foreign-owned MNEs, Wholesale, 23 EU member states, 2008-2013, x 1,000 employees (total employment) / 1,000 persons employed (foreign-owned affiliates) and in %

	Total employment (employees)			Foreign-owned affiliates (persons employed)			*% empl. in foreign-owned aff.*		
Host country	**2008**	**2010**	**2013**	**2008**	**2010**	**2013**	***2008***	***2010***	***2013***
13 W/N/S c.									
Austria	183.1	177.1	183.0	59.8	60.1	62.5	*32.7*	*33.9*	*34.2*
Belgium	191.6	195.3	190.1	38.3	47.6	42.5	*20.0*	*24.4*	*22.4*
Denmark	162.0	143.0	180.8	51.8	44.3	58.5	*32.0*	*30.9*	*32.3*
Finland	89.8	86.0	83.8	27.9	26.1	24.6	*31.1*	*30.3*	*29.4*
France	878.9	1027.8	1006.4	258.8	271.1	272.8	*29.4*	*26.3*	*27.1*
Germany	1316.0	1704.0	1724.4	374.9	297.0	345.6	*28.5*	*17.4*	*20.0*
Ireland	90.9	82.0	81.7	23.7	21.3	23.8*)	*26.1*	*26.0*	*29.1*
Italy	718.1	709.3	710.2	114.0	111.9	108.5	*15.9*	*15.8*	*15.3*
Netherlands	471.3	456.3	462.8	111.6	128.8	140.3	*23.7*	*28.2*	*30.3*
Portugal	232.6	221.7	190.1	32.6	35.0	28.4	*14.0*	*15.8*	*14.9*
Spain	1016.5	920.4	855.0	127.5	132.1	140.0	*12.5*	*14.3*	*16.4*
Sweden	210.3	210.8	213.5	79.7	79.4	76.2	*37.9*	*37.7*	*35.7*
UK	1119.1	1071.1	1148.2	306.3	291.4	318.8	*27.3*	*27.2*	*27.8*
Total 13 c.	**6680.2**	**7004.8**	**7030.0**	**1606.9**	**1546.1**	**1642.5**	***24.1***	***22.1***	***23.4***
% growth		**+4.9%**	**+0.3%**		**-3.8%**	**+6.2%**			
10 CEEs									
Bulgaria	154.9	152.6	138.9	25.4	28.6	25.6	*16.4*	*18.7*	*18.4*
Czech Rep.	201.2	196.4	212.5	56.9	57.3	55.5	*28.2*	*29.2*	*26.1*
Estonia	34.7	25.3	27.4	5.9	3.6	3.8	*17.0*	*14.2*	*13.9*
Latvia	59.5	44.0	42.4	15.0	12.0	13.2	*25.2*	*27.3*	*31.1*
Lithuania	84.2	69.7	73.0	16.4	13.4	12.3	*19.5*	*19.2*	*16.8*
Hungary	174.2	159.8	155.0	47.5	47.9	45.6	*27.3*	*30.0*	*29.4*
Poland	652.6	599.4	553.8	101.1	103.1	99.3	*15.5*	*17.2*	*17.9*
Romania	335.7	307.6	308.2	68.7	72.5	73.3	*20.5*	*23.6*	*23.8*
Slovakia	105.5	104.6	91.0	20.5	18.3	15.7	*19.4*	*17.5*	*17.3*
Slovenia	42.9	41.0	37.8	7.0	7.2	8.2	*16.3*	*17.6*	*21.7*
Total 10 CEE	**1845.4**	**1700.4**	**1640.0**	**364.4**	**363.9**	**352.5**	***19.7***	***21.4***	***21.5***
% growth		**-7.9%**	**-3.6%**		**-0.2%**	**-3.1%**			
Total 23 c.	**8525.6**	**8705.2**	**8670.0**	**1971.3**	**1910.0**	**1995.0**	***23.1***	***21.9***	***23.0***
% growth		**+2.4%**	**-0.4%**		**-3.1%**	**+4.5%**			

Source: Eurostat, Annual Enterprise and FATS statistics

* Authors' estimate, based on AIAS MNE database.

Table A3.3 Employment in Wholesale by sub-sector, 23 EU member states, 2014, x 1,000 employees

	G46.1 fee / contr.	G46.2 agric. Raw	G46.3 food, bever.	G46.4 househ goods	G46.5 ICT equip	G46.6 other mach.	G46.7 other spec.	G46.9 non-spec.	Total wholes
13 W/N/S c									
Austria	9.3	15.9	27.4	*40.3*	*8.2*	*34.4*	*46.0*	3.8	**185.4**
Belgium	6.1	4.0	30.6	52.3	*11.8*	37.1	44.1	4.8	**190.9**
Denmark	6.2	4.4	22.8	47.7	*16.4*	*34.3*	39.9	8.4	**179.6**
Finland	5.4	*2.1*	8.7	*17.8*	*6.2*	*20.0*	18.4	4.1	**82.7**
France	83.9	43.2	146.4	*214.9*	*49.2*	208.2	234.5	*39.2*	**1019.4**
Germany	65.8	60.0	246.0	458.9	*118.5*	261.3	435.1	91.6	**1712.3**
Ireland*)	5.0	2.3	20.7	16.1	*10.1*	8.7	13.6	5.2	**81.7**
Italy	33.1	16.9	141.2	200.3	38.9	75.1	160.7	32.3	**698.5**
Netherlands	18.5	30.3	72.4	*106.9*	*51.9*	83.1	77.9	13.1	**454.4**
Portugal	9.4	6.8	47.6	45.4	*7.4*	22.3	35.3	13.9	**188.2**
Spain	*31.7*	24.6	291.3	194.8	*51.5*	104.0	152.2	4.6	**854.6**
Sweden	9.3	4.0	32.3	*61.4*	*18.1*	*39.3*	51.9	1.3	**217.6**
UK	69.8	18.3	201.5	*272.0*	*76.1*	178.9	244.9	59.3	**1120.6**
Total 13 c.	**353.4**	**232.8**	**1288.9**	**1728.8**	***464.3***	**1106.7**	**1554.5**	**281.6**	**6985.9**
CEEs									
Bulgaria	3.8	7.1	37.9	26.4	4.1	10.6	35.4	*12.6*	**137.9**
Czech Rep.	22.5	5.9	30.6	43.8	10.5	21.9	52.6	23.2	**210.9**
Estonia	0.7	0.6	5.5	5.4	0.9	4.1	7.9	2.1	**27.2**
Latvia	2.4	1.2	9.3	9.5	2.6	*5.5*	*12.7*	*2.4*	**45.5**
Lithuania	1.4	3.4	14.0	17.3	3.3	11.8	23.6	0.8	**75.6**
Hungary	15.7	9.8	30.9	*31.8*	*6.7*	11.7	30.6	*18.4*	**155.7**
Poland	37.6	19.1	90.2	90.1	15.0	32.4	146.4	141.2	**572.1**
Romania	32.2	11.2	71.6	61.0	*11.6*	17.8	70.5	29.4	**305.3**
Slovakia	17.6	1.7	11.0	14.0	3.0	5.1	13.8	29.6	**95.9**
Slovenia	11.0	0.4	2.9	7.1	0.9	2.1	5.9	5.5	**35.6**
Total 10 CEE	**144.9**	**60.4**	**303.9**	**306.4**	***58.6***	**123.0**	**399.4**	**265.2**	**1661.7**
Total 23 c.	**498.3**	**293.2**	**1592.8**	**2035.2**	***522.9***	**1229.7**	**1953.9**	**546.8**	**8647.6**

Source: Eurostat, Annual detailed enterprise statistics – trade

*) 2012

Table A3.4 Growth of employment in Wholesale by sub-sector, employees, 23 EU member states, 2008-2014, in %

	G46.1 fee / contr.	G46.2 agric. Raw	G46.3 food, bever.	G46.4 househ goods	G46.5 ICT equip	G46.6 other mach.	G46.7 other spec.	G46.9 non-spec.	Total wholes
13 W/N/S c									
Austria	14.8	-0.1	10.4	-5.0	-1.2	3.6	1.8	-7.6	**1.3**
Belgium	--3.3	-3.4	8.9	-1.9	-15.6	2.5	-0.3	-11.3	**-0.4**
Denmark	15.1	-5.5	15.2	14.1	12.4	4.9	9.8	29.8	**10.9**
Finland	0.1	-21.1	0.8	-8.0	-19.8	-2.6	-6.3	-30.2	**-7.9**
France	8.3	131.7	9.8	3.5	5.4	20.7	15.1	114.2	**16.0**
Germany	106.6	25.1	19.8	26.4	22.5	52.9	24.9	25.1	**30.9**
Ireland*)	-15.0	9.5	-5.6	-10.6	48.3	-9.1	-32.3	-20.6	**-10.1**
Italy	-9.6	6.1	6.3	-1.3	-11.2	-2.1	-7.4	-10.0	**-2.7**
Netherlands	-5.1	-2.0	-0.7	-0.9	-5.5	-8.0	-10.8	42.8	**-3.6**
Portugal	-35.2	-4.9	-16.8	-22.5	-7.5	-15.3	-18.0	-15.9	**-18.9**
Spain	-15.2	-6.5	-4.8	-13.1	-23.2	-23.4	-30.0	58.4	**-16.0**
Sweden	-17.7	-5.2	9.4	12.5	-11.3	8.9	-1.5	-8.6	**3.4**
UK	33.0	-20.2	1.0	1.0	-6.1	14.0	-6.9	-20.0	**0.1**
Total 11 c.	**6.5**	**3.8**	**7.9**	**3.6**	**-3.2**	**7.9**	**2.7**	**5.4**	**4.6**
CEEs									
Bulgaria	23.8	29.4	-7.8	-5.7	-38.5	-15.2	-25.4	18.7	**-11.0**
Czech Rep.	106.4	15.7	2.4	-1.8	4.4	7.7	-8.8	2.9	**4.8**
Estonia	-69.9	-18.4	6.7	-22.3	-43.3	-8.3	-22.6	-38.1	**-21.4**
Latvia	40.1	20.6	-13.4	-28.6	-26.1	-18.8	-36.8	-0.9	**-23.5**
Lithuania	-1.1	28.7	-8.4	-23.5	11.6	-0.7	-9.9	-35.1	**-10.2**
Hungary	-6.5	-7.4	-13.4	-16.1	-0.8	20.6	-17.8	-4.6	**-10.6**
Poland	1.3	47.3	-9.9	-18.3	84.0	-2.9	-4.0	-14.6	**-11.9**
Romania	-17.8	-7.5	-28.1	-26.5	26.0	7.3	-18.6	-13.1	**-9.0**
Slovakia	-9.3	-2.9	1.1	1.0	-0.2	-19.4	-33.3	-4.5	**-9.1**
Slovenia	-14.3	-48.0	6.4	-2.5	-18.6	-4.3	-38.5	-17.5	**-17.0**
Total 10 CEE	**17.4**	**11.1**	**-13.0**	**-18.7**	**11.6**	**-1.4**	**-14.8**	**-16.0**	**-10.0**
Total 21 c.	**7.4**	**5.3**	**4.9**	**-0.6**	**-1.2**	**6.0**	**-1.9**	**1.8**	**1.4**

Source: Eurostat, Annual detailed enterprise statistics – trade

*) 2008-2012

Table A3.5 Total employment and employed in affiliates of foreign-owned MNEs, Retail (excl. autom. fuel sales), 23 EU member states, 2008-2013, x 1,000 employees (total employment) / 1,000 persons employed (foreign-owned affiliates) and in %

	Total employment (employees)			Foreign-owned affiliates (persons employed)			*% empl. in for.-owned aff.*		
Host country	**2008**	**2010**	**2013**	**2008**	**2010**	**2013**	***2008***	***2010***	***2013***
13 W/N/S c.									
Austria	296.7	293.6	311.8	97.1	99.7	113.4	*32.7*	*34.0*	*36.3*
Belgium	230.4	238.8	238.9	13.1	38.4	37.5	*5.7*	*16.1*	*15.7*
Denmark	211.9	202.4	160.4	24.5	24.1	21.9	*11.6*	*11.9*	*13.7*
Finland	142.2	145.1	151.3	18.6	18.6	24.7	*13.1*	*12.8*	*16.3*
France	1518.1	1657.5	1627.9	198.9	186.1	228.0	*12.9*	*11.2*	*14.0*
Germany	2554.4	2901.9	2949.2	147.3	141.9	239.1	*5.8*	*4.9*	*8.1*
Ireland	198.5	180.8	180.7	44.8	52.6	54.6	*22.5*	*29.1*	*30.2*
Italy	986.5	1001.2	1011.1	152.9	167.7	163.7	*15.4*	*16.8*	*16.2*
Netherlands	688.9	695.1	702.3	88.0	84.5	126.3	*12.8*	*12.2*	*18.0*
Portugal	338.3	341.9	307.9	34.6	38.8	48.7	*10.2*	*11.3*	*15.8*
Spain	1282.0	1189.6	1125.7	180.6	184.2	184.0	*14.1*	*15.5*	*16.3*
Sweden	245.7	250.7	259.6	47.6	36.2	51.9	*19.3*	*14.4*	*20.0*
UK	2962.2	2826.2	2926.3	575.2	515.0	603.7	*19.4*	*18.2*	*20.6*
Total 13 c.	**11655.8**	**11924.8**	**11953.1**	**1623.2**	**1587.8**	**1897.5**	***13.9***	***13.3***	***15.9***
% growth		**+2.7%**	**+2.4%**		**-2.2%**	**+19.5%**			
10 CEEs									
Bulgaria	198.8	214.1	203.0	14.4	20.7	22.7	*7.2*	*9.7*	*11.2*
Czech Rep.	248.3	232.6	225.8	99.5	104.3	107.5	*40.1*	*44.8*	*47.6*
Estonia	46.9	43.5	42.9	11.5	12.4	13.4	*26.4*	*28.5*	*31.2*
Latvia	103.0	86.4	86.3	23.0	21.8	23.5	*22.3*	*25.2*	*27.2*
Lithuania	120.8	102.5	107.4	18.5	16.9	20.5	*15.3*	*16.5*	*19.1*
Hungary	278.5	262.1	259.0	74.4	78.9	75.7	*26.7*	*30.1*	*29.2*
Poland	895.0	855.3	824.6	180.5	201.0	224.7	*20.2*	*23.5*	*27.3*
Romania	511.2	425.5	438.9	67.6	81.4	94.1	*13.2*	*19.1*	*21.4*
Slovakia	100.7	107.5	126.3	26.2	29.5	28.4	*26.0*	*27.4*	*22.5*
Slovenia	50.5	49.6	46.7	10.3	11.7	13.3	*20.4*	*26.8*	*28.5*
Total 10 CEE	**2553.7**	**2379.1**	**2360.9**	**525.9**	**595.5**	**623.8**	***20.6***	***25.0***	***26.4***
% growth		**-6.8%**	**-0.7%**		**+13.2%**	**+4.7%**			
Total 23 c.	**14209.5**	**14303.9**	**14314.0**	**2149.1**	**2183.3**	**2521.3**	***15.1***	***15.3***	***17.6***
% growth		**+0.7%**	**+0.1%**		**+1.6%**	**+15.4%**			

Source: Eurostat, Annual Enterprise and FATS statistics

Table A3.6 Employment in Retail by sub-sector (excl. 47.3 – autom. fuel sales), 23 EU member states, 2014, x 1,000 employees

	G 47.1 supermd ept stores	G47.2 spec. stores	C47.4 ICT equip	C47.5 other househ equip	C47.6 cult. recr. goods	C47.7 other goods special	C47.8 +47.9 vario us	Total G47 (excl. C47.3)
13 W/N/S c								
Austria	*106.8*	18.0	*9.0*	*50.3*	18.7	*102.8*	*6.7*	**312.3**
Belgium	93.6	19.5	*6.1*	33.7	8.8	76.5	2.9	**241.1**
Denmark	72.8	6.3	3.1	21.3	9.9	45.5	3.7	**162.6**
Finland	81.5	5.5	3.7	20.6	6.5	31.0	5.8	**154.6**
France	680.8	89.3	14.4	*198.7*	70.5	492.0	98.8	**1644.5**
Germany	1086.7	220.4	91.7	357.5	122.2	943.6	243.7	**3065.8**
Ireland**)	*81.6*	9.4	3.6	15.6	*8.7*	*59.9*	1.9	**180.7**
Italy	416.2	68.2	16.6	109.6	40.0	329.0	28.6	**1008.2**
Netherlands	318.0	39.5	*16.0*	75.7	28.1	*206.0*	23.0	**706.3**
Portugal	114.9	23.7	10.0	39.0	13.8	103.8	5.4	**310.6**
Spain	427.4	127.4	*37.7*	129.2	*49.5*	318.0	19.6	**1108.8**
Sweden	93.7	15.3	*12.2*	38.5	16.8	72.3	*13.1*	**261.9**
UK	1426.4	168.9	*39.1*	248.6	139.8	*852.8*	129.5	**3005.1**
Total 13 c.	**5000.4**	**811.8**	**263.2**	**1338.3**	**533.3**	**3633.2**	**582.7**	**12162.5**
CEEs								
Bulgaria	88.0	17.9	*6.4*	24.0	7.9	59.8	4.6	**208.6**
Czech Rep.	*106.7*	11.1	3.5	*27.1*	11.5	*54.7*	*9.4*	**224.0**
Estonia	*20.3*	1.1*)	0.8	5.7	2.1	11.4	4.4	**44.7**
Latvia	*39.7*	3.0	1.9	10.1	2.8	23.3	7.9	**88.7**
Lithuania	51.6	2.3	2.2	17.1	3.7	26.7	5.4	**109.0**
Hungary	*117.6*	27.5	7.2	26.8	7.6	25.3	15.1	**227.1**
Poland	*446.0*	40.7	*16.9*	*79.2*	20.1	219.4	33.8	**856.1**
Romania	*230.2*	20.0	8.9	42.6	9.9	98.2	*20.0*	**429.8**
Slovakia	*70.1*	5.1	1.9	12.1	3.4	23.8	*8.5*	**124.9**
Slovenia	*27.1*	1.1	0.8	5.9	2.3	9.5	2.4	**49.1**
Total 10 CEE	**1197.3**	**129.8**	**50.5**	**250.6**	**71.3**	**552.1**	**111.5**	**2362.0**
Total 23 c.	**6197.7**	**941.6**	**313.7**	**1588.9**	**604.6**	**4185.3**	**694.2**	**14524.5**

Source: Eurostat, Annual detailed enterprise statistics for trade except *): based on AIAS MNE database
**) 2012

Table A3.7 Growth of employment in Retail by sub-sector, employees, 23 EU member states, 2008-2014, in %

	G 47.1 superm, dept stores	G47.2 spec. stores	C47.4 ICT equip	C47.5 other househ equip	C47.6 cult. recr. goods	C47.7 other goods special	C47.8 +47.9 vario us	Total G47 (excl. G47.3)
13 W/N/S c.								
Austria	13.0	-3.1	-11.2	2.9	0.5	4.4	14.0	**5.3**
Belgium	4.8	-7.1	8.3	-2.2	-11.4	3.5	37.3	**3.7**
Denmark	-29.3	-35.0	-30.8	-16.2	-23.8	-21.3	77.8	**-23.3**
Finland	12.7	19.1	-24.2	-7.1	-4.2	30.1	-9.2	**6.4**
France	10.2	10.8	-49.1	-5.4	-7.0	18.8	6.1	**8.3**
Germany	20.1	34.4	14.7	2.7	13.8	10.7	64.8	**20.0**
Ireland *)	-8.9	-11.6	-11.9	-28.8	-27.9	-0.4	-6.3	**-9.0**
Italy	-2.4	29.9	-1.2	-9.7	-8.9	-2.7	4.1	**2.2**
Netherlands	19.1	-12.4	-19.5	-11.7	-16.6	-5.2	34.8	**2.5**
Portugal	4.6	-12.2	-3.3	-37.0	-18.8	-9.7	8.3	**-8.2**
Spain	-5.9	-5.2	-29.6	-30.2	-7.1	-12.3	-12.4	**-13.6**
Sweden	15.0	19.4	-17.0	-6.0	-0.7	2.1	45.6	**6.6**
UK	5.2	8.3	-24.8	12.4	-4.2	-2.2	8.4	**1.8**
Total 11 c.	**7.4**	**2.6**	**-9.6**	**-11.9**	**-2.8**	**-0.7**	**34.3**	**4.3**
CEEs								
Bulgaria	18.8	50.8	-49.0	-23.3	2.4	11.0	2.8	**4.9**
Czech Rep.	-2.9	-17.8	-45.9	-27.8	-16.8	-4.8	11.9	**-9.8**
Estonia	-3.7	17.4**)	-51.2	-23.7	-21.2	5.2	87.2	**-8.9**
Latvia	-11.8	49.4	-49.3	-34.9	-38.8	-6.4	-15.4	**-13.9**
Lithuania	-15.9	68.0	-30.9	-3.4	-15.1	-11.1	-4.3	**-11.1**
Hungary	-7.6	87.1	-29.9	-29.8	-16.6	-8.8	7.5	**-18.5**
Poland	1.9	-48.4	-26.3	7.1	-13.9	-15.1	-11.9	**-4.3**
Romania	-18.0	-33.4	1.2	-16.4	-26.1	-12.2	16.1	**-15.9**
Slovakia	42.2	43.4	-26.9	-4.7	-1.8	57.4	139.1	**24.2**
Slovenia	-8.7	-8.2	-28.9	12.7	-6.3	1.8	69.6	**-2.8**
Total 10 CEE	**-2.1**	**-0.6**	**-34.1**	**-13.3**	**-16.2**	**-9.4**	**9.2**	**-7.5**
Total 21 c.	**4.9**	**2.1**	**-14.8**	**-12.1**	**-5.6**	**-2.2**	**28.6**	**2.2**

Source: Eurostat, Annual detailed enterprise statistics for trade

*) 2008-2012

**) 2008-2013

ICT

Table A4.1 Total employment and employed in affiliates of foreign-owned MNEs, ICT, 23 EU member states, 2008-2013, x 1,000 employees (total employment) / 1,000 persons employed (foreign-owned affiliates) and in %

	Total employment (employees)			Foreign-owned affiliates (persons employed)			*% empl. in foreign-owned aff.*		
Host country	**2008**	**2010**	**2013**	**2008**	**2010**	**2013**	***2008***	***2010***	***2013***
13 W/N/S c.									
Austria	39.7	52.8	50.4	8.9	9.1	16.6	*22.4*	*17.2*	*32.9*
Belgium	49.5	49.9	51.9	4.9	6.5*)	8.4	*9.9*	*13.1*	*16.2*
Denmark	46.3	48.0	59.7	14.7	20.0	20.2	*31.7*	*41.7*	*33.8*
Finland	43.0	45.6	55.0*)	12.9	13.0	15.0*)	*30.0*	*28.5*	*27.3*
France	314.3	350.0	372.2	64.0	63.6	69.2	*20.4*	*18.1*	*18.6*
Germany	475.3	486.3	616.1	97.3	95.1	122.0	*20.5*	*19.6*	*19.8*
Ireland	64.6	74.0	75.5*)	33.0	36.0	32.0*)	*51.0*	*48.6*	*42.4*
Italy	265.1	272.1	288.8	41.8	42.7	44.4	*15.8*	*15.7*	*15.4*
Netherlands	145.2	166.0	147.2	35.1	36.9	37.2	*24.2*	*22.2*	*25.3*
Portugal	32.1	36.0	43.8	7.5	8.1	9.4	*23.4*	*22.5*	*21.5*
Spain	211.5	207.8	211.9	57.8	52.2	63.7	*27.3*	*25.1*	*30.1*
Sweden	92.2	93.9	99.9	30.5	32.3	39.1	*33.1*	*34.4*	*39.1*
UK	541.5	543.4*)	608.6	195.3	184.5	204.5	*36.1*	*34.0*	*33.6*
Total 13 c.	**2320.3**	**2425.8**	**2682.0**	**603.7**	**600.0**	**681.7**	***26.0***	***24.7***	***25.6***
% growth		**+4.6%**	**+10.6%**		**-0.6%**	**+13.6%**			
10 CEEs									
Bulgaria	22.9	28.3	37.4	9.4	12.3	17.4	*41.0*	*43.5*	*46.5*
Czech Rep.	51.6	54.2	61.8	22.0	25.8	28.3	*42.6*	*47.6*	*45.8*
Estonia	6.8	7.3	9.5	2.6	2.5	3.4	*38.2*	*34.2*	*35.8*
Latvia	8.0	8.0	14.1	3.0	3.1	5.9	*37.5*	*38.8*	*41.8*
Lithuania	7.5	9.6	13.7	2.0	3.1	5.7	*26.7*	*32.3*	*41.6*
Hungary	41.4	43.8	51.9	10.8	12.0	22.4	*26.1*	*27.4*	*43.2*
Poland	67.8	76.7	105.1	14.7	20.0	30.8	*21.6*	*26.1*	*29.3*
Romania	46.2	46.5	63.4	17.6	22.2	33.1	*38.1*	*47.7*	*52.2*
Slovakia	21.9	19.1	17.8	6.8	8.4	8.6	*31.1*	*44.0*	*48.3*
Slovenia	9.0	9.6	10.3	1.1	1.0	1.9	*12.2*	*10.4*	*18.4*
Total 10 CEE	**283.1**	**303.1**	**384.9**	**90.0**	**110.4**	**157.7**	***31.8***	***36.4***	***41.0***
% growth		**+7.1%**	**+27.0%**		**+22.6%**	**+42.8%**			
Total 23 c.	**2603.4**	**2728.9**	**3066.9**	**693.7**	**710.4**	**839.2**	***26.7***	***26.0***	***27.4***
% growth		**+4.8%**	**+12.4%**		**+2.4%**	**+18.1%**			

Source: Eurostat, Annual Enterprise and FATS statistics

* Authors' estimate, based on AIAS MNE database.

Table A4.2 Employment in ICT by subsector, 23 EU member states, 2014, x 1,000 employees, and growth 2008-2014 in %

	2014			2008-2014
NACE-2 code	**J62 progr., consult.**	**J63 informat. service**	**Total ICT**	**Total ICT (growth in %)**
13 W/N/S c				
Austria	37.8	15.8	53.6	**35.8**
Belgium	47.9	4.4	52.3	**5.7**
Denmark	53.5	6.6	60.1	**29.8**
Finland	47.7	4.3	52.0	**20.9**
France	352.6	42.3	394.9	**19.3**
Germany	581.2	79.6	660.8	**39.2**
Ireland*)	51.0	25.5	76.5	**16.9**
Italy	201.8	87.8	289.6	**9.2**
Netherlands	142.3	14.1	156.4	**7.7**
Portugal	41.0	4.6	45.6	**42.1**
Spain	199.8	17.3	217.1	**2.7**
Sweden	95.7	8.5	104.2	**13.0**
UK	603.6	65.2**)	668.8	**23.5**
Total 13 c.	**2455.9**	**376.0**	**2831.9**	**22.1**
CEEs				
Bulgaria	33.5	7.1	40.6	**77.3**
Czech Rep.	54.6	9.8	64.4	**24.8**
Estonia	8.3	2.0	10.3	**51.5**
Latvia	11.5	5.3	16.8	**110.6**
Lithuania	12.4	3.0	15.4	**105.3**
Hungary	46.5	10.2	56.7	**37.0**
Poland	88.3	28.5	116.8	**57.5**
Romania	59.1	12.0	71.1	**53.9**
Slovakia	19.2	5.1	24.3	**10.9**
Slovenia	9.0	1.2	10.2	**13.2**
Total 10 CEE	**342.4**	**84.2**	**426.6**	**50.7**
Total 23 c.	**2798.3**	**460.2**	**3248.5**	**24.8**

Source: Eurostat, Annual detailed enterprise statistics for services

*) no data provided by Eurostat, authors' estimate based on AIAS MNE Database

**) 2013

TRANSPORT AND TELECOM

Table A5.1 Total employment and employed in affiliates of foreign-owned MNEs, Transport and telecom, 23 EU member states, 2008-2013, x 1,000 employees (total employment) / 1,000 persons employed (foreign-owned affiliates) and in %

	Total employment (employees)			Foreign-owned affiliates (persons employed)			*% empl. in foreign-owned aff.*		
Host country	**2008**	**2010**	**2013**	**2008**	**2010**	**2013**	***2008***	***2010***	***2013***
13 W/N/S c.									
Austria	223.2	213.4	209.6	16.6	22.3	25.0	*7.4*	*10.4*	*11.9*
Belgium	216.4*)	229.5	221.7	54.5	45.0*)	26.5	*25.2*	*19.6*	*12.0*
Denmark	162.2	160.1	161.9	45.0	54.4	57.1	*27.7*	*34.0*	*35.2*
Finland	140.1	144.2	137.8	21.8	18.3	17.0*)	*15.6*	*12.7*	*12.3*
France	1465.1	1504.5	1482.1	80.8	77.7	88.0	*5.5*	*5.2*	*5.9*
Germany	1937.6	1918.3	2071.5	151.5	129.6	162.9	*7.8*	*6.8*	*7.9*
Ireland	91.5	82.5	79.3	19.4	18.8	16.0*)	*21.2*	*22.8*	*20.2*
Italy	1072.9	1027.4	1006.8	82.5	77.9	77.7	*7.7*	*7.6*	*7.7*
Netherlands	433.4	409.0	402.9	104.9	102.9	111.1	*24.2*	*25.2*	*27.6*
Portugal	178.2	170.0	155.2	16.1	14.7	17.6	*9.0*	*8.2*	*11.3*
Spain	850.4	791.3	708.7	58.7	62.6	73.8	*6.9*	*7.9*	*10.4*
Sweden	259.6	251.8	265.3	61.2	54.5	53.1	*23.6*	*21.6*	*20.0*
UK	1442.6	1378.8	1378.4	302.1	325.4	351.5	*20.9*	*23.6*	*25.5*
Total 13 c.	**8473.2**	**8280.8**	**8281.3**	**1015.1**	**1003.4**	**1077.3**	***12.0***	***12.1***	***13.0***
% growth		**-2.3%**	**+0.1%**		**-1.1%**	**+7.4%**			
10 CEEs									
Bulgaria	169.1	161.6	162.6	22.5	17.6	23.9	*13.3*	*10.9*	*14.7*
Czech Rep.	282.2	260.7	237.3	56.0	52.6	48.8	*19.8*	*20.2*	*20.6*
Estonia	40.3	35.8	41.2	6.2	6.3	7.7	*15.3*	*17.6*	*18.6*
Latvia	82.9	71.2	79.4	6.8	8.7	10.1	*8.2*	*12.2*	*12.7*
Lithuania	106.4	94.7	110.5	9.4	8.7	10.6	*8.8*	*9.2*	*9.6*
Hungary	229.7	215.4	217.0	34.0	34.8	41.9	*14.8*	*16.2*	*19.3*
Poland	645.8	631.4	623.8	60.7	87.1	95.0	*9.4*	*13.8*	*15.2*
Romania	392.2	356.9	375.2	54.5	60.7	65.4	*13.9*	*17.0*	*17.4*
Slovakia	107.6	110.2	118.1	20.4	20.2*)	18.1*)	*19.0*	*18.3*	*15.3*
Slovenia	52.6	49.5	43.1	4.1	4.1	5.0	*7.8*	*8.3*	*9.5*
Total 10 CEE	**2108.8**	**1987.4**	**2008.2**	**274.6**	**300.8**	**326.4**	***13.0***	***15.1***	***16.3***
% growth		**-5.8%**	**+1.0%**		**+9.5%**	**+8.5%**			
Total 23 c.	**10582.0**	**10268.2**	**10289.5**	**1289.7**	**1304.2**	**1403.8**	***12.1***	***12.7***	***13.6***
% growth		**-3.0%**	**+0.2%**		**+1.1%**	**+7.6%**			

Source: Eurostat, Annual Enterprise and FATS statistics

*) Authors' estimate, based on AIAS MNE database.

Table A5.2 Employment in Transport and telecom by subsector, 23 EU member states, 2014, x 1,000 employees

NACE-2 code	H49 land transp.	H50 water transp.	H51 air transp.	H52 wareho using	H53 post & courier	J61 telecom	Total t & t
13 W/N/S c							
Austria	114.8	0.4	6.6	34.7	23.9	15.1	195.5
Belgium	103.9	1.3	5.4	51.7	31.9	24.3	218.5
Denmark	65.8	20.8	9.8	33.7	23.1	18.7	171.9
Finland	67.2	9.3**)	4.7	30.4	16.5**)	12.2	140.3
France	627.0	13.9*)	66.1*)	584.5	251.6	167.3	1710.4
Germany	734.0	23.9	57.3	611.6	503.3	111.6	2041.7
Ireland*)	29.9	0.5	7.8	14.6	14.4	12.1	79.3
Italy	400.4	45.6	21.2	315.2	158.0	81.1	1021.5
Netherlands	171.2	16.2	25.2	83.6	69.3	31.2	396.7
Portugal	88.0	1.6	10.9	29.0	14.3	15.0	158.8
Spain	337.8	6.5	28.3	203.4	75.1	59.7	710.8
Sweden	128.7	11.2	5.3	44.5	35.2	25.1	250.0
UK	494.1	12.9**)	70.8**)	334.3	225.4	209.8	1347.3
Total 13 c.	**3362.8**	**164.1**	**319.4**	**2371.2**	**1442.0**	**783.2**	**8442.7**
CEEs							
Bulgaria	89.0	1.5	1.9	31.1	18.7	20.0	162.2
Czech Rep.	149.1	0.5	2.2	35.9	33.7	17.3	238.7
Estonia	20.9	0.8	0.3	12.6	3.4	4.3	42.3
Latvia	41.9	0.9	1.3	27.2	5.3	5.0	81.6
Lithuania	77.3	1.5	0.6	20.1	7.6	6.0	113.1
Hungary	120.7	0.7	0.8	52.4	34.5	18.9	228.0
Poland	363.0	3.0	4.0	122.2	91.8	48.8	632.8
Romania	226.7	2.3	3.6	62.0	36.9	43.4	374.9
Slovakia	53.9	0.4	0.4	18.1	15.8	10.5	99.1
Slovenia	23.6	0.2**)	0.5**)	7.3	6.6	5.0	43.2
Total 10 CEE	**1166.1**	**11.8**	**15.6**	**388.9**	**254.3**	**179.2**	**2015.9**
Total 23 c.	**4528.9**	**175.9**	**335.0**	**2760.1**	**1696.3**	**962.4**	**10458.6**

Source: Eurostat, Annual detailed enterprise statistics for services

*) 2012 **) 2013

Table A5.3 Employment in Transport and telecom by subsector, number of employees, 23 EU member states, growth 2008-2014 in %

	H49 rail & road transp.	H50 water transp.	H51 air transp.	H52 wareho using	H53 post & courier	J61 teleco m	Total t & t
13 W/N/S c							
Austria	-0.1	3.8	-31.9	-32.1	-18.6	-16.6	-12.1
Belgium	15.7	[-43.9]	-12.4	7.3	-17.7	-11.5**	1.0
Denmark	1.1	51.8	56.1	19.1	-24.8	3.8	6.0
Finland	-4.1	-3.4**	x	12.6	x	x	0.1
France	-7.4	-13.4*	x	132.5a	x	-0.7	16.7
Germany	14.1	-34.2	-3.5	21.2	18.8	-39.1	5.4
Ireland	-13.3*	[-40.8*]	-2.3*	-14.1*	-23.5*	-18.1*	-13.3
Italy	-5.8	0.8	-0.3	-5.9	-4.4	-18.8	-4.8
Netherlands	-12.8	8.6**	-17.6**	9.7	-5.6	-19.4	-8.4
Portugal	-14.2	[-19.2]	10.7	-10.2	-19.2	10.7	-10.9
Spain	-21.8	-23.6	-25.6	3.3	-24.7	-4.9	-16.5
Sweden	5.3	-22.7	x	-6.5	x	-8.5	-3.7
UK	-10.0	-8.8***	-23.2***	8.8	-14.9	1.1	-6.7
Total 13 c.	**-1.4**	**(-5.2)**	**(-1.9)**	**1.1a**	**(-10.5)**	**--13.5**	**-0.4**
CEEs							
Bulgaria	4.7	[-72.0]	[-29.3]	-10.1	-7.4	1.9	-4.1
Czech Rep.	-16.3	[-18.5]	[-61.3]	-4.0	-13.4	-18.1	-15.6
Estonia	-11.1	[-38.9]	[-24.1*]	22.5	x	27.4	5.0
Latvia	-0.6	[63.5]	[-6.3]	4.6	-26.3	-2.8	-0.9
Lithuania	6.9	[--17.8]	[-6.9]	30.7	-21.7	-8.5	6.3
Hungary	5.5	[-23.5]	[-62.4]	-5.8	-11.1	6.8	-0.7
Poland	-11.9	[-5.6***]	-34.6	81.5	x	-17.6	-2.0
Romania	0.1	[-24.5]	[-17.4]	-3.9	-15.0	-14.1	-4.3
Slovakia	7.0	[-38.3]	[-63.1]	-43.4	-8.7	8.8	-7.9
Slovenia	-24.4	[-23.3**]	[-37.8*]	-7.3	-9.0	-1.2	-17.9
Total 10 CEE	**-4.6**	**(-18.4)**	**(-30.6)**	**7.1**	**(-13.2)**	**1.2**	**-4.4**
Total 23 c.	**-1.9**	**(-6.9)**	**(-10.3)**	**2.6**	**(-11.2)**	**-10.6**	**-1.2**

Source: Eurostat, Annual detailed enterprise statistics for services

*) 2008-2012

**) 2009-2013

***) 2008-2013

x no data provided by Eurostat

a break in time series; total excl. France

[ ] less than 5,000 observations in 2013

Table A5.4 Percentage employed in foreign-owned affiliates in Transport and telecom by subsector, 23 EU member states, 2008 and 2013 (persons employed in foreign-owned affiliates : total employees)

	H49 rail & road tr.		H52 warehousing etc.		H53 post & courier		J61 telecom	
	2008	2013	2008	2013	2008	2013	2008	2013
13 W/N/S c								
Austria	3.8	4.7	19.8	17.5	5.9	4.9	28.2	25.6
Belgium	4.0	5.5	19.7	13.9	78.7	6.9	14.2	24.7
Denmark	12.4	11.8	34.6	20.1	x	x	90.1	82.0
Finland	5.8	4.3	24.4	18.9	x	x	53.3	38.9
France	1.7	1.9	23.3	23.5	x	x	2.6	4.6
Germany	3.2	2.8	14.4	15.0	1.9	2.6	17.3	24.7
Ireland	4.1	8.0	21.1	27.4	x	x	x	x
Italy	2.5	2.1	8.1	8.3	2.6	2.6	28.4	30.3
Netherlands	13.5	15.4	39.2	47.9	7.4	7.3	23.3	40.7
Portugal	7.1	7.5	16.5	23.0	9.0	9.7	16.4	13.6
Spain	2.9	5.6	13.1	17.4	3.9	6.8	15.8	20.5
Sweden	15.5	14.6	41.9	38.9	x	x	38.5	29.4
UK	14.0	16.8	34.1	41.7	6.0	12.4	32.2	21.4
Total 13 c.	**5.8**	**6.3**	**19.9**	**21.8**	**(6.6)**	**(5.6)**	**21.9**	**22.5**
CEEs								
Bulgaria	4.7	10.9	10.1	11.3	3.5	9.5	68.3	43.0
Czech Rep.	9.1	11.2	48.4	11.6	11.3	6.6	78.2	72.8
Estonia	3.9	4.5	23.5	26.7	x	x	76.5	79.1
Latvia	3.6	6.7	15.1	21.4	2.7	5.5	9.4	19.6
Lithuania	3.5	4.0	15.0	17.0	3.1	3.8	54.6	51.6
Hungary	8.6	11.3	18.5	25.8	1.3	2.0	72.2	80.0
Poland	6.3	8.7	25.6	24.7	x	x	22.0	63.1
Romania	5.4	8.9	12.1	19.6	3.7	8.1	64.0	68.1
Slovakia	11.3	7.6	20.3	22.2	x	x	71.3	81.4
Slovenia	6.1	6.9	13.9	18.2	2.7	2.9	7.6	11.1
Total 10 CEE	**6.5**	**9.2**	**21.3**	**24.3**	**(4.8)**	**(5.2)**	**52.7**	**53.9**
Total 23 c.	**6.0**	**7.6**	**20.2**	**22.1**	**(6.3)**	**(5.4)**	**27.3**	**29.2**

Source: Eurostat, Annual detailed enterprise statistics for services and FATS statistics

FIVE INDUSTRIES

Table A6.1 Trade union density (T), collective bargaining coverage (C) and Multi-Employer Bargaining (M) in 23 EU member states, five industries, latest available data

	M&E			Retail			Wholesale			ICT			Transp & Tel		
	T	**C**	**M**	**T**	**C**	**M**	**T**	**C**	**M**	**T**	**C**	**M**	**T**	**C**	**M**
Austria	**41**	**99**	**100**	9*	99*	100	9*	99*	100	12	85	48	16	86	93
Belgium	**72**	**100**	**100**	25*	100	99	25*	100	98	42	54	100	68	100	100
Bulgaria	**18**	**22**	**38**	1*	4*		1*	4*			8		12	35	0
Czech. R.	**28**	**50**	**9**	2*	55*	98*	2*	55*	98*		*8*		13	55	51
Germany	**26**	**63**	**81**	10	40	93	6	42	81		21	43	53	51	75
Denmark	**74**	**85**	**12**	40	50*	10*	34	50*	10*		45		55	70	60
Estonia	**20**	**27**	**93**	3*		0	3*		0				22	60	0
Finland	**70**	**100**	**100**	38*	*76*		38*			53	100	100	60	92	95
France	**12**	**95**	**100**	1*	90*		1*	90*		4	70	100	10	100	90
Hungary		**15**	**0**	5*	6*	0	5*	6*	0	3		0	8	51	5
Ireland	**12**	**45**	**0**	16*	18*	0	16*	18*	0			0	10	10	0
Italy	**34**	**98**	**100**	25*	86	100	25*	80	100	12	*82*		40	90	95
Latvia				2*			2*						4	8	0
Lithuan.	**14**	**15**	**0**	3*	2*	0	3*	2*	0				3	5	80
Netherl.	**24**	**95**	**94**	11*	95	93	11*	31	94	8	21	95	26	76	54
Poland		**2**		1*	3*	0	1*	3*	0				18	1	0
Portugal		***63***		2*	97*	99*	2*	97*	99*		44		20	20	84
Romania	**38**	**95**	**0**	1*	100	0	1*	100	0			0	5	86	0
Slovakia	**24**	**20**	**75**	6*	*23*		6*	*38*	79		*11*	72	6	35	70
Slovenia	**22**	**100**	**100**	20*			20*					0	14	15	0
Spain	**15**	**100**	**90**	5*	90*	68*	5*	90*	68*		*67*		10	45	90
Sweden	**74**	**100**	**90**	28*	90*	98	28*	90*	98	48	60		65	95	98
UK	**18**	**22**	**0**	13*	16*	0	13*	16*	0	11	14	0	38	34	0

Key: T = Trade Union Density; C = Collective Bargaining Coverage; M = share of employees covered by CLA that is covered by industry agreement (MEB)

Sources: see Tables A1.2, A1.4; *italic: WageIndicator* data (if no other data available)

* both retail and wholesale

Table A6.2 Shares of employment in the five largest companies in total employment by country and industry, 23 EU member states, 2014

	metal & electr.		wholes	retail		ICT	transport & tel.		Total 5 ind. (unw.)
	Total	*motor vehicles*	Total	Total	*superm. dept st.*	Total	Total	*telecom*	
Austria	**16**	***56(2)***	2	30	*80(4)*	8	35	*54(2)*	18.2
Belgium	**11**	***36(4)***	3	26	*69*	20	37	*100(2)*	19.4
Bulgaria	**9**	***37(2)***	3	11	*29*	17	23	*29(1)*	12.6
Czech Rep.	**8**	***22(2)***	3	25	*52*	15	28	*54(3)*	15.8
Denmark	**32**	***NR***	21	30	*65(3)*	11	32	*34(1)*	25.2
Estonia	**22**	***NR***	9	31	*67*	15	30	*80(2)*	19.8
Finland	**20**	***NR***	42	19	*34*	27	33	*59(2)*	28.2
France	**18**	***44(2)***	2	21	*49*	14	34	*72(2)*	18.9
Germany	**20**	***71(4)***	4	15	*39*	10	26	*67(1)*	15.0
Hungary	**11**	***49(5)***	2	33	*73*	14	27	*39(1)*	17.4
Ireland	**43**	***NR***	18	24	*53*	15	45	*29(1)*	29.0
Italy	**9**	***39(1)***	3	17	*43*	5	28	*80(2)*	12.4
Latvia	**10**	***NR***	10	20	*43*	15	24	*25(1)*	15.8
Lithuania	**7**	***15(1)***	8	30	*60*	17	29	*100(2)*	18.2
Netherlands	**19**	***70(2)***	4	25	*49(3)*	11	27	*86(1)*	17.2
Poland	**3**	***13(4)***	6	16	*31*	17	27	*37(1)*	13.8
Portugal	**5**	***27(4)***	4	24	*65*	10	23	*77(1)*	13.2
Romania	**13**	***40(5)***	4	11	*21*	13	27	*22(2)*	13.6
Slovakia	**13**	***25(3)***	5	19	*35*	49	31	*46(2)*	23.4
Slovenia	**15**	***17(1)***	8	39	*73*	19	40	*46(1)*	23.2
Spain	**8**	***25(3)***	3	21	*43*	15	17	*58(1)*	12.8
Sweden	**28**	***80(3)***	11	16	*30(3)*	14	27	*43(1)*	19.2
UK	**9**	***7(1)***	4	30	*44*	6	20	*35(1)*	13.8
Total 23c (unw.)	**15.3**	***37.4(18*))***	**7.6**	**22.5**	***50.2***	**15.6**	**29.0**	***51.7***	**18.0**
Total 115c (w.)	**14.6**	***50.7 49**)***	**4.7**	**19.6**	***44.2 108***)***	**11.3**	**27.2**	***51.9***	**16.7**

Source: Eurostat, Annual Enterprise statistics; AIAS MNE Database; WIBAR-3 Industrial Relations survey
NR = not relevant (no motor vehicle manufacturers in top-5)
17*) calculated over 18 countries
49**) calculated over 49 companies (numbers per country other than 5 between ())
108***) calculated over 108 companies (numbers per country other than 5 between ())
34****) calculated over 34 companies (numbers per country other than 5 between ())

Table A6.3 Distribution of employment in the five largest companies by ownership category and by country and industry, 23 EU member states, five industries, 2014

	M&E				Wholesale				Retail				ICT				Transp. & Tel.			
	F	**H**	**S**	**D**	**F**	**H**	**S**	**D**	**F**	**H**	**S**	**D**	**F**	**H**	**S**	**D**	**F**	**H**	**S**	**D**
AT	**40**	**60**	**0**	**0**	85	0	0	15	100	0	0	0	96	0	0	4	2	28	58	2
BE	**91**	**9**	**0**	**0**	75	25	0	0	34	66	0	0	62	21	0	17	0	18	82	0
BG	**88**	**12**	**0**	**0**	92	0	0	8	88	0	0	12	95	0	0	5	19	6	75	0
CZ	**89**	**11**	**0**	**0**	68	6	0	26	100	0	0	0	84	8	0	8	15	0	85	0
DE	**0**	**100**	**0**	**0**	22	78	0	0	0	100	0	0	40	60	0	0	0	90	10	0
DK	**13**	**41**	**0**	**46**	0	80	0	20	4	21	0	75	54	0	0	46	25	62	13	0
EE	**58**	**42**	**0**	**0**	64	27	0	9	46	21	0	33	75	17	0	8	27	53	20	0
FI	**16**	**84**	**0**	**0**	17	33	0	50	16	62	0	22	56	44	0	0	7	14	71	8
FR	**13**	**87**	**0**	**0**	62	34	0	4	0	100	0	0	32	68	0	0	2	26	72	0
HU	**77**	**23**	**0**	**0**	96	0	0	4	44	21	0	35	97	3	0	0	15	3	82	0
IE	**100**	**0**	**0**	**0**	6	0	0	94	51	49	0	0	100	0	0	0	11	26	53	10
IT	**3**	**55**	**0**	**42**	59	41	0	0	12	0	0	88	76	0	0	24	5	23	72	0
LT	**28**	**0**	**0**	**72**	4	49	0	47	31	69	0	0	100	0	0	0	16	11	72	1
LV	**54**	**0**	**0**	**46**	0	0	0	100	79	10	0	11	75	0	0	25	0	0	89	11
NL	**31**	**69**	**0**	**0**	33	0	0	67	4	78	0	18	100	0	0	0	16	53	31	0
PL	**100**	**0**	**0**	**0**	28	72	0	0	100	0	0	0	63	37	0	0	11	37	52	0
PT	**100**	**0**	**0**	**0**	69	31	0	0	21	79	0	0	56	44	0	0	48	14	38	0
RO	**100**	**0**	**0**	**0**	93	7	0	0	100	0	0	0	100	0	0	0	10	0	90	0
SK	**100**	**0**	**0**	**0**	97	0	0	3	100	0	0	0	89	11	0	0	12	0	88	0
SI	**44**	**30**	**0**	**26**	66	18	0	16	86	0	0	14	25	0	32	43	0	5	95	0
ES	**86**	**14**	**0**	**0**	18	82	0	0	0	100	0	0	40	12	0	48	17	6	77	0
SE	**56**	**44**	**0**	**0**	0	0	0	100	0	52	0	48	55	45	0	0	20	72	8	0
UK	**42**	**58**	**0**	**0**	11	38	0	51	19	81	0	0	88	12	0	0	13	87	0	0
Unw Av.	***58***	***32***	***0***	***10***	***46***	***27***	***0***	***27***	***45***	***40***	***0***	***15***	*71*	*18*	*1*	*10*	*13*	*28*	*58*	*1*

Source: WIBAR-3 Industrial Relations survey

Key: F = Foreign-owned MNE; H = Home-based MNE; S = State-owned firm; D = Domestic firm

Table A6.4 Shares of employment in foreign-owned MNE affiliates and in all MNEs, 23 (10) EU member states and five (four) industries, 2013

	M&E		*Wholes*	*Retail*		*ICT*		*Transp & Telec*	
Host country	***FOA***	**MNE**	***FOA***	***FOA***	**MNE**	***FOA***	**MNE**	***FOA***	**MNE**
13 W/N/S c									
Austria	***37***		*34*	*36*		*33*		*12*	
Belgium	***45***	**53**	*22*	*16*	24	*16*	32	*12*	20
Denmark	***31***		*32*	*14*		*34*		*35*	
Finland	***22***	**37**	*29*	*16*	34	*27*	48	*12*	24
France	***27***		*27*	*14*		*19*		*6*	
Germany	***20***	**57**	*20*	*8*	36	*20*	39	*8*	28
Ireland	***64***		*29*	*30*		*42*		*20*	
Italy	***15***		*15*	*16*		*15*		*8*	
Netherlands	***32***	**45**	*30*	*18*	31	*25*	40	*28*	42
Portugal	***26***		*15*	*16*		*22*		*11*	
Spain	***55***	**68**	*16*	*16*	27	*30*	41	*10*	16
Sweden	***36***	**52**	*36*	*20*	34	*39*	47	*22*	31
UK	***36***	**51**	*28*	*21*	41	*34*	47	*26*	42
Total 13 c.	***26***		***23***	***16***		***26***		***13***	
CEEs	***FOA***	**MNE**	***FOA***	***FOA***	**MNE**	***FOA***	**MNE**	***FOA***	**MNE**
Bulgaria	***31***		*18*	*11*		*47*		*15*	
Czech Rep.	***55***	**63**	*26*	*48*	52	*46*	51	*21*	28
Estonia	***47***		*14*	*31*		*36*		*19*	
Latvia	***35***		*31*	*27*		*42*		*13*	
Lithuania	***30***		*17*	*19*		*42*		*10*	
Hungary	***66***	**69**	*29*	*29*	33	*43*	48	*19*	26
Poland	***44***	**50**	*18*	*27*	34	*29*	45	*15*	18
Romania	***65***		*24*	*21*		*52*		*17*	
Slovakia	***63***		*17*	*23*		*48*		*15*	
Slovenia	***26***		*22*	*29*		*18*		*10*	
Total 10 CEE	***52***		***22***	***26***		***41***		***16***	
Total 23 c.	***32***		***23***	***18***		***27***		***13***	

Source: for FOA and MNE: Eurostat, Annual Enterprise and FATS statistics; for MNE additional WIBAR-3 Industrial Relations survey; AIAS MNE Database.

Key:

FOA share employed by foreign-owned MNE affiliates

MNE share employed by all MNEs, including home-based

Table A6.5 Employment in five industries, 23 EU member states, 2014, x 1,000 employees

Host country	metal and electr.	whole sale	retail	ICT	transport &telecom	*total 5 ind.*
13 W/N/S c						
Austria	**287.8**	185.4	312.3	53.6	195.5	*1034.6*
Belgium	**173.8**	190.9	241.1	52.3	218.5	*876.6*
Denmark	**150.8**	179.6	162.6	60.1	171.9	*725.0*
Finland	**163.4**	82.7	154.6	52.0	140.3	*593.0*
France	**1196.2**	1019.4	1644.5	394.9	1710.4	*5965.4*
Germany	**3985.8**	1712.3	3065.8	660.8	2041.7	*11466.4*
Ireland*)	**41.6**	81.7	180.7	76.5	79.3	*459.8*
Italy	**1430.4**	698.5	1008.2	289.6	1021.5	*4448.2*
Netherlands	**263.0**	454.4	706.3	156.4	396.7	*1976.8*
Portugal	**150.2**	188.2	310.6	45.6	158.8	*853.4*
Spain	**607.4**	854.6	1108.8	217.1	710.8	*3498.7*
Sweden	**309.2**	217.6	261.9	104.2	250.0	*1142.9*
UK	**1045.5**	1120.6	3005.1	668.8	1347.3	*7187.3*
Total 13 c.	**9805.1**	**6985.9**	**12162.5**	**2831.9**	**8442.7**	***40228.1***
CEEs						
Bulgaria	**145.7**	137.9	208.6	40.6	162.2	*695.0*
Czech Rep.	**603.0**	210.9	224.0	64.4	238.7	*1341.0*
Estonia	**32.4**	27.2	44.7	10.3	42.3	*156.9*
Latvia	**24.0**	45.5	88.7	16.8	81.6	*256.6*
Lithuania	**33.7**	75.6	109.0	15.4	113.1	*346.8*
Hungary	**315.1**	155.7	227.1	56.7	228.0	*982.6*
Poland	**806.8**	572.1	856.1	116.8	632.8	*2984.6*
Romania	**418.0**	305.3	429.8	71.1	374.9	*1599.1*
Slovakia	**225.5**	95.9	124.9	24.3	99.1	*569.7*
Slovenia	**86.2**	35.6	49.1	10.2	43.2	*224.3*
Total 10 CEE	**2690.4**	**1661.7**	**2362.0**	**426.6**	**2015.9**	***9156.6***
Total 23 c.	**12495.5**	**8647.6**	**14524.5**	**3248.5**	**10458.6**	***49374.4***

Source: Eurostat, Annual Enterprise statistics

*) 2012

Table A6.6 Growth in % of number of employees in five industries, 23 EU member states, 2008-2014

Host country	metal and electr.	wholesale	retail	ICT	transport &tel.	*total 5 ind.*
13 W/N/S c						
Austria	**-2.2**	1.3	5.3	35.8	-12.1	***0.2***
Belgium	**-17.9**	-0.4	3.7	5.7	1.0	***3.7***
Denmark	**-10.3**	10.9	-23.3	29.8	6.0	***-3.2***
Finland	**-19.3**	-7.9	6.4	20.9	0.1	***-5.6***
France	**-8.2**	16.0	8.3	19.3	16.7	***8.9***
Germany	**1.4**	30.9	20.0	39.2	5.4	***12.8***
Ireland*)	**-31.8**	-10.1	-9.0	16.9	-13.3	***-9.2***
Italy	**-14.3**	-2.7	2.2	9.2	-4.8	***-5.9***
Netherlands	**-7.5**	-3.6	2.5	7.7	-8.4	***-2.2***
Portugal	**-16.7**	-18.9	-8.2	42.1	-10.9	***-8.6***
Spain	**-30.4**	-16.0	-13.6	2.7	-16.5	***-17.5***
Sweden	**-13.8**	3.4	6.6	13.0	-3.7	***-2.7***
UK	**-8.8**	0.1	1.8	23.5	-6.7	***-0.5***
Total 13 c.	**-8.2**	**4.6**	**4.3**	**22.1**	**-0.4**	***1.0***
CEEs						
Bulgaria	**-15.6**	-11.0	4.9	77.3	-4.1	***-2.2***
Czech Rep.	**-10.4**	4.8	-9.8	24.8	-15.6	***-6.9***
Estonia	**-10.0**	-21.4	-8.9	51.5	5.0	***-4.3***
Latvia	**-10.4**	-23.5	-13.9	110.6	-0.9	***-8.8***
Lithuania	**-19.7**	-10.2	-11.1	105.3	6.3	***-2.8***
Hungary	**-12.2**	-10.6	-18.5	37.0	-0.7	***-8.4***
Poland	**-6.1**	-11.9	-4.3	57.5	-2.0	***-3.4***
Romania	**-5.5**	-9.0	-15.9	53.9	-4.3	***-7.0***
Slovakia	**-8.0**	-9.1	24.2	10.9	-7.9	***0.9***
Slovenia	**-16.6**	-17.0	-2.8	13.2	-17.9	***-13.2***
Total 10 CEE	**-6.1**	**-10.0**	**-7.5**	**50.7**	**-4.4**	***-5.8***
Total 23 c.	**-7.7**	**1.4**	**2.2**	**24.8**	**-1.2**	***-0.2***

Source: Eurostat, Annual Enterprise statistics

*) 2008-2012

Table A6.7 Shares of five industries in total employment (x 1,000 employees), 23 EU member states, 2014

share	metal and electr.	wholesale	retail	ICT	transport & tel.	*Total 5 ind.*	total empl. (x1,000)
Austria	**7.1**	4.6	7.8	1.3	4.9	*25.7*	4034
Belgium	**3.9**	4.2	5.4	1.2	4.9	*19.6*	4497
Denmark	**6.1**	7.3	6.6	2.4	7.0	*29.4*	2469
Finland	**6.8**	3.5	6.5	2.2	5.9	*24.9*	2386
France	**4.6**	3.9	6.3	1.5	6.5	*22.8*	26129
Germany	**10.2**	4.4	7.9	1.7	5.2	*29.4*	38908
Ireland	**2.3**	4.4	9.7	4.1	4.3	*24.8*	1856
Italy	**6.7**	3.2	4.6	1.3	4.7	*20.5*	21810
Netherlands	**3.3**	5.7	8.8	1.9	5.0	*25.9*	8029
Portugal	**3.5**	4.4	7.3	1.1	3.7	*20.0*	4255
Spain	**3.5**	5.0	6.4	1.3	4.1	*20.3*	17211
Sweden	**6.7**	4.7	5.7	2.3	5.4	*24.8*	4597
UK	**3.5**	3.8	10.2	2.3	4.6	*24.4*	29560
Total 13 c. (weighted av.)	**5.9**	**4.2**	**7.3**	**1.7**	**5.1**	***24.2***	**165741**
Bulgaria	**5.0**	4.7	7.1	1.4	5.5	*23.7*	2927
Czech Rep.	**12.3**	4.3	4.6	1.3	4.9	*27.4*	4884
Estonia	**5.4**	4.5	7.5	1.7	7.1	*26.2*	600
Latvia	**2.8**	4.9	10.3	2.0	9.5	*29.5*	859
Lithuania	**2.6**	5.9	8.5	1.2	8.8	*27.0*	1288
Hungary	**7.7**	3.8	5.8	1.4	5.6	*24.3*	4070
Poland	**5.2**	3.7	5.5	0.7	4.1	*19.2*	15591
Romania	**5.1**	3.7	5.2	0.9	4.5	*19.4*	8254
Slovakia	**9.6**	4.1	5.3	1.0	4.2	*24.2*	2349
Slovenia	**9.7**	4.0	5.5	1.1	4.8	*25.1*	893
Total 10 CEE (weighted av.)	**6.5**	**4.0**	**5.7**	**1.1**	**4.8**	***22.1***	**41715**
Total 23 c. (weighted av.)	**6.0**	**4.2**	**7.0**	**1.6**	**5.0**	***23.8***	**207456**

Source: Eurostat, Annual Enterprise and Employment statistics

Table A6.8 Total employment and number of employed in affiliates of foreign-owned MNEs, five industries, 23 EU member states and 10 CEE countries, 2008-2013, x 1,000 employees (total employment) / 1,000 persons employed (foreign-owned affiliates) and in %

	Total employment			Employment foreign-owned affiliates			*% employed in foreign-owned aff.*		
Host country	**2008**	**2010**	**2013**	**2008**	**2010**	**2013**	***2008***	***2010***	***2013***
Metal and electronics manufacturing									
Total 23 c.	**13537.7**	**12985.3**	**12386.9**	**3951.4**	**3561.4**	**3920.3**	***29.2***	***27.4***	***31.6***
% growth		**-4.2%**	**-4.6%**		**-9.9%**	**+10.1%**			
13 W/N/S c	10681.2	10260.5	9791.7	2544.6	2281.6	2559.6	*23.8*	*22.2*	*26.1*
% growth		-3.9%	-4.8%		-10.4%	+12.2%			
Total 10 CEE	2856.5	2724.8	2595.2	1406.8	1279.8	1360.7	*49.2*	*49.7*	*52.4*
% growth		-4.7%	-4.7%		-9.0%	+6.3%			
Wholesale									
Total 23 c.	**8525.6**	**8705.2**	**8670.0**	**1971.3**	**1910.0**	**1995.0**	***23.1***	***21.9***	***23.0***
% growth		**+2.4%**	**-0.4%**		**-3.1%**	**+4.5%**			
13 W/N/S c	6680.2	7004.8	7030.0	1606.9	1546.1	1642.5	*24.1*	*22.1*	*23.4*
% growth		+4.9%	+0.3%		-3.8%	+6.2%			
Total 10 CEE	1845.4	1700.4	1640.0	364.4	363.9	352.5	*19.7*	*21.4*	*21.5*
% growth		-7.9%	-3.6%		-0.2%	-3.1%			
Retail									
Total 23 c.	**14209.5**	**14303.9**	**14314.0**	**2149.1**	**2183.3**	**2521.3**	***15.1***	***15.3***	***17.6***
% growth		**+0.7%**	**+0.1%**		**+1.6%**	**+15.4%**			
13 W/N/S c	11655.8	11924.8	11953.1	1623.2	1587.8	1897.5	*13.9*	*13.3*	*15.9*
% growth		+2.7%	+2.4%		-2.2%	+19.5%			
Total 10 CEE	2553.7	2379.1	2360.9	525.9	595.5	623.8	*20.6*	*25.0*	*26.4*
% growth		-6.8%	-0.7%		+13.2%	+4.7%			
ICT									
Total 23 c.	**2603.4**	**2728.9**	**3066.9**	**693.7**	**710.4**	**839.2**	***26.7***	***26.0***	***27.4***
% growth		**+4.8%**	**+12.4%**		**+2.4%**	**+18.1%**			
13 W/N/S c	2320.3	2425.8	2682.0	603.7	600.0	681.7	*26.0*	*24.7*	*25.6*
% growth		+4.6%	+10.6%		-0.6%	+13.6%			
Total 10 CEE	283.1	303.1	384.9	90.0	110.4	157.7	*31.8*	*36.4*	*41.0*
% growth		+7.1%	+27.0%		+22.6%	+42.8%			
Transport and telecom									
Total 23 c.	**10582.0**	**10268.2**	**10289.5**	**1289.7**	**1304.2**	**1403.8**	***12.1***	***12.7***	***13.6***
% growth		**-3.0%**	**+0.2%**		**+1.1%**	**+7.6%**			
13 W/N/S c	8473.2	8280.8	8281.3	1015.1	1003.4	1077.3	*12.0*	*12.1*	*13.0*
% growth		-2.3%	+0.1%		-1.1%	+7.4%			
Total 10 CEE	2108.8	1987.4	2008.2	274.6	300.8	326.4	*13.0*	*15.1*	*16.3*
% growth		-5.8%	+1.0%		+9.5%	+8.5%			
Total 5 industries									
Total 23 c.	**49458.2**	**48991.5**	**48727.3**	**10055.2**	**9669.3**	**10679.6**	***20.3***	***19.7***	***21.9***
% growth		**-0.9%**	**-0.5%**		**-3.8%**	**+10.4%**			
13 W/N/S c	39810.7	39896.7	39738.1	7393.5	7018.9	7858.6	*18.6*	*17.6*	*19.8*
% growth		+0.2%	-0.4%		-5.1%	+12.0%			
Total 10 CEE	9647.5	9094.8	8989.2	2661.7	2650.4	2821.1	*27.6*	*29.1*	*31.4*
% growth		-5.7%	-1.2%		-0.4%	+6.5%			

Source: Eurostat, Annual Enterprise and FATS statistics