

**BoF Online**

**11 • 2014**

**The Introduction of a  
Minimum Wage in Germany:  
Background and Potential  
Employment Effects**

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*The opinions expressed in this paper are those of the authors and do not necessarily reflect the views of the Bank of Finland.*



Bank of Finland

Monetary Policy and Research

18.9.2014

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			1796-9123 (online)

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# 1 Introduction

*Firstly, Member States must pursue efforts to improve the functioning of their labour markets [...]. In the same vein, some Member States should further review wage indexation and wage-setting systems to allow alignment with productivity developments so as not to hamper emerging economic activity. On the other hand, where productivity increases, wages should increase. This is the case of Germany for example. The economy will not pick up unless people are able to buy goods and services from one another. In this context it is also important to pay attention to in-work poverty and low-wage traps. Minimum wages can be a useful instrument in this context [...].”*

(László Andor, EU commissioner responsible for Employment, Social Affairs and Inclusion, "Getting people into jobs", Press conference Brussels, 30 May 2012)

As highlighted by this quote of EU commissioner László Andor, wage developments in Germany are not only of national interest but also of major international concern. In January 2015, Germany will introduce a legal, nationwide minimum wage, following a longstanding tradition of decentralised wage setting. This report sheds light on this upcoming minimum wage introduction and analyses potential employment effects in light of economic theory and empirical evidence.

Section 2 presents the initial situation of the German labour market before the minimum wage introduction and describes the new minimum wage legislation. It also addresses a key issue, the magnitude of the new minimum wage.

Section 3 discusses employment effects in light of economic theory. As evidence can be found of employer market power in the German labour market, the monopsony model seems to provide a more suitable framework than perfect competition for assessing employment effects. However, economic theory does not give a clear result for the sign of the employment effect: the sign depends crucially on the magnitude of the minimum wage.

Section 4 provides an overview of the empirical evidence on the employment effects of a minimum wage. This section evaluates international evidence, branch-specific minimum wages and simulation studies of hypothetical minimum wages in Germany and the UK experience with the minimum wage. Section 5 presents conclusions.

## 2 A legal, nationwide minimum wage for Germany

This section provides an overview of the upcoming introduction of a legal, nationwide minimum wage in Germany as from January 2015. Section 2.1 outlines the initial situation of the German labour market before the introduction of a minimum wage, which is characterised by good labour market performance but also problematic social developments. Later, the new minimum wage legislation is presented (section 2.2). Section 2.3 evaluates the magnitude of the new minimum wage and identifies the particularly affected groups. Section 2.4 presents the conclusions for the section.

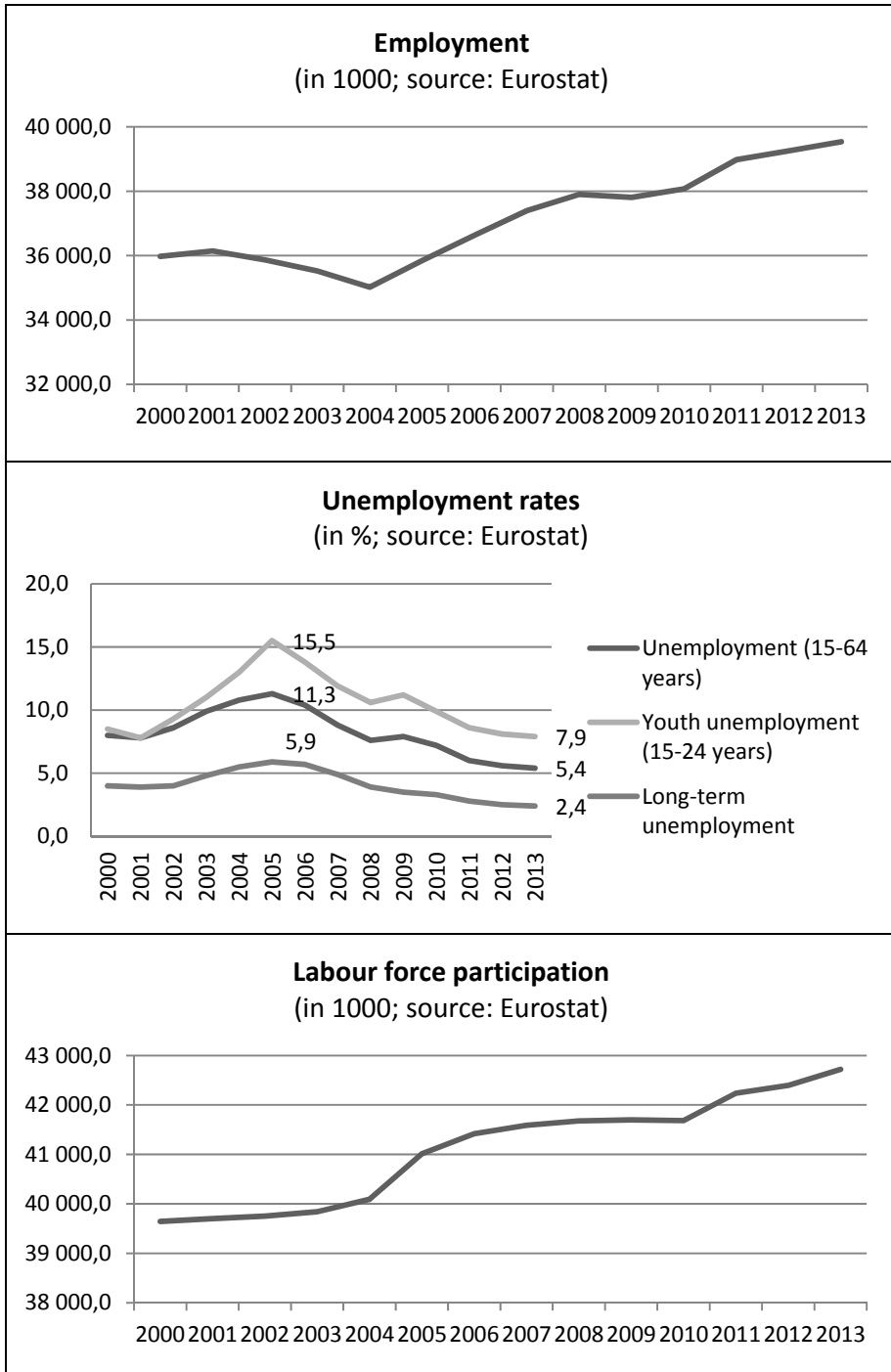
### 2.1 A two-sided coin: The German labour market before the minimum wage introduction

This section deals with the initial situation of the German labour market before the introduction of a minimum wage.

#### 2.1.1 The “German job miracle”: High performance in terms of key indicators

Recently, the German labour market has gained attention due to its good performance in terms of labour market indicators and its resilience in the Great Recession. Known for its persistent structural problems and high unemployment in the past, Germany was referred to by the Economist as the “the sick man of the Euro” (The Economist, 1999). From 2005 onwards, the performance of the German economy and in particular of its labour market improved dramatically (Chart 1). Both labour force participation and employment increased while the unemployment rate fell from 11.3% in 2005 to just 5.4% in 2013. Even long-term and youth unemployment declined markedly. The transformation of the formerly inflexible German labour market towards a new model became most sharply apparent during the financial crisis: The labour market proved resilient amid a global economic downturn and a GDP drop in Germany, attracting the attention of policy makers worldwide and inducing Nobel Prize winner Paul Krugman to coin the term “German job miracle” (Krugman, 2009).

Chart 1. Key performance indicators of the German labour market



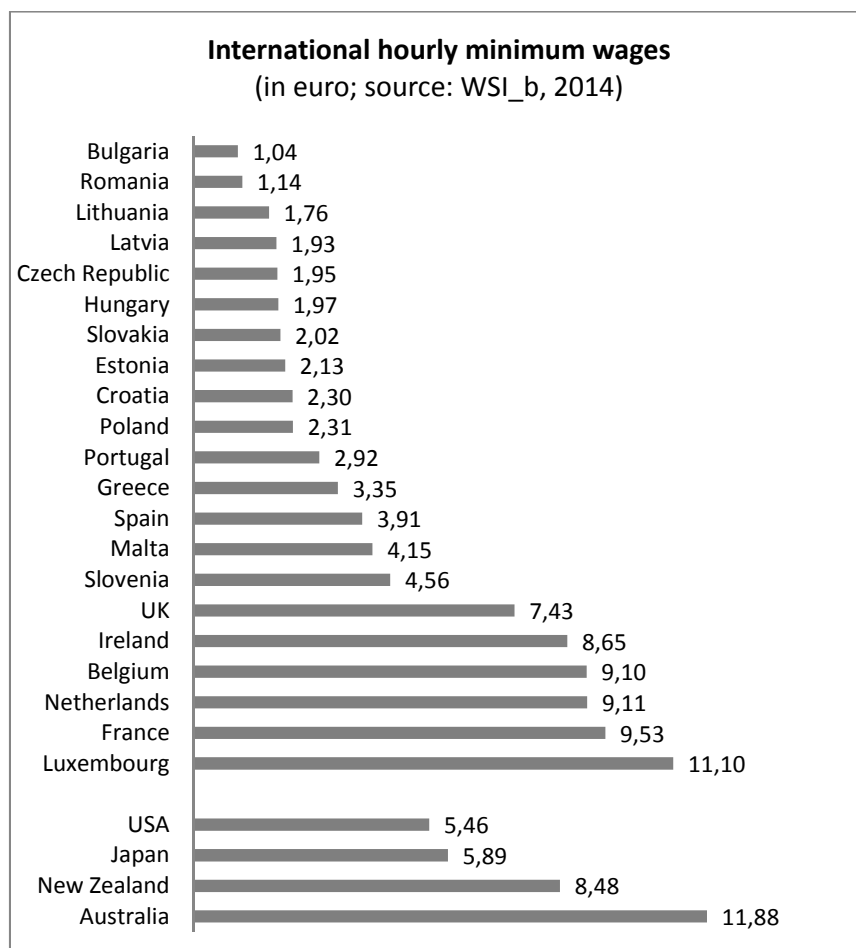
## 2.1.2 The other side of the “German job miracle”: Problematic developments and the new social debate

Parallel to these substantial improvements in terms of performance measures, social problems evolved, which put the spotlight on minimum wage in the political debate, following a longstanding tradition of decentralised wage setting in Germany.

### Erosion of the previous system of collective bargaining

Germany is currently among the few countries in the European Union that does not have a legal, nationwide minimum wage, as illustrated in Chart 2. Instead, wages were negotiated directly between the social partners according to the principle of free collective bargaining.

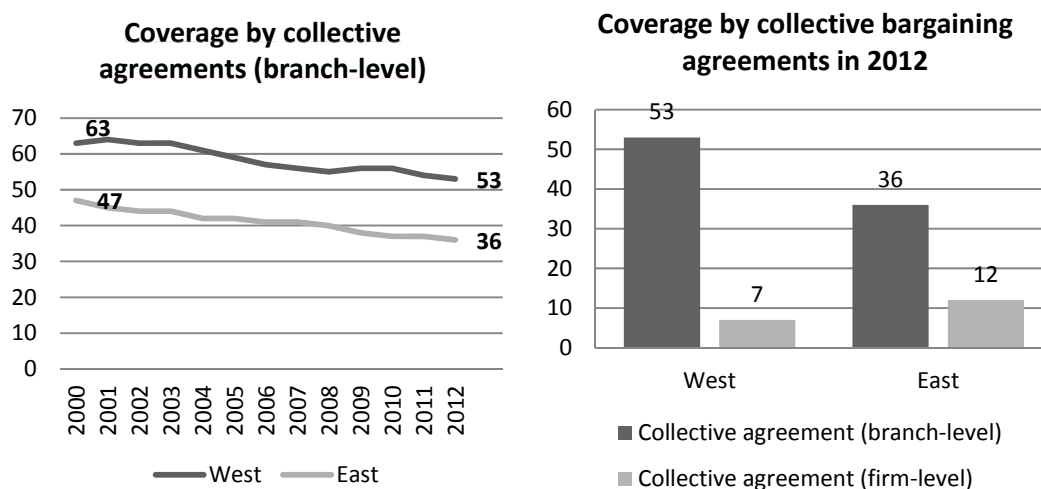
Chart 2. Minimum wages across countries



The legal framework for the minimum wage in Germany has so far been the “Posting of Workers Law”, which initially aimed at the protection of domestic workers from increasing low-wage competition from abroad. The law permits the extension of collectively bargained wages to all firms in an industry – regardless of whether they are members of the respective employer associations – provided that at least 50% of all employees in the industry are covered by the initial collective agreement (Frings, 2013).

This system of collectively bargained wages long provided de-facto minimum wages for many employees, which were accepted by the social partners. However, as outlined in the following, the system of collective bargaining has substantially eroded over time leaving nowadays a large share of employees uncovered. Before reunification, bargaining coverage in West Germany amounted to about 80% of all firms, and those firms not covered tended to set their wages much in line with the bargained wages (Bosch et al., 2009). High unemployment after the reunification motivated more and more firms to remain outside of or abstain from signing new collective bargaining agreements, which induced a phase of declining bargaining coverage (Bosch et al., 2009). From 2000 to 2012, the coverage by branch-level collective agreements decreased from 63% in the West and 47% in the East to 53% and 36% respectively. Taking into account collective agreements at firm level, 60% (West) or 48% (East) of employees were covered in 2012 (see Chart 3).

Chart 3. Development of coverage by collective agreements<sup>1</sup>



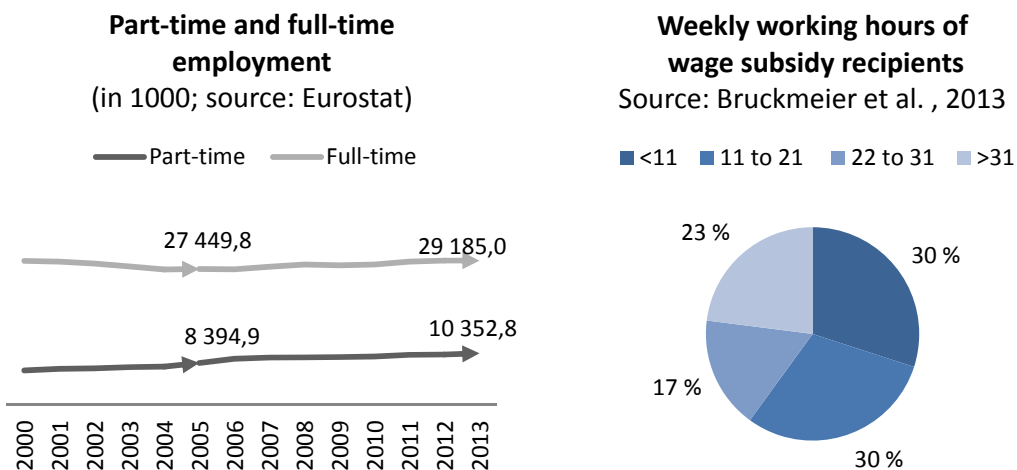
<sup>1</sup> Source: IAB (2012)



### Rising in-work poverty

In-work poverty in Germany is a problem that is closely linked to a large share of the recent employment gains that have been realized in part-time employment, such as mini-jobs (see Chart 4). The proportion of low-wage earners in the country (source: Eurostat) is high (22.24% in 2010), especially in comparison to France (6.08%) and Finland (5.85%). Moreover, the in-work at-risk-of-poverty rate is relatively high (source: Eurostat), amounting to 7.0% in 2013, compared to 2.0% in Finland. The most striking evidence of in-work poverty is the number of employees receiving public wage subsidies in order to rise sufficiently above the subsistence level of disposable income. In April 2012, 1.3 Mio. employees received these wage subsidies (Bruckmeier et al., 2013), and even though the majority of them worked only a few hours per week, a considerable share worked nearly or actually full time (see Chart 4), suggesting that in-work poverty is in many cases also tightly linked to very low hourly wages.

Chart 4. Development of part-time employment /weekly working hours of wage subsidy recipients



### The new social debate

These recent developments provoked an intense political debate about fairness in the German labour market, given the income levels of those at the lower end of the income distribution in a setting of favourable overall economic conditions, and this led to a push for a legal, nationwide minimum wage. Public opinion is divided into opponents who emphasise that past achievements in terms of labour market performance and competitiveness gained by painful reform efforts should not be jeopardised (see for example Sinn, 2013), and

advocates proclaiming the necessity of alleviating in-work poverty, in order to enable also those at the lower-end of the income scale to benefit from the country's recent successes (see Election Programme SPD, 2013). Before the parliamentary elections in 2013, a political consensus on the necessity of some type of wage floor was discernible, whereas the details remained highly controversial: CDU/CSU and the liberal FDP advocated decentralized, industry-specific wage floors and the SPD, Greens and Left party proposed (differing) legal, nationwide minimum wage rates (SPD and Greens 8.50€, Left Party 10€). Finally, the Grand Coalition of CDU/CSU and SPD negotiated a legal, nationwide minimum wage of 8.50€ with both exceptions and interim arrangements, as described in section 2.2.

## 2.2 The new minimum wage legislation

This section provides information about the new minimum wage legislation in Germany, which was passed on 11 July 2014 and will take effect as from January 2015. The new minimum wage legislation in Germany foresees a legal, nationwide minimum wage of 8.50€, which in general applies uniformly to all branches and regions in Germany but is also subject to both exceptions and interim arrangements. The minimum wage will apply not only to regular but also to marginal employment types such as mini-jobs and will be accompanied by increased control (Bundesregierung\_b, 2014). The level of the hourly minimum wage (8.50€) was chosen such that it provides a monthly income above the generalised minimum subsistence level<sup>2</sup> (Bundesregierung\_a, 2014).

A minimum wage commission, which will be responsible for adjustments to the minimum wage from 2018 onwards, consists of one chairman and six members with voting rights – three selected by employer and three by employee representatives – as well as two strictly advisory members from the scientific community. Minimum wage adjustments will occur every other year and should be in line with developments in negotiated wages. The minimum wage commission will determine what minimum wage level will provide minimum protection for employees and guarantee fair conditions of competition without endangering employment (Bundesministerium für Arbeit und Soziales, 2014).

Despite the minimum wage being referred to as “nationwide”, there are several exceptions and interim arrangements. To begin with, persons in vocational education are not covered by the minimum wage legislation. Moreover, the new minimum wage will not apply to persons under 18 who have not completed vocational education; the exception is aimed at avoiding

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<sup>2</sup> These calculations were made for a single, full-time employee working average working hours.

disincentives for participating in vocational education due to higher-paid non-skilled job. The minimum wage applies to interns who have completed their vocational education or studies, but most other types of internships are exempt from the regulation. In order to support re-integration into the labour market, the minimum wage does not apply to the long-term unemployed in the first six months of employment (Bundesministerium für Arbeit und Soziales, 2014; Bundesregierung\_b, 2014). Moreover, interim arrangements will be in place during the initial phase of the minimum wage introduction which are designed to alleviate the initial impact and to enable a gradual introduction. These arrangements include special regulations for seasonal work in agriculture and newspaper delivery. The most important interim arrangement is the temporary priority of branch-level wage floors as opposed to the nationwide minimum wage. This means that until the end of 2016, wages lower than 8.50€ will be allowed for certain branches if they have been negotiated in the form of collective bargaining agreements and declared generally binding (Bundesministerium für Arbeit und Soziales, 2014; Bundesregierung\_b, 2014).

## 2.3 Level of the minimum wage

For evaluating the new minimum wage in Germany, it is important to consider its level and to identify the most intensely affected groups. Table 1 gives an overview of minimum wages already in place in the respective branches in May 2014 and shows that most of these wage floors already exceed 8.50€.

Table 1: Branch-specific minimum wages<sup>3</sup>

<i>Waste management</i>	8.68€
<i>Main construction trade</i>	10.50€–13.95€
<i>Mining</i>	11.92€–13.24€
<i>Vocational education and training</i>	11.65€–13.00€
<i>Roof tilers</i>	11.55€
<i>Electrical trade</i>	9.10€–10.00€
<i>Cleaners</i>	7.96€–12.33€
<i>Scaffold builders</i>	10.25€
<i>Painters and varnishers</i>	9.90€–12.50€
<i>Care &amp; nursing</i>	8.00€–9.00€

<sup>3</sup> Source: WSI (2014).

<i>Stone cutters</i>	10.66€–11.25€
<i>Security services</i>	7.50€–8.90€
<i>Laundry services</i>	7.50€–8.25€
<i>Temporary agency work</i>	7.86€–8.50€

Table 2 shows that 14.1% of employees in Germany earn at most the minimum wage of 8.50€, the figure is substantially higher for the East (25.1%) than the West (11.8%), suggesting that East Germany is going to be over-proportionally affected by the minimum wage introduction. Women are more intensely affected (18.3%) than men (10.1%) and the differences are particularly pronounced among the different employment forms: only 9.4% of full-time employees are directly affected by the minimum wage, whereas the portions are 18.6% for part-time employees and 59.3% for mini-jobs. In East Germany, 85.7% of employees in a mini-job earn less than 8.50€ per working hour.

Table 2: Employees earning at most the minimum wage <sup>4</sup>

	<b>East</b>	<b>West</b>	<b>Total</b>
<i>Female</i>	27.9	16.3	18.3
<i>Male</i>	22.5	7.5	10.1
<i>Total</i>	25.1	11.8	14.1
<i>Effective</i>	32.2	16.5	19.2
<i>Full-time</i>	20.6	6.9	9.4
<i>Part-time</i>	31.0	16.3	18.6
<i>Mini-job</i>	85.7	55.5	59.3

A commonly used measure of the intensity of the minimum wage across groups is the Kaitz index, i.e. the ratio of minimum wage to median wage. Chart 5 presents the level of the upcoming minimum wage in terms of the Kaitz index in an international perspective. Several Kaitz indices calculated by different methods are displayed for Germany. Depending on the method, Germany takes a medium to upper position in international comparison (VSE: 0.504, BS: 0.524, IWH: 0.567), the second highest (DIW: 0.597) after France or even at the highest rank (IAQ: 0.620).

<sup>4</sup> Source: Brautzsch and Schultz (2013).

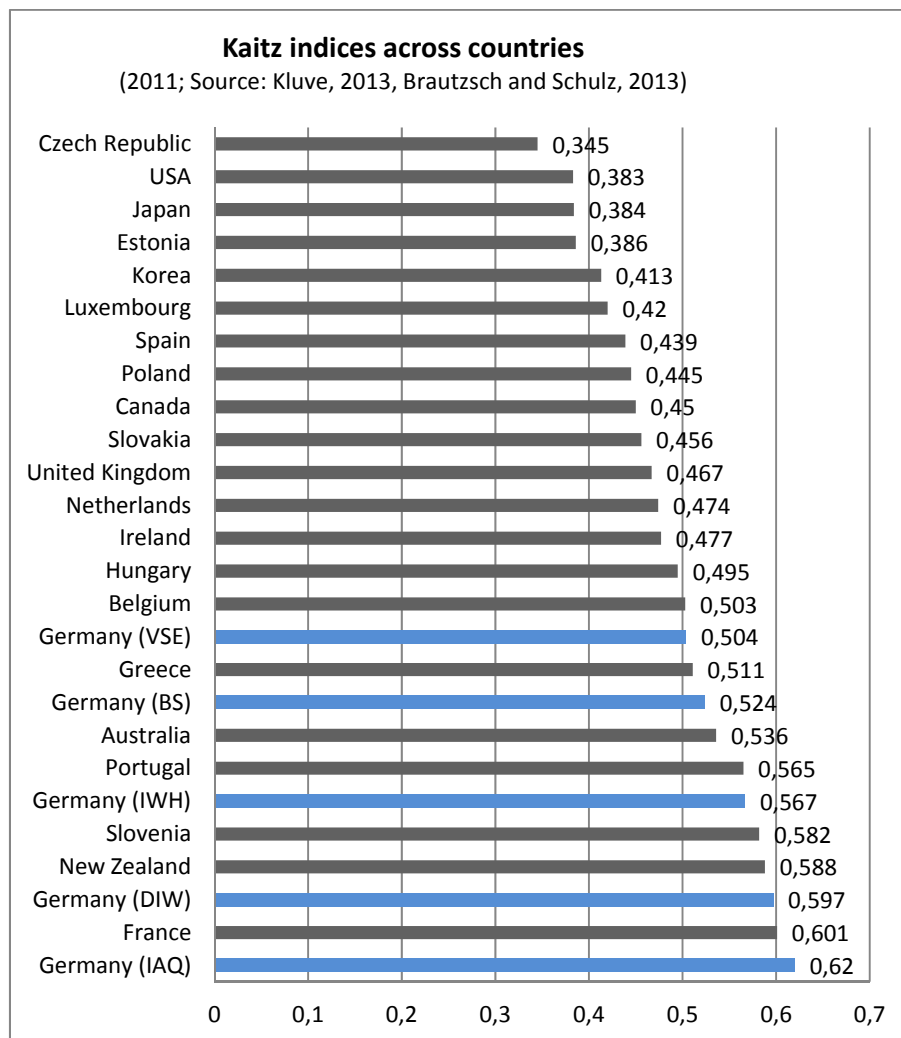
Chart 5. The minimum wage in international comparison<sup>5</sup>

Table 3 presents Kaitz indices by economic sector, based on the computations of the research institute IWH. The Kaitz indices for the respective sectors are substantially higher in the East than in the West. Some Kaitz indices for East Germany are strikingly high, for example those for the agriculture, forestry and fishery sector, and for the hotel and restaurant industry sector exceed the median wage. The Kaitz index for East Germany is 71% and is

<sup>5</sup> The Kaitz index for Germany has been calculated by several research institutes and based on different data sets: 1. Germany (IAQ): Calculations of the research institute IAQ based on the Socio-Economic-Panel, 2. Germany (DIW): Calculations of the research institute DIW based on the Socio-Economic-Panel, 3. Germany (IWH): Calculations of the research institute IWH (Brautzsch and Schultz, 2013), 4. Germany (BS): Calculations of Kluve (2013) based on the employee sample ("Beschäftigtenstichprobe"), 5. Germany (VSE): Calculations of Kluve (2013) based on data of the Federal Bureau of Statistics ("Verdienststrukturerhebung").

thus strikingly high in an international comparison, whereas the Kaitz index for the West is substantially lower (53.6%), ranking internationally as medium to high. Considering the country as a whole, the most intensely affected sectors are agriculture, forestry and fishery and the hotel and restaurant industry.

Table 3: Kaitz indices by economic sector (in %)<sup>6</sup>

	<b>East</b>	<b>West</b>	<b>Germany</b>
<i>Agriculture, forestry and fishery</i>	104,7	53,7	82,8
<i>Manufacturing</i>	73,4	51,8	54,6
<i>Construction</i>	81,9	58,9	60,8
<i>Commerce</i>	86,6	67	70,1
<i>Hotel and restaurant industry</i>	115,2	83,7	84,2
<i>Transportation</i>	76,6	56,7	58,9
<i>Financial and rental services, corporate services</i>	64,2	43,0	46,0
<i>Public and private services</i>	61,4	52,4	53,6
<b>Total</b>	<b>71,0</b>	<b>53,6</b>	<b>56,7</b>

## 2.4 Conclusions regarding the legal, nationwide minimum wage

This section provided insights into the background, design and intensity of the forthcoming legal, nationwide minimum wage in Germany. Section 2.1 outlined the two-sided initial situation in the German labour market: good labour market performance in terms of key indicators versus social problems, particularly in-work poverty. These developments triggered the discussion on the legal, nationwide minimum wage after a long-standing tradition of decentralized wage setting in the country. Section 2.2 noted that the new minimum wage of 8.50€ per working hour will be generally binding as from 2015 but is subject to numerous exceptions, such as youth and previously long-term unemployed, as well as to interim arrangements, most notably the priority of generally binding branch-level wage floors as opposed to a nationwide minimum wage. In section 2.3 an overview of the levels of the minimum wage was given. The new minimum wage was found to rank in an upper-medium to top position in an international comparison, depending on how the Kaitz index is calculated. In 13 branches as well as in temporary agency work, minimum wages are already in place, which in most cases exceed 8.50€. In total, 14.1% of the employees will

<sup>6</sup> Source: Brautzsch and Schultz (2013).

be directly affected by the minimum wage introduction, with the share in East Germany markedly exceeding the corresponding figure for the West. In terms of intensity of intervention as measured by the Kaitz index, Germany ranks in an upper-medium to top position and the region of East Germany displays the highest of all Kaitz indices considered in this analysis. Additionally, the minimum wage intervenes particularly intensely in part-time employment, above all in mini-jobs. As regards economic sectors, agriculture, fishery and forestry as well as the hotel and restaurant industry were found to be intensely affected by the new minimum wage. Consequently, potential adjustment mechanisms after the minimum wage introduction are likely to occur over-proportionally in certain branches, part-time employment, mini-jobs and in East Germany.

## 3 Predictions based on economic theory

This section analyses the potential consequences of the minimum wage introduction in Germany in light of economic theory. Two major models suitable for predicting the employment effects of minimum wage introduction - perfect competition (section 3.1) and labour market monopsony (section 3.2) – are presented.<sup>7</sup> It is important to emphasise that all models are simplifications and are not capable of accurately depicting reality. No model will ever be congruent with the real circumstances, but tendencies towards the most suitable framework can be detected. In the case of Germany, substantial arguments can be found in support of the presence of employer market power in the labour market (section 3.3), suggesting that the monopsony model may provide a more appropriate theoretical framework than perfect competition. Thus, also the conclusions on the employment effects of the minimum wage introduction by economic theory, presented in section 3.4, are based on the monopsony model.

### 3.1 Employment effects under perfect competition

Chart 6 illustrates the impact of minimum wages in a perfectly competitive market. The free market equilibrium corresponds to  $(L^*, w^*)$ . The introduction of a binding minimum wage  $w_{min}$  above the competitive level  $w^*$  results in a situation in which labour supply ( $L_s(w_{min})$ ) exceeds labour demand ( $L_d(w_{min})$ ). Thus, a binding minimum wage results in lower employment than in the initial situation ( $L_d(w_{min}) < L^*$ ) and unemployment corresponding to the excess labour supply  $U$ .

Consequently, if perfect competition is the appropriate assumption for the German labour market, a minimum wage is not a recommendable policy instrument from the point of view of

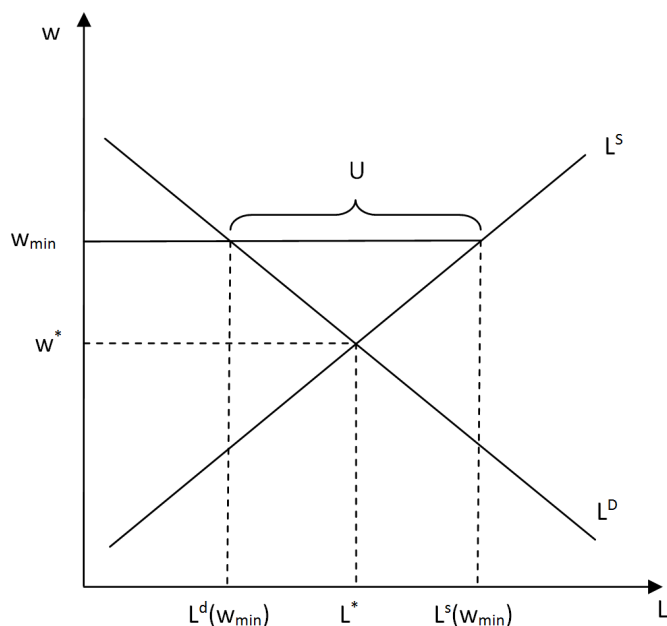
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<sup>7</sup> A further prominent labour market model for analysing the effects of a minimum wage introduction is the Search and Matching Model (see for example Pissarides, 2000). This model allows the analysis of the labour market in a more sophisticated and presumably more realistic setting. However, including a further theoretical model in this analysis would, largely due to the complexity of the Search and Matching Model, exceed the scope of this report. Moreover, given the fact that important recent developments concerning the German labour market are tightly linked to the distribution of power in the labour market, analysing the minimum wage introduction within the monopsony framework appears to be a reasonable choice.



economic theory since it necessarily decreases employment, increases unemployment and reduces labour market efficiency (Boeri and van Ours, 2008).<sup>8</sup>

Chart 6. Employment effects under perfect competition



### 3.2 Employment effects in the monopsony model

If employers have market power, a monopsony model may provide a more appropriate description of the labour market. In this case, the firm is not a price taker but can influence wages and so this setting potentially arrives at different conclusions on the desirability of introducing a minimum wage than the model of perfect competition. The strict interpretation of monopsony in the sense of the presence of one large employer in the labour market would obviously not be an appropriate representation of the German labour market. However, in the presence of labour market frictions such as mobility costs, individual heterogeneity in job preferences and workers' ignorance about their labour market opportunities, even small firms can accrue employer market power (Manning, 2003).<sup>9</sup> Bosch and Weinkopf (2013) also state that small- and medium-sized firms can form “quasi-monopsones” at the local level and if

<sup>8</sup> Note that in this analysis, only direct labour market effects are presented. However, second-round negative employment effects are possible, resulting for example from a related decrease of overall production (“scale effect”). The extent of these second-round effects may depend e.g. on the competition in goods markets and the price elasticity of demand, which affect the leeway for passing on increased wage costs to the consumers (Gürtzgen et al., 2011).

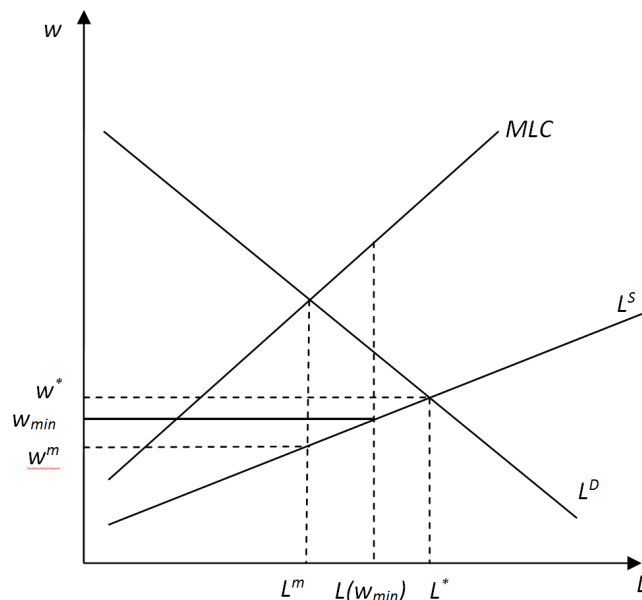
<sup>9</sup> Models of monopsonistic competition could provide a more realistic, but also formally larger, model framework in this setting.

employees are not organised in trade unions to the same extent, then market power can shift to the benefit of firms.

The profit maximizing employment choice of the employer in the monopsony case sets marginal labour cost ( $MLC$ ) equal to the marginal revenue from labour  $L^D$ , illustrated by the intersection of the  $MLC$  and the  $L^D$  curve. Thus, the monopsonist employs fewer workers ( $L^m$ ) than in perfect competition ( $L^*$ ) at a lower wage ( $w^m$  versus  $w^*$ ), because the monopsonist pays wages below the marginal productivity of labour (Boeri and van Ours, 2008).

The employment effects of the minimum wage in the presence of employer market power depend crucially on the level of the minimum wage. If the minimum wage is set sufficiently low (see Chart 7), that is between the monopsony wage  $w^m$  and the competitive wage  $w^*$ , illustrated by  $w_{min}$ , the minimum wage exerts a positive effect on both employment and wages. To see this, note that the new marginal labour cost curve is horizontal at  $w_{min}$  until employment level  $L(w_{min})$  and then jumps to the initial marginal labour cost curve for higher employment levels. The result is a higher employment level  $L(w_{min})$  at higher wages  $w_{min}$  than in the monopsony equilibrium ( $L^m, w^m$ ).

Chart 7. The case of positive employment effects under labour market monopsony



By contrast, if the minimum wage is set too high – above the competitive wage level  $w^*$  – the corresponding employment level will actually be below the employment level in the

monopsony equilibrium  $L^m$ . The level of the minimum wage is thus decisive for attaining positive employment effects.

All in all, under labour market monopsony, the relationship between minimum wage and employment is non-monotonic and the level of the minimum wage is crucial: For sufficiently low minimum wage levels, employment will increase, whereas above a certain threshold, the traditional negative relationship holds (Boeri and van Ours, 2008).

### 3.3 Evidence of employer market power in the German labour market

In what follows, substantial evidence for employer market power in the German labour market is presented, which supports the choice of the monopsony model as the theoretical framework for analysing the employment effects of the new minimum wage in Germany.

#### **Regional immobility and workers' ignorance of employment opportunities**

A standard argument advocated by Manning (2003) for the presence of employer market power in any labour market is that workers are not perfectly mobile with regards to region. That is, for example due to family ties, workers are limited in their choice of employers and do not change employment immediately following worsening working conditions, such as wage cuts. A further standard argument for employer market power is workers' ignorance about their job opportunities with other employers (Manning, 2003).

#### **Dominance of wage posting as opposed to wage bargaining**

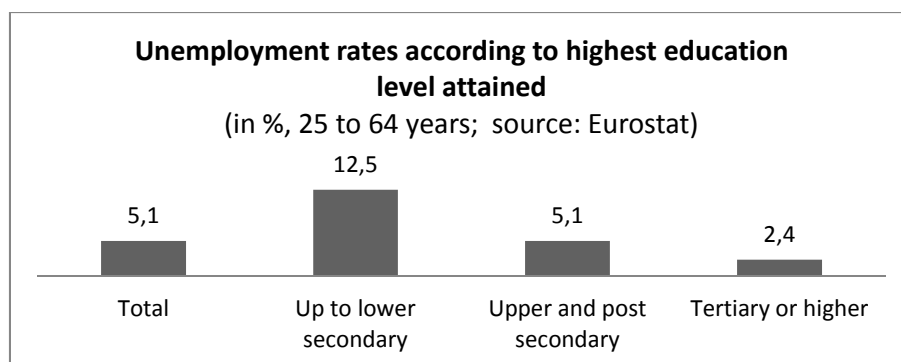
Further evidence of the presence of employer market power in the German labour market can be obtained from the wage setting process (Brenzel et al., 2014): Wages unilaterally set by employers ("wage posting") support the use of a monopsony model, whereas wages negotiated between firm and worker prior to employment rather support the assumption of perfect competition. A recent study by Brenzel et al. (2014) found that both forms of wage determination co-exist in the German labour market and that wage posting is dominant as opposed to wage bargaining. While wage bargaining was found to be more likely in the case of higher-educated applicants or special job requirements, wage posting was shown to be dominant in part-time and fixed-term contracts. There is, in other words, evidence that wage posting is particularly likely for the labour market segments strongly affected by the minimum wage introduction, namely the lower-skilled and part-time workers.

### “Thin” labour markets: High degree of substitutability in the low-wage sector

The more segmented, differentiated and opaque the labour market, the sparser the availability of potential jobs from the viewpoint of an individual employee. In these “thin labour markets”, even smaller firms may have substantial market power; so that, particularly in the presence of under-employment, monopsonistic structures can be assumed (König and Möller, 2008).

The German labour market shows several features of a “thin” labour market in the above sense within the segment affected by the minimum wage. To begin with, despite the overall labour market recently having become tighter and tighter, discernible from a rapid decrease in unemployment to a level close to full employment and a skill-shortage in certain industries (see for example Bundesministerium für Wirtschaft und Energie, 2014), unemployment among low-skilled workers is still high (see Chart 8). In addition, there is an extensive skill-mismatch in the German labour market (Bogai et al., 2014): Roughly one out of two unemployed is qualified for helper tasks only, whereas only every seventh job corresponds to that skill level.

Chart 8. Unemployment rates by education level



### Workers’ weakened negotiating position: Diminished outside options after the labour market reforms

Furthermore, workers’ weakened negotiating position in the aftermath of the so-called “Hartz reforms” – the most comprehensive labour market reforms since the founding of the Federal Republic of Germany (Klinger and Rothe, 2010) – provides evidence of employer market power. The reforms entailed, among others, elements of labour market deregulation as well

as a profound activation strategy for the unemployed, which included far-reaching reforms. The most drastic measure was the re-design of the unemployment benefit scheme, realised by combining the former system of unemployment benefits, unemployment assistance and social assistance into a two-pillar system. In practice, this involved a marked shortening of the entitlement period for income-dependent unemployment benefits, after which the unemployed are nowadays no longer entitled to the income-dependent unemployment assistance but only to uniform, means-tested, flat-rate payments, at the low level of the former social assistance (Jakobi and Kluve, 2008; Klinger and Rothe, 2010). This increased pressure even induced qualified long-term unemployed with previously good incomes to accept low-wage jobs (Bosch et al., 2009).

Additionally, the labour market reforms facilitated the use of atypical employment forms which increasingly became an alternative to regular, full-time employment. The deregulation of temporary agency work made possible the substitution of regular employees for temporary agency workers at lower salaries (Bosch et al., 2009). The increase in the income limits for mini-jobs – jobs exempt from taxes and social security contributions – to 450€ per month enabled the evolution of a specific employment status which frequently does not fully benefit from the regulations of labour law despite being officially covered by it. Potential reasons for this are workers' ignorance about these rights and/or their fear of enforcing them, as well as some firms taking advantage of this employment form without having to expect sanctions (Bosch et al., 2009).

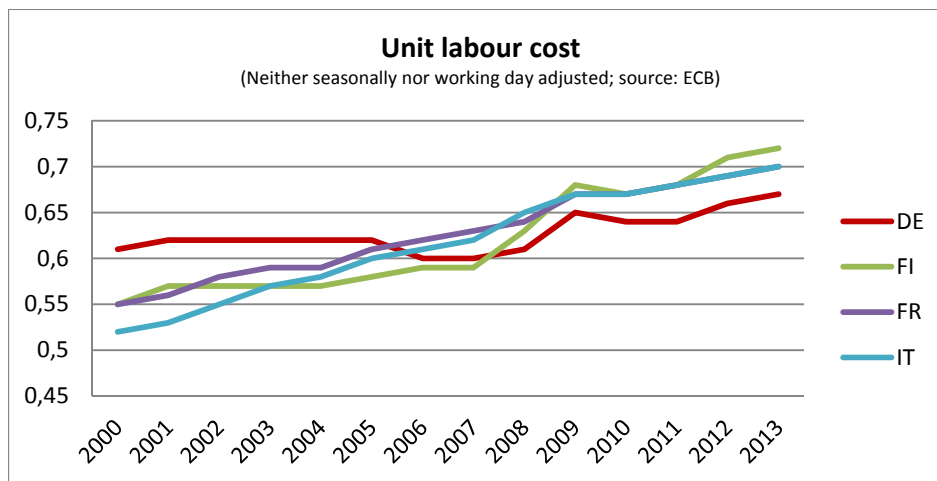
All in all, the reforms served to increase the economic uncertainty associated with an individual's unemployment and raised the relevance of (regular) employment in the country. This in turn increased the readiness of workers to accept concessions in turn for employment and ultimately weakened workers negotiating position versus firms. Thus, the labour market reforms appear to have shifted the distribution of power in the German labour market in favour of employers.

### Decrease in trade union power

Manning (2003) states that the assumption of employer market power is less reasonable in the case of high union representation of the workers. However, as presented in Chart 3, workers' coverage by collective agreements has been declining over a prolonged period, to a mere 53% in West and 36% in East Germany in 2012.

A further sign of the relative weakness of trade unions is the yearlong wage restraint in Germany despite favourable developments in the overall economy. This is for example visible in the behaviour of unit labour costs (shown in Chart 9), which have remained fairly modest since 2000 and in certain phases have actually decreased. This stands in sharp contrast to countries such as France, Italy and Finland, which have experienced substantial increases in unit labour costs over the same period.

Chart 9. Unit labour cost



### 3.4 Conclusions regarding economic theory

This section provided an overview of two standard model frameworks, perfect competition and the monopsony model, for analyzing the labour market impact of minimum wages. Furthermore, profound evidence of employer market power in the German labour market was found, rendering the monopsony model a more suitable analytical framework for the upcoming minimum wage introduction than perfect competition. In addition to the standard argument of workers' regional immobility and their ignorance as to employment opportunities, the dominance of wage posting as opposed to wage bargaining – i.e. employers unilaterally

setting wages – in particular in the sectors strongly affected by the minimum wage, supports the monopsony model. Furthermore, the job market for the lower-skilled appears to be “thin” in the sense that the employment opportunities for this group seem to be very narrow and that there is a high degree of labour substitutability in the low-wage sector. Moreover, labour market reforms changed workers’ negotiating position in a way that increased their readiness for concessions and in turn for entering/ remaining in employment. Lastly, trade union power is decreasing, as is discernible from low collective bargaining coverage rates and pronounced wage restraint despite overall favorable developments in the German economy.

The predictions based on the monopsony model suggest that the employment effects of a binding minimum wage are ex-ante unclear – as opposed to the perfect competition model according to which such a measure invariably has negative consequences. The level of the minimum wage is decisive: A sufficiently low minimum wage, between the monopsony wage and the competitive wage, can induce employment gains, whereas a minimum wage above the competitive wage results in employment losses.

## 4 Empirical evidence

*“Based on empirical evidence, the political debate can hardly be dissolved: Both advocates and opponents of the nationwide statutory minimum wage can refer to numerous scientific studies, which seem to support their respective viewpoint.”*

This citation (Kluve, 2013) summarizes the difficulties of consulting the empirical literature concerning the employment effects of the minimum wage: The empirical evidence is vast and the findings range from negative to neutral or positive employment effects. Since there is no consensus on the sign of the employment effect, conclusions will crucially depend on the relative weight attached to the findings. Section 4.1 gives an overview of the international empirical evidence. Section 4.2 presents the empirical studies on Germany, consisting of simulation studies and the analysis of branch-specific minimum wages. The simulation studies suggest a clear consensus on negative employment effects, whereas the branch-specific studies largely agree on neutral employment effects. The UK minimum wage (section 4.3) is frequently cited as a role-model of a well-implemented minimum wage introduction since its prudential and gradual approach succeeded in avoiding employment losses. Finally, section 4.4 presents the conclusions on the employment effects of minimum wages suggested by the empirical evidence.

### 4.1 International empirical evidence

This section presents the international empirical evidence on the employment effects of the minimum wage. Section 4.1.1 gives an overview of the evidence from empirical studies and section 4.1.2 outlines the conclusions from literature reviews and meta-studies.

#### 4.1.1 Evidence from international empirical studies

The empirical literature on the minimum wage is vast and of varying reliability. It covers an extensive range of countries and results on the sign of the employment effect. The findings of the studies are closely linked to the respective estimation approach. Two main methodological approaches are discernible within this literature (Bachmann et al., 2008): the “traditional approach” and the “quasi-experimental” approach.



**The traditional approach**

The traditional approach uses simulation based on price elasticities to study the impact of a hypothetical increase of the minimum wage on employment of the directly affected worker groups and other production factors (for example higher-qualified workers). In most cases, this approach is based on the assumption of perfect competition in the labour market and thus entails negative employment effects as a necessary consequence. To be determined is merely the extent of these negative employment effects. The advantage of the “traditional approach” is that it is externally valid in the sense that the results can be generalized: for example, the experience of one country can be used to make statements about the likely effects in another country (Bachmann et al., 2008).

**The quasi-experimental approach**

The newer empirical minimum wage literature makes extensive use of quasi-experimental methods, in particular the differences-in-differences approach. This method considers a treatment group which is subject to the minimum wage as well as a control group, and compares the employment changes in both groups after an exogenous minimum wage introduction. The different development of employment across the groups is attributable to the minimum wage introduction, provided that the required assumptions are fulfilled, such as the control group being unaffected by the policy measure (Bosch and Weinkopf, 2013).

The pioneering but also controversial study within this approach is the study of Card and Krueger (1994), which uses a differences-in-differences approach to analyse the minimum wage increase from \$4.25 to \$5.05 per working hour in New Jersey, where fast food restaurants in Pennsylvania served as the control group. The study finds that no negative employment effects could be detected.

A clear advantage of the quasi-experimental approach is the high degree of “internal validity”, because these studies are to a great extent free of rigid model theoretical assumptions. Thus, this approach does not impose an ex-ante restriction on the sign of the employment effect, and it displays a high likelihood of approximating the effect of the minimum wage with reasonable accuracy. However, the degree of external validity is low, since the quasi-experimental approach renders the application of results to other contexts difficult.

#### 4.1.2 Evidence from reviews and meta-studies

In what follows, meta-studies and literature reviews are presented, which summarize and in parts weigh the results of the studies according to quality and thus provide a more detailed overview of the empirical evidence.

Brown et al. (1982) reviews the early minimum wage literature. Most of these studies focus on the impact of the minimum wage on teenage employment. For the group of teenagers, the broad consensus of the reviewed studies is on negative employment effects, whereby the estimated elasticities suggest that a 10% minimum wage increase reduces teenage employment by one to three per cent. The findings of the considerably fewer studies that address adult employment are ambiguous, suggesting in some cases positive and in other cases negative employment effects. All in all, the studies reviewed in Brown et al. (1982) agree on a negative effect of the minimum wage on teenage employment, whereas the impact on adult employment is inconclusive.

Neumark and Wascher (2007) reviews the recent literature on minimum wages from 1991 to 2007. Based on the reviewed evidence itself no consensus is discernible, since the estimated employment effect of the minimum wage ranges from negative to positive. By focusing on their choice of the 20 most convincing studies, Neumark and Wascher (2007) arrive at the conclusion that 80% of these most reliable studies point to negative employment effects. Moreover, the review concludes that a substantial share of those studies predicting zero or positive employment effects have weaknesses, such as an insufficiently long time period for incorporating the entire impact of the minimum wage changes. Finally, Neumark & Wascher (2007) finds that the reviewed studies provide considerable evidence for labour-labour substitution within low-skill worker groups. Thus, the effect of the least-skilled workers is potentially more harmful than suggested by the net negative employment effects.

In addition to the cited reviews of Brown et al. (1982) and Neumark and Wascher (2007), further reviews and meta-studies aggregate the findings of individual empirical analyses. For example, OECD (1998) reviews the literature since 1991 and finds that the effect on youth employment is ambiguous and that the empirical literature for this period does not provide evidence of a negative effect on adult employment. The meta-study by Doucouliagos and Stanley (2009) is a regression analysis of the results of 64 studies based on US data published in the time period 1972–2007. This meta-study voices substantial criticism on the selection of studies in literature reviews and its impact on the overall conclusion, summarized by the following statement:

*“The minimum-wage effects literature is contaminated by publication selection bias, which we estimate to be slightly larger than the average reported minimum-wage effect. Once this publication selection is corrected, little or no evidence of a negative association between minimum wages and employment remains.”*

## 4.2 Empirical evidence for Germany

The legal, nationwide minimum wage being a novelty in Germany, the empirical literature for this country is limited to simulation studies on the employment effects of hypothetical minimum wages (Section 4.2.1) and to studies analysing the employment effects of branch-specific minimum wages (Section 4.2.2).

### 4.2.1 Simulation studies on Germany

As outlined in section 4.1, the results of the simulation studies crucially depend on the model assumptions, which are difficult to evaluate in terms of reliability and appropriateness. For instance, many of these simulations are based on the assumption of perfect competition in the labour markets and thus restrict ex-ante the sign of the employment effects to negative, ruling out positive employment effects. For these substantial limitations, the respective results should be treated with care. In what follows the results of representative studies of this type of literature are presented.

Bachmann et al. (2008) analyse the impact of a hypothetical, nationwide minimum wage for different scenarios of minimum wage levels of 5.00€, 6.00€, 7.50€ and 10.00€. The simulations predict negative employment effects for both East and West and any of these four scenarios, ranging over –659 000 (5€), –832 000 (6€), –1.19 Mio. (7.5€) to –1.98 Mio. (10 €). Employment losses were found to prevail especially among mini-jobs and full-time employees of a low- to medium skill level.

Ragnitz & Thum (2008) analyse the employment effects of various hypothetical minimum wage levels. The simulated employment losses range over –360 000 (4.50€), –827 000 (6.50€), –1.1 Mio. (7.50€), to –1.9 Mio. (East 9.00€, West 9.80€).

The recent study of Knabe et al. (2014) simulates the employment effects of the forthcoming legal, nationwide minimum wage of 8.50€. This analysis considers two alternative scenarios for the German labour market, namely perfect competition and monopsonistic market structures. They find that, irrespective of the assumed labour market scenario, the minimum wage is likely to induce substantial employment losses. Under the

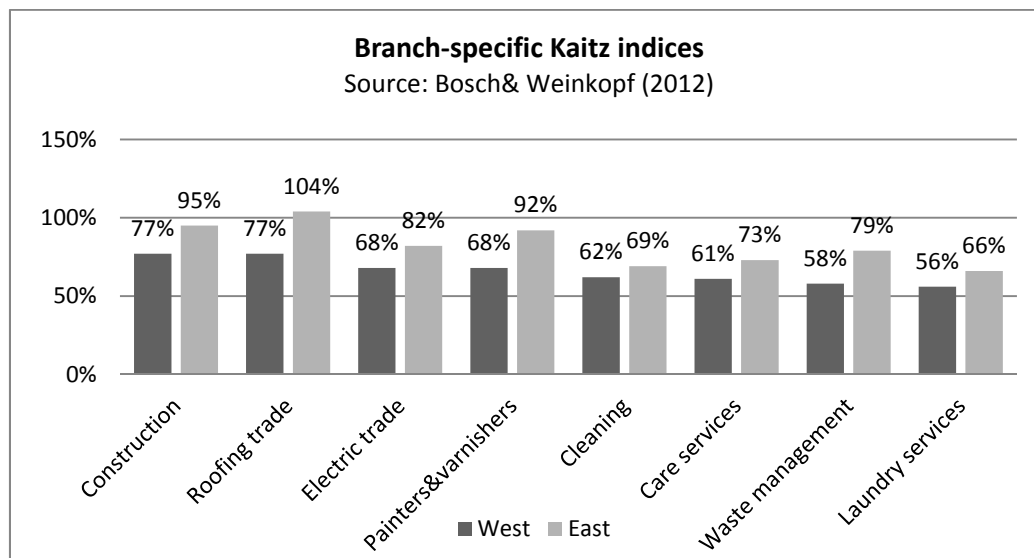
assumption of perfect competition, the estimated employment losses are –910 000 for Germany in total, of which the lion's share (–617 000) is estimated to be realised in East Germany. The employment losses under monopsonistic labour market structures are milder than under perfect competition but still substantial, amounting to –426 000 for the whole country and –264 000 for East Germany. In both scenarios, the employment form experiencing the largest employment losses is mini-jobs, with an estimated employment decrease of –492 000 under perfect competition and –272 000 under the monopsony model. Persons currently receiving wage subsidies in addition to their earned income were found to be particularly adversely affected, since the likely income increases of these workers are marginal, whereas the related risk of job loss increases. Knabe et al. (2014) also voice doubt about the capability of the minimum wage to change the income distribution in the intended manner and to decrease public expenditures.

#### 4.2.2 Studies on branch-specific minimum wages in Germany

The studies on branch-specific minimum wages in Germany have been implemented in the same economic and institutional environment as the upcoming legal, nationwide minimum wage. Thus, branch-level minimum wages in Germany can be considered as a relevant source of empirical evidence in this context. Moreover, branch-level minimum wages and the national minimum wage display a high degree of similarity in terms of Kaitz indices, suggesting that the branch-specific minimum wages also enable a comparison with the upcoming minimum wage introduction in terms of intensity (see Chart 10).

However, drawing conclusions on the employment effects of a nationwide minimum wage based on the experience with branch-level wage floors is also subject to criticism (see Sachverständigenrat, 2013), since a nationwide minimum wage no longer enables avoidance of the minimum wage via shifts from covered to uncovered sectors. Also, these wage floors have been negotiated between the social partners and so display a high degree of self-selection (see for example Frings, 2013).

Chart 10. Branch-specific Kaitz indices



### Employment effects of the branch-level minimum wages

Bosch and Weinkopf (2012) summarise the results of the official evaluation studies on the effects of the branch-specific minimum wages in the branches illustrated in Chart 10. The main evaluation method of the employment effects was the differences-in-differences approach, which was feasible in seven out of eight branches<sup>10</sup>. The respective control groups are groups in which the remuneration already exceeded the minimum wage, as well as branches with similar characteristics. The main result is that for neither of the considered branches statistically significant negative employment effects could be found.

However, also these studies are subject to limitations in terms of reliability. For example, the partly very short time span between minimum wage introduction and evaluation, does perhaps not allow capturing the entire employment effect. Also, the adequacy of certain control groups can be questioned (Bosch and Weinkopf, 2012).

In addition to the official evaluation studies, the following analyses investigate the employment effects of the introduction of a minimum wage on the branch-level. These studies do not find evidence for negative employment effects. Apel et al. (2012) analyse the effects of the minimum wage introduction in main construction trade in 1997. No evidence was found for employment losses, in either in the East or West, despite substantial wage increases, in particular in East Germany. However, no statement regarding job losses among

<sup>10</sup> In the branch of laundry services, only qualitative analyses were feasible.

posted workers from abroad is possible, due to a lack of data, suggesting that the overall effect on employment in Germany might not have been entirely captured. Frings (2013) investigates the employment effects of the minimum wage in the painters and electricians branch and does not find significant negative employment effects despite the minimum wage being binding in East Germany. This branch displays very specific features, such as a large share of posted workers, who are not representative of the overall economy, and this renders problematic the drawing of broader conclusions based on this branch-level evidence (Frings, 2013).

Further studies detect differences between East and West Germany regarding the sign of the employment effects. Vom Berge et al. (2013) estimate the effect of the minimum wage in the main construction industry in Germany on employment growth rates. The main finding is that the minimum wage did not exert a significant effect on employment growth in West Germany but did lead to a decrease of the employment growth rate in East Germany. König and Möller (2008) analyse the employment effects in the main construction sector via a differences-in-differences approach and find the minimum wage to exert a negative effect on the probability of remaining employed in East Germany, and a positive (but only weakly statistically significant) effect in West Germany. This branch has some unique features and so does not permit a generalization to the overall economy (König and Möller, 2008).

All in all, a consensus on the absence of significant negative employment effects of branch-specific minimum wages in Germany is discernible. In the few cases that significant employment effects could be detected, they occurred for East Germany only.

### **Impact on inflation and competition**

One aspect of the official evaluation studies was the effect on prices for consumers as well as the effect on the intensity of competition in the market. For some branches, evidence for the wage increases having been passed on to the consumers as price increases could be found for example in waste management (Gürtzgen et al., 2011), laundry services (Bosch et al.\_b, 2011) and roofing (Aretz et al., 2011), whereas for the main construction trade no evidence for this could be detected (Möller et al., 2011). In terms of intensity of the competition on the goods markets some evidence could be found that the minimum wage serves to alleviate distortive price competition in the product markets, based on mere wage undercutting in certain branches: electrical trade (Boockmann et al.\_c, 2011), cleaning services (Bosch et al., 2011), painters and varnishers (Boockmann et al., 2011), care services (Boockmann et al.\_b, 2011) and laundry services (Bosch et al.\_b, 2011). For other

branches, such as waste management (Gürtzgen et al, 2011) and the main construction trade (Möller et al., 2011), only weak evidence was found for decreased intensity of competition, or no clear effect could be detected (Aretz et al., 2011).

### **Further effects of branch-specific minimum wages**

The official evaluation studies of branch-specific minimum wages also provide insights into other mechanisms for adjustment to the minimum wage introduction. To begin with, most studies detect changes in the wage distribution, in particular an above-average wage increase at the bottom of the distribution (Bosch and Weinkopf, 2012). Wage compression was found to be present in East Germany, leading to a dilution of wage differences between skilled and unskilled workers (Bosch and Weinkopf, 2012).

The evaluation studies also found various effects of the minimum wage on the structure of employment. In the roofers branch, for instance, the minimum wage exerted a negative influence on employment in those firms in which the minimum wage was binding, which was compensated by a shift of employment to other firms (Bosch and Weinkopf, 2012). This suggests that the minimum wage in this branch succeeded in hindering business models which consisted of wage undercutting only. A further finding for this branch was an increased skill intensity. For the branches of painters and varnishers, evidence was found for an increasing commitment of workers to firms, whereas in the electric trade opposing evidence in form of increased labour turnover was found. In the cleaning services branch, the minimum wage introduction seemed to have rendered minijobs less attractive, which may be related to more intense controls. In roofing, non-controlled employment forms such as one-person firms were found to have increased.

### **4.3 A potential role model: Insights from the UK minimum wage**

The UK experience with the minimum wage provides important insights regarding the minimum wage introduction in Germany because the UK experience is often cited as a role-model of a successful minimum wage introduction and because the country has many features in common with Germany.

### 4.3.1 Minimum wage design

The UK introduced the national minimum wage in 1999. The initial wage level can be characterized as conservative, amounting to £3.60 per working hour for persons aged at least 22 years and £3.00 per working hour for persons aged 18–21 or those still in training”. Subsequently, the minimum wage was gradually increased, at a slightly faster pace than wage growth in general (Stewart, 2009).

Before its introduction, the minimum wage was strongly opposed by firms, the previous conservative government and political commentators, and serious employment effects were anticipated. However, nowadays the minimum wage is supported by the public and the three main parties, and the introduction of the minimum wage is perceived as a success story for the Labour government (Stewart, 2009).

The Low Pay Commission consists of 9 members representing employees, employers and the academic community. It is an independent body which advises the government about the minimum wage, in particular concerning its future adjustments (Low Pay Commission, 2014).

### 4.3.2 Employment effects of the UK minimum wage

Stewart (2009) reviews the studies on the effects of the national minimum wage in the UK on employment and finds little evidence for negative employment effects outside the residential care homes sector. This sector, in turn, is not representative of the market as a whole since, for instance, the “bite” of the minimum wage was particularly intense and a high degree of price capping due to specific features of this branch prevented the passing on of increased wage costs to consumers (Stewart, 2009).

### 4.3.3 A possible different route for the minimum wage in Germany

Kluve (2013) elaborates on a different option for minimum wage implementation, following the UK example, namely a gradual implementation accompanied by economic evaluation. Accordingly, if the UK had been strictly taken as a role-model, policy makers would have aimed at detecting a minimum wage level “as high as possible”, to enable social-political changes while at the same time being “as low as necessary” in the sense that no additional unemployment is caused. Setting the minimum wage at a level as comparatively high as the initial level in the UK, would have required at most 7.00€ according to Kluve (2013). Subsequently, the employment effects could have been exactly evaluated and only then



could adjustments upwards (or if necessary downwards) have been effected. For this purpose, Kluve (2013) suggests the installation of a commission that would decide on a yearly basis, based on scientific evaluation and independent of politics, on the level of the minimum wage.

#### 4.4 Conclusions on empirical evidence

This section provided an overview on the empirical evidence of the employment effects of minimum wages. The main conclusion from the international empirical literature is that no consensus on the sign of the employment effect of a minimum wage introduction exists. The evidence provided by individual empirical studies is vast and entails results ranging from negative to neutral or positive employment effects. Literature reviews and meta-studies help to an extent in obtaining more profound insights on the empirical evidence, but do not provide an agreement on the sign of the employment effect of minimum wages. Consequently, based on the international empirical evidence, one cannot make predictions regarding the upcoming minimum wage introduction in Germany.

The empirical evidence for Germany is also inconclusive. It consists of simulation studies of hypothetical minimum wages and evaluation studies on branch-level minimum wages. The simulation studies consensually detect negative employment effects. The branch-level studies, which are also similar as to the upcoming minimum wage in terms of intensity, largely agree on the absence of significant negative employment effects. If anything, this type of study could detect negative employment effects only for East Germany.

Lastly, this section presented the UK approach to the introduction of a minimum wage based on a prudential, gradual approach, closely accompanied by scientific evaluation, which was successful in avoiding employment losses. In the light of these developments, the UK minimum wage might well have served as a role model for Germany.

## 5 Conclusions

In January 2015, Germany will put in place a legal, nationwide minimum wage of 8.50€ and will thus become the 22nd member state of the European Union to have a legal minimum wage. The new minimum wage is the consequence of an intense, yearlong social debate, triggered by a notable worsening of the economic condition of those at the lower-end of the income distribution, especially in contrast to a favourable overall economic climate.

In a perfectly competitive labour market, the introduction of a minimum wage results in lower employment and higher unemployment as labour supply exceeds labour demand. However, a minimum wage does not necessarily reduce employment in other theoretical models. For example, in a model in which the employer has wage setting power (monopsony model) and the minimum wage is sufficiently low, employment may actually increase. Moreover, a vast amount of empirical evidence suggests that a minimum wage does not lead to employment losses in all circumstances. There are, however, three reasons why the minimum wage could lead to less employment in Germany. Firstly, the level of minimum wage, 8.50€ per hour, is considered relatively high. Secondly, the unequal distribution of the burden of the minimum wage favours negative employment effects: even if the minimum wage is sufficiently low for Germany as a whole, 8.50€ seems to be high for the East, certain branches and part-time workers. Thirdly, instead of choosing a gradual approach, as did the UK, the introduction of a minimum wage in Germany is relatively abrupt and lacks a thorough evaluation process.

The theoretical analysis concluded that a monopsony model is a possible theoretical framework for analysing the employment effects of the new minimum wage due to evidence of employer market power in the German labour market. The predictions of the monopsony model strongly depend on the level of the minimum wage: a moderate minimum wage induces neutral or positive employment effects, whereas an excessively high minimum wage will result in employment losses. Evaluating the minimum wage in terms of magnitude shows that in an international comparison, Germany ranks at an upper-medium to top position regarding the intensity of the minimum wage intervention, as measured by the Kaitz index. Thus, the level of the minimum wage could potentially be too high, which holds true in particular for East Germany.

A few insights on the employment effects of minimum wages can be gained from the international empirical evidence; it is vast but inconclusive, with estimated employment

effects ranging from negative to neutral or even positive. The empirical evidence for Germany is limited to simulations of hypothetical minimum wages and studies on branch-specific minimum wages. The simulation studies agree on a negative impact on employment, whereas most of the the branch-level studies do not find a significant, negative employment effect. If anything, the latter studies detect negative effects on employment only for East Germany, where the minimum wage has a stronger impact.

The above indicates that, based on economic theory and direct empirical evidence, no clear predictions on the employment effects of the upcoming legal, nationwide minimum wage are possible. If anything, some tendencies can be discerned if one focuses on certain types of studies. For instance, focusing on the branch-level studies could be reasonable as they are ex-post evaluations, not subject to strict model assumptions, and they analyse the same economic and institutional environment in which the new nationwide minimum wage is to be implemented. Also, the intensity of the policy interventions appears to be similar. This approach is, however, subject to criticism, in particular since the branches studied may not be representative of the overall economy and since a nationwide minimum wage does not permit avoidance reactions via unaffected sectors. Combining the branch-level evidence with those from economic theory, neutral to slightly negative overall employment effects could be a likely outcome of the minimum wage introduction. This is supported by the presence of exceptions and interim arrangements, most notably the preliminary priority of generally binding negotiated minimum wages, rendering the minimum wage introduction more gradual.

Nevertheless, it is likely that the burden of the minimum wage will be felt differently across regions, with a substantially higher risk of employment losses in the East. Furthermore, groups which are subject to an increased risk of employment losses are specific branches, such as the hotel and restaurant industry and employment forms, for instance part-time employment and mini-jobs. Moreover, the overall employment effect will depend heavily on other economic adjustment mechanisms. These include the ability of firms to pass on increased wage costs to customers as price increases and the efficacy of the new minimum wage in limiting business models based on mere wage-undercutting while creating more employment in firms remaining in the market.

The UK experience – frequently termed as a role-model of a successful minimum wage introduction – might have provided valuable insights for German policy makers: this prudential approach, with a very low starting point and subsequent gradual increases, and closely scientifically monitored, proved to be an effective way of avoiding employment losses.

Even if the minimum wage does not result in employment losses, the question of whether it will achieve its main goal – the alleviation of in-work poverty – remains, since also the intensive margin of labour matters in increasing the incomes of the affected workers.

Moreover, in order to better meet the demand of firms, measures are needed to address the skill mismatch in the labour market, such as increasing the skill level at the lower-end of the income distribution.

In conclusion, it can be argued that the project “legal, nationwide minimum wage” involves an unnecessarily high risk due to the absence of a comprehensive scientific evaluation and a more gradual approach. This lack of a strong evaluation element is in stark contrast to the policy practices of the labour market reforms of 2003 to 2005, in which independent, scientific evaluation of the policy measures played a central role. In particular, specific groups are subject to excess exposure to the risk of job loss, such as workers in part-time employment and mini-jobs, certain services as well as in the East of the country. This policy design entails the risk of untoward compromising of the painfully gained recent achievements in terms of labour market performance, the burdens of which were carried by those the minimum wage was supposed to protect. Hence, despite a potential tendency towards neutral employment effects, the minimum wage remains an experiment of uncertain outcome.

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