National Report, GERMANY

By
Thomas Haipeter, University of Duisburg-Essen, Institute Work, Skills and Training
Johannes Schulten, Journalistenbüro Work in Progress
Jörn Boewe, Journalistenbüro Work in Progress

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COORDINATOR

ADAPT
Associazione per gli studi internazionali e comparati sul diritto del lavoro e sulle relazioni industriali, based in Modena
Italy

CO-APPLICANTS

IAT
Institut für Arbeitsforschung und Transfer e.V.
Germany

UvA/AIAS
Universiteit van Amsterdam/Amsterdams Instituut voor ArbeidsStudies
The Netherlands

IPA
Foundation Institute of Public Affairs
Poland

UAB
Universitat Autònoma de Barcelona
Spain

UoG
University of Greenwich
United Kingdom

SCIENTIFIC COORDINATOR

Prof. Michele Tiraboschi – Full Professor of Labour Law and Industrial Relations, Scientific Coordinator ADAPT School of Higher Education in Labour and Industrial Relations

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Section 1.
Collective Bargaining and Labour Productivity in Germany

1. Literature Review on Collective Bargaining and Labour Productivity

Since the time of the economic miracle after World War II, labour productivity has a strong impact on wage setting in the German system of collective bargaining. In the 1950s it has become a commonplace of economic policy that wages should follow the development of labour productivity. It was argued that in this way the wage earners could participate in earning the fruits of economic growth and that at the same time the capital owners do not have to cope with increasing labour costs and that they have a stable profit share to invest and modernize production so that productivity will increase also in the future. However, at that time the productivity argument was more of theoretical nature and had little real consequences for the wage policy of the collective bargaining actors. Unions tried to negotiate higher wages and employers tried to restrict wage increases below productivity; there was no consensus about the issue between the collective bargaining actors. Things changed in the 1960s, when the so called Meinhold wage formula was introduced. The formula defined a cost neutral margin of distribution by combining productivity and wage increases. The argument of the economist Helmut Meinhold was that wage increases should be based on the development both of productivity and inflation (Meinhold 1965), for productivity alone as a pacesetter for wages would create injustices for the wage earners if inflation exists that is not created by wage pressures (which is excluded if wages increase with productivity). In this case, according to Meinhold, incalculable parts of the wage increases would be fed up by inflation growth so that real wages may even decline. Moreover, it could be argued that inflation is important for a dynamic capitalist economy, because without inflation shocks would lead automatically to a deflation; therefore today the central banks have inflation targets higher than 0%.

The Meinhold-formula developed a practical impact on collective bargaining when Meinhold in 1965 was appointed as a mediator in a trade dispute of the iron and steel industry where the formula served as a base of consensus between the bargaining parties. From then on the Meinhold-formula was used by the unions as the crucial method to define the goals for wage bargaining. For a certain time it competed with another wage concept, the expansive wage policy, which was developed by Victor Agartz, at that time head of the economic research institute of the trade unions, already

in the 1950s and was based on the idea that wage demands by unions are autonomous and should include a re-distribution of income in favour of wages, which would at the same time foster economic growth (Agartz 2008).

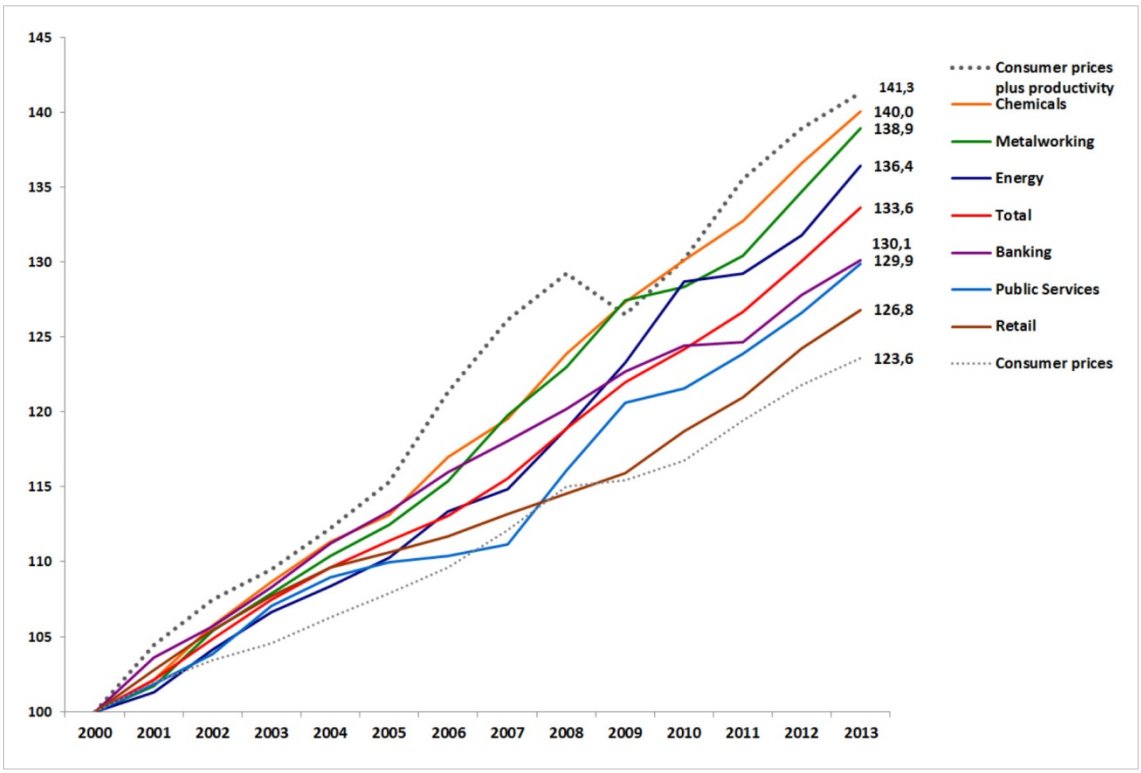
However, in the end the Meinhold-formula prevailed and became the cornerstone of corporatist wage setting in Germany. Wage conflicts were based on different interpretations of the Meinhold-formula. The unions, on the one hand, understood productivity and inflation growth as a minimum level for wage increases and tried to add a re-distribution element on top, which explains why their wage demands often were higher than the sum of both indicators. The employers' associations, on the other hand, took the Meinhold-formula as a maximum level of wage increases and tried to negotiate agreements below this level, arguing that the inflation rate should not be included in the wage increase. However, apart from these conflicts, corporatist wage setting was based on a productivity compromise: Unions accepted productivity increases organized by the employers and, more general, the employers' prerogative to rationalise production and to implement new technologies, and the employers' associations accepted the demand of the union that the employees have to participate in a material way on the productivity increases of the economy. From then on, wage conflicts focused mainly on different interpretations of inflation and productivity growth and on the expected economic situation of the respective industry.

Another important aspect of the Meinhold-formula has been that it was calculated on the average productivity growth of the whole economy, although collective bargaining until today takes place on industry level. To rely on industry based productivity development would have meant that wage demands and wages would have developed differently between industries according to the respective productivity growth. This would have favoured wages in the manufacturing industries and disfavoured wages in the service sector because of its lower average productivity growth (Herr, Horn 2012). The orientation on the average economic productivity growth implied a concept of wage solidarity, because wage growth was redistributed between the sectors of the economy in favour of the sectors with lower productivity growth. This formed the base of a system of 'pattern bargaining' that took place between the industries for a long time in Germany, with the stronger unions from the manufacturing industries negotiating wage increases and the agreements in the other sectors following these increases despite lower productivity growth and weaker organizational power of the unions. The system of pattern bargaining kept the wage growth between the sectors roughly in line without affecting the structural wage differentials between them (Bosch, Haipeter, Latniak, Lehndorff 2007).

However, these advantages have not prevented that the productivity based wage increases became disputed in the last decade. The German Council of Economic Experts, which was implemented in 1963 by the Federal Government as an institution to advise economic policy makers of the government and which had accepted the Meinhold-formula since the middle of the 1960s, in its annual report of 1999 for the

first time criticized the formula and productivity based wage increases more generally. The Council argued that in times of mass unemployment wages setting has to be more defensive and that wage increases should be kept below the level of productivity increases as along as full employment is reached again. This statement went hand in hand with a reorientation of the wage policy from the side of the employers' associations, which in these times tried to push low wage increases, single payments instead of wage increases or profit sharing wages and which were confronted with membership losses so that collective bargaining density declined. Whereas trade unions still relied on their old wage formula, they have proven to be less successful to achieve their wage goals. Instead of that, German workers faced real wage losses in the first half on the last decade. Moreover, the wage drift was reduced so that collectively agreed wages were less able to drive the growth of the effective wages. The wage increases remained much below the levels of the cost neutral margin on distribution. A closer look shows that it is the growing wage gap between the manufacturing and the service economies that explains the wage restraint in Germany in that period. Whereas collectively agreed wages in the manufacturing sector kept roughly in line with productivity and inflation growth, in most industries of the service sector a decoupling of both developments can be observed (Figure 1). The traditional form of redistributing wage increases between the industries based on the average productivity growth of the economy did not work any longer in the way it did from the 1960s to the 1990s. Only in the years after the financial crisis real wages increased again.

Figure 1 – Development of collectively agreed wages in Germany



Source: Schulten, Bispinck 2014, 12

Another question debated in literature is the impact of collective bargaining on labour productivity. This question is tackled by economic researchers who are interested in the economic effects of labour institutions. They mainly try to analyse the economic effects of codetermination by works councils on plant level, but sometimes widen the scope and take collective bargaining into account. They are based mainly on two datasets, the 'Hannoveraner Firmenpanel' and the 'IAB Betriebspanel' (Jirjahn 2010). Theoretically it can be assumed that productivity based industry wage increases serve as a driver of productivity growth because they enforce the companies to create productivity increases that are in line with the wage increases, for otherwise labour costs will rise and the companies will lose competitiveness (Bispinck, Schulten 1999). Moreover, it could be argued that collective bargaining agreements on industry level promote peaceful relationships between management and works councils on plant level because they deal with conflictual issues like wage increases and the duration of working time and take them out of plant level conflicts; and in this way they support the development of trustful relationships on plant level as a precondition for common efforts to increase productivity and economic success. Whereas according to Addison, Schnabel and Wagner (2001) the plant size is the main determinant of a positive productivity effect of works councils, Jirjahn (2003) has shown with the same data base that collective

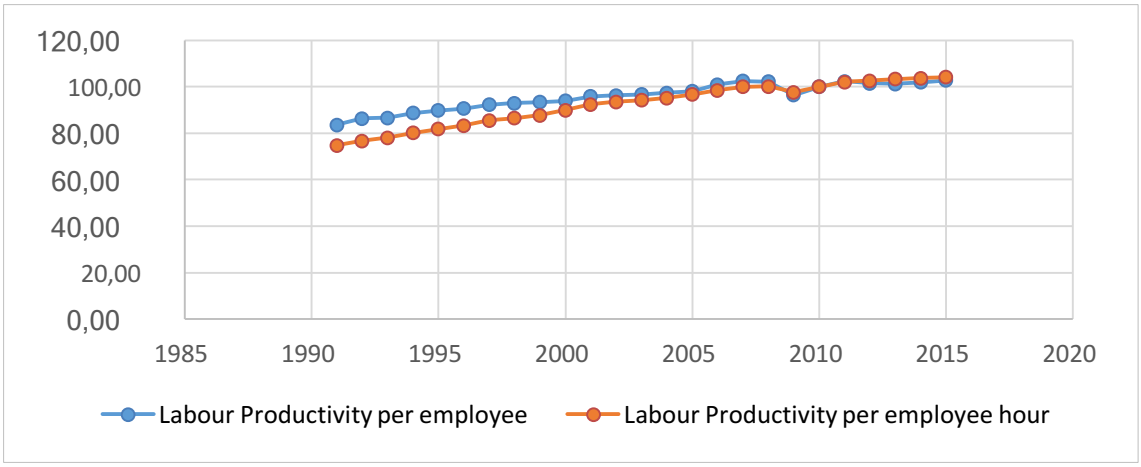
bargaining coverage is the main factor to explain positive effects of works councils on the development of productivity. This result based on the Hannoveraner Firmenpanel was approved by analysis based on the IAB-Betriebspanel which have shown interaction effects between works councils and collective bargaining on productivity (Wagner, Schank, Schnabel, Addison 2006). However, these data analysis only can show that there is a coincidence between collective bargaining coverage and labour productivity, but they cannot show how productivity is affected by collective agreements and which topics and elements of the agreements have the respective effects.

2. Overview on Labour Productivity Developments

Labour Productivity can be measured by employee or by employee hour. In the first case the gross value added is divided by the number of employees employed in the economy in the respective years, in the second case it is divided by the number of working hours worked. In the data provided by the German Council of Economic Experts (2016) that is used here the gross value added is taken from the official statistics of the national accounts (Statistisches Bundesamt; this is the same data used in the STAN dataset) and the number of hours worked is based on the working time calculations of the Institut für Arbeitmarkt und Berufsforschung (IAB). Apart from this single-factor productivity indicator the output can also be related to all the input factors including the capital stock; this multi-factor indicator, which is based on assumptions about production functions, is called total factor productivity. The total factor productivity can be decomposed afterwards; we will come back to some results of these calculations later.

Looking at the 'simple' factor productivity of labour, the overall trend of labour productivity growth in Germany since the 1990 is positive, both for labour productivity measured by employee and by employee hour (Figure 2). Labour productivity grew in all years except the two crisis years of 2009 and 2010. In these two years it was affected by the heavy slump in output figures of more than minus 5% and the fact that overall employment remained nearly constant, because many companies hoarded employees instead of dismissing them. Because of the working time reductions by short time work and other forms of reduction that took place in these years, labour productivity per hour decreased less than the productivity per employee. The general trend of catching up and outpacing productivity per employee by the hourly labour productivity can be explained by the growing share of part time employment relationships that went hand in hand with the growing labour market participation of women in the last years.

Figure 2 – Aggregate labour productivity in Germany per employee and per employee hour 1991-2015

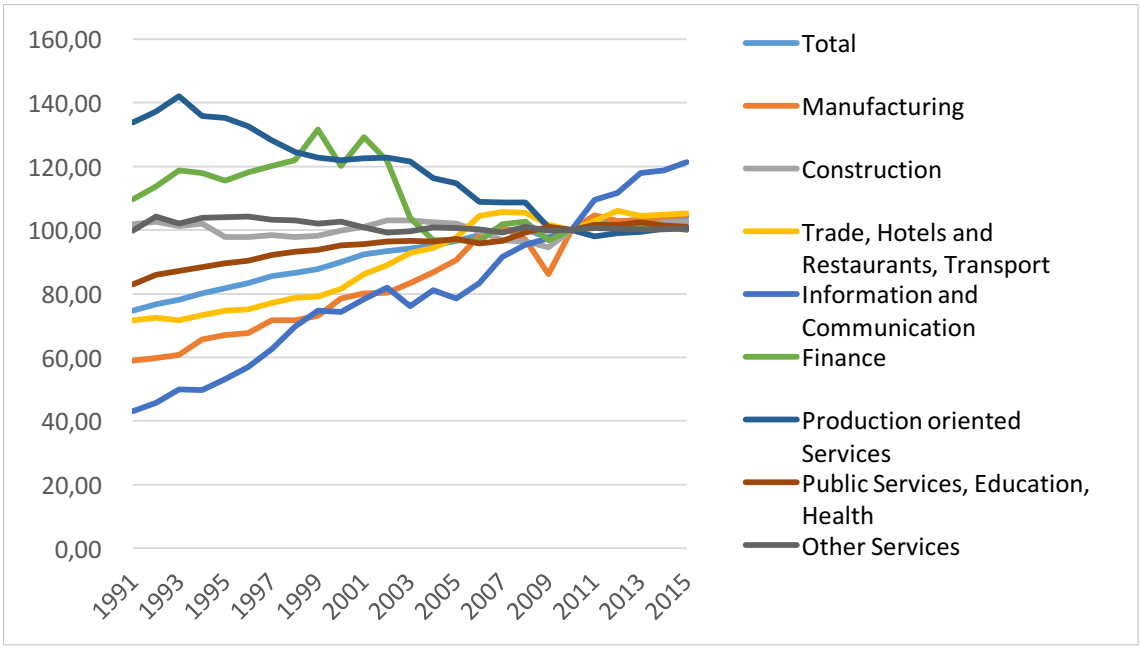


Source: German Council of Economic Experts 2016; 2010=100, own presentation

However, the growth rate of labour productivity has decreased in the time span observed. Whereas labour productivity per hour has grown at a rate of 1.9% per year from 1995 to 2005, productivity growth was only 0.8% yearly in the period from 2005 to 2014. Even if the crisis year of 2009 would be excluded from the calculations, the growth rate would not be higher than 1.3%. The respective figures of labour productivity growth per employee are 1.1% per year for the period from 1995 to 2005 and 0.4% for the years 2005 to 2014.

Labour productivity has developed rather uneven between the sectors of the German economy (Figure 3). Sectors like finance and production oriented services that had a high level of productivity in the decade of the 1990s compared to 2010 show a decline in productivity, whereas the fact that sectors like information and communication (ICT) or manufacturing had a low productivity level in the early 1990s compared to 2010 indicates that they passed through a period of remarkable growth. Labour productivity in the ICT sector more than doubled in the period observed, and it increased for about 50% in manufacturing. In the latter sector, labour productivity grew by 3.1% yearly in the period of 1995 to 2005 and by 1.6% in the period between 2005 and 2014, much above the average growth rates of the economy as a whole. However, also in manufacturing the slowing down of productivity growth in the second period has taken place. The only industry with a continuous growth trend is the ICT sector.

Figure 3 – Labour productivity by sectors in Germany per employee hour 1991-2015



Source: German Council of Economic Experts 2016; 2010=100, own presentation

Belitz, Clemens and Gornig (2009) show that it were especially the industries with a high level of R and D activities that contributed to the growth of labour productivity; in the period of 1995 to 2005 labour productivity increased by 3.8% per year in these industries, more than twice than in the whole economy. Within these industries ICT, pharmacy and the aircraft industry have shown the highest dynamics. These figures are similar in the other Western European countries and also Japan, but lag far behind the US productivity growth, which can be explained by the much higher importance of the ICT sector in this country. Also in terms of multi-factor productivity the gap between the EU (and Germany) and the US is high, which shows that technological innovations in Germany have been less effectively transformed into a growing volume of production than in the US (Belitz, Clemens, Gornig 2009). The Economic Council adds the interpretation that in the US product innovations of the ICT sector have led to technological progress in the ICT-intensive companies in other sectors. According to the Councils, Germany shows similar spill-over effects in manufacturing but lacks these effects in the service industries.

According to the Economic Council there are two main reasons for the slowing down of productivity growth in the German economy since the last decade (2016). The first one is that outsourcing, one of the main trends in the German manufacturing industry in the last two decades, has come to an end. According to this argument, companies in the manufacturing sectors finished the process of restructuring they have initiated since the 1990s and that lasted until the financial crisis. Restructuring in the form of outsourcing

was an important driver of productivity growth because companies split up mainly labour intensive activities and sourced them out to other companies or relocated them to other countries with lower labour costs. As far as these companies were located in other countries, labour productivity increased for the sector and the whole economy; as far as they are located in Germany, outsourcing had a positive impact on labour productivity only in the manufacturing sector but a negative impact in the receiving sectors which at least partly explains the weak productivity performance of the production oriented service sector. The second reason identified by the Research Council is the growing labour volume especially in the service sectors. This development went hand in hand with a structural shift of the sectoral composition of the economy in favour of the weaker performing service sectors. And moreover, according to the Economic Council, in the process of extending the labour volume new employees entered the workforce in the companies that partly have been unemployed before and that are less productive because they are less qualified on average. However, as will be shown in the next Section the social partners have different interpretations like the trend of relocation of production that is accompanied by an increasing volume of non-productive activities like research and development at home; or the growing number of temporary workers that got full time contracts in the manufacturing sectors in the last years.

For some observers, however, productivity growth will reboot again in the next years. This hope is built on the digitalization of the economy in general and of the manufacturing sector in particular, where the concept on Industry 4.0 has created a digitalisation hype. Digitalisation is said to have the potential to reverse the slowdown of labour productivity. According to an estimation of the business association of ICT companies, BITKOM, productivity will increase in ICT intensive industries by about 30% until 2025 (Bauer, Schlund, Marrenbach, Ganschar 2014). Therefore, digitalization at the same time is part of economic concepts to increase productivity.

3. Analysis of Economic and Legal Policies on Labour Productivity

Labour productivity has not been a goal of government policy in the last two decades. However, an important shift in government policy can be observed. In the last decade labour market reforms have been implemented that aimed at creating a low wage sector by deregulating atypical work (marginal part time, temp agency work). These reforms were to reduce firms' labour costs irrespective of the development of productivity. So they had an 'anti-productivist' impact, giving the firms incentives to decrease costs by lowering wages and not by improving labour productivity. Today, these reforms are partly mitigated, a wage floor is created by a national minimum wage that was introduced in 2015, and temp agency work is to a certain degree re-regulated. Moreover, labour productivity is a more or less important aspect in government's main strategy of economic policy, digitalisation. German government has developed a 'digital

agenda 2014-2017' and a 'platform industry 4.0' which are forming the centre of an innovation strategy that is to increase the competitiveness of the German economy as a first mover of digitalised production systems and as a producer of digital production technologies. Although the digital agenda has a rather broad scope, combining the development of both the economy and participation in a democratic society and coping with the risks of cyber-crimes and data protection, the increase of labour productivity is explicitly regarded as a central effect of a digitalised economy. In the government brochure on the digital agenda, the assumption of Bitkom cited above is mentioned without referring to its source:

> According to estimations, the change towards Industry 4.0 can produce productivity increases of about 30% in the companies. The process started with the digital agenda is to make a contribution to develop the opportunities for Germany that go hand in hand with Industry 4.0, 3D, Smart Services, Big Data and Cloud Computing (Bundesregierung 2014).

The digital agenda defines some concrete measures of economic policy for government to reach the ambitious goals, among them investments in the infrastructure of broad-band cables, fundings for research and development to develop new technologies and to transfer them into the economy like autonomic, 3D, Big Data, Cloud Computing and microelectronics; supports for small and medium sized enterprises or the provision of risk capital for start-ups.

However, the digital agenda does not only consist of some policy measures, it is also to organise a political discourse and a high-tech strategy to discuss the opportunities to strengthen Germany as a site of production and innovation and to relocate production to Germany. Actors in the discourse are stakeholders from the economy, from science and from government. The 'Platform 4.0' has been created that is composed of representatives from employers, employers' associations, science, unions and government. The platform has established five working groups working on issues like standards and norms, research and innovation, data security, legal framing and work and qualification. The goal is to make recommendations, to develop an agenda for research and to identify good practice examples that can serve as a model for other companies.

Unions and employers' associations take an active part in the platform dialogues. Especially the metalworkers' union, the IG Metall, tries to pay attention on work and employment and to develop concepts for good and safe jobs in a digitalised production. As the chairman of the union, Jörg Hofmann, stated recently, the union has succeeded to open the Platform 4.0 for discussions about work and employment (IG Metall 2016a). Moreover, the union has agreed on regional declarations together with the employers' associations of the industry like Metall North-Rhine Westphalia. Here the employers' association and the union declare that they are willing to support and promote Industry 4.0 and the political issues affecting labour in a way to make use of the experiences and

qualifications of the employees and to maintain or create good working conditions as a precondition for competitiveness (Metall NRW, IG Metall 2015). In this respect they especially refer to political issues like qualification, flexible working times, wages and safety and health in the workplace.

The strategic goals of the IG Metal are twofold, and they change the traditional productivity compromise between unions and employers established in the 1960s fundamentally. On the one hand the union wants to establish a discourse about good and sustainable work in digitalised production systems. They should be based on high levels of qualification and investments in qualifications by the companies and on making use of the qualifications and experiences the workers have in order to prevent a scenario of digitalisation with a strong polarisation between skilled and unskilled work, a degradation of skilled workers and a planning of technology without taking social aspects into account. Different from earlier times the union does not accept technological rationalisation as a prerogative of management any longer, but it wants to influence this process actively, either on its own or, more important in the plants and on the shop floor, by the works councils. On the other hand, technological rationalisation as such and, following it, the increase of competitiveness, are fully accepted by the union as preconditions for the safeguarding of jobs and good wages and working conditions. However, different from the old productivity compromise, the union today actively supports technological rationalisation as an alternative to low wage strategies based on cheap labour. And the union tries to take an active part in promoting and supporting long term company strategies based on investments in technology and human capital. The employers' associations are, for obvious reasons, much less active, because from their point of view investments and productivity growth are issues in the discretion of the firm management; therefore they restrict their activities to support their members and to offer consultancy about the social implications of automation and digitalisation for instance in terms of qualification demands or wage regrouping.

This strategy of *active industry policy* of the metalworkers' union has been developed already before the discussion about Industry 4.0. It is the logic of the "Better not cheaper" campaign the union has developed already in the middle of the last decade when it was confronted with derogations from collective bargaining agreements and employers opting out from the employers' association. The campaign was designed to activate works councils to challenge low wage strategies and to develop and fight for alternative business and organisational strategies focusing on productivity growth in the plants, based on workshops for works councils, the creation of works councils industry networks and union oriented consultancy for works councils (Haipeter 2012). The union tries develop similar activities in the context of Industry 4.0 by activating works councils to cope actively with the challenges of digitalisation, also based on consultancy and networking (project Arbeit 2020, IG Metall 2016b).

> Better not cheaper is the modern form of the old productivity compromise. It is based on the assumption that high wages and employment are based on competiveness, that competiveness has to be based on innovation, quality and productivity and not on low wages and that the companies do not recognise this on their own but that they have to be pushed to follow that way. This is what we try to do with respect to industry 4.0 at the moment (expert, IG Metall).

Apart from the "Better not cheaper" concept and the new productivity compromise, productivity still is a main indicator for wage setting in collective bargaining in the manufacturing industries (things are different in the service sector as our analysis will show). The metalworkers' union, the IG Metal, still takes the productivity and inflation figures to define its wage demands, added by a component to redistribute income in favour of wages. The significance of the latter is based on the assessment of the power relationships and the economic situation of the industry. This is what is meant also by the expert from the employers' association when he mentions the relevance of the social climate of the negotiations and that negotiating wage increases is more than mathematics of productivity and inflation:

> Collective bargaining is more than mathematics. It is about social partnership and the capabilities of the actors to act collectively. It is about finding solutions for a conflict of interest in concrete situations and with concrete persons who act (expert, Metall NRW).

In the last bargaining round of the industry in spring 2016, the IG Metal had difficulties to define a wage demand because both the inflation forecast and the productivity have been rather low; 0.3% the one and only little more the other. As productivity of the whole economy was weak, a strategy of the union could have been to stress the higher productivity growth of the industry. However, the figure for industry productivity growth was only 0.6%. According to the union expert, productivity growth has been negatively affected by the fact that many companies have hired employees formerly employed as temp agency workers in order to increase their core workforces, not at least demanded by works councils and the union. The expert of the employers' association adds the interpretation that labour productivity is affected negatively by globalisation as German companies shift production to other countries but leave the formally unproductive activities like research and development, administration or sales at home. However, in this situation the union developed a new indicator, the trend productivity, in order to legitimise a higher wage demand. However, the trend productivity only was an average of the productivity development of the last ten years, not a trend calculation.

> The employers' criticised that the trend productivity was not really a trend but an average and that a trend would have shown a negative development of productivity. And they were right. And when they offered to increase wages for 0.9% they historically for the

> first time made an offer including both productivity and inflation growth (expert, IG Metall).

That is what is stressed by the director of the employers' association, Gesamtmetall, during the negotiations:

> Our offer of 0.9% is not low; the Expert Council predicts an inflation rate of 0.3% and an overall productivity rate for the economy of 0.3%. The numbers laid down by the union to develop its demands have little to do with reality (Gesamtmetall 2016).

Growing productivity is an interest of the union not only as a precondition for stable jobs, but also as a precondition for higher wage demands. The main reason of the weak productivity performance in the eyes of the union is the low level of investments; indeed, the growth rates of the capital stock are declining since the financial crisis.

> The main reason for the weak performance of productivity is the low investment activity in Germany. Companies accumulate equity capital, but do invest less and less in physical capital. Industry 4.0 would need other forms of investment, for really to make big technological steps forward you need a lot of investments (expert, IG Metall).

Productivity is important in collective bargaining in a second sense, as a topic of derogations from collective bargaining agreements, where it is referred to mainly in the form of investments which are expected to be productivity enhancing. From our own calculations we know that in the years 2004 to 2006 in about 20% of the derogations in the metalworking industry companies promised investments, and around 2/3rds of them made concrete investment figures for the term of the agreements. The share of derogations with investment promises is much higher today according to the union expert, and the union tries to agree on investment plans with fix volumes and dates that can be controlled by union and/or works councils. This is the first condition for the union to agree on a derogation agreement. The second condition is that investment are not replacement investments but future investments modernising or extending the capital stock and therefore able to raise productivity.

> We agree on derogations if two conditions are met: They have to be real future investments, and we have to have a say in what the money is used for. This is why we try to agree on investment plans which define what is invested when and how we can control the investments. Without such a strengthening of codetermination we do not agree (expert, IG Metall).

However, as it is stressed by the employers' associations, the number of agreements which really define concrete investment plans is not really high yet.

In former times the union tried to monitor if a company really is in a situation of crisis so that a derogation can be legitimised. Today the focus is more on the question how to improve the performance in the future. Therefore today the agreements define opportunities for the union to be informed and to control the processes. However, really concrete measures in terms of investment numbers are still the exception (expert, Metall NRW).

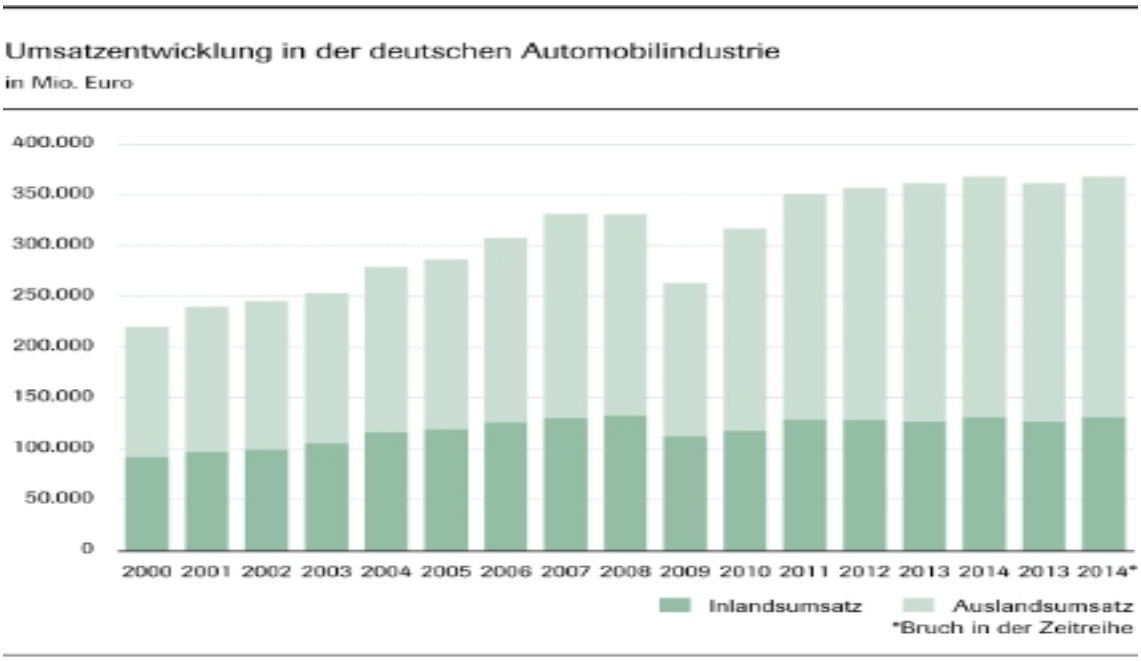
Section 2.
Sectoral Analysis

Part A.
Automotive Industry

1. Sector Overview

The automotive industry is one of the core manufacturing industries in Germany. The volume of sales increased more than 50% between 2000 and 2014, whereas a growing share of the increase was realised in foreign markets (Figure 4). The impact of the financial crisis in 2009 was heavy, but it only interrupted the growth path of sales only temporarily which was taken up again only two years later. In terms of turnover, the automotive industry is by far the most important industrial sector in Germany. The sector with the second highest turnover of 236 billion Euro was mechanical engineering (Statistisches Bundesamt 2016, 547).

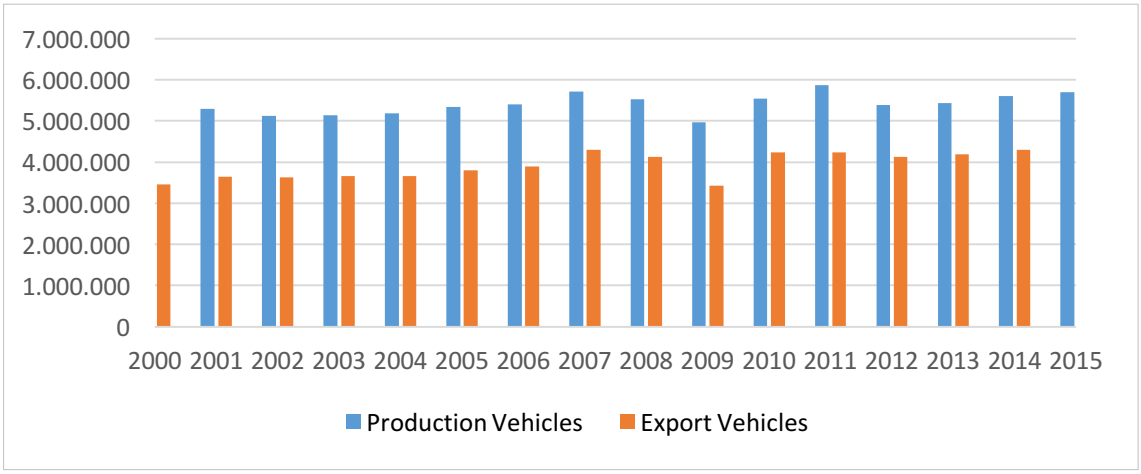
Figure 4 – Sales volume of the German automotive industry in Germany and abroad



Source: VDA 2016a

Production growth was less strong than sales growth (Figure 5); it increased from about 5 m. cars in 2000 to nearly 6 m. cars in 2015. A growing share of production was exported; in 2015, the export share amounted to more than 77% of total production. In 2015, cars and car components formed Germany's largest exports, at 226.7 billion Euros and a 19% share of total German exports, before the machine tool industry with a share of 14.3% in second-place, and chemical products which ranked third with a share of 9.1% (108.2 billion Euros) (Statistisches Bundesamt 2017).
Moreover, the bulk of production growth in the German car industry was realized abroad, and in 2015 the German OEMs produced more than 62% of their cars in plants that are located in foreign countries. Export figures and foreign production indicate a high degree of globalisation of the German automotive industry.

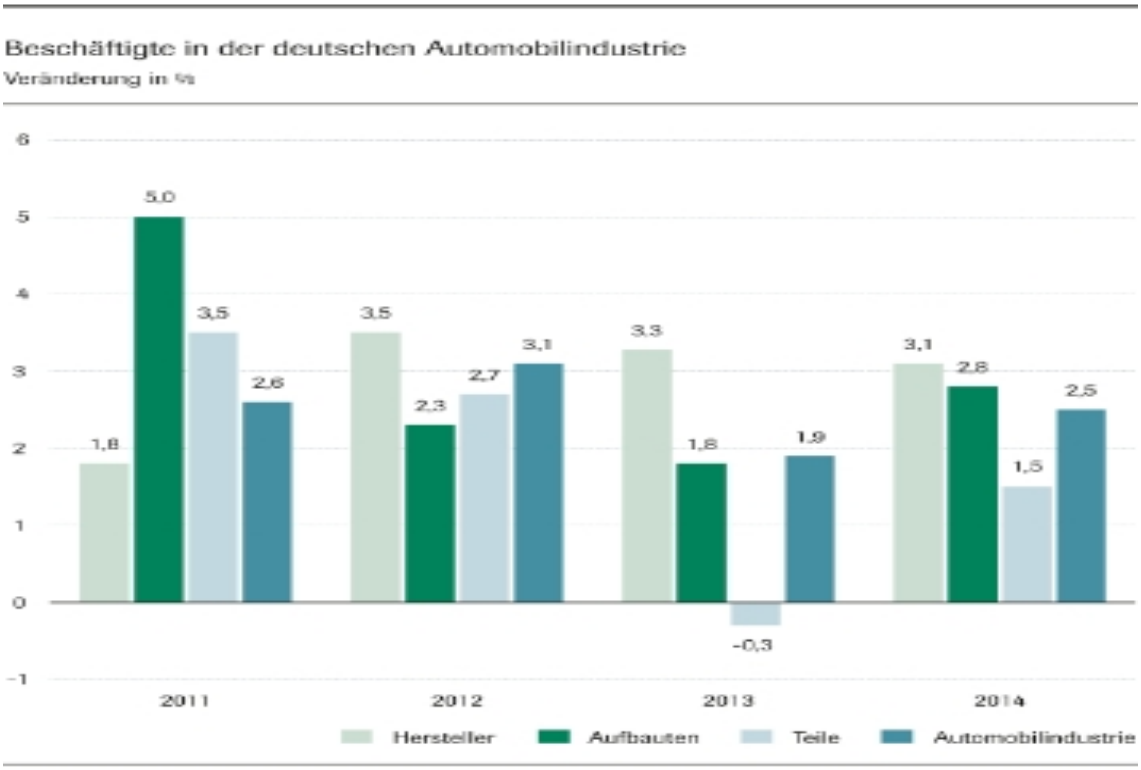
Figure 5 – Production and export of vehicles



Source: VDA 2016a, own presentation

In 2015, more than 792.000 employees worked in the industry both in the OEMs and in the supplier companies, and since the financial crisis the employment figures have increased as well (Figure 6). Nearly 460.000 employees worked in the factories of the OEMs, the rest of the employees is employed in the supplier companies producing bodies and parts. Taking into account also the employees working in other sectors like the chemical industry, mechanical engineering or logistics, the number of employees working in or for the automotive industry amounts to nearly 5 m. people.

Figure 6 – Development of employment in the German automotive industry: OEMs, body producer, supplier of tasks, total



Source: VDA 2016a

The volume of investments in research and development was 17.6 billion Euro in 2014, an increase of 6% from 2013. This is a share of more than 30% of all R and D investments in the German economy; it shows the importance of the automotive industry for the German production and innovation model. More than 93.000 employees are working in the R and D departments of the automotive companies, about a quarter of the German R and D workforce.

There are five companies and seven brands producing cars in Germany: Volkswagen AG (and subsidiaries Audi and Porsche), BMW AG, Daimler AG, Adam Opel AG and Ford-Werke GmbH. Companies such as Volkswagen, Daimler, Audi, BMW and Porsche are internationally successful manufacturers and distribute their cars in all global markets. According to the company`s business report Volkswagen sold about 10 million vehicles in 2015 (Volkswagen 2016). This is more or less as much as Toyota and General Motors sold in the same year (Statista 2017a). Together these three companies account for roughly a third of the vehicles sold world-wide. Despite 'Dieselgate', the scandal involving falsified emissions, which erupted in September 2015, in 2016 Volkswagen maintained its strong market position. While in 2015 Volkswagen achieved sales revenues of about 213 billion Euros, Daimler AG had a turnover of almost 150 billion Euros, and BMW sold cars for around 92 billion Euros.

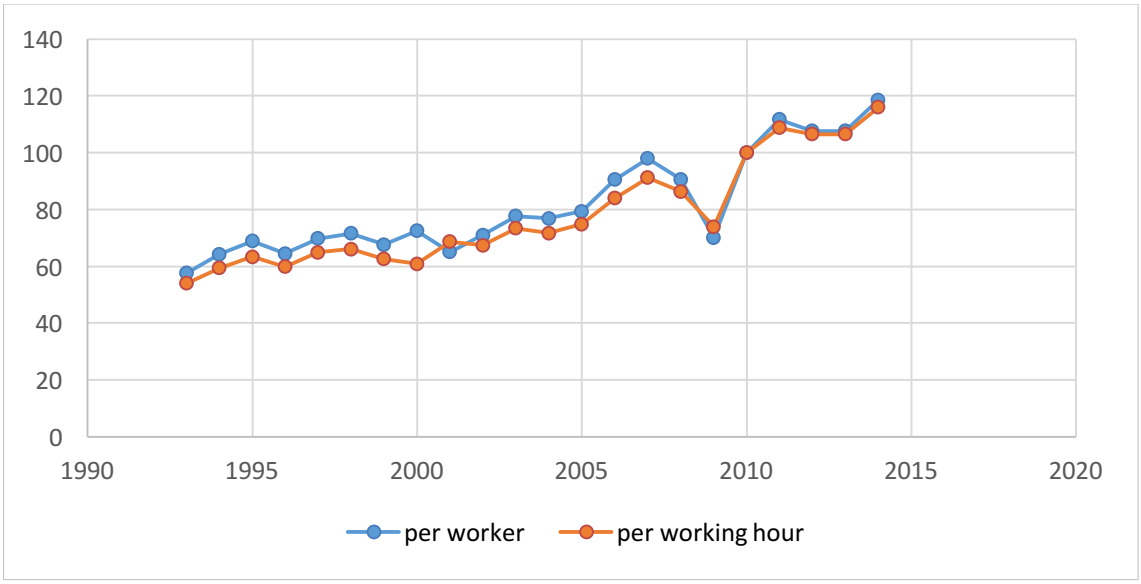
2. Development of Sector Productivity and Collective Bargaining Coverage

Sector Productivity Trends

Labour productivity in the German automotive industry has nearly doubled over the past two and a half decades. This is mainly due to automation and other forms of process innovation. Since the 1990s, production models and value chains have been restructured in the industry. OEMs have internationalised their production capacities, they have reduced their internal supply capacities, they have outsourced activities to suppliers, at the same time they have increased the economic pressure on suppliers through global sourcing strategies, and they, like their suppliers, have outsourced industrial services such as logistics or development activities. Furthermore, the OEMs have increasingly used temp agency workers to make production more flexible and decrease wage costs.

New manufacturing concepts such as the 'breathing' or 'networked factory' and the outsourcing of secondary or even core activities to industrial service providers have also reduced labour costs. Platform and modular strategies, such as for example those pursued by Volkswagen, have created the necessary prerequisites for increasing the production series, while at the same time reducing development costs, since individual vehicle modules, propulsion units and platforms can be used in various models and brands. Within the logic of this strategy, which has been promoted by many manufacturers in recent years, is also a cross-company development cooperation (Focus 2009).

Figure 7 – Gross domestic product or gross value added (labour productivity) in vehicle construction (manufacture of motor vehicles and motor vehicle parts, and construction of other vehicles, index; 2010=100)



Source: Statistisches Bundesamt 2016, own presentation

Sector Collective Bargaining Coverage and Wage Development

As part of the metal and electrical engineering (M and E) industries, the automotive industry is covered by the organizational domains of the collective associations of the metalworking and electronic industry, the metal workers' union IG Metall and the regional employers' associations. These are represented by the umbrella association Gesamtmetall. IG Metall is the largest German union, with about 2,274 members in 2016.

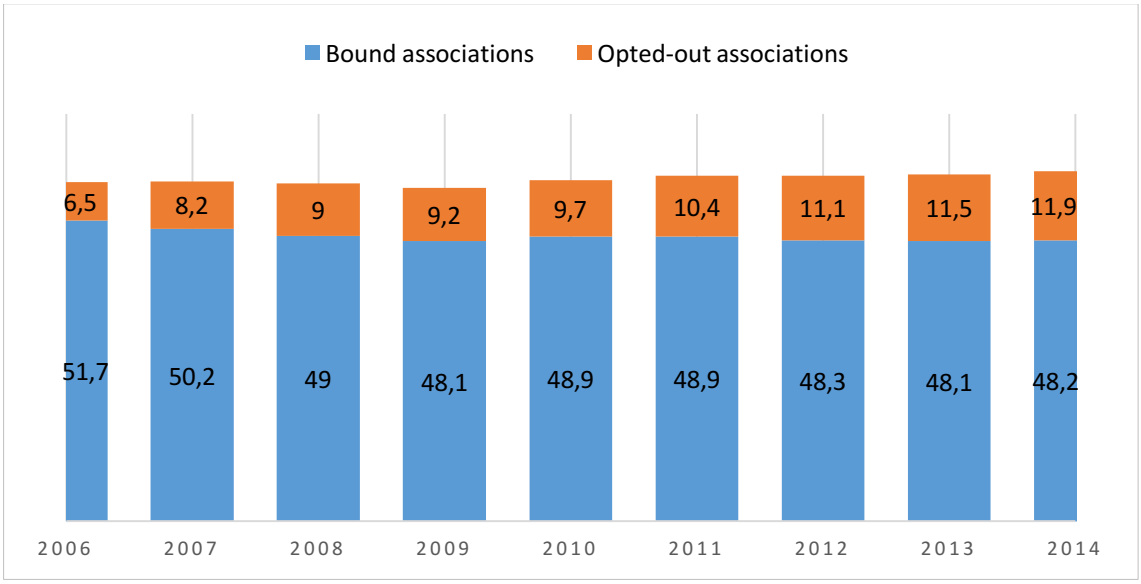
Collective bargaining coverage shows a long-term decline in the M and E sector. The share of employees covered by the agreed wages has declined since the beginning of the 1990s. The IAB-Betriebspanel only publishes data for manufacturing as a whole (including the chemical industry for example); according to this data 55% of the employees in West and 20% in Eastern Germany were covered by industry collective bargaining agreements, and further 10% (West) and 17% (East) of the employees by plant level agreements (Ellguth, Kohaut 2016, 284).

More exact figures for the M and E industry is given by the membership data of the employers' associations published by Gesamtmetall. Whereas in the 1980s more than three quarters of the employees in the sector were employed by member firms of the employers' associations that were covered by collective bargaining agreements, by 2006 this share had declined to less than 60% in Western Germany and to less than 20% in Eastern Germany. Since then, the organizational density of the employers' associations

in the sector, measured for Germany as a whole, has decreased slightly, and for the last couple of years stabilized at about 48%.

At the end of the 1990s the employers' associations of the M and E sector introduced a new kind of membership known as 'non-binding' or 'opted out' (Ohne Tarifvertrag, OT) as a reaction to the membership crisis, and in order to give members the opportunity to stay in the employers' associations even if they do not want to accept the collective bargaining agreements. OT-members can use the services of the association like consultation e.g. on questions of labour law but do not have to comply with the standards of the collective agreements. In 2005, Gesamtmetall also introduced OT membership (Bispinck, Dribbusch 2011); since then the OT-associations have also become members of Gesamtmetall and are counted in the statistics of the association. Gesamtmetall's statistics show a considerable and steady increase of OT members. In 2014, 3.554 businesses were 'normal' members of employers' associations, forming about 12% off the organisational density of the associations, while 3.349 were 'unbound' members.

Figure 8 – Organisational density of bound and opted out employers' associations in the metalworking industry



Source: Gesamtmetall 2016, own presentation

Wage settlement in the M and E sector has changed significantly since the last decade due to several new collective bargaining agreements. These agreements have regulated both a decentralisation and a modernization of collective bargaining in the metalworking industry. The first of them was the so-called *Pforzheim accord* (Pforzheimer Vereinbarung), which in 2004 formalised and harmonised the procedures in bargaining on local derogations. It defines the grounds on which companies may be

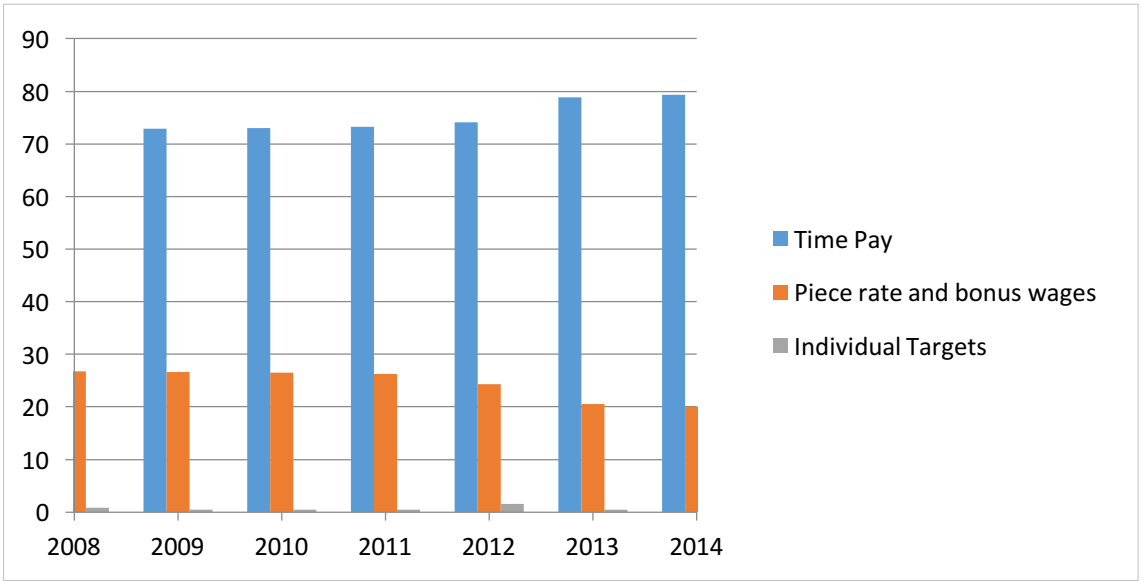
allowed to temporarily reduce wages or extend working-hours in order to secure or expand employment or improve capacity for innovation, competitiveness, and investment. Agreements of this kind have to be signed by representatives of the legitimate collective bargaining parties, or at least the union, for the employers' are allowed to agree on collective bargaining agreements on their own. After a run of the firms on derogations in the years 2004 and 2005, the share of firms with derogations has stabilised at a level of about 10% of the membership firms of the employers' associations (Haipeter 2010).

The second important agreement was the new framework agreement on pay (Entgelt-Rahmenabkommen, ERAs), indeed a number of slightly different regional agreements that have been stipulated anew in the years of 2002 and 2004, after more than ten years of negotiations. The old framework agreements dated back to the 1960s, and wage practice in companies often differed from their regulations that were deemed outdated. The modernisation of the framework agreements was a huge reform in the industry, their conclusion was called "a milestone of bargaining policy" (Brandl, Wagner 2011). The wage agreements defined the wage schemes and wage groups, the grouping criteria and, moreover, the forms and volumes of *performance based wage schemes*. Bahnmüller and Sperling (2011) identify four innovative aspects of the new framework agreements: First, the new frameworks abolish the traditional differentiation between blue collar and white collar workers. Second, the grouping criteria were revised: Physical strains were abolished as grouping criteria, while new criteria were introduced in addition to competence, skills and responsibility. These new criteria (cooperation, communication, leadership and flexibility) serve to better describe the requirements of process-oriented forms of work organisation like team work or project work. Third, pay methods were re-systematised and complemented. In all bargaining areas, target-related pay was introduced as a new method of performance-related pay, regulating target agreements that were increasingly used in companies.

The fourth innovation of the new framework agreements refers to the relations of basic and performance-related pay. In all bargaining areas, the importance of basic pay was increased. While the share of performance-related pay before the new framework agreements varied between 30% and 60% in the different bargaining areas, after the introduction of the new agreements it may vary between 10 and 20% (Meine et al. 2011). Collectively agreed performance-related pay elements are added to the basic wages as a percentage. Collective agreements in the different bargaining areas partially define a mean minimum amount for this (e.g. in Baden-Württemberg performance-related pay has to amount to 15% on company-wide average, for individual workers it can vary between 0 and 30% (Meine, Ohl, Rohnert 2014, 226)). Performance has to be measurable or countable and assignable to the employees, which excludes financial indicators. However, time pay has got a performance-related element too, which is defined in individual assessments by the superiors. As Figure 9 shows, time pay is the most widespread form of pay in the metalworking industry. Collective forms of

performance based pay like bonus systems (where the bonus depends on productivity or quality or other targets) count for about one quarter of all employees, individualized forms of performance based pay like pay coupled with individual targets only play a minor role.

Figure 9 – Spread of performance related pay elements



Source: Gesamtmetall 2015, own presentation

Besides these collective bargaining agreements, the union managed to centralise collective agreements for the growing group of temp agency workers. In 2012, IG Metall concluded a *collective agreement on temporary agency work* with the employers' associations for temporary agency work (Bundesarbeitgeberverband der Personaldienstleister, BZA, and Interessenverband Deutscher Zeitarbeitsunternehmen, IGZ). After the deregulation of temp agency work in Germany in 2003, the number of temp agency workers in the industry increased significantly. In addition to that, employers increasingly employed temp agency work strategically, i.e. as a quasi-permanent component of their workforce in order to reduce labour costs and stabilize profits (Holst et al. 2010). Against this background the metalworker's union started a campaign in 2007 focusing on the fact that temp agency workers earned considerably less than regular M and E workers doing the same jobs (campaign "equal pay for equal work", Kampagne "Gleiches Geld für gleiche Arbeit"). In the end, the union managed to enforce the agreement on extra pay for temporary agency work in the metal and electrical engineering industry (Tarifvertrag über Branchenzuschläge für Arbeitnehmerüberlassung in der Metall- und Elektroindustrie, TV BZME). This agreement ensures that temp workers receive an extra pay in addition to their hourly wage. This additional charge increases gradually the longer a temp worker works in a M

and E company (from +15% after six weeks up to +50% after nine months). As the agreement is with the employers' associations for temporary agency work, temp agency workers receive the extra pay also when working in a M and E company that is not subject to collective agreements in the M and E industry (Destatis 2015; Meine, Ohl, Rohnert 2014, 204).

Sector Examples for Productivity Bargaining Agreements

There are virtually no explicit productivity agreements in the German collective bargaining landscape. The automotive industry, including its suppliers and service providers, is no exception. Nonetheless there are a number of elements of productivity or efficiency to be found implicitly in different collective agreements, both on industry or plant level. On industry level, the elements are a "Better not cheaper" approach to support highly productive and qualified work systems, the role of productivity in collective bargaining negotiations and the performance based wages defined by the framework agreement (ERA-TV) mentioned above. In addition, there are productivity-related company or company-based agreements on pay and working time, some of which are presented below.

Better Not Cheaper

Unions and employers' associations take an active part in the platform dialogues. Especially the metalworkers' union, the IG Metall, tries to pay attention on work and employment and to develop concepts for good and safe jobs in a digitalised production. As the chairman of the union, Jörg Hofmann, stated recently, the union has succeeded to open the Platform 4.0 for discussions about work and employment (IG Metall 2016a). Moreover, the union has agreed on regional declarations together with the employers' associations of the industry like Metall North-Rhine Westphalia. Here the employers' association and the union declare that they are willing to support and promote Industry 4.0 and the political issues affecting labour in a way to make use of the experiences and qualifications of the employees and to maintain or create good working conditions as a precondition for competitiveness (Metall NRW, IG Metall 2015). In this respect they especially refer to political issues like qualification, flexible working times, wages and safety and health in the workplace.

The strategic goals of the IG Metal are twofold, and they change the traditional productivity compromise between unions and employers established in the 1960s fundamentally. On the one hand the union wants to establish a discourse about good and sustainable work in digitalised production systems. They should be based on high levels of qualification and investments in qualifications by the companies and on making use of the qualifications and experiences the workers have in order to prevent a scenario of digitalisation with a strong polarisation between skilled and unskilled work, a

degradation of skilled workers and a planning of technology without taking social aspects into account. Different from earlier times the union does not accept technological rationalisation as a prerogative of management any longer, but it wants to influence this process actively, either on its own or, more important in the plants and on the shop floor, by the works councils. On the other hand, technological rationalisation as such and, following it, the increase of competitiveness, are fully accepted by the union as preconditions for the safeguarding of jobs and good wages and working conditions. However, different from the old productivity compromise, the union today actively supports technological rationalisation as an alternative to low wage strategies based on cheap labour. And the union tries to take an active part in promoting and supporting long term company strategies based on investments in technology and human capital. The employers' associations are, for obvious reasons, much less active, because from their point of view investments and productivity growth are issues in the discretion of the firm management; therefore they restrict their activities to support their members and to offer consultancy about the social implications of automation and digitalisation for instance in terms of qualification demands or wage regrouping.
This strategy of active industry policy of the metalworkers' union has been developed already before the discussion about Industry 4.0. It is the logic of the "Better not cheaper" campaign the union has developed already in the middle of the last decade when it was confronted with derogations from collective bargaining agreements and employers opting out from the employers' association. The campaign was designed to activate works councils to challenge low wage strategies and to develop and fight for alternative business and organisational strategies focusing on productivity growth in the plants, based on workshops for works councils, the creation of works councils industry networks and union oriented consultancy for works councils (Haipeter 2012). The union tries develop similar activities in the context of Industry 4.0 by activating works councils to cope actively with the challenges of digitalisation, also based on consultancy and networking (project Arbeit 2020, IG Metall 2016b).

> Better not cheaper is the modern form of the old productivity compromise. It is based on the assumption that high wages and employment are based on competiveness, that competiveness has to be based on innovation, quality and productivity and not on low wages and that the companies do not recognise this on their own but that they have to be pushed to follow that way. This is what we try to do with respect to industry 4.0 at the moment (expert, IG Metall).

Productivity in Collective Bargaining

Apart from the "Better not cheaper" concept and the new productivity compromise, productivity still is a main indicator for wage setting in collective bargaining. The metalworkers' union, the IG Metal, still takes the productivity and inflation figures to

define its wage demands, added by a component to redistribute income in favour of wages. The significance of the latter is based on the assessment of the power relationships and the economic situation of the industry. This is what is meant also by the expert from the employers' association when he mentions the relevance of the social climate of the negotiations and that negotiating wage increases is more than mathematics of productivity and inflation:

> Collective bargaining is more than mathematics. It is about social partnership and the capabilities of the actors to act collectively. It is about finding solutions for a conflict of interest in concrete situations and with concrete persons who act (expert, Metall NRW).

In the last bargaining round of the industry in spring 2016, the IG Metal had difficulties to define a wage demand because both the inflation forecast and the productivity have been rather low; 0.3% the one and only little more the other. As productivity of the whole economy was weak, a strategy of the union could have been to stress the higher productivity growth of the industry. However, the figure for industry productivity growth was only 0.6%. According to the union expert, productivity growth has been negatively affected by the fact that many companies have hired employees formerly employed as temp agency workers in order to increase their core workforces, not at least demanded by works councils and the union. The expert of the employers' association adds the interpretation that labour productivity is affected negatively by globalisation as German companies shift production to other countries but leave the formally unproductive activities like research and development, administration or sales at home. However, in this situation the union developed a new indicator, the trend productivity, in order to legitimise a higher wage demand. However, the trend productivity only was an average of the productivity development of the last ten years, not a trend calculation.

> The employers' criticised that the trend productivity was not really a trend but an average and that a trend would have shown a negative development of productivity. And they were right. And when they offered to increase wages for 0.9% they historically for the first time made an offer including both productivity and inflation growth (expert, IG Metall).

That is what is stressed by the director of the employers' association, Gesamtmetall, during the negotiations:

> Our offer of 0.9% is not low; the Expert Council predicts an inflation rate of 0.3% and an overall productivity rate for the economy of 0.3%. The numbers laid down by the union to develop its demands have little to do with reality (Gesamtmetall 2016).

Growing productivity is an interest of the union not only as a precondition for stable jobs, but also as a precondition for higher wage demands. The main reason of the weak

productivity performance in the eyes of the union is the low level of investments; indeed, the growth rates of the capital stock are declining since the financial crisis.

> The main reason for the weak performance of productivity is the low investment activity in Germany. Companies accumulate equity capital, but do invest less and less in physical capital. Industry 4.0 would need other forms of investment, for really to make big technological steps forward you need a lot of investments (expert, IG Metall).

Productivity in Performance Based Wages: The Case of Baden-Württemberg

In addition to overcoming the dual pay system "blue collar vs. white collar worker", ERA should also explicitly strengthen the remuneration package in the remuneration as a whole. The employers' association Gesamtmetall, for example, said:

> ERA has also modernized the efficiency pay, partly because in practice much of the performance idea had been removed. The known methods of piece work wages ('Akkordlohn') and premium were put to the test and were renegotiated (sometimes referred to as 'parametric comparison'); The target agreement was added. The assessment method plays a new role (Gesamtmetall o. J.).

The basic idea of the ERA wage system is the following: The wage consists of a basic wage and a performance fee. Each employee is paid a basic salary plus an efficiency benefit, which is based on his or her performance or the performance of an employee group. So the performance pay component is an extra on top of the basic wage. It can be up to 30%. The concrete determination of the performance fee is to be negotiated between the workers councils and the enterprise management. They can use three different methods:

- assessment;
- key figure or parametric comparison (premium wages);
- target agreements.

The extent to which the share of the remuneration is part of the total remuneration varies regionally in the different collective bargaining areas. In the highly industrialized and economically strong Baden-Wuerttemberg – a federal state that is heavily influenced by the automotive (Daimler, Porsche, Audi) and supplier industry (Bosch, ZF) – the average company efficiency pay or performance fee volume according to the collective agreement is to be 15% of the basic salary. The individual employees' compensation can range between zero and 30%. In other areas the shares are smaller and vary from 28% in Bavaria, which is also economically strong (think of BMW), up to 8% in the East German Saxony-Anhalt and 6% on the North Sea and Baltic coast.

In practice, the assessment of individual performance by a superior is the by far the most widespread method to determine the performance fee. In a recent study, for which they asked employee representatives and human-resources managers in 14 Baden-

Wuerttemberg ERA plants (not just the automotive sector, but the metal and electrical industry in general), Bahnmüller and Hoppe conclude that the other options are hardly applied:

> The 'judgment' method prevails, the 'key figure comparison' method of premium wages loses slowly but steadily in importance and the 'target agreement' method is suspicious on both sides, and therefore […] practically irrelevant for CBA-employees (Bahnmüller, Hoppe 2016, 4).

According to the survey, "60% of the employees in the surveyed companies receive their performance compensation on the basis of a 'pure' performance assessment not combined with other methods". Adding combination models, the quota rises up to 80%. (Bahnmüller, Hoppe 2016, 5). The share of 'key figure comparisons' to determine the performance wage by using indicators like quality or throughput time is, according to the figures, an average of 16 to 19% of all inspected plants, but significantly higher at 25% in road vehicle construction (Bahnmüller, Hoppe 2016, 8). According to the employers' association Südwestmetall, the proportion of employees who receive their performance fee exclusively on the basis of target agreements is 1% (Bahnmüller, Hoppe 2016, 12).
According to the study, the possible range of individual differentiation from 0 to 30% is hardly used. In fact, the performance fees are in a corridor 10 to 20% and 15% on average, show hardly any fluctuations from year to year and are also less dependent on the performance than on the duration of the employee`s affiliation to a certain department (Bahnmüller, Hoppe 2016, 17). It is noteworthy that there is practically no controlling on the part of the management, which checks the economic benefits of the performance fee from the perspective of companies. Against this backdrop, it is hardly surprising that only 36% of the human-resources managers surveyed believe that the performance compensation results in productivity gains for the enterprises (Bahnmüller, Hoppe 2016, 18). From these results it can be concluded that the concept of performance based wages is in crisis.

Derogations from Collective Bargaining

Productivity is important in collective bargaining in a second sense, as a topic of derogations from collective bargaining agreements, where it is referred to mainly in the form of investments which are expected to be productivity enhancing. From our own calculations we know that in the years 2004 to 2006 in about 20% of the derogations in the metalworking industry companies promised investments, and around 2/3rds of them made concrete investment figures for the term of the agreements. Moreover, a growing share of derogations also included other or additional measures to increase

competitiveness, and a number of them explicitly referred to rationalisation, new forms of organisation or productivity increases (Haipeter 2009).
The share of derogations with investment promises is much higher today according to the union expert, and the union tries to agree on investment plans with fix volumes and dates that can be controlled by union and/or works councils. This is the first condition for the union to agree on a derogation agreement. The second condition is that investment are not replacement investments but future investments modernising or extending the capital stock and therefore able to raise productivity.

> We agree on derogations if two conditions are met: They have to be real future investments, and we have to have a say in what the money is used for. This is why we try to agree on investment plans which define what is invested when and how we can control the investments. Without such a strengthening of codetermination we do not agree (expert, IG Metall).

However, as it is stressed by the employers' associations, the number of agreements which really define concrete investment plans is not really high yet.

> In former times the union tried to monitor if a company really is in a situation of crisis so that a derogation can be legitimised. Today the focus is more on the question how to improve the performance in the future. Therefore today the agreements define opportunities for the union to be informed and to control the processes. However, really concrete measures in terms of investment numbers are still the exception (expert, Metall NRW).

Case Study: Profit Sharing at Volkswagen

Profit sharing is an increasingly important component of pay and can be regarded as one of the main reasons for the increase of wage drift that has been observed in recent years in Germany. Profit sharing is most widespread in the automotive industry and, within the industry, among the OEMs. In the last years, profit sharing wages up to 10,000 Euro on average per employee have been paid in the industry (Haipeter, Slomka 2014). Due to higher competitive and economic pressures within the value chains of the industry, profit sharing wages are much lower in the bigger supplier companies. One of the companies with high profit sharing wages is Volkswagen. There a success fee (profit sharing) was paid for the first time in the middle of the 1990s. A collective working time shortage of 20% ('four-day week') with the aim of employment protection had been negotiated before. The monthly charges were kept constant by amalgamating the variable components of the annual fees and other collective bargaining and non-CBA-one-time payments and converting them to the monthly charges. This paradigm shift was the reaction to a serious economic crisis. When the company's prospects improved again in the second half of the 1990s, the General Workers´ Council undertook an

initiative to negotiate with the management of the company the introduction of a success share. Initially, this share was around 500 Euros on top and was negotiated annually between the workers´ council and management.

In 2006, the basic conditions had changed to such an extent that the company was striving for a renewed extension of the weekly working time back to the 35-hour week. According to the will of the management, this was supposed to take place without wage compensation, which was justified by the growing global competitive pressure.

The works council and the union finally agreed to the extension of the working time, but on the basis of three compensations:

- one-time payments over five years of a total amount of 6,279 Euros per employee;
- a long-term employment guarantee for the permanent employees, and investment and production commitments for the company's German sites;
- an annual success share 'on top'.

The profit-sharing scheme stipulates that 10% of the operating profit is paid to the employees. The reference point here is not the global Volkswagen Group result, but the result of the Volkswagen brand, which is produced at both German and foreign locations. The result is divided by the number of employees – at the German locations – and distributed as a uniform amount, i.e. the highly qualified development engineer receives just as much as the production worker on the line. The workers´ council is involved in negotiating the specific amount. In practice, the amount of the success share fluctuated, being 1,200 Euros in the crisis year 2008 and 7,500 Euros in the successful year of 2011. The link to the 'operating result' indicator is undisputed and is apparently felt to be helpful by both operating parties.

Both the employees of the foreign Volkswagen sites and also the temporary workers at Volkswagen are excluded from the success fee. The company employs temporary workers only through its own temporary employment company, which has concluded its own CBA with IG Metall. Their remuneration conditions are comparatively good compared to other temporary workers: they contain the same basic fee as the employees, but are largely excluded from other remuneration components. From the second year of employment on they have a claim to the performance fee according to ERA-TV, but they are permanently excluded from the Volkswagen profit share. According to employee representatives, this repeatedly leads to tensions among the workers.

In the eyes of the bargaining parties the profit sharing scheme is a positive sum game. For the company it is a way to transform parts of the fix wages into a variable wage component and to increase its legitimacy by giving them a share in profits. For the works council and the union the profit sharing scheme is a compensation for the wage losses the employees had to face as a result of the extension of working times in the collective agreement of 2006. Moreover, it is an ongoing instrument of increasing legitimacy, especially in case the works council is able to negotiate a higher wage than the 10% of the operating profit.

> If is strengthens our position as a works council? Of course, especially if we are able to negotiate something on top of the bonus, this can be attributed to us by the employees (Works Council Volkswagen).

However, the actors do not see effects of the profit sharing scheme on the performance of the employees. In this view, neither motivation nor other incentives to work harder or longer are given by profit sharing.

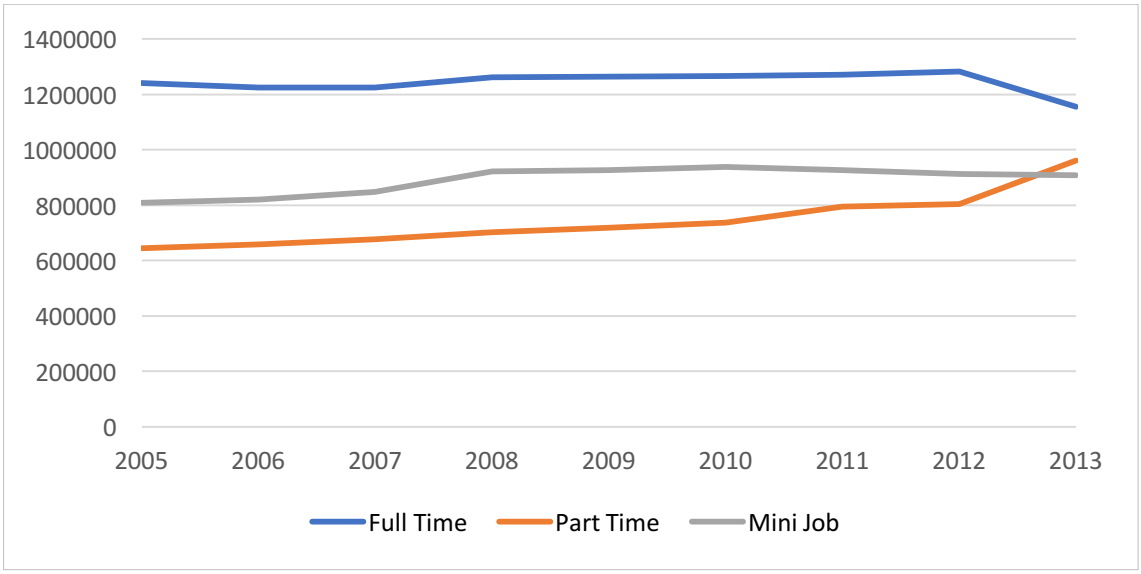
> I do not see any connection to the motivation of the employees. They are not working harder or faster in order to contribute to the financial goals of the company (Works Council Volkswagen).

Part B.
Retail Industry

1. Sector Overview

In 2015, the German retail industry had a turnover of more than Euros 500 billion. With some 3 million employees, it is one of the largest employers in the country. None the less, overall hours worked have fallen in recent years under the impact of a massive increase in part-time employment and 'mini-jobs' and a simultaneous fall in full-time employment (Haipeter, Bromberg 2015, 50). There has been a steady and continuing decline in the incidence of so-called 'standard employment relationships' in the industry – that is, full-time posts providing an income sufficient to meet basic needs.

Figure 10 – Employment and employment forms in the German retail sector



Source: HDE 2013 and 2015, own calculations

In 1994, of the 2.853 million employees in retail, 1.855 million (some 65%) were employed full-time. There were 755,000 part-timers (26% of the total) and 150,000 employees (5%) in 'mini-jobs' (below a certain income threshold and with some social security exemptions). By 2014, of the total of 2.993 employees (up 4.9% since 1994), only 1.522 million worked full-time (down 21.9% since 1994), compared with 923,000 part-timers (up 22.3% since 1994) and 548,000 'mini-jobbers' (an increase of 265.3% since 1994). The number and proportion of employees on fixed-term contracts also doubled between 1994 and 2014 as had the number of new hires on fixed-term contracts (Bundesregierung 2016).

The high proportion of part-time work is explicable in part by the high share of women – around two-thirds – in the retail workforce. This does not explain why it has risen so rapidly in recent years, however. One further significant factor has been the increased efforts on the part of many retail employers to achieve greater flexibility in both operations and employment. In particular, employers have sought to manage longer shop opening hours in recent years, together with greater daily or weekly fluctuations in custom, by introducing ever shorter shifts (Voss-Dahm 2009).

German retail is an intensely competitive business environment (Glaubitz, 2011), with growth for individual businesses driven mainly taking sales from competitors. Smaller retailers have great difficulties in prevailing against the market power of the larger chains. The branch has been unique in the number of high-profile bankruptcies, take-overs and closures (see Table 1; Goes, Schulten 2016).

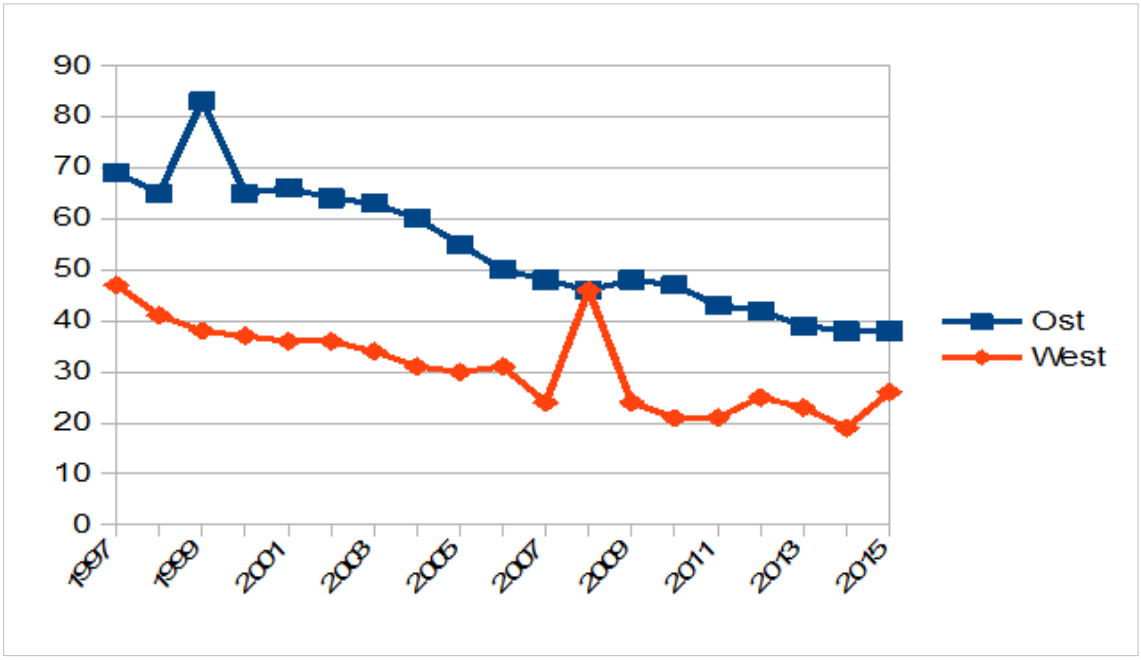
Table 1 – Major bankruptcies and take-overs in the German retail sector, 2010-2016

Company	Reason for closure	Employees in Germany
Kaiser's Tengelmann (Super market chain)	Take-over by Rewe and Edeka (2016)	c.15,000
Praktiker/Max Bahr (DIY chain)	Insolvent (2013)	c.11,800
Neckermann (mail order)	Insolvent (2012)	c. 2,400
Schlecker (health and beauty retail; 'drug store')	Insolvent (2012)	c. 27,000
Plus (discount food retailer)	Sale of banches to Edeka and Rewe (2008-2010)	c. 27,000

Source: authors' research, Wikipedia, own presentation

One of the key factors behind this phenomenon is a decade-long period of stagnating, and in some years even falling, turnover that started in the early-1990s with the end of the post-war boom and ended around 2010. Figure 11 sets out the change in net turnover for the period 2000-2015 (1997-2015). Turnover in the sector actually fell by 0.9 percentage points between 2000 and 2010, with an even greater fall in actual sales volume when calculated at constant prices.

Figure 11 – Turnover* in the German retail industry, 1997-2015



* Retail branch excluding vehicles, service stations, fuel, and pharmacies: data excludes turnover tax.
Source: Bundesregierung 2016; EHI Retail Institute 2016

This situation has changed since around 2010/2011, when the branch experienced a new boom. Nominal turnover rise by 3.1% in 2015, the highest rate of increase in recent years (HDE 2016). Overall, the sector has expanded by more than 10% since 2010. However, this has not fed back into retail prices, which have been broadly constant since 2014.

This development has been overlain by a constant process of reorganisation and restructuring, both of businesses and individual outlets, with rapid shifts in sales formats, market shares and locations. While new actors have gained market leadership, more established players have suffered (Glaubitz 2011, 3). In the 1980s, the three biggest groups by turnover, Karstadt, Kaufhof and Hertie, were all department store chains. These have been displaced by Edeka, Rewe, and Schwarz, all of which are food retailers (Glaubitz 2015).

The biggest winner from this structural change has been on-line commerce. Almost one in three retailers now also sell on-line. In 2014, on-line retailing in Germany grew by 17.1%, with e-commerce accounting for 8.5% of total retail sales, with as a much as 19% in non-food retailing (HDE 2015).

2. Development of Sectoral Productivity and Collective Bargaining Coverage

Sectoral Productivity Trends

Both the employer association for the retail industry, HDE, and the trade union ver.di noted that they were unable to offer any figures on productivity trends in the branch.

> From the standpoint of the trade union, the issue of productivity does not appear to play a role. In contrast to other branches of the economy (such as the metalworking and electrical industries), changes in productivity have not been used to back up a negotiating claim (a pay increase) as far as ver.di has been concerned (expert, HDE).

Both employer and employee representatives agreed that there have been no collective agreements in retailing in Germany aimed, either explicitly or implicitly, at raising productivity in the branch.

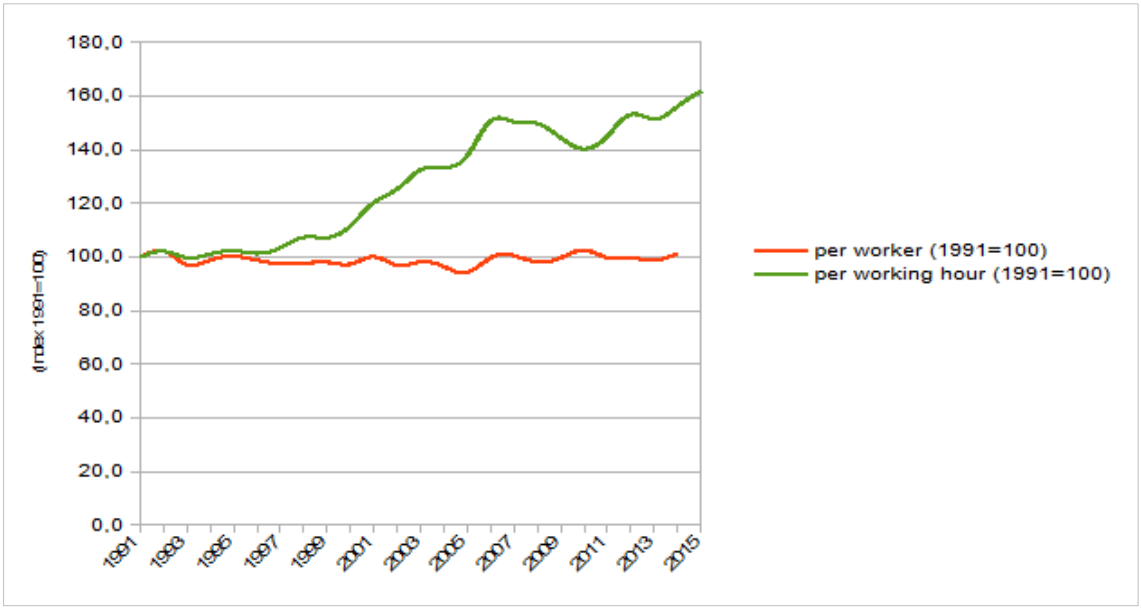
> As a consequence, we do not have indicators of productivity changes in retail. Since this has not been precisely defined, it is not clear as to the criteria by which labour productivity might be measured in retail. This could be, for example, turnover per employee or per square metre of sales area. Given that HDE does not hold such figures, we are unable to supply them (expert, HDE).

Trade union representatives argued along similar lines:

> The data on productivity movements in the branch is generally poor. There are enormous differences within the branch. The market leaders that we negotiate with do not reflect the reality of the branch as a whole (expert, trade union).

This does not mean that no productivity figures are collected. For example the Federal Statistical Office indicated that it did, in fact, publish such data if requested.

Figure 12 – Labour productivity in the German retail sector, 1991-2015



Source: authors' calculation, based on official data from the Federal Statistical Office (Destatis)

The figure indicates both productivity per employee and per working hour, with a marked divergence between these two indicators since the late-1990s. While productivity per employee has stagnated, hourly productivity rose by nearly 60% between 1990 and 2005. One explanation for this might be the marked increase in various forms of part-time work in the branch, which has led to an increase in employment but with a steady, or even falling, number of hours worked.

One significant driver of productivity is technical change, especially the various forms of digitalisation. The branch has succeeded in shifting many basic commerce activities (service, advice, advertising, payment etc.) either partly or wholly to customers, who often act as 'unpaid employees' through self-scanning and self-payment. Activities formerly and still performed by employees are also progressively being 'automated', with an intensive application of new technology. This plays a much greater role in those forms of distribution that are not closely tied to customers, such as internet commerce or logistics, in contrast to bricks-and-mortar retailing. But the latter is also caught up in rapid technical change. One of the key milestones here was the introduction of computerised stock control systems, such as RFID (radio frequency identification) to track and manage stock and enable the automation of the entire logistics chain (Glaubitz 2011, 15).

One of the key areas in sales is managing the check-out process. In some firms, such as Ikea, there are already self-payment check-outs. Self-scanning, in which customers use their smartphones to manage payment, are also being tested (*ibid.*) 'Sooner or later, we'll have self-scanning by smartphone' (Metro manager, cited in Glaubitz 2011, 15).

Sector Collective Bargaining Coverage and Pay Movements

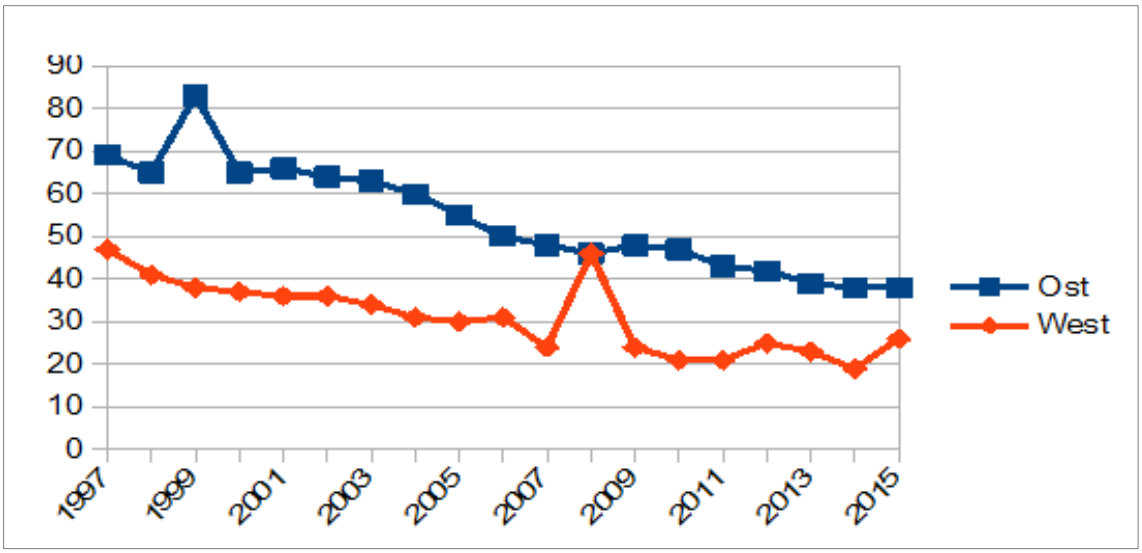
The most important collective bargaining parties in the branch are the employer association, Handelsverband Deutschland (HDE) and the services trade union, ver.di. Up until 2009, there was a second employer association, the Bundesarbeitsgemeinschaft der Mittel- und Großbetriebe des Einzelhandels (BAG). Collective agreements in retail are negotiated at regional level by the local branches of HDE and ver.di. Although the first regional agreement to be concluded is supposed to serve as a pattern for the remainder, there are often considerable regional differences in bargaining outcomes, a fact mainly attributable to the high degree of local autonomy cultivated within ver.di (Haipeter, Bromberg 2015, 41).

Up until the late-1990s, these collective agreements were extended to non-signatory employers by statutory instrument and therefore served as a set of legally-binding minima for the sector as a whole. The application for extension was made by the negotiating parties. By the mid-1990s. However, interest in maintaining this arrangement on the part of the employer associations had begun to wane and since 1999 they have refused to apply for extension.

At the same time, both BAG and HDE had begun to introduce forms of membership that exempted firms from the usual requirement, as a member of a signatory association, to comply with collective agreements (so called 'OT-Mitgliedschaft' or 'membership without collective bargaining obligation').

Ending the extension of collective agreements and introducing exempt membership led to a substantial fall in collective bargaining, which has continued to the present.

Figure 13 – Proportion of employees covered by collective bargaining, 1996-2015



Source: Bundesregierung 2016; Ellgut, Kohaut 2016

As Figure 13 indicates, in 2015 only 38% of employees in West Germany and 26% in the East worked in an establishment covered by a collective agreement. This compares with collective bargaining coverage for the economy as a whole of 51% (West) and 37% (East) (Ellgut, Kohaut 2016, 284). In 2006, collective bargaining coverage in retail was still 50% (West) and 40% (East). In recent years, several large employers have left the employer association.

There are other means for firms to avoid being subject to a collective agreement, in addition to either leaving the association or having exempt membership. One of these is outsourcing. In retail, this began with individual activities, such as shelf filling, for which external service providers were contracted, and has now moved to the complete outsourcing of the logistics function (Glaubitz 2015).

Figure 14 – Pay developments in the German retail industry

Given these developments, it is hardly surprising that pay developments in recent years have been far from positive. Figure 14 shows the stagnation of real wages between the early-1990s and 2013.

> Several years ago, we set ourselves the aim of delinking pay in retail from the general level of pay growth – we meant upwards. It hasn't worked. In fact, we've got the opposite (expert, trade union).

Sector Examples for Productivity Bargaining Agreements

As with the hospitality and health sectors, productivity indicators do not play a role in collective bargaining in retailing. Both employer and employee representatives confirmed that there are, in effect, no collective agreements with explicit or implicit aim of raising productivity in the branch:

> There are no provisions in retailing that aim to address work performance with aim of raising productivity. The main reason for this is that the retail industry does not manufacture a 'product' but rather generates sales. As a consequence, we also do not have figures on productivity developments in the retail industry (expert, HDE).

The only exceptions are instances in which a company finds itself in economic difficulties:

> The issue of productivity only comes up when firms are in economic difficulties and there is a need to conclude a restructuring agreement: that is, lower pay in exchange for job security (expert, trade union).

By contrast, at workplace level incentives to raise productivity are very prevalent:

> Where there are incentives to raise productivity (such as bonuses or commission, that are based on sales), these are exclusively concluded either on the basis of individual contracts of employment or workplace agreements [with the local works council] (expert, HDE).

Collective agreements simply stipulate that where employees received mixed forms of remuneration, the employee must earn at a minimum the collectively-agreed salary for their grade. For example, Article 10: 6 of the Retail Framework Agreement for North-Rhine Westphalia requires that an employee in receipt of different types of remuneration (fixed and commission) must receive a fixed amount equal to the agreed salary. The parameters for determining the level of commission (such as sales targets) are intended to motive employees to achieve a higher level of productivity (= higher sales) and this leads to the possibility of additional earnings above the agreed minimum.

> These agreements, as noted above, exist solely at workplace level (expert, HDE).

According to the trade union expert, these forms of variable pay operate in textile outlets and specialist electronics retailers. Sales-based bonus schemes used to operate in the large department stores, but these had been removed.

> They were paid in many departments of the big department stores, but they have been abolished in many cases. During the 1980s, I spoke with many employees from department stores and there were many good salespersons working part-time who were able to bridge or even exceed the gap with a full-timer through earning bonuses (expert, trade union).

Case Study 1: Department Store

The first case study is an example of where an employer abandoned variable pay. It highlights the lack of consensus on the part of retail employers about performance or results based remuneration and the absence of an agreed reward model in the branch. In one self-service department store, management had attempted to abolish all the sales and results bonuses and move to a system of fixed salaries. This applied both to employees working under company's pay structure as well as those not subject to the collective agreement ('exempt employees', known as 'AT-Angestellte'), who received some performance-based variable elements of pay.

> For the exempt staff, we tried to include everything in their monthly pay, so that they did not get any additional payments but got a higher fixed salary. We've also done this with all new employment contracts and have been trying to vary contracts with long-standing employees (HR director, department store).

The reasoning behind this move, according to the HR director, was that it was difficult to establish criteria for individual or collective success that were not affected by external factors that employees were powerless to influence.

> If you are a team manager and if you have a special sales counter for two weeks in summertime to sell sun cream and if it rains every day over these two weeks you will have a bad result, but it is not your fault and has nothing to do with your performance. Or take an indicator like the number of staff ill, this is something outside your influence (HR director).

Case Study 2: Ikea Branch

The converse situation applied at a branch of Ikea in Germany, where two forms of bonus payment were operated. The first provides for a sales-related payment. This is not paid directly to employees but is added to their company pension pot. All employees receive the same amount, which was around Euros 1,300 in 2014. The second form is a directly paid bonus related to sales volumes, gross profit and costs. In 2014, this equated to around one month's pay for each employee. No bonus was paid out in 2015 due, it was claimed, to the decline in the value of the Euro (Ikea buys its products in US Dollars). The company's European operations were unable to generate enough profits to reach the scheme's threshold. This led to considerable disquiet amongst staff in the branches affected.

> There was some discontent because people didn't understand why there were no bonus pay-outs in that year. We'd managed to raise sales by 9%, and people had worked hard and they just didn't understand why they weren't rewarded for it (works councillor, Ikea branch).

For the works council, this highlighted the ambivalence about results-based payments. However, the interviewee supported the arrangement as the bonuses were paid on top of agreed pay and led, overall, to an increase in employees' remuneration.

Part C.
Hospitality

1. Sector Overview

The hospitality sector in Germany encompasses a wide range of sub-sectors, including accommodation, bars and restaurants, and events and workplace catering. In 2015, gross value added for this sector was Euros 42 billion, some 1.6% of German GDP (Statistisches Bundesamt 2017).

In 204, the German Federal Statistical Office recorded a total of 226,196 enterprises in the sector, with a combined turnover of Euros 77.404 billion. The sector is dominated by the food and beverage industry, with a workforce of 1,542,445 in 179,566 enterprises. Overall, employment in the German hospitality sector has grown in recent years, rising from some 1.4 million in 2007 to almost 2.1 million by 2014, of whom 1.2 million are part-time (*ibid.*). Compared with the economy as a whole, the hospitality sector includes a high proportion of self-employed and family members (Maak et al. 2015).

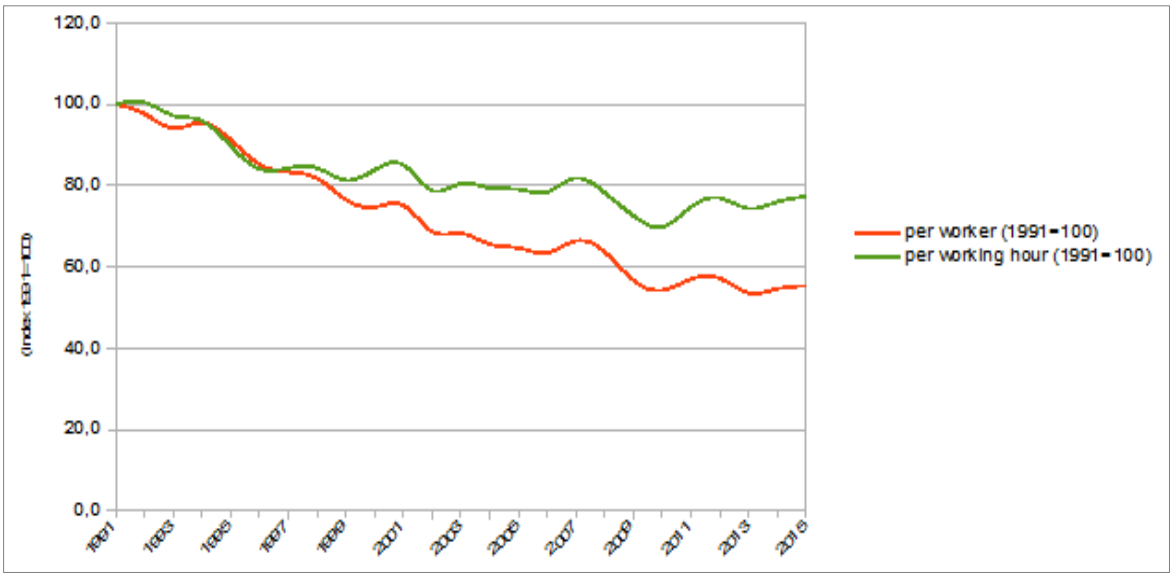
In 2014, the hotels and accommodation branch (NACE 55.1) comprised 35,402 enterprises, with 480,764 employees (Statistisches Bundesamt 2017). Hieming et al. (2010, 2) noted that a change in the structure of business ownership has taken place, with an expansion of hotel chains at the expense of smaller privately-owned hotels. According to the trade association for the sector, IHA, in 2011 the market share of branded hotels was 11%, measured in terms of establishments, and 38% in terms of beds. Globally, a much larger share of hotels is part of a chain than in Germany (Maak et al. 2015, 213).

2. Development of Sector Productivity and Collective Bargaining Coverage

Sector Productivity Trends

According to the social partners in the industry, the lack of appropriate data makes it difficult to assess productivity developments. However, the Federal Statistical Office does produce some data that suggests a long term fall in productivity, with a change in trend evident in more recent years (Figure 15).

Figure 15 – Labour productivity in the hospitality sector



Source: own calculation based on data of Destatis 2016

On the other hand, according to trade union sources, the employer association for the sector, DEHOGA, will on occasions invoke productivity data based on member surveys. These are not regarded as credible by the trade union and they play only a very minor role in collective bargaining.
The reason for the lack of data in mainly the enormous degree of heterogeneity amongst the companies represented by the DEHOGA.

> The employer association organises both large-scale hotel businesses and very small firms that live in a completely different world (expert, trade union).

This does not mean that there have been no increases in productivity in some parts of the branch. Rationalisation aimed at cutting labour costs has played a significant role in recent years, in particular through new technology. Employee representatives noted a 'marked structural transformation driven by anticipated increases in productivity', especially in the hotel sector and in catering chains.
A trade union expert described this development for the hotel trade:

> One of the changes has been in reservations. Previously, rooms were reserved by phone, with a confirmation by fax. […] Now almost everything is digital via booking platforms, and the confirmation is produced by the system. If there is still an interface with the hotel operating system, as in the low budget segment, then the check-in can happen automatically or with a smartphone. I wouldn't need even one employee any more (expert, trade union).

Sector Collective Bargaining Coverage and Pay Developments

The hospitality sector has relatively poor working conditions when compared with the wider economy (Hieming et al. 2010, 2) and also has a number of particular employment characteristics. Daily, weekly, seasonal and other fluctuations in the volume of business, such as caused by the weather, imply corresponding wide variations in the demand for labour. Late shifts, weekend working, shift work, work on call, and split shifts are all very widespread. There is a high and rising share of part-time working and 'mini-jobs' (a form of part-time work subject to a maximum earnings threshold and special treatment for social security purposes). Pay is generally well below the average for the economy as a whole.

The proportion of employees in the accommodation branch on low pay (currently below the statutory minimum of Euros 8.84) is relatively high. In 2013, this was 653,000. According to Weinkopf and Kalina (2005, 12) 55% of all employees in accommodation are low paid, which is the highest share of low-paid workers of all branches. As yet, there has been no research into the effect of the statutory minimum wage, introduced in 2015 and currently Euros 8.84.

Trade union density (measured against socially insurable employment) has traditionally been low, mainly because of the preponderance of small firms. Although union membership has grown in recent years, according to the trade union for the branch, NGG (Nahrungsmittel, Genuss, Gaststätten) it was below 5% in 2015 (expert, trade union). This imposes severe limitations on the scope for effective collective bargaining. Moreover, there is virtually no workplace-level representation in small firms that have no works council. The average level of union membership is higher in the larger hotel groups, with a wide range – including some hotels with the level of membership is between 50-60% (expert, trade union).

Unsurprisingly, the level of collective bargaining coverage is correspondingly low[1]. According to the IAB Establishment Panel, in 2005 39% of employees in 'hospitality and other services' in West Germany and 22% in East Germany worked in establishments subject to a collective agreement (Ellguth, Kohaut 2016, 284). These overall figures mask a wide range, however, given the heterogeneity of the industry. For example, far more employees in the hotel branch, mainly in the large chains, are covered by a collective agreement than in catering (Maak et al. 2015, 89).

In addition to the low level of union density, organisational changes made by the employers have also contributed to weakening collective bargaining arrangements in the sector (Hieming et al. 2010, 120-121). Whereas membership of the employer association in the sector previously automatically implied being subject to any (sectoral) collective agreements concluded by the association, in recent years local affiliates of

[1] Collective agreements are concluded for the whole hospitality sector by the trade union NGG and 17 regional member associations of the national employer association in the sector, DEHOGA.

DEHOGA, especially in East Germany, have allowed new members to join without taking on this obligation (known as 'OT-Mitgliedschaft' or 'exempt membership'). According to DEHOGA, 10 of the total of 17 Land-level associations now offer this option (Hieming et al. 2010, 110).
Low pay levels for the lower grades in the collective agreements in the sector are also very evident. In 2011, a number were below Euros 7.50 per hour, with the hourly rates of agreed pay as low as Euros 6.19 in the East German region of Mecklenburg West Pomerania, and Euros 7.94 in Lower Saxony in the West (Maak et al. 2015, 89). Pay settlements in recent years have yielded some improvements in these rates.

Sector Examples for Productivity Bargaining Agreements

In contrast to manufacturing industry, productivity indicators play virtually no role in collective bargaining in the hospitality sector:

> The employer side has occasionally argued using productivity indicators, but these numbers are not generally credible because they've been very selectively obtained from within the association. They don't play any role in the negotiations (expert, trade union).

The trade union bases its bargaining claims on 'other data'.

> We often take the number of years since we last concluded an agreement and then base the claim on settlements in comparable branches. In the ongoing negotiations in the catering chains we've asked for 6%, for example. I don't even start with one of the classic formulae for putting together a claim to get to this figure (expert, trade union).

Case Study 1: Collective Agreement – Bavaria

There are some exceptions to this, however, with provisions on sharing in sales results included in sectoral framework agreements in some *Länder*. The only region in which such arrangements are currently practised, according to the trade union NGG for 'historical reasons', is Bavaria.
The provisions apply solely to waiting staff: other personnel receive a fixed wage in line with the framework agreement (Article 4). It is possible to diverge from these principles, and have mixed forms of remuneration, on application from either the employer or the works council at an establishment[2].

[2] The staff categories listed in the agreement are: captain, head waiter, senior bartender, chef de rang, chef d'étage, chef de bar, demi-chef, mixer, waiter, commis waiter, commis bartender , trainee waiter, tobacco sales staff, pastry sales staff, service assistant, day and night porters, chef tournant, telephonist, porter, room attendant (MTV GBG: 6)

The level of sales-based pay is also regulated in the collective agreement. It amounts to 12-15.5% of [the employee's] total sales, calculated on the basis of the total price charged less any value-added tax (currently 19%) and service charge. In establishments operating a tronc system, the starting share is 12.5%.
The collective agreement provides for the following scale (based on the 19% VAT rate applicable since 1 January 2007. A share of 12% will be equivalent to 9% of the value of total sales including VAT: the table in the right-hand column will vary, depending on the VAT rate) (NGG 2006).

12%	Share of sales: 9.0%
12.5%	Share of sales: 9.34%
13%	Share of sales: 9.67%
13.5%	Share of sales: 10.0%
14%	Share of sales: 10.32%
14.5%	Share of sales: 10.64%
15%	Share of sales: 10.96%
15.5%	Share of sales: 11.28% of the total price

If an employee paid on this basis does not reach the guaranteed wage specified in the collective agreement, then their employer is obliged to make up the difference.
NGG now avoids such arrangements and prefers agreements 'that tend towards a fixed wage', having had negative experiences with sales-based payment systems. Firstly, such systems diminish the union's capacity to mobilise in the event of a dispute:

> I'd like to illustrate this by looking at the case of a restaurant owned by one of the Munich breweries. This is a well organised workplace, but despite that the colleagues there either never come out on strike or only briefly during negotiations. The reason is simple: they don't want to lose their share of the sales (expert, trade union).

The union's second argument runs in broadly the same direction. For the NGG, an agreed system of sales-based pay can help an employer punish 'awkward' works councillors. Since employers have a right of supervision and control, they can transfer employees to other posts. In establishments with sales-based pay, employees could suffer considerable financial losses if they were to be moved from a position with a high level of sales to one that brought in much less.

> In one Munich bar, colleagues who participated in a works council election were transferred to poor positions with lower sales and less money (expert, trade union).

The NGG was not able to estimate how widespread such sales-based arrangements were in workplaces not covered by a collective agreement.

Case Study 2: Workplace Agreements on Bonuses

One further example is that of workplace agreements on bonuses in the hotel branch, which have been concluded [with works councils] for check-in staff in several large hotel chains. These provide for bonuses when staff are able to sell customers additional services, such as visiting a sauna, when they check in.

Part D.
Health Care

1. Sector Overview

As with many other countries, the health and social welfare system in Germany has been the focus of numerous and controversial debates in recent years. As a sector that is both a large employer and subject to rapid growth, it has also been the object of many economic hopes and expectations, some of which optimistically now identify health as the possible source of a 'long wave upswing' (INIFES 2015, 11), analogous to the steam-driven Industrial Revolution, the Fordist phase of the mass production of consumer durables, or digitalisation.

Over the past three decades, the German health system, and in particular its core – the hospital sector – has been marked by a period of 'economisation' in which the 'welfare mix' between the state, on the one hand, and private and not-for-profit providers, on the other, has been marked by a shift away from the public sector. Private actors now play a growing role and private-sector accounting conventions and approaches have gained in significance, including for charitable/not-for-profit as well as state-operated health facilities. This process has been a direct consequence of the numerous health reforms implemented since the 1990s (Böhlke et al. 2009).

According to official data, the German health system employed 5.333 million people in 2015, including outpatient and inpatient services, rescue and emergency services, care homes and related services, health administration, and the pharmaceutical industry. Some 1.113 million employees worked in the hospital sector (Destatis, RKI 2016).

Health and social services is one of the fastest growing areas of the labour market. The number of all those working in health and social services rose by 39.1% between 2000 and 2013, and those in socially insurable employment by 36.4%, considerably faster than in the economy as a whole, where total employment rose by 8.2% and socially insurable jobs by just 4.9% (INIFES 2015, 15). Employment in the hospital sector rose by 9% between 2000 and 2015 (authors' calculation based on Destatis, RKI 2016). And the health sector more generally, the average annual growth of employment, at 1.8%, was double the rate for the economy as a whole (INIFES 2015, 48).

The health and social services labour market is characterised by an above-average incidence of atypical employment, in particular part-time work. The proportion of fixed-term contracts is also higher than the overall average. The majority of these jobs can be designated as precarious, both in terms of their wage levels as well as on numerous other dimensions, such as highly flexible working hours and requirements to be on-call and the lack of access to continuing training. In 2013, almost half of all non-clinical employees were employed either on a part-time basis or on so-called 'mini-job' contracts that are subject to a maximum earnings level and are excluded from most areas of social security contribution (Glassner, Pernicka, Dittmar 2015, 65).

Hospitals are the most important single sub-branch within the health system, with total expenditures in 2013 of Euros 82.2 billion, accounting for 26.2% of overall health spending. Since the 1990s, the health and social care sector as a whole has been subject to a process of profound change in which private for-profit companies have grown enormously in significance. By 2013, some 70% of employees in the sector were working for private employers and, according to the IAB Establishment Panel[3], 87% of health and social care facilities were privately owned (INIFES 2015, 48). For hospitals, while 21.7% were operated by private sector companies in 2000 (compared with 37.6% for public bodies and 40.7% for not-for-profit organisations), by 2013 this share had risen to 34.8%, nearly as a high as the not-for-profit sector in that year (35.4%) and above that for public hospitals (29.9%). This represents a growth in private hospitals of 13.1 percentage points between 2000 and 2013, compared with a fall of 7.8 percentage points for public provisions and 5.3 percentage points for the not-for-profit sector (INIFES 2015, 147).

There are also growing elements of privatisation in those hospitals that remain in public hands but which have adopted a private legal form to improve their competitiveness in terms of legal liability, raising capital, and distributing profits. By 2012, more than half of public sector hospitals (58.9%), compared with 28.3% in 2002, had restructured themselves into a private sector form, such as a limited liability company. This has led to a corresponding fall in the proportion of hospitals in public hands that are still operated as bodies governed by public law: between 2002 and 2012, this fell by 30.6 percentage points (INIFES 2015, 148). Glassner, Pernicka and Dittmar (2015, 18 ff.) conclude from this that the process of liberalisation and privatisation in the German hospital sector is now more advanced than elsewhere in Europe.

The largest private hospital operators in Germany are Helios, Asklepios, Sana, and Rhön. Helios Kliniken GmbH, part of the Fresenius group, had some 75,800 employees in 2016 in 112 acute and rehabilitation hospitals, 72 medical care centres, five rehabilitation centres, 18 prevention centres, and 14 care homes. In 2015, the company had a turnover of Euros 5.58 billion and an EBIT margin of 11.5% (Helios Kliniken 2016). Asklepios-Kliniken-Gruppe operates 36 hospitals, 19 specialist clinics, 13 psychiatric units, 41 post-acute and rehabilitation clinics, and 33 other facilities. The group employs 34,700 staff and in 2015 had a turnover of Euros 3.09 billion, with an EBIT margin of 8% (Asklepios Kliniken 2016). Sana Kliniken AG employed some 28,500 staff in 2015 in its 49 hospitals. Turnover was Euros 2.3 billion, yielding an EBIT margin of 5.1%. The company is not listed and is jointly owned by 29 companies in the health insurance industry (Sana Kliniken 2016). The fourth largest operator is the quoted Rhön-Klinikum AG, which has some 15,600 employees at five sites. In 2015, its turnover was Euros 1.1 billion with an EBIT margin of 8.4% (Rhön-Klinikum 2016).

[3] The IAB Establishment Panel (IA*B-Betriebspanel*) is a representative workplace survey carried out by the German Institute for Employment Research (IAB), a department of the Federal Employment Agency.

Pay levels and trends in the health sector can both be characterised as moderate. Gross pay per full-time equivalent was Euros 2,744 per month, according to the IAB Establishment Panel, below the all-economy average of Euros 2,936. Although nominal pay levels have grown somewhat faster than the whole economy average since 2000, with a rise of 23.3% compared with 21.5%, in real terms this has only just about kept pace with inflation, however (INIFES 2015, 73).

2. Development of Sector Productivity and Collective Bargaining Coverage

Sector Productivity Trends

The development of the overall volume of activity represents a meaningful measure of the overall performance of an establishment. On this indicator, the health sector has performed more strongly than other economic branches. Between 1997 and 2012, gross revenues rose 2.1 times (INIFES 2014, 51). This is especially noteworthy as, by the end of 2013, 42.2% of German hospitals were in deficit INIFES 2015, 145). Privately-operated clinics were considerably more profitable than their public or not-for-profit counterparts. The return on sales for private hospitals in 2013 was 4.2%, compared with 1.8% for not-for-profit and 1.5% for the public sector. According to the German Federal Statistical Office, the sector has seen substantial increases in productivity over the past two-and-a-half decades (see Table 2). However, real pay has lagged behind this (Figure 16). None the less, more recently productivity has grown more slowly, even falling after 2013.

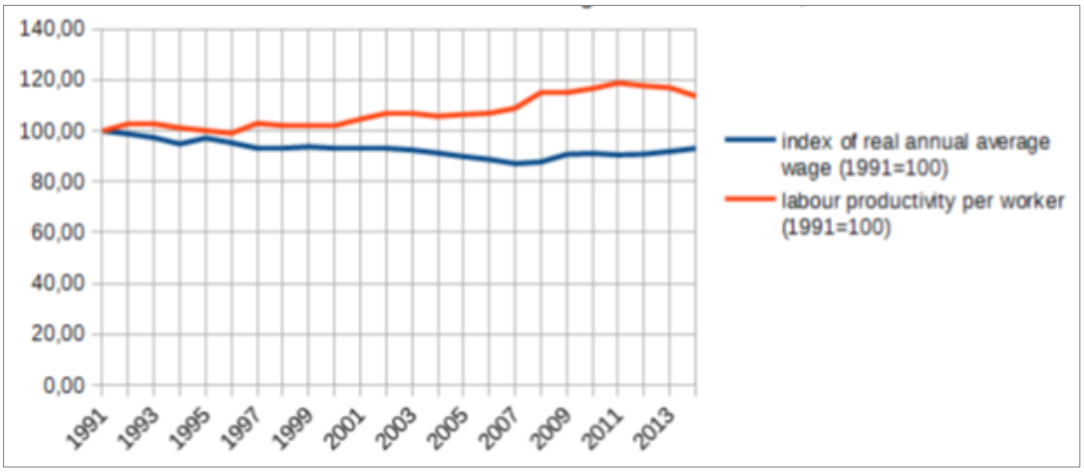
Table 2 – Gross domestic product or gross value added (labour productivity) in the German health sector (excluding social and welfare services); 2010 = 100

Year	Per worker	Per working hour
1991	85.69	76.33
1992	88.24	80.73
1993	88.21	81.59
1994	86.73	80.45
1995	85.80	80.63
1996	84.94	80.94
1997	88.24	84.95
1998	87.41	84.83
1999	87.40	85.43

2000	87.46	86.71
2001	89.68	89.42
2002	91.53	91.87
2003	91.86	92.36
2004	90.67	91.02
2005	91.25	92.32
2006	91.68	91.37
2007	93.36	91.58
2008	93.45	97.19
2009	98.74	100.35
2010	100.00	100.00
2011	101.86	102.33
2012	100.86	102.24
2013	100.25	102.92
2014	97.39	99.29

Source: authors, based on official data, August 2016

Figure 16 – Labour productivity and real wages in the German health care sector 1991-2014



Source: own calculation according to data of Destatis 2016

Sector Collective Bargaining Coverage and Wage Developments

The collective bargaining landscape in the hospital sector is both complex and heterogeneous, and has become increasingly fragmented since the 1990s as a result of privatisation and liberalisation. The vast majority of public hospitals are subject to collective agreements with sector-wide coverage. The most important of these for non-clinical staff are the Collective Agreement for the Public Services (abbreviated to TVöD), which covers local authority operated hospitals, and the Collective Agreement for Regional Government (*Länder*) (TV-L), which covers those operated by universities and *Land* governments. There are separate agreements for doctors. The main collective bargaining agents are, for the employers, the *Tarifgemeinschaft der Länder* (TdL), a bargaining commission that negotiates for all the *Länder*. Local authorities are represented by a comparable body, the *Vereinigung der kommunaler Arbeitgeberverbände* (VKA). Non-clinical staff are generally represented by the services' union ver.di (Vereinte Dienstleistungsgewerkschaft) and doctors by their own trade union, the Marburger Bund. The negotiating section of the civil servants' trade union, Deutscher Beamtenbund (dbb Tarifunion), which cooperates with ver.di, plays only a minor role.

Most private operators are members of their own trade and employer association, the Bundesverband Deutscher Privatkliniken (BDPK). This formerly negotiated agreements with various Christian trade unions (not affiliated to the main union centre, the DGB) at standards generally below those of the TVöD, until these unions were derecognised as bargaining parties by the Federal Labour Court, in part because they represented only a small proportion of the workforce. Two *Land*-level associations of the BDPK have concluded agreements with ver.di and Marburger Bund, but none, as yet, at national level.

In contrast to staff in public hospitals, employees in hospitals operated by charitable organisations, churches or private owners have been obliged to engage in 'house-to-house' combat to secure collective agreements (INIFES 2015, 118). With a few exceptions, the churches do not conclude collective agreements. Terms and conditions at their facilities are regulated by so-called 'Labour Law Commissions', whose directives do not have the same legal standing as collective agreements proper. ver.di has been campaigning for some years to conclude collective agreements for church-operated hospitals and there have been some successes. n 2014, ver.di succeeded in concluding an agreement with an employer association for church hospitals in Lower Saxony (Diakonischer Dienstgeberverband Niedersachsen e. V.), covering some 160 providers with around 30,000 staff (INIFES 2015, 118-119). In 2012, the Federal Labour Court confirmed that church employees had a right to strike (BAG 2012).

The highest level of collective bargaining coverage for non-clinical hospital staffs is in publicly-operated facilities, where the TVöD or TV-L covers some 80% of the workforce. Around 10% of employees in public hospitals are covered by other

collective agreements that adopt the standards set in the two main agreements. Only some 3% of the workforce are covered by establishment-level collective agreements, and there are scarcely any public hospitals that are not covered by some form of collective agreement. Almost three-quarters of not-for-profit hospitals are covered by mechanisms such as the labour law directives issued by the church commissions; 17% of hospitals have their own agreements that base their terms on those stipulated in the sectoral agreement. Some 8% of not-for-profit hospitals are subject to the TVöD or TV-L agreements. Around 1% of facilities are not subject to any form of collective regulation of pay and conditions. In the private sector, some 20% of hospitals have company-level agreements, with around 40% subject to other collective agreements, such sectoral-level accords concluded with Christian trade unions. Standards based on those provided for in the TVöD and TV-L cover 14% of private hospitals, leaving around quarter outside the scope of any collective regulation (see Glassner, Pernicka, Dittmar 2015, 49).

Sector Examples for Productivity Bargaining Agreements

The overwhelming view of the major social partners is that collective agreements that expressly aim to raise productivity do not play an important role in the German health sector, as a representative of the association of local authority employers noted:

> Hospitals are not a classic area for productivity indicators because patient care is not yet subordinate to productivity considerations alone (expert, VKA).

A collective bargaining specialist at ver.di commented:

> Collective agreements aimed at raising productivity in the classic sense are not the issue for us. There are certainly some provisions on profit sharing, but these are intended more to motivate staff, for them to be prudent with scarce resources, so that there is some money left at the end (expert, ver.di).

According to this union official, profit-sharing agreements are 'not widespread'. The most significant example in the private hospital sector existed up until 2014 in some facilities operated by the Rhön group. All the agreements on profit-sharing were terminated when these facilities were acquired by Helios in 2014 (expert, ver.di).
There are, however, some agreed productivity-related provisions at various levels within the German health and hospitals sector. Three are noted here, each of which is considered in more detail below.

1. The most significant is the agreement introducing performance-related pay, concluded as part of the public sector agreement (TVöD) in 2005. As noted above, the TVöD covers the bulk of the health service workforce.

2. Secondly, in the same year, a supplementary collective agreement was concluded specifically for the hospital sector aimed at improving the competitiveness of hospitals in economic difficulties, known as the 'Collective Agreement for Securing the Future of Hospitals' (abbreviated to 'TV ZUSI').
3. There are also various agreements on productivity or results at the level of individual organisations. One exemplary instance is third agreement considered here on employee profit-sharing at the Zentralklinik Bad Berka GmbH, concluded in 2016.

Performance-Related Pay in the Public Sector Agreement (TVöD)

In 2005, a major reform was carried out in the system of collective agreements in the public services, including the bulk of the hospital sector. One of the innovations was the introduction of a performance-related element in the new Collective Agreement for the Public Services (TVöD). Until that point, there had been no form of performance pay in the public sector in Germany. Article 18 of the TVöD provided for the progressive implementation of performance-related pay by 2017 with the following agreed aim:

> Performance- or results-related pay is intended to contribute to improving public services. At the same time, it should also strengthen motivation, responsibility and leadership competencies (TVöD).

The change did not entail any increase in the overall volume of the paybill. Rather, a proportion of the additional payments made at Christmas or for annual vacation (the '13th month') were converted into a performance-related element. The aim was for the performance-related element to equal 8% of the total paybill, with the initial stage set at 1%. Implementation was devolved to local bargaining at individual units, with a number of options:

- payments made for meeting agreed (individual) targets;
- payments based on pre-agreed objective performance appraisal criteria;
- results-based bonuses.

The volume of the performance-related element was raised to 2% in 2010, and has remained at this level. The scheme was essentially introduced at the employers' initiative and the trade unions have not been an active force. One employer representative summed up the situation in the following terms:

> This was clearly an employer initiative. The trade unions have done quite a lot to frustrate it or push back on key issues. At workplace level, they've repeatedly pressed to have the overall volume distributed equally across the workforce – the watering can principle. The aim in 2005 was to 8%. After 10 years, we're still a long way from that (expert, VKA).

ver.di has not abandoned its resistance to performance pay, both on grounds of principle but also because its priority has been to improve the very tight staffing situation and to ease the burden of growing work intensification on hospital employees.

> Our main priority, ahead of any economic considerations, is to alleviate the burden on staff. This is a very pressing issue, and an urgent concern both for hospital staff and patients (expert, ver.di).

ver.di's favoured option for the future treatment of performance pay under the TVöD is for it to be paid out in full as standard lump-sums to all employees under local agreements. It hopes to enshrine this explicitly in the main collective agreement. According to union sources, this is already the practice in many hospitals (see Meerkamp, Dannenberg 2014).

Agreement on Securing the Future of Hospitals (TV ZUSI)

In 2005, ver.di concluded a supplementary agreement to the sectoral agreement, the TVöD, entitled 'Collective Agreement for Securing the Future of Hospitals', abbreviated to TV ZUSI. This allowed local authority-run hospitals in economic difficulties to deviate from the terms of the sectoral agreement by retaining up to 10% of the total paybill as a form of 'investment wage': in effect, pay could be cut in order to raise the affected hospital's equity. Article 5 of TV ZUSI stipulated:

> The sum of employee contributions may total up to 10 per cent of annual gross income. The elements that may make up the employee contribution are to be specified in the local implementation agreement (AWV). It can, for example, be drawn from the regular supplementary annual payment, any performance-related pay elements or usual monthly salary (TV ZUSI 2005).

The implementation of the TZ ZUSI agreement requires the conclusion of a local implementation agreement (*Anwendungsvereinbarung*, AWV), the conclusion of which requires certain preconditions to be met: these include, disclosure of the organisation's accounts and an evaluation by an external auditor. In essence, the agreement represents a variation on a special collective agreement for organisations in economic distress in which any reductions in pay must flow into the company's equity.
The background to the conclusion of this agreement was a national reform in the system of hospital financing, carried out in 2004, based on the principle of diagnosis-related groups (DRG). Since 2004, hospitals are no longer paid on broadly cost-based daily rates per patient but rather under a system of fixed amounts based on the relevant diagnosis-related group of the case. The system, phased in over a period that extended until 2009, had the express aim of cutting public expenditure on health.

In practice, the system led to the underpayment of many hospitals. In order to ensure these could survive, the signatories to the collective agreement wanted to allow organisations to deviate from the main sectoral agreement, under authorised conditions, to allow time to adapt to the new regime. In other words, business adaptation by individual hospitals to the changed political and economic circumstances was to be facilitated by pay cuts of up to 10%.

This instrument was highly controversial within the trade union as it represented the "abandonment of a core function of the sector-level agreement – namely, to set a common framework of labour costs for competing companies in order to exclude the possibility of wage dumping as a competitive strategy" (Wendl 2006).

TV ZUSI also provided for any elements of pay retained by the employer to be converted into participation rights for the employees: that is, employees would be legally recognised as having injected capital into the company and would have a right to have their contributions repaid. However, access to these funds was blocked for six years and employee rights were classified as form of subordinated debt that would fall payable after other liabilities had been met.

According to trade union sources, 11 workplace implementation agreements were concluded between 2006 and 2009 in local authority hospitals and three in university hospitals. Employee contributions have been repaid in two instances and three of the agreements were terminated early. In 2009, a similar collective agreement, allowing for local implementation, was concluded for the care sector (ver.di 2010).

Profit-Sharing at Zentralklinik Bad Berka GmbH

According to ver.di, there are only a small number of agreements on profit-sharing in the German hospital sector. One of the notable examples of those in operation is the Collective Agreement on Employee Profit-Sharing at the Zentralklinik Bad Berka GmbH.

The Zentralkinik Bad Berka is a hospital located in the spa and cure resort of Bad Berka in the state of Thuringia. This facility, originally established in 1898, has been owned since 1990 by Rhön-Klinikum, and is the region's largest employer with some 1,800 staff and serves as the teaching hospital for Jena University. According to the annual reports from the owners, it averages a net annual profit of some Euros 20-25 million.

The aim of the agreement is to:

> Recognise and reward employees' contribution and commitment by means of a tangible participation in the annual surplus (ver.di, ZBB 2016).

This 'surplus' is calculated as 'the usual operating surplus earned by the company as indicated in the audited annual accounts confirmed at the shareholders' meeting, but

before deduction of income tax and before subtracting any profit transfers to silent partners' (ver.di, ZBB 2016).

The profit share for employees consists of a fixed and a variable element. Each full-time employee receives a fixed gross sum of Euros 600 per calendar year, paid out in advance in monthly instalments of Euros 50. Trainees and internees are entitled to Euros 300 per year (Euros 25 per month). Part-time staff receive a sum in proportion to their working hours.

In addition, the agreement stipulates that 10.5% of the annual operating surplus should be distributed to workforce as a variable sum. The basis for calculating the payment to each employee is the 'ratio of an employee's gross annual income to the total paybill'.

Section 3.
Sectoral Comparison

The sector studies show some fundamental differences concerning the role of productivity in collective bargaining agreements. The relevance of productivity differs a lot between the sectors both regarding productivity as an input and productivity as an output of collective bargaining. Both aspects will be discussed in this Section.

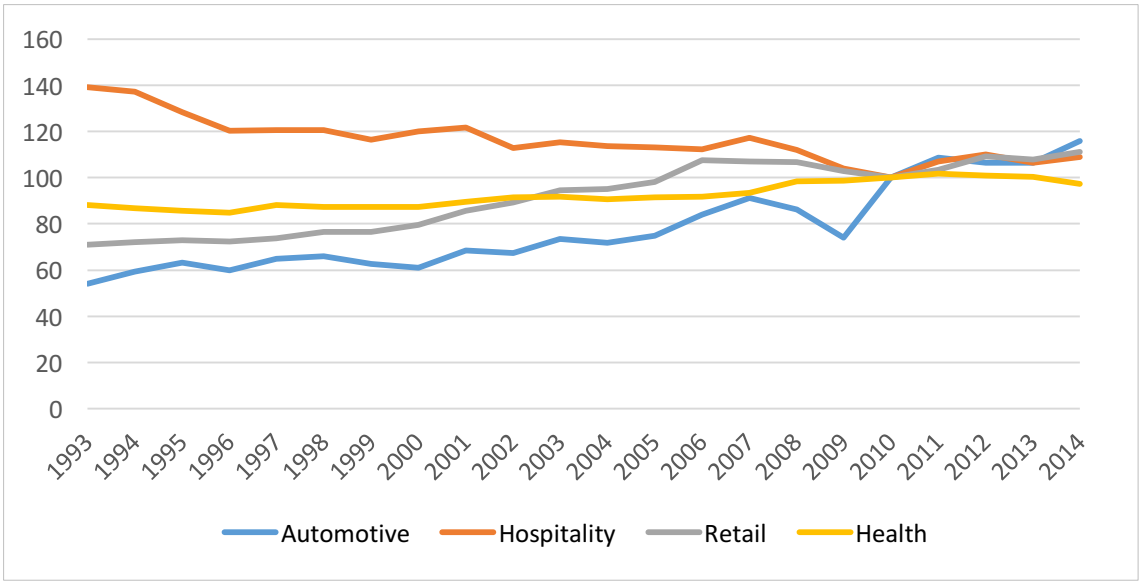
Productivity As an Input

Productivity as an input to collective bargaining and collective agreements has lost much of its importance in the last decade. In the heydays of Fordism, productivity was the central element of a productivity compromise between capital and labour. Labour accepted the prerogative of management to rationalize production (and to increase productivity), whereas capital recognized that labour should participate in the economic results of the productivity increases. This compromise was, more or less, institutionalized in the form of the so called Meinhold formula according to which wage increases should reflect the increase of productivity plus inflation. Wage conflicts were inspired by different interpretations of the formula: Whereas unions defined it as a minimum level for wage increased which should be complemented by an additional element of redistribution, the employers usually called the demand for a compensation of the inflation rate into question.
However, the formula was used mainly in the manufacturing industries which were the core of the German system of collective bargaining because here the membership figures of the unions were the highest and the unions had the most organizational power to push their wage demands. The system worked in the way that these unions first posed wage demands and made agreements, and afterwards the unions in the other (service) sectors tried to copy the wage increase of the manufacturing sectors. This system of pattern bargaining produced a rather homogeneous wage development (despite the persistence of different wage levels) between the sectors, especially because the unions used the average rate of productivity – and not the sector specific rates – for their wage demands so that productivity differences between the sectors were redistributed in favour of the wages in the sectors with weaker productivity growth. Productivity, therefore, was both an instrument to legitimize wage increases in the manufacturing sector and an instrument of solidarity in the wage policy of the unions.

Today, productivity has lost some of its relevance. One reason is that its role to legitimize wage demands is confined to the manufacturing industries. The unions in the hospital sector, retail or hospitality do not refer to productivity developments and, even more, they do not even know if industry specific productivity data exists and what it is looking like. In the metalworking sector as the regulatory level for the automotive industry, it is the other way round. Here, the union uses productivity figures to legitimize wage demands and, even more, has constructed new productivity indicators (a 'trend productivity') in the last wage bargaining round in order to make use of the productivity argument despite of the low productivity increase in the year before.

The second reason is that since the old days of the Meinhold-formula important changes have taken place that undermined the old productivity compromise. First, the compromise was called into question by economists and by the employers' associations in the metalworking sector who argued that for reasons of employment and of competitiveness employers should get a higher share in productivity increases. The associations tried to decouple wages from productivity and to bring wages more close to the productivity developments of the single firms by decentralization of collective bargaining and strengthening the firm as a collective bargaining level. The most important instruments they pushed to do so were single payments and opening clauses to allow derogations from industry collective agreements. Second, a fragmentation of wages between the sectors can be observed, driven by the fact that the unions in the service sectors have proven to be less and less able to copy the wage increases agreed in the manufacturing industries. This means at the same time that wage developments in these sectors more and more reflect the weak – and, compared to the metalworking industry, relatively weaker – productivity developments in these sectors (Figure 17).

Figure 17 – Productivity per hour in the four sectors



Source: Destatis, own presentation

Derogations are much more popular in the metalworking sector than in the other sectors where they are only exceptions. In the metalworking sector they can be regarded as a way to harmonise wage and productivity developments on firm level, although the problems the companies are facing might be of other origins like a non-successful product strategy. Moreover, derogations may include productivity gains as an output, either in the form of investment promises made by the firms or of reorganization measures to develop. In both ways the union tries to make sure that the firms will be able to pay the wages of the industry collective bargaining agreements in the future and that the derogation is only a temporary measure to safeguard jobs.

Productivity as an Output

Productivity can be an output of collective bargaining in several aspects; besides employee rewards we analysed the agreements with respect to participation, skills, work organization and inclusion/diversity norms. The results are shown in the synopsis (Table 3).

Table 3 – Synopsis of sectoral regulations: collective bargaining and plant level agreements

Topics	Automotive	Retail	Hospitality	Hospitals
Employee rewards	Industry agreements minimum	Industry agreements minimum	Industry agreements minimum	Industry agreements minimum

	standards Industry agreements performance based pay Plant level agreements profit sharing in big firms Derogations from industry agreements possible	standards (weak) Plant level agreements performance / profit sharing (rare, mainly practiced in textile outlets and specialist electronics retailers) No derogation clause, restricted practice § 6	standards (weak) No performance based pay part of collective agreements except one arrangement on provisions on sharing in sales results for waiting staff in the collective agreement for the restaurant and accommodation industry in Bavaria	standards and performance based pay (2% of wage sum) in public sector Plant level agreements private sector Combined industry and plant level agreements on converting up to 10% of the wage sum into employee shares for investments
Participation	Codetermination on plant level by law (>10) Codetermination on supervisory boards by law (>500) Employee participation in industry agreements (e.g. rights of reclamation wage grouping) Employee participation on plant level (e.g. flexible working times, agreements on teamwork)	Codetermination on plant level by law (>10) Codetermination on supervisory boards by law (>500)	Codetermination on plant level by law (>10) Codetermination on supervisory boards by law (>500)	Codetermination on plant level by law (>10) Codetermination on supervisory boards by law (>500) Implementation of industry agreement on performance based pay requires agreement on plant level Implementation of investment-wage-option requires economic plight and plant level agreement
Skills and Job Classification	Industry agreements on further qualification Industry agreements on wages: 10 to 17 wage groups Integration white – blue collar workers Grouping according to job requirements / tasks non-analytic and analytic (regions)	Industry agreements on wages: Five to six in the collective agreements; separation white – blue collar workers; Job requirements/tasks, non-analytic, outdated job examples Ongoing negotiations on	(weak) industry agreements on qualification 12 wage groups from unskilled jobs up to administrative functions (CBA chain restaurants/food service)	Big demand for further education, but no industry agreements some plant level agreements, great variety of plant level practice Industry agreements for the public sector: 15 wage groups, grouping according to wage requirements Three major

		collective agreement for more further training for staff and management in order to enhance safety and health in the workplace (*Demografie- und Tarifprojekt ZusammenWachsen--ArbeitGestalten*)		employee groups: - physicians - health care staff - non-medical personnel
Work Organisation	Industry level agreements on flexible working times Plant level agreements on flexible working times (w.t. accounts from flexi-time to life-time) Plant level agreements on work organization (teamwork, continuous improvement, etc.)	Regional and enterprise level agreements on flexible working times have become more important after the liberalization of store opening hours by law	Industry level agreement on flexible working times. Regional and enterprise level agreements on flexible working times	Industry level agreement on flexible working times. Decrease of CBA coverage, liberalization and privatization since the 90s led to wide spread fragmentation of work organization, outsourcing, subcontracting and temporary work Pilot plant level CBA on minimum standards of health care staffing (“More of us is better for all”) in Berlin university hospital (Charité Berlin)
Inclusion and Diversity	Industry agreements on industry premiums for temp agency workers No wage discrimination in industry agreements Plant level agreements gender and diversity issues Industry level	High share of migrants especially in low payed unskilled jobs	Typical entrance to the German labour market for low skilled migrants and refugees	Decrease of CBA coverage, decrease of real wages for health care jobs (except physicians) and forced depreciation or precarisation of non-medical service jobs led to labour shortage. Growing demand is increasingly being met by foreign

	agreements: disabled employees (quota etc.)			labor migrants.

As the synopsis shows, the sector with most collective bargaining norms related to productivity is the metalworking industry. Here, *wages* show three components related to productivity: performance based pay systems, that are used in the production sectors traditionally, but that are on the decline because many employers favour other systems; profit sharing that is regulated on plant level and important among OEM and big suppliers of the automotive industry but not among the smaller companies on the lower levels of the value chains because their profit margins usually are too low; and, finally derogations as they are explained above. In the other sectors, ware norms affecting productivity at least potentially are rare; we could only identify single cases like the agreement on provisions on sharing in sales results for waiting staff in the restaurant and accommodation industry in Bavaria or plant level agreements on performance and profit sharing in textile outlets and specialist electronics retailers. In the public hospitals, two opportunities exist to couple wages and productivity more tightly: by introducing a performance based pay component or by transforming parts of the wages into shares for investment. Whereas the last option is used very rarely, the first on is more widespread.

Participation is, as in the other sectors, highly regulated by law, including both plant level codetermination by works councils and codetermination on the supervisory boards. Participation of individual employees is regulated, within these frameworks by voting rights and by opportunities to include employees in works councils' codetermination. There are some agreements in the metalworking industry on plant level on teamwork in production or on project work in the higher qualified white collar segments of the workforce that also include participation rights for employees (like electing speakers of the teams or participation in some areas of group based decision making). As in the metalworking industry, in the public hospital sector performance based wages have to be accepted and agreed on the pant level which gives the works council a right to participate in the decisions.

Job classifications in the industry agreements of the sectors are structured differently, however, all of them are based on job requirements that have to be assessed in the plants either in an analytical or a non-analytical way. The less developed agreement in this respect is that of the retail industry. This agreement only distinguishes five wage groups and is, as a rather old agreement, based on some quite outdated job descriptions. The other agreements give some incentives for the employees to increase experiences and to qualify further in order to climb up the wage ladder. In the metalworking industry the collective bargaining actor have negotiated an agreement that gives the employees a right to discuss qualification issues with the superiors to make an agreement about it;

and it establishes rules on the question who has to cover the costs for what kind of further training. In this way it also contributes to the enlargement of individual employee participation. In the retail sector an agreement on the issue is negotiated at the moment, in the two other sectors no collective industry agreement exists; agreements might exist on plant level if at all.

The most important aspect of *work organisation* regulated in the metalworking sector as well as in the other sectors related to productivity is working time flexibility. The agreements define compensation periods for fluctuations in the distribution of working times and open the decision how to regulate flexible working times for the plants. Only in the metalworking industry some norms for plant level regulation of working time accounts have been implemented, defining upper limits for hours parked on the accounts and for procedures how to cope with working times that tend to exceed these levels, based mainly on a dialogue between worker and superior and offering the possibility to integrate the works councils. Thereby, and by the possibility for the employee to decide about parking or taking hours on and from the accounts, flexible working times are a crucial way to increase workers' participation. At the same time, the accounts are regarded by the employers as a way to harmonise capacities and actual working demands in a de-central way and thereby to increase labour productivity. From their beginning, flexible working times were part of a productivity compromise, combining reductions of the weekly working times and the working time flexibilisation as a way to compensate cost increases by productivity increases. Working time flexibility also allowed the employers to increase productivity by reducing the capacity of personnel and to increase the workload of the workers. Therefore the union in the hospital sector managed to push an avantgarde agreement defining minimum standards for staffing in order to be able to deliver good services to the patients (ver.di 2016). As already mentioned above, in the metalworking industry there are also plant level agreements on work organization defining standards for teamwork or project work. In all the industries, the companies tried to increase productivity and to decrease costs by outsourcing of activities or by making use of flexible workforces like temp agency workers that can be hired and fired flexible and that are usually cheaper than the core workers of the companies.

Issues of *inclusion and diversity* usually are not part of the collective agreements on industry level. The legal regulations of non-discrimination might be concretised on plant level by plant level agreements on gender or diversity. However, they can be regarded as an implicit element of industry level agreements in so far as these agreements try to preclude plant level discrimination by defining standards favouring non-discriminatory practices. One example for this strategy are the reforms of the wage framework agreements in the metalworking industry or the public services, in the former for example by reducing the importance of physical strains that are usually associated with male production work. Another point in this respect is the attempt in

both agreements to define job requirements in a way that gives little leeway for gender stereotypes.

As the comparison shows, productivity as an expected output of collective bargaining and plant level agreements is much more common in the metalworking industry than in the industries of service sectors analysed. One might draw the conclusion that this has something to do with the different role productivity plays as an input to collective bargaining: In the sectors where it is used as an input to legitimize wage increases, the collective actors seem to be much more confident that productivity at the same time could be an output in the way that it can be stimulated by collective bargaining norms like those on performance based wages or flexible working time arrangements.

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