



Networked Coordination of Industrial Relations

Understanding collective bargaining coordination: a network relational approach.

The case of The Netherlands

Wike Been
Maarten Keune
University of Amsterdam



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© Maarten Keune

General contact: quit@uab.cat

QUIT - Centre d'Estudis Sociològics sobre la Vida Quotidiana i el Treball
Universitat Autònoma de Barcelona
Campus UAB, Edifici B- C/ de la Fortuna s/n
08193 BELLATERRA, Spain

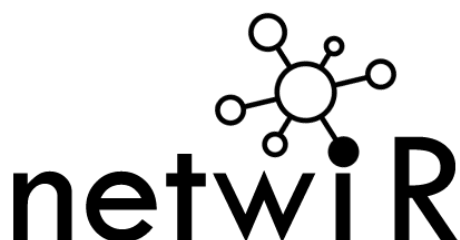
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1. INTRODUCTION

This report presents the results of the Dutch case studies carried out for the project 'networked coordination of industrial relations (NETWIR)'. This project aims to use social network analysis as a tool to gain insight in coordination of collective bargaining in four countries: the Netherlands, Italy, Ireland and Spain. It is set-up as an explorative study, as social network analysis has seldom been applied to study collective bargaining. Therefore, this report should be read as a presentation of results as well as an evaluation of the method of social network analysis to study this topic. We first provide background to the context of industrial relations in the Netherlands and to the means of coordination of industrial relations that have been common over the last decades (section 1.1) and information on a social network approach to coordination of collective bargaining (section 1.2) Next, we give an overview of the literature that applies social network analysis to industrial relations in the Netherlands or use it as an analytical concept (section 2). Thereafter, we discuss the methodology used and describe the process of data collection (section 3), before we move on to presenting our case studies. In section 4, we apply the methodology to two sector cases: the pharmaceutical industries (4.1) and the supermarket sector (4.2). Here we will also present some comparative information from the other three countries involved in the NETWIR project. In section 5 we compare the two cases and section 6 presents conclusions.

1.1. Coordination of collective bargaining in The Netherlands

In many ways, the Dutch labour relations system can be characterised as a neo-corporatist system where trade unions and employers' organisations have a central role in the regulation and management of the labour market (De Beer and Keune 2018; Visser and Hemerijck 1999; Keune 2016). The main peak organisations in this system are the employers' organisations VNO-NCW, MKB and AWWN as well as the trade unions FNV, CNV and VCP. They lay the basis for this system through widespread collective bargaining, covering around 80 percent of all employees. Collective bargaining takes place mainly at the sector level and to a minor extent at the company level. In addition, an important share of the sector agreements is extended to the companies not part to the agreement by the Ministry of Employment and Social Affairs. At the peak level there are also two important deliberative bodies where employers and trade unions are active. One is the bi-partite Labour Foundation where workers and employers discuss about the labour market and labour relations, exchange information and communicate points of view to the government and to their own members. The other is the tri-partite Socioeconomic Council, which gives advice to the government on social and economic policy. Moreover, employers and trade unions manage the occupational pension funds and are involved in numerous other labour market related organisations.

Whereas this constellation of institutions has on the surface been relatively stable for many decades, this does not mean that the system functions in the same way. Over time some important changes have taken place, including first and foremost increasingly unequal power relations between unions and employers, in favour of the latter (De Beer and Keune 2018). This is expressed in collective agreements and public policy that foster continuous wage moderation, a strong increase in flexible and insecure employment relations, the shifting of risks from the employer to the employee and an increasing number

of employees that are covered by collective agreements that are not signed by the largest trade union, the FNV. This, however, in a context of high employment rates, in part a result from the fact that more than half of the employees works part-time and that there has been a strong growth of self-employment.

In the highly institutionalised Dutch labour market labour there has traditionally been ample space for the alignment of interests through coordination both between the union and employer sides, within the union side and within the employers' side. Within the Labour Foundation unions and employers produce recommendations or agreements that is supposed to be incorporated into collective bargaining at sector and company level. Also, the peak level unions and employers' organisations produce yearly policy documents on terms of employment (working conditions agenda's) that aim to give direction to the bargaining positions of their members that negotiate collective agreements. The peak level unions do this separately while the three employers' organisations do it jointly. In these documents they give their analysis of the labour market and labour relations and produce proposals and guidelines for their members. These are generally broad framework proposals that can then be adapted to the needs and possibilities of the various sectors and companies. The FNV also sets a yearly central wage demand, indicating the wage increase it expects its members to pursue in the bargaining processes. Until 2013 this was a maximum wage demand, based largely on the sum of productivity and inflation, indicating the available 'wage space'. This central wage demand was, with some differentiation, followed quite well in the various sectors (Verhoeff 2016). It resulted in many years of wage moderation and a falling wage share. Since 2013, the FNV rather tries to increase the wage share again by setting higher wage demands. For example, in 2019, the central wage demand was of 5 percent.

At the sector and company level, collective bargaining often involves more than one trade union and traditionally the unions try to come to a unified bargaining position. Over the years, however, there seem to be more and more cases where they do not manage to achieve such a common position (De Beer and Keune 2018). On the employers' side coordination takes place as well although here more often there is only one party at the negotiating table. Where bargaining takes place at the company level, in cases of multinationals, coordination of the employer bargaining position takes place through the mother company, which defines much of the boundaries within which the company can negotiate.

There is however not much research done on if coordination effectively takes place and between which players, in which way it works exactly, and what the role of both organisations and individuals is. The present study aims to shed more light on this by providing an analysis of the social networks involved in collective bargaining in the supermarket and pharmaceuticals sectors, the process of collective bargaining in these sectors and of the extent and ways of coordination of the bargaining process.

1.2. Collective bargaining, coordination and social networks¹

Coordination of collective bargaining, and in particular, wage-setting coordination is considered a critical variable in order to understand how collective bargaining systems work and what is their impact on economic performance (Calmfors 1998, Hancké and Soskice

¹ This paragraph is a summary of the 'Detailed workplan' (Annex H) of the NETWIR project.

2003). There have been developed several measures to capture coordination, such as scale measures (Hall and Franzese, 1998; Soskice, 1990), a categorical score (Kenworthy, 2001) and most recently a multidimensional measure by J. Visser in the ICTWSS database. Notwithstanding the increase in number and quality of collective bargaining coordination measures, they nonetheless suffer from similar problems. In particular, the way in which coordination has been assessed and measured reproduces some of the shortcomings of previous indexes of collective bargaining centralization, as their focus is on the structures. Adopting a structural perspective on coordination, misses the behavioural and relational dimension that is key to understand how actors coordinate in the bargaining system.

The analysis of collective bargaining coordination, including most indexes and scores, have tended to focus on its vertical dimension, i.e., on the relationship between actors at different levels in the collective bargaining structure. However, collective bargaining coordination in many countries has also a strong horizontal dimension. By horizontal coordination we mean coordination between collective bargaining units in similar levels. This form of coordination can take several forms, pattern bargaining being the most frequent. Pattern bargaining defines a situation where a certain firm or industry sets the pattern for sequential negotiations in other firms or sectors (Traxler et al. 2008, Marshall and Merlo 2004). This coordination can take place for instance between companies (intra-industry pattern bargaining), sectors (inter-industry pattern bargaining) or even regions. The most well-known examples of horizontal coordination is the pattern-bargaining system in Germany (with the role of the Metalworkers collective agreement) and Japan (with the Spring offensive).

In this project we propose a 'behavioural and relational approach' to study coordination in collective bargaining to do more justice to the horizontal dimension of coordination besides the vertical dimension. The relational view on coordination pays attention to the actual roles and interactions of actors, not their formal attributions in the collective bargaining structure. In this vein, the relational approach towards collective bargaining coordination focuses on the analysis of interactions / connections between different actors at different levels and through different instances that allow to coordinate collective bargaining processes and outcomes.

In order to explore the coordination of collective bargaining from a relational point of view, the NETWIR project applies the methodology and analytical tools of social networks. Social Network Analysis allows processing, analysing and visualizing relations between different actors (individuals or organisations) and patterns of connections within their populations. The micro-level foundations of social networks are concerned with people choosing to interact with one another in various ways. Such small-scale decisions aggregate to more meso-level social structures that can hinder or facilitate collective action by groups and organizations, such as coordination in collective bargaining. Actors usually interact in different policy arenas and for different purposes. In this project, the focus is on those relations established in order to sign collective agreements. In order to understand coordination and how information flows from one actor to the other we need to know the structure of the networks, what the processes of collective bargaining look like and what the position of the representatives of the different parties in the network is.

2. SOCIAL NETWORK ANALYSIS IN THE LITERATURE ON INDUSTRIAL RELATIONS IN THE NETHERLANDS

Social network analysis has hardly been applied to the study of collective bargaining coordination. The only study that has applied this methodology has been Svensson and Öberg (2005). In their work, these authors try to understand how coordination really works in one of the countries that systematically ranks high in coordination indexes and scores, i.e., Sweden. In particular, through the use of social network methodology, they study whether coordination results from trust relations between actors or rather it relies on power and hierarchy. ²

The social network approach has also very scarcely been applied in the wider field of industrial relations. This is also true for studies that focus on the Netherlands. There are only a few studies that used an empirical social network approach to industrial relation. Insofar, it has mainly been applied to the topic of strikes. More specifically, to study the diffusion of strikes across the economy (Jansen, Sluiter and Akkerman 2016) and to study peer influence in protest participation (Born, Akkerman and Thommes 2016). There are however some further studies that discuss the concepts of social networks and informal relations in the industrial relations system in the Netherlands without putting it empirically to the test. For example, in an article called ‘The Dutch miracle: Institutions, networks and trust’ (den Butter & Mosch, 2003), the authors analyse the importance of informal networks and trust in the Dutch system and its macro-economic outcomes. Moreover, in 2005 Agnes Akkerman published an article entitled ‘Verhoudingen tussen de sociale partners in Nederland anno 2005: corporatisme of lobbyisme?’ [Relations between the social partners in the Netherlands anno 2005: corporatism or lobbyism?] in which she analyses to what extent informal lobby activities have replaced formal industrial relations. She concludes that in the Dutch context, unlike in the Scandinavian context, we find little proof for such a transition taking place.

3. METHODOLOGY

3.1. Case selection

To empirically study the process of collective bargaining, the network of the people involved and what this means for coordination, two sectors were selected that serve as case studies: the supermarkets sector and the pharmaceutical industries. The supermarket sector in the Netherlands is covered by two collective agreements. One for the larger companies: the ‘VGL’ collective agreement and one for smaller companies and franchise holders: the ‘Supermarkets’ collective agreement. For this study, the negotiation process for the CBAs of the years 2017-2019 was observed and analysed.

The pharmaceutical industry, on the other hand, is one of the sectors in the Netherlands that does not have a sectoral level collective agreement. The larger companies in the sector, especially those with a production plant in the Netherlands, often have a

² This paragraph was published earlier in the ‘Detailed workplan’ (Annex H) of the NETWIR project.

company level agreement in place however. In order to decide which companies are part of the pharmaceutical industry, we used the NACE code³ of the company. The Ministry of Social Affairs and Employment registers all collective agreements in the Netherlands. This list of collective agreements is publicly available and can be searched based on NACE codes. It can be found at: <https://www.uitvoeringarbeidsvoorwaardenwetgeving.nl/>. According to this database, there are currently 11 collective agreements in the sector⁴. We selected three of those companies with a company level agreement to study more closely. We studied the negotiation process of the collective agreements in place at the time the study took place (2018/2019).

3.2. The sample

For social network analysis to be meaningful it is important to include all the actors that are involved in collective bargaining. A first step of the process was therefore to map out all these actors. To get to such a complete overview, we interviewed key experts in both sectors. The aim was twofold. First, we wanted to get a better understanding of the sectors. Second, we wanted to gather a complete list of all actors involved in collective bargaining and related processes of coordination in the sectors under study, as well as a list of all the events where they met during negotiation process. Table 1 gives an overview of the expert interviews held. Less interviews were needed for the supermarket sector as there is a sectoral level collective agreement in place, whereas more were needed in the pharmaceutical industries because we included several company level collective agreements. No real problems were encountered to get participants for the expert interviews. In general, people were willing to participate. At the start, it was hard to get hold of some individuals that had moved on to a new job. However, we managed to get hold of them in the end. In one of the pharmaceutical industry companies the expert we interviewed was quite reluctant to provide the detailed information asked about individuals involved in the collective bargaining process and the events that took place. Details were provided after extensive explanation why this is necessary to be able to apply the method of social network analysis.

Table 1: Overview of the number of expert interviews held

	Supermarkets	Pharmaceuticals
Employers' side	1	3
Trade unions	1	7

As a second step, a questionnaire was developed based on the information gathered in the expert interviews. The questionnaire was to be sent to all actors in the network in order to capture the network and its features. In other words, to collect the social network data. The information used in the questionnaires to ask people about the network in the format of closed questions -regarding the actors involved and the meetings that took place- was double-checked by some of the interviewed experts.

³ For the pharmaceuticals we used NACE-code 21

⁴ Apotex Nederland BV; Astellas Pharma Europe BV; Biohorma BV; Codi International BV; DSM; Momentive Speciality Chemicals BV; Johnson Diversey Nederland; Katwijk Chemie BV; Kisuma Chemicals BV; MSD; Teva Pharmachemie BV

Third, the consent to participation in the second part of the research was requested from the interviewed experts. We also asked their help in gathering the contact details of the other people involved in the negotiation process to approach them with the questionnaire. In this phase of the study, one of the companies studied in the pharmaceutical industry dropped out.

Fourth, the questionnaire was distributed through SurveyMonkey to all individuals that were indicated by the experts as individuals that influenced the negotiation process/were part of the negotiation process at some point and were as such identified as part of the social network. Each individual was sent a personal invitation with a personalized message in order to try to enlarge the response rate. When contact information was gathered through somebody else this was mentioned. A semi-automatic reminder was scheduled for 10 days after the initial invitation. When we got no response after having sent the reminder, we tried to establish contact through email and/or telephone. A lot of effort was put in to getting as many responses as possible as social network analysis is only meaningful if the network is almost complete/ Table 2 gives an overview of the responses and non-responses. The response rate in the pharmaceutical industries was 74 percent and in supermarket sector 62 percent.

3.3. Evaluation of the data collection

As table 2 shows, an obvious problem of applying social network analysis to the negotiation of collective agreements is the fact that most of the actors in the network need to fill out the questionnaire. This turned out problematic, both for influential and less influential people in the network, which makes the process vulnerable. Actors have a hard time seeing the direct benefits of participation in this type of research for them. If such an approach is further developed in the future, close attention should be paid to questions the actors themselves want to see answered through this type of research. We nevertheless decided to go forward with the information obtained through the questionnaire and present it in this report. For ethical reasons, information about people that themselves did not respond to the questionnaire is removed from most of the analyses: after all they themselves did not give consent to use the information. Therefore, the results should be interpreted with care: after all, they only tell us something about that part of the network that filled out the questionnaire. For these reasons, where possible and needed, the results are cross-validated with information from the semi-structured interviews.

Table 2: Responses to the questionnaire

	Supermarkets/VGL	Pharma 1	Pharma 2
Response	13	11	17
Refused	5	3	0
No response after contact	3	0	1
No contact information	0	0	0
Impossible to contact pension/no longer employed in the sector	0	0	2
Total	21	14	20

4. SECTORAL ANALYSIS

We now turn to presenting the case studies. First the pharmaceutical industries are discussed followed by the supermarket sector. For each case, we start with a short description of the socio-economic situation, followed by a description of the collective bargaining structure. Before turning to what coordination looks like in both sections, we describe how collective bargaining takes place in the sectors with regard to three different characteristics which we will now describe.

We first focus on what the network looks like. More specifically, we look into the size of the network, the number of parties involved and how many actors are seen as influential. Potentially, collective bargaining is more complex as the number of parties and people involved is larger. This is however not the whole story. Also, in large networks collective bargaining might not be that complicated if the power is situated in only a few actors, as long as they have not very opposing positions. Alternatively, when the power is diffused over many actors reaching consent in collective bargaining might become more difficult.

Second, we look into the processes of collective bargaining in the sectors to gain insight in the degree of formality, as a more informal process of bargaining may leave room for horizontal coordination taking place between individuals or groups outside the official bargaining setting. More specifically we look into the importance of different types of interactions (formal or informal), what the roles are of the actors that are perceived as most important and the possibility of individual actors to exercise influence beyond their formal role.

Third, we focus on the role of trade unions and employers in the network to discuss what the position of the two opposing parties is in the network and within the negotiations. More specifically, we look into whether there are structural differences in influence and what the connections between actors within the two parties and between the two parties is.

4.1. Pharmaceuticals

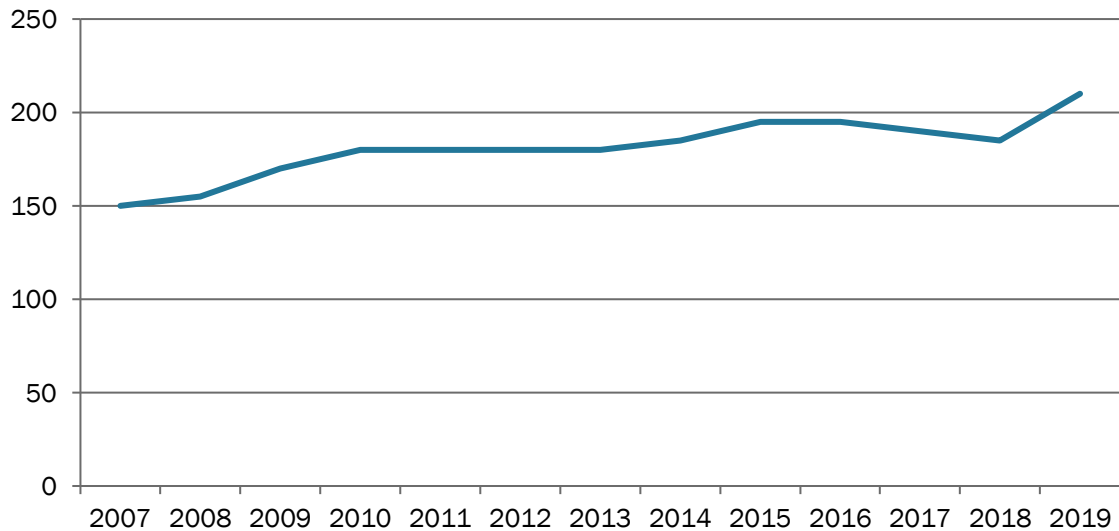
4.1.1. Socio-economic situation of the sector

The pharmaceutical industry in the Netherlands contributes about 0.4 percent to the Dutch economy (CBS, 2018) and is currently made up of about 200 companies (see figure 1). Recently the number of companies in the sector has been on the rise. Most of it can be attributed to a growth in small companies, often with only one person working. The number of larger companies has been rather stable over time. There are three types of companies present in the sector: those that produce specialité medicines, those that produce generic medicines and bioscience firms (source: interview employer pharmaceuticals). Many of the large companies are multinationals. Big names in the pharmaceutical industry in the Netherlands are for example MSD, TEVA and Astellas.

If we then look at the number of workers in the sector (figure 2), we see that there has been a dip in between 2010 and 2013 but that their numbers have been on the increase since. In 2017, there were around 16.000 workers in the sector. About 40 percent of them

is females . The gap between number of workers and the full time equivalent in the sector is relatively small, meaning that most workers are employed on a full-time contract. Working conditions in the sector are of a high standard. Interviewees mention that this is the case because the profits in the sector tend to be high. Moreover, the wage sum is low compared to other expenditures, for example on equipment. The interviewees indicate that only companies that have a production plant have a collective agreement. Other companies tend to have a working conditions agreement instead.

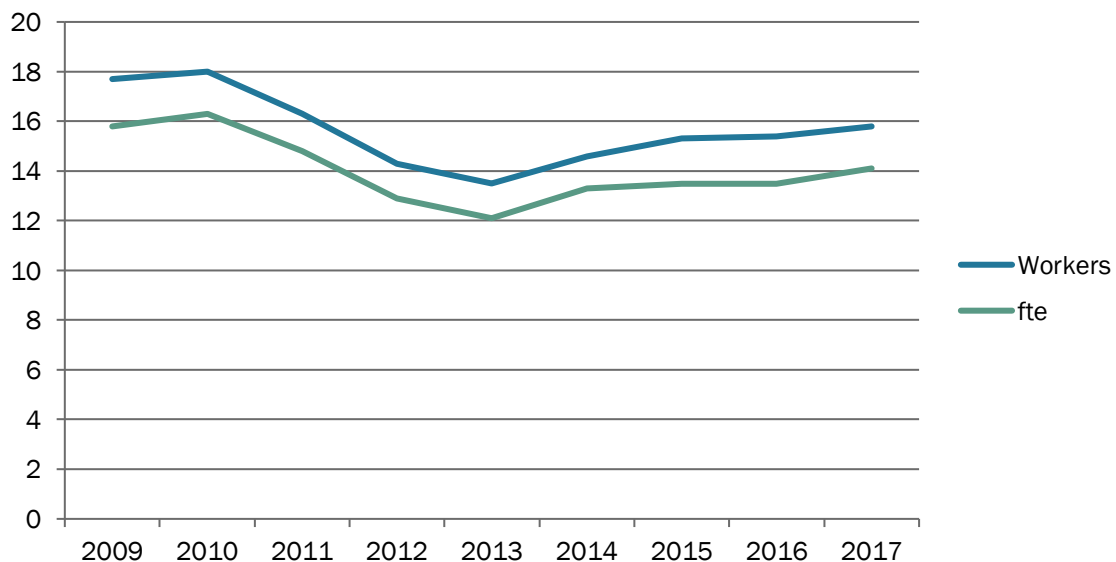
Figure 1: Number of companies in the pharmaceutical industry in the Netherlands



Source: Statline, 2019

Note: SBI2008 code 21

Figure 2: number of workers and fte in the pharmaceutical industry in the Netherlands (x1.000)



Source: Statline, 2019

⁵ Source: <https://www.cbs.nl/nl-nl/nieuws/2016/16/kleinere-rol-nederlandse-farmaceutische-industrie-in-eu> , 10-12-2019

Note: SBI2008 code 21

4.1.2. Single-employer collective bargaining

All collective agreements in the pharmaceutical industry are company level agreements and this collective bargaining situation has been rather stable over time. The company level agreements that are there have already been around for quite some years and even though there have been some take-overs and mergers of companies over time, this has not resulted in the abundance of collective agreements. The collective agreements have continued to be renegotiated regularly, albeit sometimes under a different name (source: employer interviews). It is important to note that most of the companies that have a collective agreement in the pharmaceutical industries are multinationals, meaning that the bargaining process is conditioned one way or the other by the mother company and that there is relatively little bargaining freedom for the Dutch daughter company (source: an employer interview in the pharmaceuticals).

Because all collective agreements in the pharmaceutical industry are company level agreements, and also the working conditions agreements that are present in the companies where there is no collective agreement in place are company level agreements, the predominant form of wage setting is company level bargaining. In all cases the party negotiating on behalf of the employer is the employer itself or, more accurately, the daughter of the multinational company. During the negotiation process, however, they are often supported by the national employers' organization AWWN. This can be either in person by being present at the negotiation rounds or by information provision during -or at the start of- the negotiation process (source: interview employers' organization). The parties signing and negotiating the collective agreements on behalf of the employees are the three largest trade unions: FNV, CNV and De Unie. Some collective agreements are signed by all three, but others are signed by only one or two of them, in some cases complemented by a company level trade union.

4.1.3. Survey results

The collective bargaining network

What then do the networks negotiating the collective agreements look like? In table 3 the characteristics of the persons involved in the negotiation process of the two collective agreements under study in the pharmaceutical industries are described. The table shows that there were in total 34 persons involved. They represent in total seven different parties. One party had a technical role in the process and the other six has a political role: there were four trade unions involved and two employers. Especially on the side of the trade unions this can be regarded as quite many parties. This can potentially be a situation in which it is difficult to come to an agreement and a prerequisite for lengthy negotiations. This is especially the case when there is no coordination on the union side or no clear task division and everybody wants to have their say. If we look at the responses to the questionnaire we see that the persons involved in collective bargaining in the two pharmaceutical companies under study score the item 'fragmentation in the representation of workers or firms' with a mean value of 3.18 out of 5, which is the highest score out of the four possible challenges posed to them (see table 4). This makes the Netherlands different from the other countries in this study (Italy, Spain and Ireland), which all rank 'obstacles from the economic and/or sectoral context' as the biggest challenge to collective

bargaining in the pharmaceutical industries in their country. Table 3 also shows that most of the people involved (65.5 percent) were less than 5 years part of the negotiation of the collective agreements under study in the Netherlands. This could be an explanation for the fact that 'lack of trust' as an obstacle in collective bargaining scores slightly higher in the Netherlands than it does in Italy and Spain, where negotiators are generally for a longer period of time involved in collective bargaining in the sectors: in Italy, only 15 percent of all respondents were less than five years involved and in Spain 30 percent (these numbers are a combined percentage for the pharmaceutical industries and the supermarket sector). One could assume that trust is generally higher if one knows each other better, although this of course also depends on how good relationships are.

If we then look at who are perceived as most influential by others in the network and therefore can be regarded as most powerful, we see that only a few people are seen as really influential even though there are so many parties involved: two in the network of the first collective agreement (the CNV representative at trade union side and the HR manager at the employer side) and three in the network of the second collective agreement (the CNV and FNV representatives at the side of the trade unions and the HR manager at the employer side). This finding is confirmed by the information obtained in the interviews during which also one or two representatives of trade unions and one person representing the employer were generally singled out as very influential. So for this reason, even though there are quite a large number of parties involved in collective bargaining, especially on the workers' side, and the representation of workers is therefore perceived as fragmented, collective bargaining in the two companies is not as complicated as it would be in case the two networks would have less concentration of influence. Although this of course also depends on how far apart their viewpoints are: negotiations can still be very difficult if these are very far apart.

Table 3: Descriptive characteristics of respondents in the pharmaceutical industries

Characteristic	Involved in the negotiations	Respondents to the questionnaire
Number of people	34	29
Number of parties	7	7
Gender of respondents		
<i>Male</i>	74%	72%
<i>Female</i>	26%	28%
Side of		
<i>Employer</i>	44%	38%
<i>Trade Union</i>	56%	62%
Role		
<i>Political</i>	97%	97% (of which 35% are trade union members)
<i>Technical</i>	3%	3%
Involvement in wage setting in this sector		
<5 years	-	65.5%
>5years	-	34.5%

Table 4: Ranking of challenges to collective bargaining

Challenge for collective bargaining	Mean value assigned (scale 1-5)			
	The Netherlands	Italy	Spain	Ireland
Lack of trust	3	2.38	2.50	3.44
Power differences	2.93	2.63	2.70	3.22
Fragmentation in the representation of workers or firms	3.18	3.13	2.75	2.56
Obstacles from economic and/or sectorial context	2.39	3.63	4.14	4.22

The process of collective bargaining

And what does the process of collective bargaining look like: how formal is the process of collective bargaining in the pharmaceutical industries in the Netherlands? The system of collective bargaining as applied in the pharmaceutical industries is described by the participants of the semi-structured interviews as rather standard for the Dutch context and as involving quite a bit of formality. Before the formal negotiations start, the employer (daughter company) decides for himself what the goals for the negotiation are within the boundaries set by the mother company, and the trade unions do the same amongst themselves. The various trade unions involved discuss their goals together before the negotiations start and try to align them. The trade union representatives told during the interviews that before negotiations start, they hold meetings among their members within the respective firms to find out what their wishes are. These meetings they often hold with the members of all different trade unions together. Afterwards, they sit down with the representatives of all trade unions to set the goals for the negotiations. They state that in this process, both the wishes of the members and the central employment conditions agendas of the trade unions involved are important. Also, the central wage demand of the FNV is important. This demand is adjusted to the context of the company by their representative: if the company is doing well the demand is higher, if it is doing badly, it is lower. Within this process of alignment, they leave room for each union to push for the issues it regards as important. They bundle all the goals, which is then used as their input for the negotiation process.

After the preparation phase, the formal rounds of negotiation start. These formal rounds are seen as the core of the process. During these formal rounds, all negotiating parties, including some representative trade union members, are present. Here, everything that is supposed to go on the record is discussed and said. However, the formal rounds of negotiation are often suspended for some time (c.q. breaks), during which negotiating parties can speak off the record. Often this is in a smaller group than during the formal negotiations. These breaks, during which the negotiation process continues informally, are seen as essential to make the process work. They act as the glue. The informal breaks are a standard part of every negotiation table. Besides this standard informal discussion, other forms of informal contacts take place between negotiating parties. This is seen as especially relevant when the negotiation process is stuck or when some difficult obstacles need to be navigated. This takes for example the form of bilateral conversations while having coffee together during an actual break or phone calls in between two formal negotiation rounds. Depending on what is being discussed, these meetings can take the form of coordination, but this is not necessarily the case. This description of the reality of

negotiations taking place in the pharmaceutical industries is supported by the survey results as shown in figure 3. The respondents involved in collective bargaining score formal multilateral meetings as the most important type of interaction during the negotiation process (mean of 3.38), followed by informal multilateral meetings (mean of 2.75). Informal bilateral meetings follow closely (mean of 2.15) and the least important type of interaction according to the respondents are formal bilateral meetings (mean of 1.59).

The mix of various kinds of meetings all being part of the bargaining process raises the question where the 'real' decisions are made: is this within the formal meetings or rather outside this context? If we look at the survey results, we see that there is no significant correlation between the number of collective bargaining events people attended and their perceived influence (pearson's correlation = 0.142, $p > 0.1$). This is a first indication that there is significant influence on the result exercised outside the context of the formal meetings, for example decisions are made by the people in formal roles outside the context of the formal meetings and/or the informal meetings are more relevant than the formal ones. During the interviews it is confirmed that informal meetings are important besides the formal meetings, as interviewees mention that when the process is stuck on important issues bilateral meetings either on the phone or in person will get the process going again. This is especially the case when relations between negotiators are good, suggesting that when relations are bad the process becomes more formal.

Now the question remains how important the formal hierarchy of roles is. In table 5 we present measures to get some insight into this question. First of all, we look at who are perceived as most influential by others in the network. If we compare this to their roles, we see that indeed those with positions formally high up in the hierarchy (representatives of large trade unions and HR managers of the firms) are also perceived by others as most influential. Interesting here is that not the administrators of all large trade unions involved in the negotiation process are seen as highly influential, but that some are singled out. This is not always the person of the FNV, which is the largest trade union by far in the Netherlands. This could be a reflection of the individual membership structure in the companies under study (more members from other trade unions), but could also be an indication that the influence of individuals stems from other sources than formal position alone. In the interviews was for example mentioned that the level of experience with negotiating the specific collective agreement on the table and/or previous experience within the company (and therefore network connections) creates influence.

It is not only a formally high position that creates influence. Also, the position of individuals in the network can result in influence. For example, those with connections to many others in the network may have an influential position because they can influence a large group in the network. Moreover, also those on key positions connecting for example one group of people to another group of people can be really influential. These 'gate keepers' have a strong position for controlling information. It might be the case that those with a formally influential position have also a strong position in the network, but this might as well be others. Table 5 shows that the number of people in the network with a good information position in terms of many connections to others ('top degree') or a key information position ('top betweenness') is larger than the number of people that is perceived as influential and do not necessarily overlap: in the network of collective agreement 2, the influential persons 'B' and 'E' are not among the ones with a lot of connections or a gate-keeper positions (Table 5). It are others in the network that are in those well-connected positions. Figure 4 graphically illustrates the connectivity in the networks as just described. The dots represent the actors involved in the negotiation

process and the lines their contact. The contact between actors is calculated based upon the frequency of contact during the negotiation process. If actors had less than 5 contact moments, the connection is removed from the picture so that only frequent connections are shown. The purpose of removing less frequent contact was to make the picture easier to read. The green dots represent representatives from the employers' side and the purple dots people from trade unions' side. The connectivity in the network of collective agreement 1 is more equally distributed –everyone is closely connected with everyone –than in collective agreement 2 where some are better connected than others. For example, actors S, C, M, G and J are connected to many others, whereas actor L is only loosely connected. There are no lines connecting this person to others in the network, meaning that he or she was with none of the others in contact with a frequency more than 5 times during the negotiation process. The network of collective agreement 2 therefore holds more possibilities to hold a critical position to control information (top-betweenness) than the network of collective agreement 1, illustrating that positions of influence in this network are potentially more dispersed.

Figure 3: Importance of different types of interactions in the pharmaceutical industries

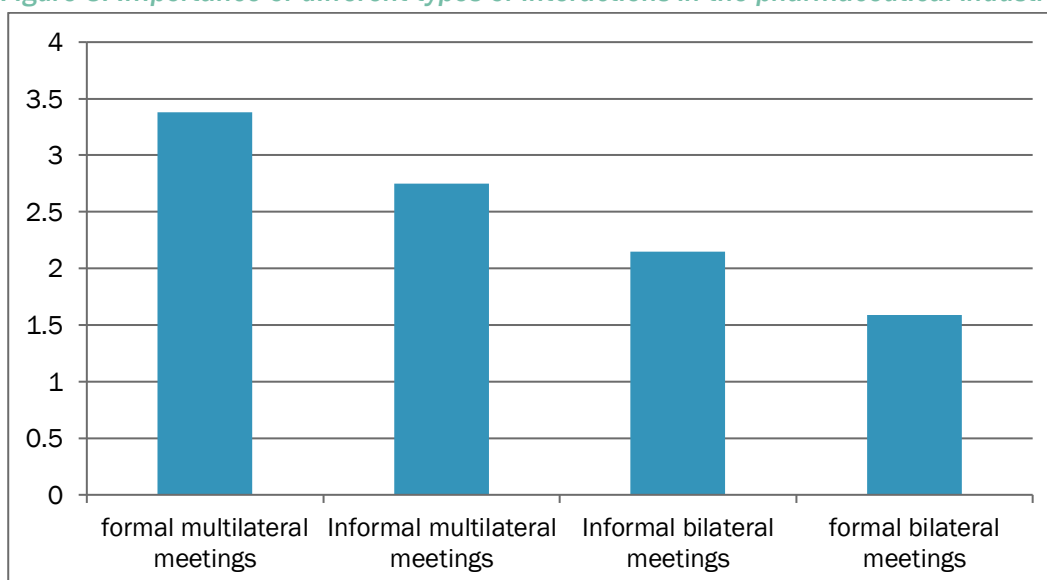
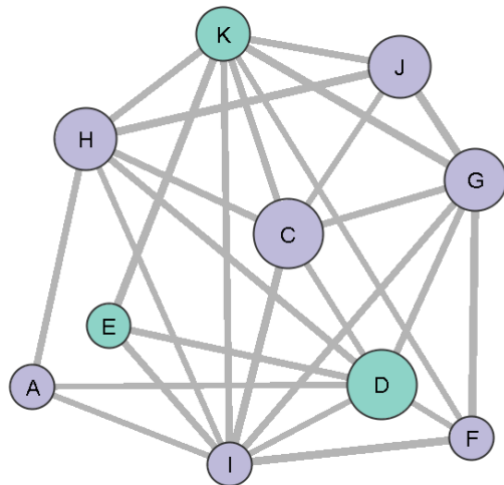


Table 5: Influential actors in the bargaining process

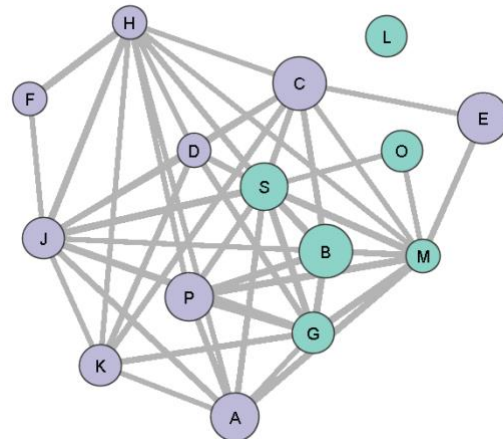
	Most influential actors (perceived influence)	Actors with top degree	Actors with top betweenness
Collective agreement 1	C (CNV); D (HR manager)	I; G; H; K; C; D	All
Collective agreement 2	C (FNV); B (HR manager); E (CNV)	S; M; G; C; J	G; C

Figure 4: graphical presentation of the network connections

Collective agreement 1



Collective agreement 2



Note: The dots represent the actors involved in the negotiation process and the lines their contact. The green dots represent representatives from the employers' side and the purple dots people from trade unions' side. The contact between actors is calculated based upon the frequency of contact during the negotiation process. If actors had less than 5 contact moments, the connection is removed from the picture so that only frequent connections are shown.

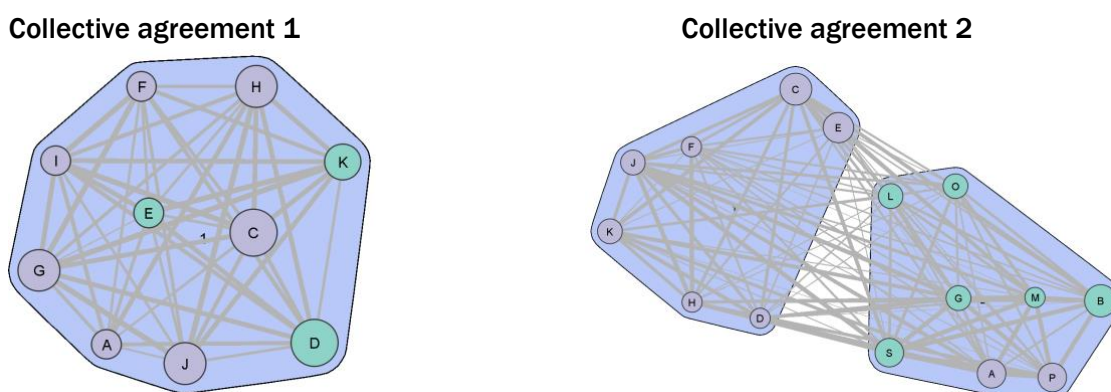
The role of unions /employers in the network

Next, we ask what the network looks like in terms of distribution of influence and connections both within the own group and between groups? Respondents do indicate that they perceive a difference in power between employers and trade unions and see this is an obstacle in the negotiation process: they ranked this obstacle on average with a 2.93 out of a possible 5. Nevertheless, this does not show when they have to score the power position of others involved in the negotiation process: employer representatives get an average score of 3.18 out of 5 and representatives of trade unions 3.19 out of 5. Also, the people in the network that are perceived as most influential stem from both sides (see also table 5). This seems to indicate a situation where the role of trade unions and employer is perceived as fairly balanced. Also, the connections between the two sides are found to be close: the average connections ('tie strength') between trade unions and employers is almost as strong as among trade unionists or among employer representatives (see table 6). This means that the density of communication between representatives of trade unions and employers is comparable to that within their own group. This is also shown by the networks in Figure 5. In the network of collective agreement 1, everyone is so highly connected to everyone else that no separate groups can be distinguished. In the network of collective agreement 2, two different groups can be distinguished of which the first group exists of trade union members and the second group of mainly employer representatives with some trade union members (A&P). There are however a lot of connections between the two groups.

Table 6: Average tie strength within and between groups

	Average tie strength within employers	Average tie strength within trade unions	Average tie strength between employers and trade unions
CBA 1	6.33	5.95	5.52
CBA 2	6.13	4.64	4.44

Figure 5: Groups and contact between groups in the collective bargaining networks



Note: Subgroups in the network are indicated by the blue field. Subgroups have been computed based on Louvain clustering with edge weighting, meaning that the nodes are randomly added and removed from clusters until an optimal solution is found.

Coordination in the collective bargaining process

What now do the characteristics of the process of collective bargaining as it takes place in the pharmaceutical industries in the Netherlands mean for coordination? First of all, vertical coordination. The yearly terms of employment as published by the trade unions at a central level and the central wage demand of the FNV means coordination of trade union's input. Also, the negotiation room set by the mother company for their daughters in this industry coordinates the process at employers' side. Second, horizontal coordination at sector level. According to the trade union representatives there is little coordination between the unionists involved in the different company level collective agreements in the pharmaceutical industry. An obvious way to do this would be for a union to have the same persons negotiate the collective agreements in the sector or to have the people that negotiate the various collective agreements in the pharmaceutical industries sit together to coordinate. This is not the case. According to negotiators participating in the semi-structured interviews, this follows from the organizational structure of the trade unions. If they are not organized at the sectoral level and there is no sectoral collective agreement in place. Rather, they are organized by geographical area and there is no structural consultation in place among the people negotiating in the sector. At the employers' side there seems to be some coordination. This stems from the national level employers' organization (AWVN) that supports the various employers in the sector during the negotiation process (and beyond). This is done by one person, who is therefore able to communicate important developments and/or negotiation results. There also seems to be

some horizontal coordination in the sector through the presence of pattern setters: companies whose example is followed by others. When asked in the survey, the respondents in the sector do not seem to agree upon the presence of pattern setters within the sector: 65.5 percent states there are no particular companies setting the pace, whereas 35.5 percent states that there are. Companies mentioned by this latter group as pattern setters are MSD, DSM, Astellas and TEVA. Manufacturing is mentioned by 4 respondents as an important pattern setting reference industry for the pharmaceutical industries, probably because of the presence of production plants. Finally, there is horizontal coordination taking place within the context of a company level collective agreement. The various trade unions involved align their input for the negotiation. For the employer this does not make sense as there is obviously only one employer involved. It could also be the case that there is some coordination taking place between employers and trade unions through their representatives at the negotiation tables. After all, this study shows that there is quite some informal contact during the negotiation process, also between the different parties. This contact creates the potential for coordination. Whether this is actually the case depends on what is being discussed and how it is done: is it an extension of the negotiations or rather coordination that takes place in the informal meetings? More research is needed to answer this question.

4.2. Supermarket sector

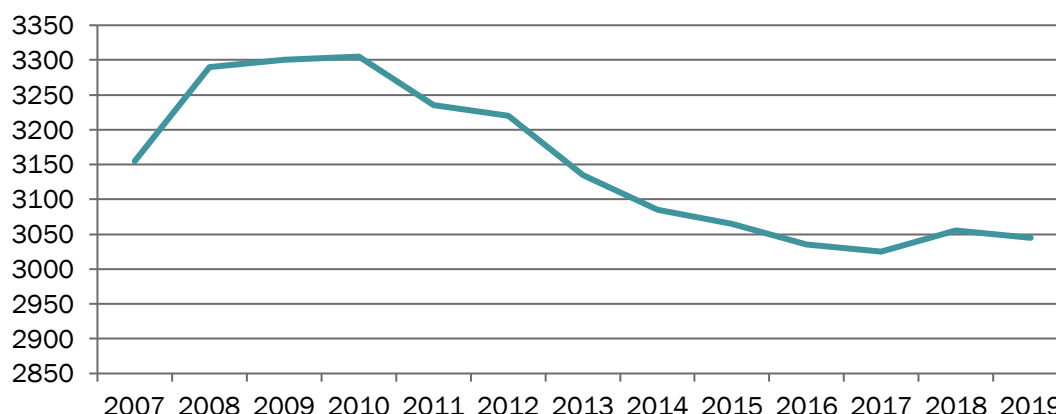
4.2.1. Socio-economic situation of the sector

The supermarket sector accounts for about 0.9 percent of the total economy in the Netherlands⁶. Figure 6 shows that the number of companies on the market has been rapidly decreasing between 2010 and 2017. This is mainly due to take overs by large retail companies. The sector is currently dominated by some large to very large retail companies. Albert Heijn is the largest one of them, followed by Jumbo. Other big players are Lidl, Aldi, Coop, Plus, Spar and Dirk/Deka.

Opposite to the trend in the number of companies, the number of workers is on the rise and approaching the 350.000 in 2017 (see figure 6). Most of the workers in the sector are young. This demographic characteristic of the workforce needs to be understood from the minimum-wage regulation in the Netherlands, which is characterized by a long tale of youth-minimum wages. Supermarkets have used those to develop a business model that is based on a large proportion of young employees and thus low wages. Most of the young employees work in the sector besides their studies as a side-job on a part-time basis. This is reflected in figure 6 by the wide gap between number of workers and the full-time equivalent.

⁶ <https://www.ing.nl/zakelijk/kennis-over-de-economie/uw-sector/sectoren-algemeen/supermarkten.html>

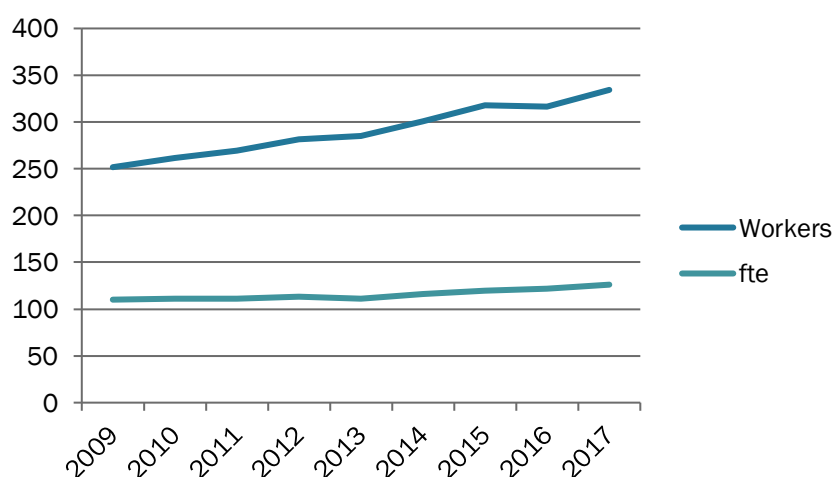
Figure 6: Number of companies in the supermarket sector in the Netherlands



Source: Statline, 2019

Note: SBI2008 code 4711

Figure 7: number of workers and fte in the supermarkets sector in the Netherlands (x1.000)



Source: Statline, 2019

Note: SBI2008 code 4711

4.2.2. Multi-employer collective bargaining

As mentioned, there are two sectoral level collective agreements in the supermarket sector: the VGL collective agreement for the big players in the field and the Supermarkets collective agreement for small and medium enterprises (=all others). Both collective agreements are negotiated at the same table and they are identical except for pension schemes and early pension arrangements. The supermarket agreement is legally extended to the sector. Because the negotiation process takes place at the sectoral level, the predominant form of wage setting in the sector is sector level bargaining.

At the employers' side there are two employers' organizations that signed the collective agreement for the years 2017-2019: 'Centraal Bureau Levensmiddelenhandel' for the VGL collective agreement and the 'Vakcentrum' for the supermarkets collective agreement. The CNV signed both collective agreements on behalf of the employees. The

largest trade union FNV refused to sign the agreements. They did not sign the previous collective agreement either, but did decide to be nevertheless part of the bargaining process of the collective agreement under study. However, they did not sign it in the end. That it is possible to conclude a collective agreement without the consent of one of the parties involved is exemplary for the Dutch context, where it is sufficient to have one trade union on board to close a collective agreement, independent of the representativeness of this union.

4.2.3. Survey results

The collective bargaining network

What does the network negotiating the collective agreements look like in the supermarket sector in the Netherlands? In table 7, the characteristics of the persons involved in the supermarket collective agreements are presented. First of all, the table shows that we have to be careful with the interpretation of our results especially for this sector, as the response to the questionnaire is selective with regard to several aspects. First, of the four parties that signed the collective agreement, only three are represented in our data. The majority of the people involved in the negotiation of the collective agreements in the sector is male (76 percent). In that sense, females are somewhat overrepresented in the people that filled out the questionnaire: of them only 69 percent is male. Also, in terms of the side they represent, the response to the questionnaire is skewed. Even though of the people involved in negotiating the collective agreements 52 percent represents the employers' side, of the respondents to the questionnaire only 23 percent represents the employers. Also, the trade union members are somewhat overrepresented in the respondents to the questionnaire, whereas those with a political role (negotiators at either the trade union- or employers' side) are underrepresented as opposed to those with a technical role in the process (independent chair).

If we look at the size of the network in terms of persons and parties to get insight into the potential complexity of the bargaining process, we see that in total 21 persons are involved in the negotiation of the collective agreements in the supermarket sector. About half of them (54 percent) has been involved for less than 5 years, and the others more than that. They represent 4 different parties. Most of the large companies in the sector have somebody sitting in on the negotiations as well. Two of the parties involved are employers' organizations and the two other parties are trade unions. This situation with four different parties involved could potentially complicate the bargaining process. Especially the fact that one of the trade unions did not sign the collective agreements although having been part of the negotiation process, is an indication that the negotiation process has been difficult. Indeed, if we look at how respondents in this sector rated the question about the extent to which 'fragmentation in the representation of workers or firms' is a challenge, we see that this is rated rather high with on average 3.77 out of a possible 5. This is one of the two issues with the highest scores out of the four challenges listed as is shown in table 8. The other one with such a high score is 'power differences'. The supermarket sector in the Netherlands is somewhat unique in perceiving 'fragmentation in the representation of workers and firms' as one of the largest challenges to collective bargaining, as table 8 shows in none of the other countries included in this study, this aspect is seen as the most important barrier. Nevertheless, in absolute terms both Italy and Ireland score higher on this issue. The question remains whether absolute scores are comparable between

countries (it could be the case that actors in one country just give a higher average score due to cultural differences) or only relative scores are comparable.

If we now look at the distribution of power, we see that only four people in the network are seen as very influential (3 trade union representatives and an employer). The relatively low number of influential people could be an indication that the bargaining process is not as complicated as it would be in case the two networks would have less concentration of influence. Although this of course also depends on how far apart their viewpoints are: negotiations can still be very difficult if these are very far apart. Interesting enough the four listed as most powerful are not representing the four different parties involved: three out of four are trade union representatives. It could be that in this instance the results are indeed biased as the response rate among trade union representatives was much higher than among employers and therefore the results are a stronger reflection of trade unionists' point of view. It can also be a sign, however, that at the trade union side the power is more diffused than at the employers' side where most influence lies in the hands of a single employer.

Table 7: Descriptive characteristics of respondents in the supermarket sector

Characteristic	Involved in the negotiations	Respondents to the questionnaire
Number of people	21	13
Number of parties	4 overarching parties + representatives of large firms	3
Gender		
<i>Male</i>	76%	69%
<i>Female</i>	24%	31%
Side		
<i>Employer</i>	52%	23%
<i>Trade Union</i>	43%	69%
<i>Other</i>	5%	8%
Role		
<i>Political</i>	71%	54%
<i>Technical</i>	5%	8%
<i>Trade union member</i>	24%	39%
Involvement in wage setting in this sector		
<5 years	-	54%
>5years	-	46%

Table 8: Ranking of challenges to collective bargaining in the supermarket sector

Challenge for collective bargaining	Mean value assigned (scale 1-5)			
	The Netherlands	Italy	Spain	Ireland
Lack of trust	3.08	2.58	2.33	3.44
Power differences	3.77	2.83	3.11	4.00
Fragmentation in the representation of workers or firms	3.77	4.00	2.56	4.00
Obstacles from economic and/or sectorial context	3.38	4.17	3.89	5.00

The process of collective bargaining

What did the process of collective bargaining look like in the supermarket sector in the Netherlands for the collective agreements 2017-2019? How formal or informal was the process of collective bargaining? We focus on the process followed, the place where the real decision is made and the possibility of individuals to exercise power beyond their formal role.

The negotiation process for the supermarket collective agreements for the period 2017-2019 in the Netherlands was preceded by a lengthy trajectory in which the possibilities to completely renew the collective agreement were discussed. This renewal-trajectory was agreed in the previous collective agreement that was signed by the CNV and the employers' organizations (CBL and Vakcentrum), but not by the FNV. The renewal trajectory also took place between the CNV and the employers' organizations under the directions of two external parties. The outcome of the trajectory was a report with ideas and recommendations.

Upon the start of the negotiation process of the collective agreement for the period 2017-2019, the FNV decided to join the table again. As preparation, the trade unions sat together to decide what the joined input for the negotiations would be. It was decided that it would be the outcomes of the report of the renewal process together with a wage demand. This wage demand was determined together based upon the central wage demands of the FNV and the working conditions agenda (which includes a wage range) of the CNV. Also, the employers' organizations prepared the negotiation process together. Before the start, both employers' organizations sat with their members to get a mandate. Also, the two employers' discussed their input for the negotiations to reach a joined starting point.

Next, the negotiation process started. According to the parties involved, the process itself was rather standard. Formal rounds of negotiations were perceived as the centre of the negotiation process. During these formal meetings, a delegation of CBL members was present (which means representatives of the large supermarkets in the Netherlands) of which one was assigned to be the formal spokesperson. Moreover, representatives from both employers' organizations, trade union representatives and trade union members were present. Also, an independent chairperson was appointed to manage the process. The formal meetings were interrupted regularly to talk more informally in a slightly smaller group. Also, one-on-one meetings are seen as important to the process and as essential to get the process going again when things got more difficult. This description of the negotiation process is supported by the survey results as is shown in figure 6. The results show that the respondents in the supermarket sector rank both formal multilateral meetings and informal multilateral meetings as equally important (mean of 2.91), followed closely by informal bilateral meetings (mean of 2.62). Formal bilateral meetings are seen as least important (mean of 1.55). Even though the negotiation process itself was described by the people involved as rather standard, the end was quite unexpected. At the very last moment, just before the trade union representatives were going to ask their members to agree to the negotiated result, the FNV decided at the central level that they were not satisfied with the negotiated result and therefore refused to sign. This resulted in collective agreements that were, just like the previous ones, only signed by the CNV on the side of the trade unions.

The next question is then where the 'real' decisions are made: is this within the formal meetings or rather outside the formal setting? The survey result show that there is no significant relation between the perceived influence of people and the number of formal

events they attended (pearson's correlation = 0.413, $p > 0.1$). This is a first careful indication that there is quite some influence exercised outside the context of the official meetings, for example decisions are made by the people in formal roles outside the context of the formal meetings and/or the informal meetings are more relevant than the formal ones.

Now the question remains how important the formal hierarchy of roles is: are those with formally the highest position also the most influential? If we look at the people in the network that are perceived as most influential (see table 9), we see that the people that are seen as most important at the trade unions side are the representatives of the trade unions involved. Their role thus matches the influence assigned to them. Interestingly enough, the person mentioned as most influential at the side of the employers is not a representative of an employers' organization but the representative of an individual company, which is not the assigned spokesperson of the VGL-employers either. This is a clear indication that it is not the formal role in the negotiation process that matters most.

Besides being powerful in the negotiation process because of a formal position, individuals can also be influential as a result of their position in the negotiation network. For example, those with many connections in the network have the potential to influence many others. Moreover, also those on key positions connecting for example one group of people to another group of people can be really influential. These 'gate keepers' have a strong position to control information. Table 9 also indicates who has such influential network positions in the supermarket sector. It shows that it are the trade union representatives plus a trade union member that have most connections to others in the network ('top degree') and the best network position to control information ('top betweenness'), but this could be the result of the selective response to the questionnaire in which trade union members were overrepresented. This is further graphically illustrated by the network-pictures in figure 9. The figure shows the contacts between people in the negotiation network of the collective agreements in the supermarket sector. The dots represent the actors involved in the negotiation process and the lines their contact. The contact between actors is calculated based upon the frequency of contact during the negotiation process. If actors had less than 5 contact moments, the connection is removed from the picture so that only frequent connections are shown. The purpose of removing less frequent contact was to make the picture easier to read. The green dots represent representatives from the employers' side and the purple dots people from trade unions' side. The picture shows that the actors G, H, I and C have many connections to others and also serve as a bridge connecting others in the network (and having thus the possibility to control the information flow between these two others). The network picture moreover shows that actor G has a very interesting position, as this actor bridges employers (green dots) with trade union representatives (purple dots).

Figure 8: importance of different types of interactions

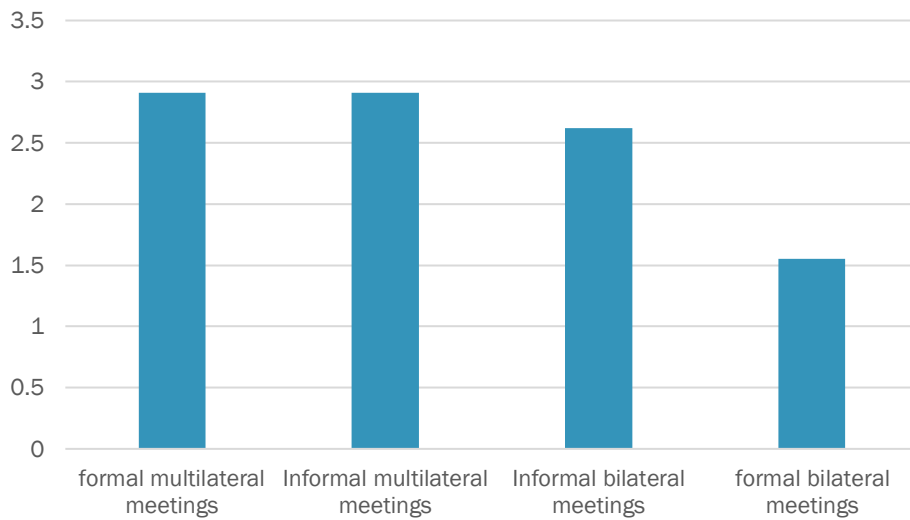
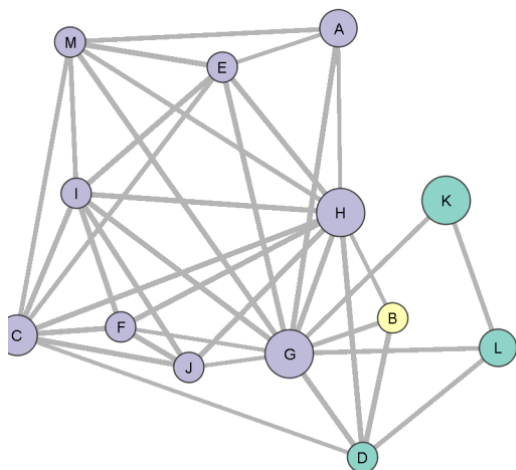


Table 9: Influential actors in the bargaining process

Most influential actors (perceived influence)	Actors with top degree	Actors with top betweenness
G (trade union representative); H (trade union representative); K (employer); C (trade union representative)	G; H; I; C	G; H; I; C

Figure 9: Graphical representation of the network



Note: The dots represent the actors involved in the negotiation process and the lines their contact. The green dots represent representatives from the employers' side, the purple dots people from trade unions' side and the yellow dot the independent chair. The contact between actors is calculated based upon the frequency of contact during the negotiation process. If actors had less than 5 contact moments, the connection is removed from the picture so that only frequent connections are shown.

The role of trade unions/employers in the network

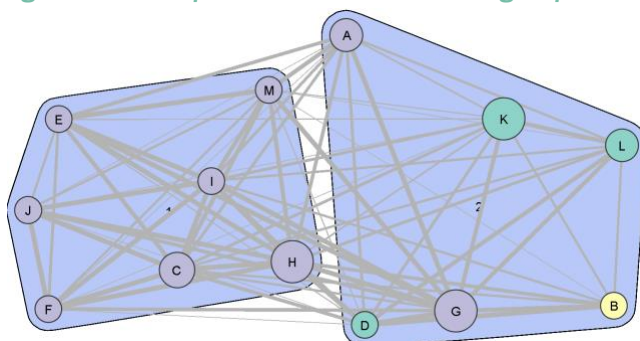
The question remains how the power is distributed between employers and trade unions. If we look at how the actors perceive power differences, we see that they regard it as an important obstacle in the negotiation process: they ranked it with a mean value of 3.77 out of a possible 5. If we then look at how powerful the person involved at both sides are perceived by the others in the network, we see that the respondents at the employers' side receive a mean influence score of 3.33 and those at the trade unions side a mean influence score of 2.94. Overall, the employers side is thus perceived as more influential than the trade unions. This fits with the fact that unions have only limited membership in the sector.

If we look at how people in the network are connected with each other as presented in table 10, we see that there are strong connections among trade unionists ('average tie strength within trade unions') and also the connections within the group of employer representatives are strong ('average tie strength within employers'). However, the connections between the two groups are a lot weaker. This is also shown in figure 10 that shows the groups in the network and the ties between the groups. We can see that there are two groups in the network: one with only trade union representatives and one with all employers, some trade unions member and the independent chair. Interestingly enough the independent chair is not the connector of the two groups.

Table 10: Average tie strength within and between groups

Average tie strength within employers	Average tie strength within trade unions	Average tie strength between employers and trade unions
6.33	6.56	3.41

Figure 10: Groups and contact between groups in the collective bargaining networks



Note: Subgroups in the network are indicated by the blue field. Subgroups have been computed based on Louvain clustering with edge weighting, meaning that the nodes are randomly added and removed from clusters until an optimal solution is found.

Coordination and potential for coordination in the collective bargaining process

What now do the characteristics of the process of collective bargaining in the supermarket sector mean for coordination and coordination potential? As in the pharmaceutical industries, the vertical coordination at the trade union side stems from the yearly terms of employment as published by the trade unions at a central level and the central wage

demand of the FNV. Also, vertical coordination is observed when the central level FNV decided not to sign the collective agreement because it was not close enough to the standards set at the central level. Whether there is also vertical coordination at the employers' side is less clear.

There is also clear horizontal coordination taking place between trade unions and employers, between trade unions and between employers in their own groups. First of all, stemming from the renewal trajectory that preceded the process of collective bargaining and that set the terms and input for the process of negotiation. Also, the determination of the joined input for the negotiations between trade unions can be regarded as horizontal coordination as is the determination of joined input at the side of the employers. Finally, it could be the case that there is also some further coordination taking place between employers and trade unions through their representatives at the negotiation tables. After all, this study shows that there is quite some informal contact during the negotiation process, also between the different parties. This contact raises the potential for coordination. Whether this is actually the case depends on what is being discussed and how it is done: is it an extension of the negotiations or rather coordination that takes place in the informal meetings? More research is needed to answer this question.

5. COMPARISONS

The selection of cases, the pharmaceutical industries and the supermarket sector, provided for the Netherlands two very different contexts to study. Here we compare the two sectors in terms of type of networks, collective bargaining process, the roles of trade unions and employers and the relationships between them and the coordination prevalent.

The most important difference between the two industries is that in the supermarket sector there are sectoral level collective agreements in place, whereas in the pharmaceutical industries only company levels collective agreements are present. These very different contexts are reflected in the networks. In the supermarket sector the network covers the whole sector, whereas in the pharmaceutical industries the networks are limited to the context of individual companies. Having a sector with no sectoral collective agreement in place, allowed observing whether any attempts are there to align company collective agreements in such a sectoral context. We can conclude that these attempts are very limited. At the trade union side, there is no overlap in the negotiating persons between the various collective agreements in the sector. The horizontal coordination that is there in the pharmaceutical industries stems from the presence of a national employers' organization representative that sits in or advises at most of the bargaining tables in the sector.

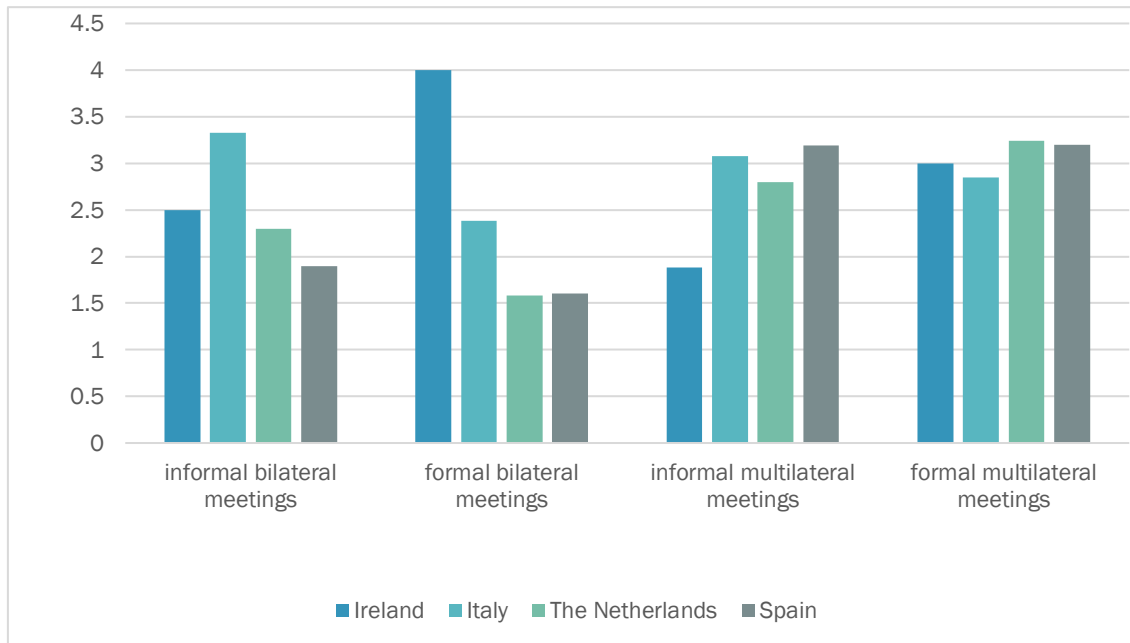
If we further compare the process of collective bargaining in the pharmaceutical industries and the supermarket sector, we learn that a standard process of collective bargaining in the Netherlands contains a number of formal rounds of bargaining, that are interrupted by "breaks" to talk more freely and off the record in a smaller group. In the margins of these central meetings, also get-togethers in small groups and one-on-one meetings take place either face-to-face or on the phone. These meetings mainly serve to smoothen the process and get it going again if it is stuck. If we compare this process, which is perceived as standard, to what it is like in other countries (see figure 11), we see that the Netherlands is comparable to Spain: in both countries multilateral formal- and informal

meetings are rated as most important in the bargaining process. However, in Italy and Ireland, bilateral meetings are perceived as most essential to the process of collective bargaining.

If we compare the pharmaceutical industries and the supermarket sector in terms of network connections, we observe that where in the pharmaceutical industries the network connections between employers and trade union representatives are almost as dense as within the own group, this is different in the supermarket sector. Here the network connections within the own groups are more frequent than within the own group. This could be a result of the fact that the collective agreements in the supermarket sector are sectoral collective agreements whereas in the pharmaceutical industries it are company level agreements. However, it could also be the case that the relations between the two groups are of a different nature in both sectors. Interestingly enough, in the pharmaceutical industry the mean influence assigned to negotiators at the side of the trade unions is as high as the influence assigned to employer' representatives. In the supermarket sector the employer' representatives are assigned more influence than trade union representatives. The latter situation is more in line with the observation that over the last decades the employers in the Netherlands have become more powerful relative to trade unions. This power disbalance is further increased by the regulation in the Netherlands that states that to close a collective agreement it is sufficient that one trade union signs it, no matter how small it is. It is even possible to extend it to the entire sector. This situation further undermines the power of trade unions. They can decide not to sign a collective agreement, but as long as another trade union is willing to do so the consequences are small, as is shown by our case study of the supermarket sector. This could be an explanation for the fact that the 'fragmentation in representation' is, unlike in the other countries (Italy, Spain, Ireland), in both sectors in the Netherlands seen as (one of) the biggest obstacles in the negotiation process

If we look at coordination taking place, we observe that in both sectors the central working conditions agendas of the trade unions are important for vertical coordination: they clearly influence the input for the negotiations and the case study of the supermarket sector shows that the agendas are reinforced by the central level if deemed necessary. Especially in the pharmaceutical industries, where company level collective agreements are present, the coordinating influence of mother companies is seen. If we look at horizontal coordination at the sectoral level, an important difference is between the two sectors is that the coordination in the supermarket sector takes place within the context of the collective bargaining of the sectoral collective agreement: trade unions align their input and employers and employer' organizations do the same amongst themselves. Also, the renewal process that preceded the collective bargaining leads to coordination. This is not the case in the pharmaceutical industries. There is little to no coordination at trade union's side among the various collective agreements in the sector. However, at employers' side the presence of an AAVN advisor leads to some coordination. This seems to be the mechanism that underlies the pattern bargaining in the sector as the units of reference are other company collective agreements in the sector and most of those are negotiated more or less simultaneously (although not all are).

Figure 11: Ranking of importance of meeting types in the Netherlands, Italy, Ireland and Spain



6. CONCLUSIONS

This study provides a detailed analysis of the process of collective bargaining, the network of the people involved and what this means for coordination (potential) in two different sectors in the Netherlands: the pharmaceutical industries and the supermarket sector. The aims were twofold: 1) to get a better understanding of what collective bargaining looks like from a network perspective and what this means for coordination (potential) and 2) testing whether social network analysis is a useful tool to study collective bargaining.

To start with an evaluation of the latter. The most obvious difficulty we ran into when applying a social network approach was the high response rate required to have meaningful analyses. It was difficult to get everybody to respond to the questionnaire. Especially in the supermarket sector. Respondent had a hard time seeing the added value of the approach and therefore were reluctant to participate. Another problem we ran into, was the issue that especially vertical coordination takes place outside the immediate network in which the bargaining of collective agreements take place and was therefore not captured by the social network analyses itself. For example, coordination takes place through the yearly agenda's set by the national level employers' organizations and by each of the trade unions at the central level, the central wage demand of the FNV and by the mother companies of daughters of multinationals operating in the Netherlands. It was not an option to widen the boundaries of our network to capture this type of coordination, as the coordination is not really enacted by individuals (which can be included in the social network and can respond to the questionnaire), but rather by entities/bodies within organizations. All in all, we learned that the way we applied social network analysis in this study means we mainly capture horizontal coordination but not the sources of vertical coordination. The additional

semi-structured interviews that were conducted helped to capture these elements and can therefore be regarded essential.

What the focus on social networks for the negotiation of collective agreements has brought us is a detailed insight in how the processes of coordination work on the most elemental level: in negotiation networks and between negotiating actors. First of all, it shows how aims and boundaries set at the central level by employers' organizations, trade unions and mother companies find their way into the negotiation results, and how they are reinforced throughout the process (e.g. the FNV not signing the supermarket collective agreement). Second, it shows how horizontal coordination, among employers, among unions and among these two groups together works in practice. Within the context of a single collective agreement, the coordination can be substantial. For example, if one looks at the renewal process that took place in the supermarket sector before the process of negotiation started, it shows that the outcomes of this process clearly coordinate the collective bargaining. It more or less determined the whole bargaining agenda. Moreover, by looking at the interactions between individuals we were able to see that quite a substantial part of the negotiation process takes place informally. Depending on what is being discussed during these informal meetings, this gives room for potential further coordination taking place during the bargaining process.

What this study has moreover shown us, is that individual influence of negotiators in the bargaining process does not stem from formal position alone. Other factors, turned out to be important as well. For example, for trade union representatives having a history with negotiating the collective agreement at hand was found a relevant determinant: the knowledge of the field and an acquaintanceship with other negotiators lead to a position of influence. For individual employers sitting in at the table of sectoral collective agreements, being a representative of a company with a strong market position was found an important determinant for influence. This study nevertheless shows us that the negotiators that are perceived as most powerful are not always those with the strongest position in the negotiation network. They probably do not need a strong position in the network because their power stems from different sources. However, it also means that the process might be influenced by others in the network that are very well connected to others as they are able to steer the negotiations towards certain directions through their one-on-one contacts: a more hidden and subtle source of influence.

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