



Labour market change
**Assessment of public initiatives to
combat labour market segmentation
in the EU Member States**

**Case study: Industry-specific
minimum wages (Germany)**

**[Labour market segmentation:
Piloting a new quantitative and policy analysis](#)**

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Eurofound reference number: WPEF19065

Related reports: Labour market segmentation: Piloting a new quantitative and policy analysis;
Assessment of public interventions to combat labour market segmentation – Overview report

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Contents

| | |
|---|----|
| Introduction | 4 |
| Applied methodological approach..... | 4 |
| Description of the initiative in focus | 5 |
| Type of initiative | 5 |
| Rationale and objectives..... | 7 |
| Time frame | 7 |
| Target group(s)..... | 8 |
| Delivery methods | 9 |
| Key actors involved in implementation..... | 9 |
| Administrative level of implementation..... | 10 |
| Sectoral focus..... | 10 |
| Funding arrangements..... | 11 |
| Linkages with/embeddedness into other measures (national and EU)..... | 11 |
| In-depth analysis of the initiative in focus | 12 |
| Overview of the context | 13 |
| Overview of the mechanisms | 15 |
| Overview of results and impacts | 16 |
| Conclusions and policy pointers..... | 19 |
| References | 21 |
| List of abbreviations..... | 23 |

Introduction

This report presents an in-depth analysis of the impact of industry-specific minimum wages (IMWs) in Germany. The level of the IMW is set by the social partners. If they agree on a minimum wage in an industry collective agreement at national level, the government can declare this minimum wage as generally applicable and binding pursuant to the German Posted Workers Act (*Arbeitnehmer-Entsendegesetz*, AEntG). The IMWs do not explicitly focus on labour market segmentation (LMS) but in practice they may contribute to reducing it by ensuring better working conditions (especially earnings) to low-paid workers. The social partners were empowered to upgrade bottom-end wages, thereby reducing the earning gaps between the well-paid primary and the low-wage secondary jobs in the respective industries.

The Posted Workers Act of 1996 opened the possibility to negotiate IMW only for a few industries, mainly construction, which had high levels of posted workers. On the basis of this legislation, the first minimum wages were agreed in the construction industry as early as 1997 to guarantee both posted workers and domestic workers the same minimum wage. In 2007, the former ‘grand coalition’ between [Christlich demokratische Union Deutschlands](#), [Christlich soziale Union Deutschlands](#) (CDU/CSU) and [Sozialdemokratische Partei Deutschlands](#) (SPD) agreed upon opening the Posted Workers Act for other industries willing to introduce IMWs.

The IMWs were considered controversial by the following conservative-liberal coalition (2009-2013). It was argued that IMWs as well as a national minimum wage could have substantial disemployment effects. Therefore, in 2011, the Minister of Labour and Social Affairs ([Bundesministerium für Arbeit und Soziales](#), BMAS) commissioned the evaluation of eight IMWs to research teams from different research institutes, with the aim of bringing the debate to a more objective level (Aretz et al, 2011; Boockmann et al, 2011a; 2011b; 2011c; Bosch, Hieming et al, 2011; Bosch, Kalina et al, 2011; Egelin et al, 2011; Möller et al, 2011).

The evaluation studies concluded that the IMWs substantially improved the wages of low-paid workers in the affected industries without having negative effects on employment. IMWs are now accepted as an instrument for upgrading wages at the lower end of the wage distribution and for regulating the wage competition at industry level. With the reform of the AEntG in 2014, all industries can negotiate IMWs, even if they are not explicitly mentioned in the law.

As of 2019, IMWs in 12 industries exist. In most industries, the agreement is exclusively on a minimum wage floor, whilst in others there is also an agreement upon a higher second minimum wage for skilled workers. In some industries, the IMWs are differentiated by regions, mainly between East and West Germany. The function of the IMWs changed with the introduction of a statutory national minimum wage (NMW) in Germany in 2015. Before 2015, the social partners wanted to set an effective lower floor for the wage competition in their industry; since 2015, they want to attract and retain workers by offering wages above the level of the national minimum wage.

Applied methodological approach

To prepare the call for tenders for the evaluation, the responsible civil servants in the BMAS consulted members of the British [Low Pay Commission](#) who had organised the evaluation of the British minimum wage. In the new minimum wage research (for example, Card and Krueger, 1995; Dube et al, 2010; Belman and Wolfson, 2014), causal analysis with difference-in-difference comparisons have become the gold standard to assess the employment effects; and it was demanded in the call for tenders. In addition, the call required a mix of methods which could have also included expert interviews to understand the different context factors in the industries, surveys of companies, employees and work councillors as well as company case studies.

Pursuant to Article 1 of the AEntG, the objectives of the IMWs are improving the working conditions of the low paid and creating a levelled playing field in the wage competition. Therefore, all evaluation teams were asked to analyse the impact of the IMWs on the working conditions of the employees, on employment in the industry and the impact on the competition in the respective industries. LMS was not explicitly mentioned in the call for tenders, but it was implicitly an important issue since a reduction of the share of low-wage workers is an instrument to reduce LMS.

This case study is based on the analysis of the detailed evaluation reports which are described in Table 4. The time horizon of the evaluations was different since the IMWs were introduced at different times (see Table 1). Therefore, the evaluations are a mix of short-term and long-term analyses. All eight studies found no statistically significant disemployment effects. These results can be regarded as reliable since each study was based on difference-in-difference calculations with more than one control group. In some cases, additional robustness tests were carried out.

In addition to desk research, two semi-structured interviews have been conducted to provide qualitative information on relevant features of the IMWs. One interview was carried out with the representative of the Ministry of Labour and Social Affairs which was responsible for the evaluations of the IMWs and the statutory minimum wage. His practical knowledge helped to fully understand all complexities of the policy measure. The second interview was conducted with a researcher who was involved in the evaluation of two IMWs and is a member of the German Minimum Wage Commission (*Mindestlohnkommission*). This interview helped to deepen the knowledge on the methodology of the evaluations and to better understand the impacts of the IMWs.

Description of the initiative in focus

Type of initiative

The IMWs are a regulatory initiative to improve the income security of employees in industries with high shares of low-wage earners. The initiative aims to create a levelled playing field in the wage competition for the companies and to improve the working conditions of the low-wage earners and in the respective industries. To support self-regulation, the state does not directly intervene in the wage setting in an industry. It offers social partners the possibility to negotiate minimum standards at industry level and thereby to contribute to reducing LMS. After social partners agree on the IMW, the state declares those standards to be generally binding for the industry by decree law. With the extension, these negotiated IMWs become mandatory for all companies in the respective industries, including those covered by a collective agreement and not. In addition, the state takes the responsibility for controlling the compliance of employers. Contracts for payments below the minimum wage are not legally binding and the worker is still entitled to the IMW being a criminal offence for employers to not pay someone the IMW, or to fake payment records. In addition, main contractors are liable for their subcontractors. This means that if the subcontractors or service providers do not pay the minimum wage to their employees, the company receiving the services can be made liable for the payment of the minimum wages. Such liability exists even if the company receiving the services has no knowledge/indication of any violation on the part of the subcontractor/service provider.

The IMWs can differ between the industries according to their specific conditions. The level of the IMWs depends mainly on the strength of the unions in the industry in question, the unemployment in the region and the skill levels of people working in that industry. Where unions are weak (like in cleaning or meat processing) and unemployment is high (like in East Germany), the IMW rates tend to be low. Where companies try to recruit and retain skilled workers and unions are strong (like main construction or roofers) the level of IMWs tends to be

higher. Contrary to France, Belgium and the Netherlands, the AEntG explicitly speaks of ‘minimum standards’, which excludes the possibility to extend whole wage grids from collective agreements. The law only allows to declare some wage groups as generally binding. In all IMWs, with the only exception of meat processing (in which the extended collective agreement has one wage group only), the IMWs are part of a wage grid.

A precondition for the extension of the collective agreement on IMWs is a national agreement. If the social partners negotiated before at company or regional level, they would be obliged to centralise the bargaining on the IMWs at a national level. The starting point to fulfil this condition was very different in the eight evaluated industries. Three industries (construction, painting and roofers) already negotiated at national level. In industrial cleaning, the social partners centralised their former regional collective agreements. In these four industries, the IMWs were part of the wage grids of these national agreements. In the four other industries, only the IMWs were negotiated at national level for the whole industry. In one industry (electricians), wage bargaining takes place at regional level; while in three industries (care, laundries and waste) competing collective agreements exist with different trade unions and employers’ organisations (and in the case of care – churches) being involved. Table 1 also shows that some industries negotiated different IMWs for East- and for West-Germany as well as for unskilled and skilled workers, while others set one national IMW.

Table 1: Industry-specific minimum wages and collective agreements (CAs) in the 8 evaluated industries (data from 2010)

| Industry | Collective agreements | Introduction of IMW | Level of IMW in 2010 | Coverage |
|----------------------------|--|---------------------|---|--------------------------|
| <i>Main construction</i> | National CA, IMWs part of this CA | 1997 | Unskilled West €1.00, East €0.75 Skilled Only West €13.00 | Only blue-collar workers |
| <i>Roofers</i> | National CA, IMWs part of this CA | 1997 | €10.80 | Only blue-collar workers |
| <i>Electricians</i> | Regional CAs, only IMWs negotiated at national level for the whole industry | 1997 | West €0.70, East €8.40 | Only blue-collar workers |
| <i>Painters</i> | National CA, IMWs part of this CA | 2003 | Unskilled €0.50 Skilled Only West €11.50 | Only blue-collar workers |
| <i>Industrial cleaning</i> | National CA, centralising former regional agreements, IMWs part of the national CA | 2007 | Unskilled West €8.55, East €7.00 Skilled West €11.33, East €8.66 | Only blue-collar workers |

| | | | | |
|-----------------------------|--|------|------------------------|------------------------|
| <i>Care</i> | Competing CAs, only IMWs negotiated at national level for the whole industry | 2010 | West €8.50, East €7.50 | Unskilled care workers |
| <i>Industrial laundries</i> | Competing CAs, only IMW negotiated at national level for the whole industry | 2010 | West €7.65, East €6.50 | All employees |
| <i>Waste</i> | Competing CAs, IMWs negotiated at national level for the whole industry | 2010 | €8.22 | All employees |

Source: Bosch and Weinkopf, 2012

Rationale and objectives

The objectives of the revised AEntG (2009) are, pursuant to article I, to:

Create appropriate minimum standards for posted and domestic workers in an industry;

Create a level playing field for fair competition between the companies;

Maintain socially insured employment; and

Support self-regulation through collective bargaining.

The reduction of LMS was not explicitly mentioned in the law or the parliamentary debates on the law. Nonetheless, three of the targets mentioned in the law refer to the improvement of working conditions at the bottom, the maintenance of socially insured jobs compared to precarious forms of work and the strengthening of collective bargaining in industries where it is weak. The intention of the law is clearly to upgrade disadvantaged jobs and thereby to reduce segmentation.

With the revision of the AEntG, the list of industries allowed to negotiate IMWs was extended. In the following years, additional industries (such as the security industries) successfully applied for their inclusion in the list. In the temporary work agency industry, an IMW was introduced based on the German Act on Temporary Agency Work (*Arbeitnehmerüberlassungsgesetz*). In 2014, the AEntG was opened to all industries provided that the extension of their agreed IMWs is in the ‘public interest’ and helps to achieve the aforementioned objectives of the law.

Time frame

Table 1 above specifies the years of the introduction of the IMWs in the eight industries analysed in this case study.

The social partners are free to determine the time frame of their collective agreements on IMW. In some cases, the agreements are signed for one or two years (in 2019, for example, for electricians and scaffolders). In other cases, multi-annual agreements with gradual wage increases each year were signed to smoothen the increases, make wage costs more predictable over a longer period of time and reduce the pay gap between East and West Germany. Examples are the agreements signed in 2019 in the care sector (for four years) and for painters (for three years). In some cases, agreements were not renegotiated after the introduction of the national

minimum wage and expired (for instance, in industrial laundries). Therefore, the timeframe of IMWs depends on the decisions of the social partners. The timeframe may change if a new agreement is negotiated. It seems that at present (2019) the timeframe is longer than in the past since in some industries social partners try to reduce the East-West differentiation of IMWs, which is a major segmentation line in the German labour market. Such a reduction is easier to achieve over a longer period, which allows companies in East Germany to adjust to increased labour. A good example is the long-term agreement in industrial cleaning (see Table 2).

Table 2: IMWs in industrial cleaning, 2018 – 2020, in euro

| | West Germany | | East Germany | |
|----------------------------|------------------|----------------|------------------|----------------|
| <i>Time frame</i> | <i>Unskilled</i> | <i>Skilled</i> | <i>Unskilled</i> | <i>Skilled</i> |
| <i>01.03.18 - 31.12.18</i> | 10.30 | 13.55 | 9.55 | 12.18 |
| <i>01.01.19 – 31.12.19</i> | 10.56 | 13.82 | 10.05 | 12.83 |
| <i>01.01.20 – 30.11.20</i> | 10.80 | 14.10 | 10.55 | 13.50 |
| | Germany | | | |
| | <i>Unskilled</i> | | <i>Skilled</i> | |
| <i>01.12.20 – 31.12.20</i> | 10.80 | | 14.10 | |

Source: Zoll (n.d.)

Target group(s)

The target groups of the 1996 AEntG were:

Companies in industries with a high share of posted workers; and
Domestic employees and posted workers in these industries.

In 1996, IMWs were expected to partially take wages out of the competition among domestic companies and between domestic and foreign-based companies; and to create a level playing field for them. The minimum wage rates were expected to help creating fair working conditions for domestic and posted workers and to prevent wage dumping and exploitation.

With the revisions of the AEntG in 2007 and 2009, the focus of the law changed. The newly included industries had mostly low shares of posted workers (with the exception of the meat industry which was included in 2014). The main aim was the regulation of the domestic labour markets, particularly low-wage industries. As social partners could use the new instrument voluntarily, the government did not set any quantitative target on the number of participating industries. Authorities relied on soft policies of persuasion by offering opportunities to regulate the fierce wage competition.

In 2009, the government invited the social partners of all industries to apply for their inclusion in the law and expected up to 25 applications. The hopes that the parties to collective bargaining would negotiate acceptable IMWs in all low-wage industries were, however, not fulfilled. In most low-wage industries collective agreement coverage had been eroded over the last two decades and the social partners were too weak to centralise their fragmented bargaining structures. Only nine industries applied to be included in the AEntG until 2009. Among them were big industries such as elderly care or industrial cleaning with many low-wage earners.

Delivery methods

The social partners in an industry have to negotiate an agreement on IMWs and apply for the extension of this agreement to all companies in the respective industry. The extension is granted by the Ministry of Labour and Social Affairs. The ministry checks if there are competing agreements in the same industry. In case there are, only the most representative agreement with the highest share of coverage in the industry can be extended. In practice, the most representative agreements are those concluded by employers and trade unions which belong to the German Trade Union Federation (*Deutscher Gewerkschaftsbund*, DGB). Agreements with the latter are more favourable than those achieved with the smaller, mostly employer-friendly trade unions which do not belong to the DGB.

For all the IMWs adopted since 2009, the procedure is more complicated due to the pressure of the Liberal Party (*Freie Demokratische Partei Deutschlands*, FPD) in the conservative-liberal government with the CDU, and CSU (Koalitionsvertrag, 2009). All social partners in an industry (including competing trade unions or employer organisations) have the right to comment on the application. Afterwards, the national Collective Bargaining Committee with three representatives of the unions and three from the employer organisations, decide on the application. If the Collective Bargaining Committee approves the application with at least four votes or does not decide within two months, the agreement can be extended by the Ministry of Labour and Social Affairs. In case only two or three votes are casted in favour of the application, the whole government has to decide on the extension.

Key actors involved in implementation

The key actors are the employer organisations and trade unions operating in the respective industries. In some industries, different employer organisations and/or trade unions are competing. They either have to negotiate jointly or the most representative agreement with the highest coverage in the respective industry is extended.

In the care sector, more actors are involved since the charity organisations of the churches are an important employer in this industry too. The employees of these charity organisations do not have the right to strike, and the wages are not determined by collective bargaining, but by an internal commission in which the employees and the employers are equally represented. To set a minimum wage rate in the elderly care sector, in 2009, a National Care Commission (*Pflegekommission*) was established. It is comprised of representatives of trade unions and employer organisations as well as representatives of the employees and employers of the internal church commissions. This is the only negotiation commission chaired by a representative of the Ministry of Labour and Social Affairs which, however, has no right to vote. The application for the introduction of an IMW in this industry requires the approval of 75% of the members of the National Care Commission to make sure that neither the charity organisations of the churches nor the employer organisations or unions of the non-church private and public care sector can overrule the other segment of the industry.

The federal state is responsible for the enforcement of the IMWs. This is the main difference between the IMWs and the traditional extension of whole wage grids in collective agreements where control and enforcement remain the responsibility of the social partners in the respective industry. Non-compliance with the statutory IMWs is an administrative offense or (in severe cases) a criminal act and can be punished by high penalties or the exclusion from public tenders. Main contractors are liable for their subcontractors and have to ensure that the latter pay the agreed minimum wages.

Administrative level of implementation

The measure is implemented at a national level. The social partners are required to negotiate at national level. In some industries, the formerly decentralised bargaining structures were centralised for the purpose to negotiate IMWs and to set standards for the whole industry. For instance, this happened in the industrial cleaning (see Table 1). In other industries with competing collective agreements, only the IMW was negotiated at national level.

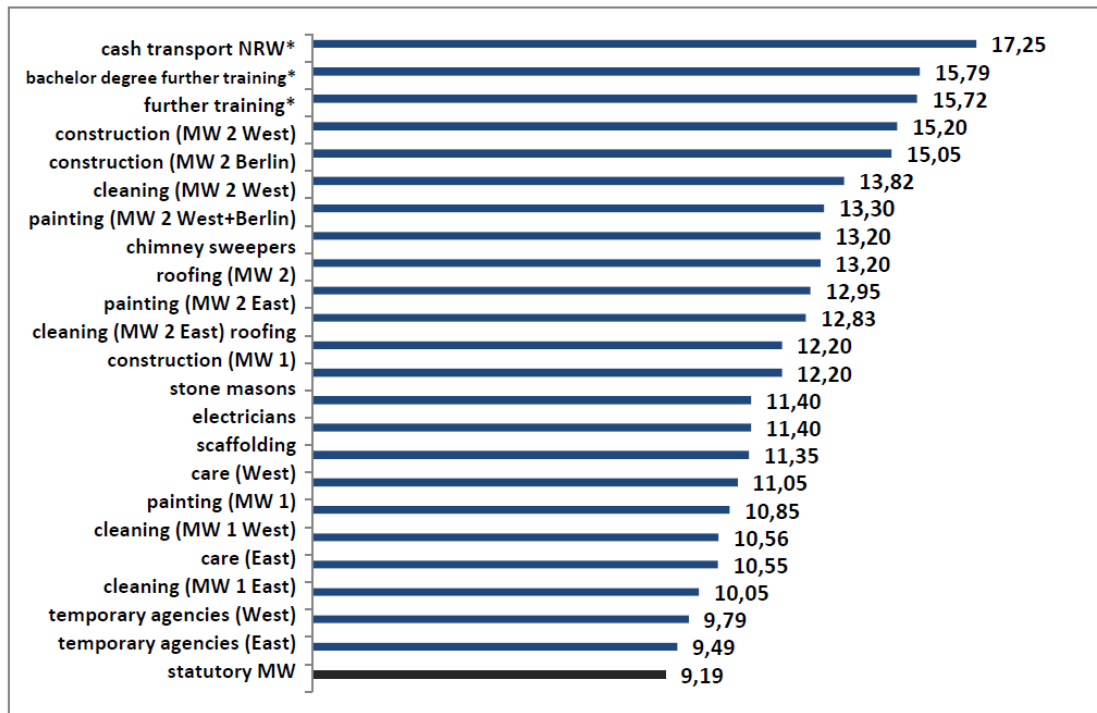
Sectoral focus

The focus is only on the industrial sector. The AEntG of 1996 opened up the possibility to negotiate IMWs only for some industries which were explicitly named in the law, such as the construction industries. The first IMW was introduced in the construction sector in 1997. Between 2009 and 2014, other industries could apply to be included in the law. With the inclusion of these other industries in the AEntG in 2009, the number of industries with an IMW increased to 11 in 2014. Since 2015, all industries can negotiate IMWs without being formally included in the law, which had been a requirement before. With this last opening of the law for all industries, the number of industries with set minimum wages increased to 12 in January 2019.

Figure 1 displays the IMWs in these 12 industries. In the meat industry, the extension is pending; and in waste and industrial laundries, the IMWs were replaced by the NMW. With the exception of the meat industry, characterised by high shares of low-skilled workers, the newly added industries - training providers, cash-transport, chimney sweepers and stonemasons - have high shares of skilled workers. These industries want to be attractive on the labour market for the high-skilled workers. In cash transport, the employees were able to organise an effective strike and used their strong bargaining power to negotiate an exceptionally high IMW.

The highest IMW is now found in cash transport with €7.25 and in further training with €5.72 and €5.79 for workers with a bachelor's degree. This is the first time that an IMW was negotiated for workers with a tertiary certificate, although the skill premium of €0.07 attached to the bachelor's degree remains symbolic.

Figure 1: Industry-specific minimum wages and the national minimum wage in €per hour (March 2019)



Note: MW 1: Minimum wage for unskilled employees, MW 2 = Minimum wage for skilled employees

* extension still pending

Source: Compiled by the author

Funding arrangements

The negotiations are not funded with public money. It is up to the social partners to fund their negotiation structures using their own resources. The IMWs have to be paid by the employers in the respective industries.

Linkages with/embeddedness into other measures (national and EU)

The IMWs are based on the AEntG, which is a transposition of the EU Posted Workers Directive 96/71/EC into German law. Both laws were drafted at the same time - the German Posted Act being decided slightly before the EU Directive. This legislation, introduced to regulate pay for posted workers, was diverted from its original purpose in 2007, when it was first used as a 'reform workshop' for regulating domestic wage competition in certain industries (Däubler, 2012).

There has been a debate on whether the limitation of the use of the AEntG to only a few industries in 1996 was a sufficient transposition of Directive 96/71/EC, especially taking into account that other industries beyond those mentioned in the law had high shares of posted workers (shipyards or the meat industry for example). With the opening of this law to all industries, this criticism does not apply anymore. Some have, however, criticised the fact that the AEntG allows to set minimum standards only and does not allow for the extension of whole wage grids like in France, Belgium and the Netherlands (Bosch et al, 2013).

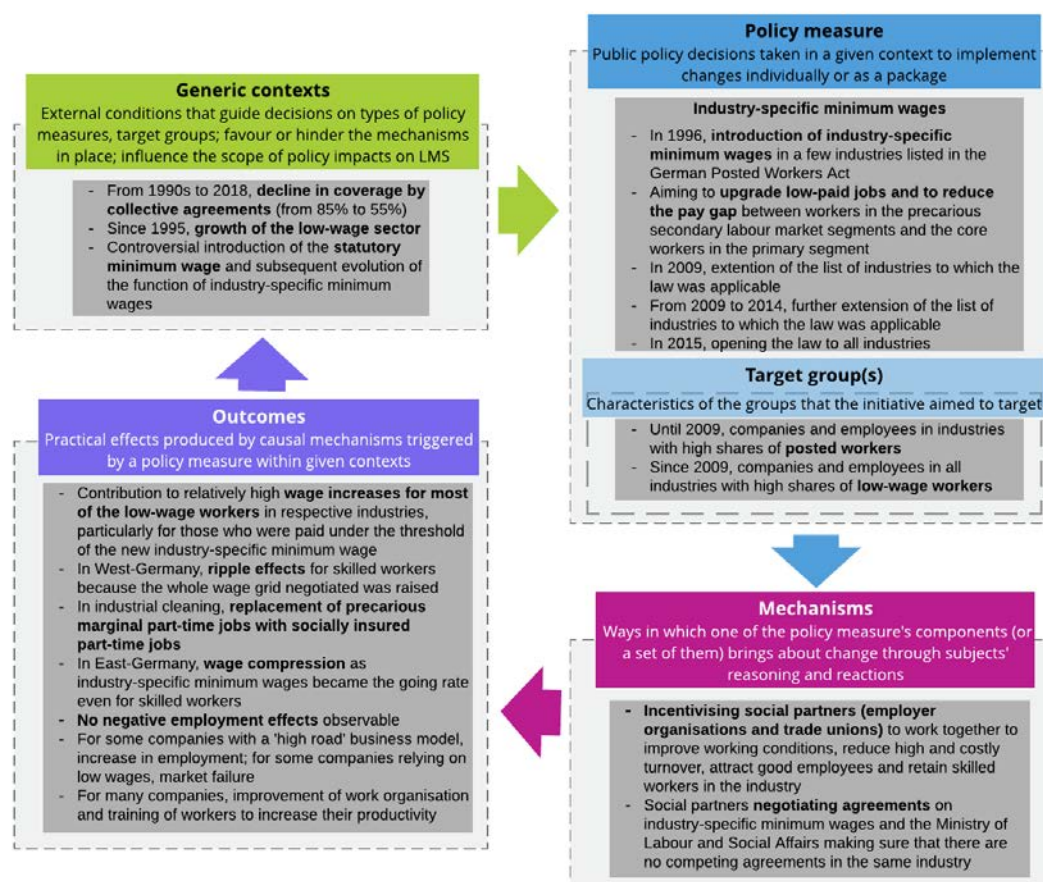
As stressed by an interviewee, the hopes that the parties to collective bargaining would negotiate acceptable IMWs in all low-wage sectors under their own steam were not fulfilled.

IMWs were only agreed in industries with a long tradition of national collective agreements and close cooperation between the social partners. In the sectors with the most low-wage workers, such as retailing, hotels and restaurants and the meat processing industry, the employers and their organisations were so fragmented or in conflict that no minimum wage agreements had ever materialised. At the end of 2013, therefore, the SPD made its entry into another ‘grand coalition’ with the CDU/CSU conditional on the introduction of an NMW wage set at €8.50 per hour. The new Minimum Wage Act of 2015 became part of a more extensive legislative package bearing the programmatic title of ‘Act on the strengthening of free collective bargaining’. In pursuance of the new act, industry-level minimum wages can be agreed in all industries. Additionally, declarations of general enforceability are no longer dependent on the industry in question having a rate of coverage by collective agreement of at least 50%. Rather, collective agreements can be declared generally binding if there is a ‘public interest’ in the ‘maintenance of collectively agreed standards in the event of adverse economic developments’ (Bosch, 2018, p. 29).

In-depth analysis of the initiative in focus

This section presents an in-depth analysis of the context of the initiative, its details in terms of measures and target groups, mechanisms, and outcomes. These separate elements are represented in Figure 2.

Figure 2: Visual presentation of the initiative



Source: Compiled by the author

Overview of the context

Germany has ‘autonomous’ wage-setting systems, in which companies or employer associations and trade unions negotiate pay and many other working conditions, such as the duration and scheduling of working time, usually at industry level and without any direct state initiative. According to the Collective Agreements Act of 1949 (*Tarifvertragsgesetz*), the state directly intervenes in the wage-setting process only on the initiative of the social partners, when they apply for making collective agreements generally binding. The state takes action without ‘having to take responsibility for the substantive content of the arrangements’ (Schulten, 2012, p. 487) since the social partners determine the content of the collective agreements.

Until the mid-1990s, collective agreement coverage was high in Germany. The collectively agreed standards applied also to employees with little bargaining power and had the same inclusive effect as general statutory regulations. Even many businesses that were not covered by collective agreements decided to apply collectively agreed wages. In particular, the agreed terms functioned as pattern agreements, especially those in the metal industry, and became blueprints for the collective agreements in industries with weaker trade unions. This caused wages to rise in lockstep with the wider economy, which in turn safeguarded the macro-solidarity characteristic of inclusive wage-setting systems in individual companies and industries. This was the reason why there was, by international standards, a relatively low share of employees on low wages (OECD, 1996).

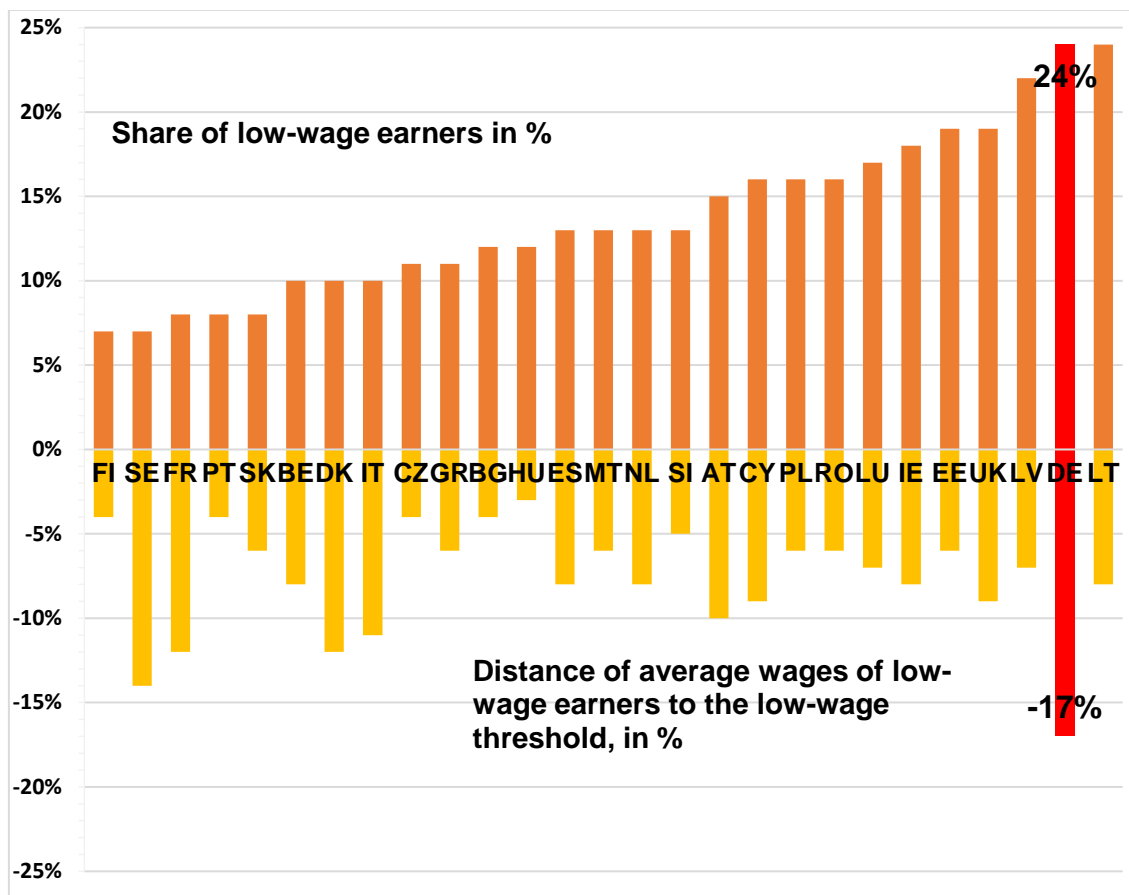
From the mid-1990s onwards, however, employers’ compliance with collective agreements began to erode. It became evident that the trade unions in many industries did not have the power to ensure compliance with collective agreements unaided. In the 1990s, this development received further impetus from changed corporate strategies and the opening up of many previously public services (postal services, railways, urban transport, etc.) to competition, namely to private providers that were not bound by collective agreements and competed against state-owned providers by adopting wage-dumping policies. The increasing pay differentials between industries and companies which were covered by a collective agreement and those which were not constituted a strong incentive to outsource activities or to leave the employer organisation and thereby the coverage by a collective agreement in order to cut labour costs.

Subsequently, collective agreement coverage declined; it fell from its peak of 85% before the reunification to just 60% by 2010, and to 55% by 2018 (WSI-Tarifarchiv, 2018). In many low-wage industries the social partners lost the power to set effective minimum standards.

Since 1997, the considerable decline in collective agreement coverage had been the main driver of the growth of the German low-wage sector to a level that was above the EU average.

Furthermore, because of the absence of a statutory minimum wage, pay at the bottom end of the earnings distribution plunged sharply, so that the average pay gap between the low-wage workers and the low-wage threshold was greater in Germany than in any other European country (see Figure 3). Employees’ bargaining power in those segments of the labour market not covered by collective agreements had been weakened to such an extent that they were unable to benefit even in the economic upturn of 2004 to 2008. Germany was increasingly regarded as a showcase of a dualistic labour market with a protected core workforce, on the one hand, and a peripheral work force with precarious employment conditions, on the other (Palier and Thelen, 2010).

Figure 3: Share of low-wage workers and difference between their average earnings and the low-wage threshold (less than 60% of the median wage) in the EU in 2010



Source: Compiled by the author based on data presented in Fernández-Macías and Vacas-Soriano (2013)

At a political level, there was strong resistance to the introduction of a single statutory minimum wage. It was argued that IMWs and a national minimum wage would have substantial disemployment effects. The low level of wage differentiation in Germany was regarded as the most important cause of the very high level of unemployment that prevailed before the labour market deregulation of 2003. Against this background, the so-called Hartz Acts, which came into force in 2003, increased the downward pressure on wages by, among other things, replacing the former income-related unemployment assistance with a standard minimum payment plus an additional rent subsidy, deregulating temporary agency work and extending the mini jobs (Bosch, 2018).

From 2003 onwards, the reduction of the pay gap between the insiders and the outsiders in the dualistic German labour market by introducing IMWs and a national minimum wage and guaranteeing equal pay for precarious workers became the main focus of trade union campaigns. In view of the growing popularity of a national minimum wage among the general population, including conservative voters, who had grown increasingly fearful of suffering pay cuts themselves as wages in many companies were falling, the need for reducing the strong LMS in Germany was increasingly recognised. The grand coalition (2005-2008) agreed upon the introduction of collectively agreed minimum wages in specific industries. The Posted Workers Act was reformed to protect national collectively agreed rates of pay against international competition used for regulating domestic wage competition. Following four decisions of the

[Court of Justice of the EU](#) (the so-called Laval Quartet), IMWs can be extended to foreign contract workers only if they apply to all nationals employed in the industry in question. Therefore, a basic precondition for the extension of a collective agreement to posted workers is a national collective agreement on an IMW (Bosch and Weinkopf, 2013). Only in industries with a long tradition of national collective agreements and close cooperation between the social partners these conditions could be met without an institutional reform. Consequently, these industries were among the first in which IMWs were agreed. Other industries were dominated by regional collective bargaining or had competing collective agreements. In these cases, the social partners had to centralise their negotiations. In industries with competing agreements, the involved unions and employer organisations had to agree on an industry-wide wage floor (see Table 1).

However, the industrial relations in some industries with high shares of low-wage workers, such as retailing or hotels and restaurants, were so fragmented that no IMW agreements had ever materialised. Therefore, a national statutory minimum wage was introduced in 2015. The statutory minimum, however, did not crowd out the IMWs. To the contrary, in 2018, a higher number of industries agreed on an IMW than in 2011. With rates above the statutory minimum wage, these industries want to be attractive in the labour market.

Overview of the mechanisms

In many industries, unions and employers became aware that, due to the erosion of collective bargaining and weak employment representation at company level, their objectives of improving working conditions, reducing high and costly turnover, attracting good employees, retaining skilled workers in the industry, and creating a level playing field could only be achieved with the help of the state. In the 1970s, in some industries (roofers, construction and painters), the social partners set up the so-called ‘social funds’ ([Sozialkassen Bau](#)) which are jointly administered by the partners themselves. The social funds are financed through a levy system and used to finance training, wages during holidays, and occupational pensions to retain employees in the industry. Through the social funds the companies share the costs of investments into their workforce as employers do not want to lose their substantial investments through an exodus of their workforce to other industries.

Setting generally applicable IMWs was supposed to at least partially take wages out of competition. The precondition of a general applicability was firstly the extension of the agreement to all companies in the respective industries, secondly sanctions for non-compliance, and thirdly the control of the compliance with the IMWs by the state. The Posted Workers Act provides high sanctions for the non-compliance with the IMWs and authorises control through the ‘[Finanzkontrolle Schwarzarbeit](#)’, the unit in the German Customs under the control of the German Ministry of Finance which is responsible for enforcing the law on illegal employment and benefits.

Moving under the umbrella of the law and the control structures of the state is an important motivation for social partners to agree on industry-specific minimum wages, since unions and employer organisation became too weak to enforce the compliance with their collective agreements through a high trade union and employer density in the industry. Because of the increased price competition, the moral persuasion to comply with minimum standards does not work anymore in many German industries.

Since the social partners themselves negotiated the IMWs, controls of the Customs and sanctions against the ‘black sheep’ in the industry are widely accepted. The employer organisations and trade unions jointly support the controls of the Customs. A good example is the ‘Alliances against illicit employment’ in the construction industry, which cooperate with the Customs Units responsible for enforcing the law on illegal employment and benefits. In spite of these controls, there are still substantial compliance problems because the respective industries

are highly fragmented, which makes universal controls difficult for the customs. But the evaluations of the IMWs showed a substantial reduction in the number of employees below the IMWs, which helped to reduce the wage competition.

Overview of results and impacts

Eight IMWs were evaluated in 2011. The evaluated industry-specific minimum wages varied substantially between industries, between former East and West Germany, and between skilled and unskilled workers (see Table 1). All eight research teams were asked to evaluate the impact of the respective IMW on: the working conditions of the employees; employment; and the competitive setting in the industry. The macroeconomic effects were not evaluated since the possible impacts were too small and in addition were distributed over many years. Nevertheless, some reflections upon the macro effects of IMWs on LMS are provided below by the author of this case study.

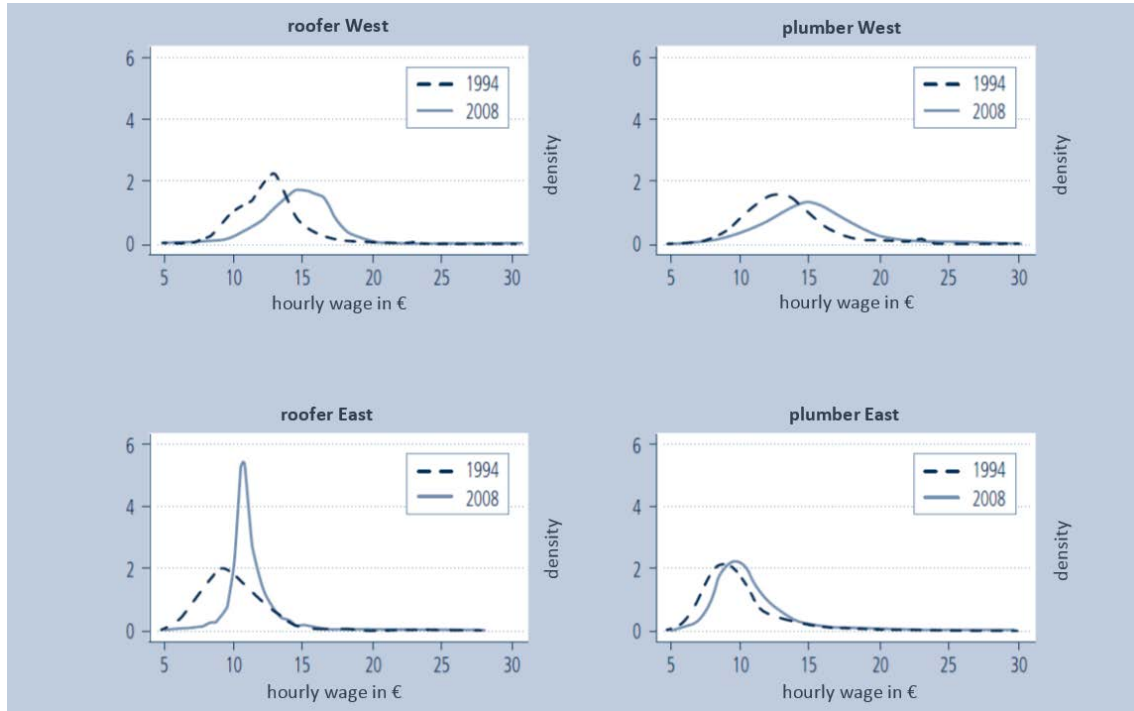
The evaluations showed a clear ‘bite’ of the IMWs. Although there were some compliance problems, especially in very small companies, the wages in the lower deciles of the industry-specific wage distribution increased and they did so at above-average level in all eight industries. This suggests reduced pay gaps between the better-off and worse-off workers of the eight industries. Moreover, in spite of the East-West differentiation of the IMWs, the wage increases at the lower end were higher in East Germany. Thus, the IMWs also contributed to reducing LMS along the geographical lines, in particular the East-West segmentation in Germany.

Literature suggests (for example, Wicks-Lim, 2008) that when the wages of the low-paid workers in a company rise, the employer often raises the pay of the better-paid employees as well in order to maintain motivation and prevent skilled workers from leaving. In countries with high levels of collective agreement coverage (for instance, in France) such ripple effects may even be institutionalised (Koubi and Lhommeau, 2007). This happens when the minimum wage equates to the lowest wage in a collectively agreed wage grid which is pushed upwards (Bosch and Weinkopf, 2013; Grimshaw and Bosch, 2013). As for the German experience, the evaluations revealed that the IMWs had strong ripple effects in West Germany, where many companies are still covered by a collective agreement in which the IMW equates to the lowest wage group. This means that the IMWs did not only boost earnings of the low-paid workers and reduce the risk of in-work poverty but also improved the working conditions of workers with middle or higher wages through the collectively agreed wage grids. Although such ripple effects increased the overall wage levels in West Germany, they did not contribute to reducing LMS as they diminished the positive impacts of IMWs on combating wage inequality within the eight industries. In East Germany, the IMWs led to a wage compression. Two reasons may explain this. Firstly, the coverage by collective agreements is in all industries lower in East than in West Germany. Therefore, a higher share of East-German companies did not have to follow the collective agreements and could pay even skilled workers no more than the IMW. Secondly, unemployment was and is still higher in East than in West Germany, which reduces the bargaining power of individual workers and their ability to push the employers towards joining collective agreements on industry-specific minimum pay.

A good example are the roofers. Figure 4 shows the wage curves of roofers and plumbers, one of the control groups without an IMW, in East and West Germany in 1994 and 2008. In East Germany, the peak is around the IMW of €10.20 in 2008, while in West Germany the peak is at an hourly wage of around €15 due to the implementation of the collectively agreed wage grid. The comparison with the East-German plumbers shows, however, that this peak can be explained mainly by an increase of wages below the IMW and less by a decline of wages above the IMW. The wage compression in East Germany is clearly an unintended effect of the IMWs. Similar developments were found in main construction and for roofers, electricians and painters.

Although unintended, such wage compression effects may have helped to reduce LMS by cutting wage inequality within industries in East Germany and doing so without direct losses for the better-paid workers.

Figure 4: Wage curves of roofers and plumbers in East and West Germany 1994 and 2008

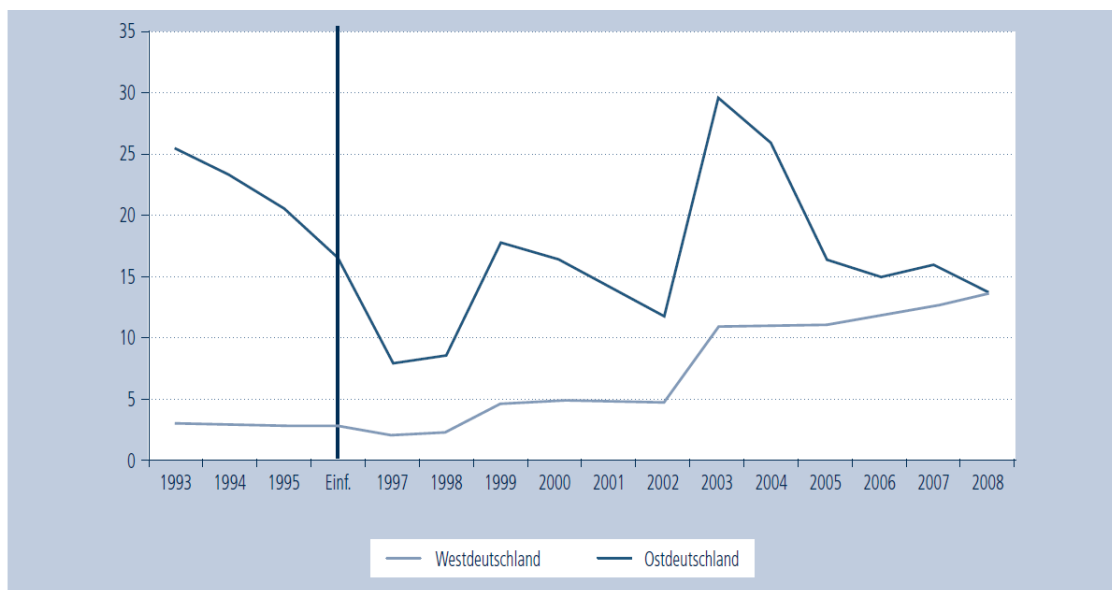


Source: Aretz et al, 2011

In seven of the eight evaluation studies with different control groups and different treatment periods, the difference-in-difference calculations did not find statistically significant disemployment effects of IMWs in the respective industries neither in East nor in West Germany and also not for skilled workers to whom higher IMWs apply. The details on the difference-in-difference calculations can be found in Table 4. In some periods, the ‘bite’ of the IMW, which stands for the share of the workers affected (workers with a wage below the new IMW), was quite high. A good example is main construction, where the ‘bite’ was always high in East Germany and increased in West Germany after 2003 temporarily with the introduction of a higher rate for skilled workers (see Figure 5). In industrial cleaning, the IMW had a negative effect on the number of marginal part-timers. This effect was, however, compensated by an increase in socially insured part-time work. Research has shown that marginal part-timers are treated differently and often do not receive sickness pay or paid vacations and public holidays (Bosch and Weinkopf, 2017). Since non-compliance with IMWs can be punished, many employers do not take this risk and converted marginal part-time jobs into socially insured ones, which is an important contribution to the reduction of LMS as marginal part-time workers are at a high risk of segmentation.

Such unambiguous research results were not expected. Most mainstream economists in Germany had warned against the introduction of minimum wages because of assumed risks of high job losses.

Figure 5: Share of affected workers after the introduction and the increases of the IMWs in the East- and West-German main construction industry 1997-2008



Source: Möller et al, 2011

Nevertheless, the studies (for example, on waste and roofers) showed that neutral net effects on employment in an industry do not mean that all jobs were maintained. Some companies dismissed workers, while more productive companies in the same industry increased employment, which helped to upgrade bottom-end jobs. This is not surprising because it was explicitly intended by all actors that the IMWs should preclude business models based on wage dumping, which damage the reputation of the industry and hamper investments in training and innovation. Many companies have improved their work organisation and have trained workers to increase their productivity. Since the IMWs were introduced in labour-intensive industries, the wage increase could not fully be compensated by the higher productivity. Therefore, some companies had to increase their prices. However, according to the evaluation studies, these price increases were accepted by the customers.

In the company case studies and the company surveys in the eight industries, high shares of employers welcomed the reduction of the wage-driven competition in their industry. The IMWs helped to reduce LMS as the lower wages in the respective industries were substantially increased and many workers could move out of the low-wage sector. In West Germany, the IMWs had strong ripple effects of the wages above the IMW. Especially skilled workers received higher wages. This wage progression up to the middle-income groups were, however, strong only in industries with a high coverage by collective agreements like in main construction, painting and roofing and for electricians in West Germany. In East Germany, because of higher unemployment and a weaker coverage by collective agreements, ripple effects could not be observed. Since the IMWs were continued and regularly increased until today (2019) in all industries (with the exception of laundries and waste, where the national minimum wage replaced the IMW) and new industries now have IMWs, the impact of industry-specific minimum wage rates is slowly increasing and sustainable. The impact is even stronger than in the past since IMWs are higher than the national minimum wage. The negotiated IMWs are (in January 2019) up to €8.06 higher than the statutory minimum wage.

After a continuous economic upswing since 2009, the German labour market has become tight and companies are increasingly suffering under labour shortages and skills bottlenecks.

Employer organisations seem increasingly interested in using IMWs to mitigate these problems. The rather high IMWs in further training might signal the growing interest of companies to take wages of skilled workers out of the competition. The waste industry which replaced the IMWs by the NMW started new negotiations with the unions on a higher IMW in 2019. Nevertheless, IMWs higher than the national statutory minimum wage are possible only in industries where trade unions have high capacities to initiate and sustain negotiations with employer organisations and where employer organisations perceive IMWs higher than the NMW as feasible to apply across the whole industry.

Moreover, some industries boast the potential to extend the collective agreements on IMW to skilled workers. In care, for instance, the IMW covers only the unskilled care helpers, although a high share of workers in this industry is skilled carers and nurses. Such limited scope of the collective agreement on IMW does not support the recruitment and the retainment of skilled employees in the sector. Because of the highly fragmented bargaining structures and diverging interests of the different providers (public, private, charity organisations) the employers organisations were not able to agree on a higher IMW for skilled employees in spite of substantial skills bottlenecks. Since Germany faces shortages of elderly care workers and understaffing at homes for the elderly people, the great coalition of CDU/CSU and SPD agreed in their coalition agreement of 2018 to try to convince the social partners to negotiate an industry-wide collective agreement in the care sector which then would be extended by the state.

Conclusions and policy pointers

The considerable decline in collective agreement coverage was the main reason for the growth of the German low-wage sector above the EU average. To upgrade wages at the lower end, the German government agreed to empower the social partners to negotiate minimum wages in specific industries which were then declared as generally binding. The instrument used for this purpose was the German Posted Workers Act of 1996 (AEntG). This law was originally designed to protect national collective agreements in industries with high shares of posted workers, primarily in the construction industry. With the opening of the law for all industries in 2015, the number of IMWs increased to reach 12 in 2019. The number may grow further since some extensions of IMWs are pending and in other industries the social partners are negotiating. In 2010, the BMAS had eight IMWs evaluated by research teams from different institutes with the aim to bring the controversial debate on possible disemployment effects of the IMWs to a more objective level. All of these eight evaluation studies came to the conclusion that the IMWs improved the wages of the low-paid workers in the respective industries through increases of above-average levels and had no negative employment effects at the same time. The wage increases were higher in East than in West Germany, which means that the IMWs helped to reduce the segmentation along the geographical lines. Many companies improved their work organisation and trained workers to increase their productivity.

No impact on overall employment does not mean that all jobs survived. Companies which did not improve their productivity and with a business model based mainly on low wages had to reduce staff or even to leave the market, while companies with a 'high road' business model - that see their employees, communities and products or services as equally important as their financial success - increased employment. Such unambiguous research results were not expected. Research results on substantial positive impacts of IMWs surpassed the expectations, especially against the background of the voluntary nature of collective agreements on industry-specific minimum wage rates. Accordingly, the instrument is no longer controversial in Germany.

The evaluations revealed that the IMWs had strong ripple effects on higher wages in West Germany. In addition, it was found that in one industry (industrial cleaning) precarious marginal

part-time jobs had been replaced by socially insured part-time jobs. The higher investments in training, which were found in many companies as a reaction to higher wages, may have improved the employability of workers. Besides, upgrading low-wage jobs, the IMWs also had further positive effects to improve the working conditions in the secondary labour market segments. While the IMWs differed between East and West Germany in the past, the social partners are now reducing this East-West pay gap for the same type of jobs.

Because of the increasingly tight labour market in Germany and skills shortages in many industries with low wages, IMWs may become an option for other industries in the future and the impact of IMWs on the German labour market could grow.

Overall, it can be concluded that the German IMWs helped to reduce LMS by upgrading low wages, reducing the pay gap between East and West Germany, through higher investments in training and a reduction of precarious marginal part-time. The German experiences with IMWs also show that certain preconditions have to be met if such an instrument is to operate successfully. The social partners have to be strong enough to act collectively. They do not only have to agree on a minimum wage, but they also have to centralise collective bargaining at national level because IMWs can only be extended via the Posted Workers Act and by European law if they apply to all nationals employed in the industry in question. When industrial relations in an industry are fragmented and the share of companies with business models based on low wages is high, it is especially difficult for the employer organisations to agree on IMWs as they may not get the mandate to negotiate for their members.

The instrument could be transferred to other countries. The IMWs are – so to say – a weaker instrument than the extension of whole wage grids, which is found in some other EU countries (such as Belgium, France, the Netherlands, Portugal and Spain). Contrary to the extension of whole wage grids, only some key wages (for example, for unskilled and skilled workers) are extended in Germany. IMWs may be relevant to industries which suffer from labour shortages and skills bottlenecks and want to become more attractive in the labour market through wages above the statutory minimum wage. Given the decreased coverage by collective agreements and accordingly weakened bargaining power of trade unions in some industries, the state's involvement in enforcing IMWs has been a strong motivation for social partners to negotiate IMWs as it is expected to help to ensure compliance with the agreed standards of pay which the unions and the employer organisations are not able to guarantee on themselves anymore. A key condition for a transfer of this instrument to other countries is the willingness of the state to control the IMWs and to sanction non-compliance.

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List of abbreviations

| | |
|-------|--|
| AentG | <u>Arbeitnehmer-Entsendegesetz</u> , |
| BMAS | Bundesministerium für Arbeit und Soziales |
| CDU | <u>Christlich demokratische Union Deutschlands</u> |
| CSU | <u>Christlich soziale Union Deutschlands</u> |
| DGB | <u>Deutscher Gewerkschaftsbund</u> , DGB |
| FDP | Freie Demokratische Partei Deutschlands |
| IMW | Industry-specific Minimum Wage |
| SPD | Sozialdemokratische Partei Deutschlands |

Table 3: CMO configurations for the ‘Industry Specific Minimum Wages’

| | |
|-------------------------------------|---|
| Initiative | <p>1996-2018</p> <p>According to the German Posted Workers Act (<i>Arbeitnehmer-Entsendegesetz</i>, AEntG), industry-specific minimum wages negotiated by the social partners can be declared as generally binding for posted and domestic workers in the respective industry. Because of European law the IMW has to be agreed at national level.</p> <p>In 1996, the introduction of IMWs was possible only for a few industries which were explicitly listed in the law. In 2009, this list was extended and all industries which requested their inclusion were listed in the law. Between 2009 and 2014, additional industries were included before, finally, the law was opened to all industries in 2015.</p> |
| Target group characteristics | <ul style="list-style-type: none"> • Until 2009, companies and employees in industries with high shares of posted workers. • Since 2009, companies and employees in all industries with high shares of low-wage workers. |
| Contextual features | <ul style="list-style-type: none"> • Decline of coverage by collective agreement subsequently; by 2010, it had fallen from its peak of 85% before reunification to just 60% and by 2018 to 55%. In many low-wage industries the social partners lost the power to set effective minimum standards. • The considerable decline in coverage by collective agreement has allowed the low-wage sector to grow since 1995 to a level that is above average by European standards. Furthermore, because of the absence of a statutory minimum wage, pay at the bottom end of the earnings distribution has plunged sharply downwards, so that the average gap between the pay of low-wage workers and the low-wage threshold was greater in Germany than in any other European country. • The introduction of a statutory minimum wage was controversial. The grand coalition agreed with the opening of the Posted Workers Act on a path-dependent ‘voluntary approach’. Since the social partners themselves agreed on the IMWs the acceptance of the IMW as well of the monitoring of the compliance with the IMW’s by the state is high. • With the introduction of the statutory minimum wage in 2015, the function of the IMWs changed. Before 2015 the social partners wanted to set an effective lower floor for the wage competition in the industry; since 2015, they wanted to attract and retain workers by offering higher wages above the level of the national minimum wage. <p>The IMWs and the national minimum wage were intended to upgrade low paid job and reduce the pay gap between workers in the precarious secondary labour market segment and the core workers in the primary segment.</p> |
| Mechanisms | <p>The social partners in an industry have to negotiate an agreement on IMWs and apply for the extension of this agreement by the Ministry of Labour and Social Affairs. The Ministry checks if there are competing</p> |

| | |
|------------------------|--|
| | <p>agreements in the respective industry. In this case only the most representative agreement can be extended.</p> |
| <p>Outcomes</p> | <ul style="list-style-type: none"> • The IMWs contributed to relatively high wage increases for most of the low-wage employees in the respective industries who before were paid under the threshold of the new IMWs. Segmentation was reduced through the upgrading of low pay work. • In West-Germany there were found ripple effects for skilled workers because the whole negotiated wage grid was raised. The upgrading of jobs was extended to the middle-income groups. • In industrial cleaning precarious marginal part-time jobs were replaced by socially insured part-time • In East Germany the IMW has become the going rate even for skilled workers. This means that the IMW led to a wage compression which is an unintended effect. The main reason is the low rate of coverage by collective agreements with a differentiated wage grid in East Germany. • There were there were no negative employment effects measured in all eight industries. These measurements were validated by robust tests with different control groups and therefore are very reliable. • Companies with a high road business model based on efficiency and quality even increased employment while companies with a business model mainly based on low wages sometimes had to leave the market. <p>Many companies have improved their work organisation and have trained workers to increase their productivity. Price increases were accepted by the customers. In the long term the higher investments in training may improve the employability and the bargaining power of the workers.</p> |

Table 4: Evaluation studies on the 'Industry-specific Minimum Wages' (IMW)

| Evaluation study | Period | Data source | Methods | Outcomes | Author's assessment of the quality of the evidence |
|--------------------------------|-------------------------|--|---|---|--|
| <i>Aretz et al (2011)</i> | 1997-2011 | Administrative data from the Employment Office and the Social Fund for roofers Own survey data | <ul style="list-style-type: none"> • Expert interviews • Company survey • Descriptive data analysis • Difference-in-difference calculations | <ul style="list-style-type: none"> • 3% of the roofers in West- and 12% in East Germany profited from the IMW • Above average wage increases in the two lowest deciles • Compression of wages in East Germany • Reduction of wage cost-driven competition • Low impact on costs because of productivity increases • Customer accepted slight price increases • No decrease of profits • Decline of employment in some of the mostly affected companies, growth of employment in other companies • But overall (at industry level) no negative disemployment effect | Early introduction of IMW and detailed long-term data on wages available through the Social Fund of the roofers. Excellent overview on the industry and its industrial relations. The evaluation uses robust difference-in-difference calculations with different control groups from other industries and within industries and robustness test for various periods. Interesting is the focus on ripple effects of the IMW. |
| <i>Boockmann et al (2011a)</i> | 1997-2003 and 2007-2011 | Different data sets of administrative data and from the Employment Office Own survey data Linked data set (links between | <ul style="list-style-type: none"> • Expert interviews • Company case studies • Company survey • Descriptive data analysis • Difference-in-difference calculations | <ul style="list-style-type: none"> • Higher 'bite' in East than in West Germany (in 1997, 3% in West and 11% in East Germany) • Above wage increases in the lower deciles • Declining real wages after termination of the IMW between 2003 and 2007, stronger in East than in West Germany • Price increases which were accepted by customers | Early introduction of IMW and detailed long-term data on wages available. Robust difference-in-difference calculations with five control groups from within and outside the electrician industry. Exploitation of the quasi experimental situations (after introduction 1997, after termination 2003, after re-introduction 2007 of the IMW) |

| | | | | | |
|--------------------------------|-------------|---|---|---|---|
| | | survey data and data from the employment office) | | <ul style="list-style-type: none"> • Reduction of wage cost-driven competition • No disemployment effects | |
| Boockmann et al (2011b) | 2003 – 2011 | Different data sets of administrative data and from the Employment Office Own survey data Linked data set (links between survey data and data from the employment office) | <ul style="list-style-type: none"> • Expert interviews • Company survey • Descriptive data analysis • Difference-in-difference calculations for different periods | <ul style="list-style-type: none"> • Higher ‘bite’ in East than in West Germany • Compared to a control group (industry without IMW) a 4% to 6% higher wage increase • Compression of wages in East Germany • Neither 2003 nor 2009 disemployment effects • Price increases accepted by customers • Fairer competition because of equal pay for posted workers and limitation of low wage-cost business models • Higher motivation of employees | Early introduction of IMW. Robust difference- in-difference calculations in two periods with five control groups from within and outside the painters’ industry. Exploitation of the quasi experimental situations after introduction 2003 and after the 27% increase of the IMW in 2009 |
| Boockmann et al (2011c) | 2010 - 2011 | Administrative data not yet available two online-company surveys | <ul style="list-style-type: none"> • Case studies • Expert interviews • Two online company surveys (2010 and 2011) • Difference-in-difference calculations | <ul style="list-style-type: none"> • In residential care 17.6% of East- and 10.5% of the West-German care workers profited from the IMW, in ambulant care it was 28.5% of the East and 8.9% of the West-German care workers • No disemployment effects were found. The authors write that disemployment effects are improbable because of the fast-rising demand • High-road companies (that see their employees, communities and products or services as equally important to their | Limitation for a causal analysis since IMW was introduced shortly before the evaluation. Authors specify that results are preliminary. Difference- in-difference calculations. only with internal control group (companies not covered by a collective agreement). Excellent overview on the different segments of the industry and the varying industrial relations. |

| | | | | | |
|---------------------------|-------------------------|--|--|---|---|
| | | | | <p>financial success) with better working conditions became more competitive</p> <ul style="list-style-type: none"> • Fairer competition because of limitation of low wage-cost business models | |
| Bosch et al (2011) | 2009-2011 | <p>No administrative data available</p> <p>Two company surveys (one to differentiate between dry cleaning and laundries) and the second in the IMW</p> | <ul style="list-style-type: none"> • Expert interviews • Company case studies • Two company surveys (one to differentiate between dry cleaning and laundries) and the second in the IMW | <ul style="list-style-type: none"> • 40% of the companies with 85% of the employees covered by the surveys • Wage increases in 28% of the West- and 67% of the East-German companies • Average wage increase by €0.56 • 74% of the companies with 87% of employees had stable or growing employment • Most companies agreed that the IMW contributed to a fairer competition and made the industry more attractive in the labour market | <p>Because of a lack of data, difference-in-difference calculations not possible. The study uses descriptive methodologies. It is especially valuable since it is the pioneering study on this industry which cannot be delineated in administrative statistics. Company case studies help understanding the functioning of this industry. Excellent overview on the complex industrial relations and the difficult comprises between competing actors.</p> |
| Bosch et al (2011) | 2007-2009 and 2010-2012 | <p>Different data sets of administrative data and from the Employment Office (SIAB data set) Own survey data</p> | <ul style="list-style-type: none"> • Case studies • Expert interviews • Company survey • Descriptive statistical analysis • Difference-in-difference calculations | <ul style="list-style-type: none"> • IMW as the going rate in the industry for the unskilled cleaners • Decrease of wages when IMW was suspended for one year in 2009 • No disemployment effects in 2004, 2007 and 2009 • But decrease of marginal part-timers which was compensated by an increase in socially insured part-time work (marginal part-time (mini-jobs) are tax-free until a monthly income of €450 - the IMW meant a reduction of maximum | <p>The study uses robust methods to evaluate the employment effects by exploiting the different impact of the IMWs on regional wages after the centralisation of collective bargaining and the temporal discontinuity of the IMW. Robust difference-in-difference calculations with three control groups from within and outside the industry. The study is especially valuable thanks to its focus on the recomposition of the</p> |

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| | | | | <p>working hours and made marginal part-time less attractive for companies)</p> <ul style="list-style-type: none"> • Most companies agreed that the IMW contributed to a fairer competition and made the industry more attractive in the labour market | workforce with the reduction of marginal part-time |
| Egeln et al (2011) | 2010 - 2011 | <p>No administrative data available</p> <p>One company survey</p> | <ul style="list-style-type: none"> • Expert interviews • Company case studies • Company survey • Descriptive statistical analysis • Difference-in-difference calculation | <ul style="list-style-type: none"> • 6% of employees profited from the IMW in 15% of the West-German and 42% of the East-German companies • Stronger employment growth in companies which had to raise the wages than in companies which did not have to raise the wages (8.1% growth compared to 6.1%) • No significant disemployment effects • Higher costs shifted to consumers through increases of charges. Inelasticity of demand so that consumers had to accept the higher charges. | Limited analysis on the recent introduction of the IMW. Difference- in difference calculations with one control group from within (control group companies which paid above the level of the IMW) and one from outside the waste industry. Good overview of the different segments of the industry with different industrial relations. |
| Möller et al (2011) | 1997 - 2011 | <p>Linked-employee-employer data set</p> <p>Micro-census Survey of employees</p> <p>IAB company panel</p> <p>Employee data from the social funds for the</p> | <ul style="list-style-type: none"> • Expert interviews • Employee survey • Descriptive statistical analysis • Difference-in-difference calculations • Panel regressions | <ul style="list-style-type: none"> • High impact of IMW on wages between 1997 and 2008. Before 1997, 24% of the employees in East and 4% in West Germany were paid below the IMW • High impact on wages in West Germany 2003 when the second IMW for skilled workers was introduced • Wage compression in East Germany • No disemployment effects and no increase of the probability to be dismissed | This study relied on the by best data base by linking different data sets. The results are very robust and tested with six external and in addition internal control groups. The data set allowed to analyse not only the impact of the IMW for unskilled but also of the second minimum wage for skilled in West Germany. |

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| | | construction industry | | <ul style="list-style-type: none">• No disemployment effects of higher IMW for skilled workers• No compensation of higher wages through deterioration of other working conditions (like higher shares of temporary employment, decrease of further training etc.)• No change in competition (IMW was introduced in 1996) | |
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The European Foundation for the Improvement of Living and Working Conditions (Eurofound) is a tripartite European Union Agency established in 1975. Its role is to provide knowledge in the area of social, employment and work-related policies according to Regulation (EU) 2019/127.