

Review paper on minimum wage and living wage policies in peripheral European countries

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1. Introduction

In many European Union (EU) countries, policies establishing a minimum wage have been implemented in order to alleviate rising concerns about income inequality and job insecurity. Faced with this reality, European institutions have opened a debate concerning the sufficiency of minimum wages in member states in terms of ensuring that workers have enough earnings that enable them to meet their living expenses (i.e., a living wage) (European Commission, 2020). From a social perspective, raising the minimum wage could benefit workers at the lower end of the wage distribution, including younger or lower-skilled workers, whose income levels would increase (Card, 1992; Neumark et al., 2014; Manning, 2021; Cengiz et al., 2021). From a political stance, minimum wages are generally preferable to other monetary transfers as they accomplish income redistribution without incurring short-term fiscal costs (Barceló et al., 2021).

The potential impact of raising minimum wages, particularly on employment, is at the core of the debate and, to date, remains a contentious topic. On the one hand, MW could pose certain risks for low-skilled workers by increasing unemployment or stifling job creation (Neumark & Wascher, 2010). This would be the case if the subsequent increases in labor costs as a result of minimum wage increases prevented businesses from hiring other workers or even caused staff layoffs. On the other hand, MW may not entail a negative impact on employment (Card & Krueger, 1995) as it could fuel economic growth and spur job growth. If this applied, minimum wage increases would reduce government welfare spending as low-income workers' dependency or eligibility for benefits would decrease. As a result of minimum wage increases, firms can respond in a variety of ways. These could include the reduction of profit margins (Draca et al., 2011), passing on labor costs to consumers (through price increases) (Harasztosi & Lindner, 2019; Aaronson & French, 2007), or making labor adjustments relating to the extensive (workforce reductions) and intensive (reductions in contracted hours) margins (Manning, 2021; Clemens, 2021). Despite the mixed evidence on the impact of minimum wages on employment, evidence suggests that moderate increases in minimum wage rates have no significant negative employment effects, or that the effects (either positive or negative) are low (Kelly & McGuinness, 2017). When focusing on the labor effects of MW increases for young workers, similar conclusions can be drawn.

The aim of this paper is to provide a detailed review of the impact of minimum wage increases in peripheral EEA countries. The paper focuses primarily on Ireland, Greece and Spain. For Spain, the study presents two case studies: the first one reviews the employment impact of the 2019 minimum wage reform undertaken in the country; the second one provides a review on recent literature analyzing wage conditions amongst the Spanish youth and how these relate to the living wage for the past decade. The case of Italy is briefly discussed, as the country does not have a statutory minimum wage but, instead, it is common that wage floors are set by collective bargaining agreements. This study, in turn, aims to contribute to the public debate on minimum wage increases with a comprehensive comparison of the heterogeneous effects across countries, but also for different groups within each country.

The remainder of the paper is structured as follows. Section 2 introduces the institutional setting of minimum wages in Europe. Section 3 presents the policy background and reviews the literature for each selected country. Finally, Section 4 summarizes the key takeaways from this review paper and concludes.

2. Institutional setting of minimum wages in Europe

The right to fair wages that provide for a decent standard of living is one of the 20 principles of the European Pillar of Social Rights (namely, principle 6), which was proclaimed in 2017 jointly by the European Parliament, the Council of the European Union, and the European Commission. While setting the optimal level of minimum wages might be a complex process, the International Labour Organization (ILO) suggested the following factors to be taken into account when determining the level of minimum wages: the needs of workers and their families; the general level of wages in the country; the cost of living and changes therein; social security benefits; the relative living standards; and other economic factors (e.g., labor productivity or economic development).¹

In general, it is up to national governments to determine the level of the minimum wage in each country. However, the mechanisms by which these MWs are determined varies across countries. For instance, it is at the discretion of governments to decide whether different social partners are consulted, or whether minimum wages are adjusted at different levels for certain population subgroups. For instance, younger workers in Ireland have minimum wages below the legal minimum. In some other cases, minimum wages are not set by the government but are instead fixed through collective bargaining agreements (Eurofound, 2021a). This is the case for Austria, Denmark, Finland, Italy, Sweden and Norway.

Two points stand out in terms of recent developments in statutory minimum wages in the EU. First, in more than two-thirds of the countries, minimum wage growth outperformed average wage growth, particularly in the newer Member States (Eurofound, 2021b). This is illustrated in Figure 1, which depicts the evolution of the Kaitz index—a measure, which compares the minimum wage with the average or median wage in a society—in the countries analyzed in this paper which had a minimum wage between 2000 and 2021. Second, the evolution of minimum wage rates—particularly when differences in economic conditions and price levels across countries are considered—reveals a clear process of convergence between EU countries over the last decade. Nonetheless, catching up with the countries with the highest minimum wages has been much slower in Mediterranean countries, despite significant minimum wage increases in Spain in 2019 and 2020 providing an upward trend (Eurofound, 2021a).

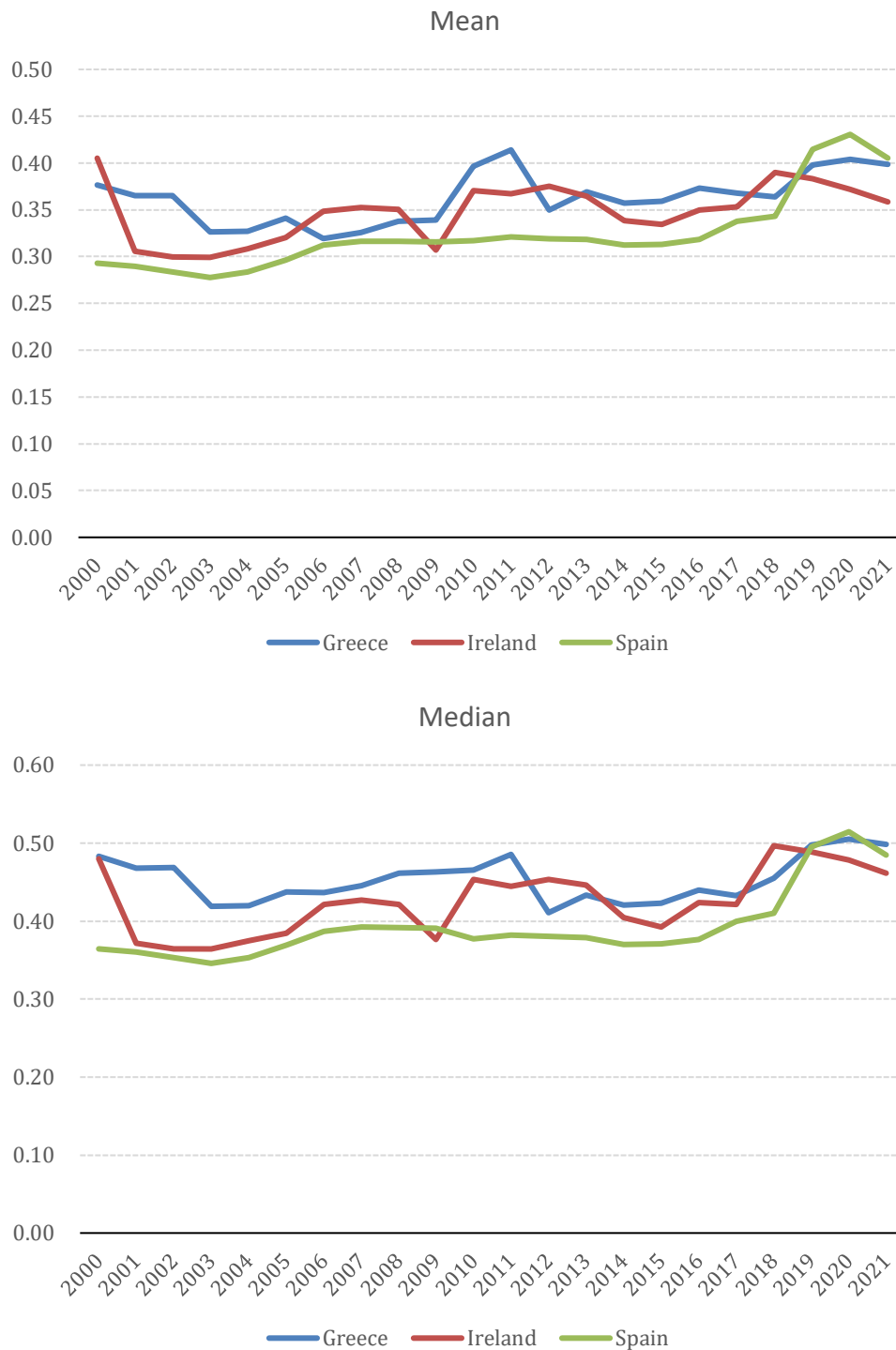
Lastly, it should be noted that in some countries, such as Ireland, a discussion has begun regarding the transition from a minimum wage to a living wage. In contrast to minimum wages, living wages are intended to provide workers and their families with a decent standard of living, taking into account national and regional price levels, as well as social and economic conditions (Eurofound, 2021a). Although a living wage is still far from being a standard policy in EU countries, there are some countries where the government has committed itself to moving towards a living wage (e.g.,

¹ See ILO's Minimum Wage Fixing Recommendation, 1970 (No. 135)

https://www.ilo.org/dyn/normlex/en/f?p=normlexpub:12100:0::no::p12100_instrument_id:312473

Ireland) and others where a policy debate has been initiated to bring the minimum wage closer to the living wage (Spain, as analyzed in section 3.4.2, Slovenia and Romania).

Figure 1. Kaitz ratio in Ireland, Greece and Spain (2000-2021)



Source: OECD.

Note: The Kaitz index is calculated as the ratio between the country's minimum wage and the mean or median wage. A Kaitz index of 0.50 indicates that the minimum wage is half the mean (or median) wage in the country.

3. The impact of minimum wages / living wages in EEA peripheral countries

This section provides an overview of the contextual setting of minimum wages in each country and of the existing evidence, when available, about the impact of minimum wage increases on outcomes such as employment. For Ireland and Spain, the concept of living wage is also introduced. As noted in Section 2, the Irish government has committed to moving towards a living wage. For Spain, the paper draws on a recent case study, which analyses the presence of young Spaniards experiencing below-living wage earnings.

3.1 Ireland

Prior to April 2000, Ireland's minimum wage was determined by Joint Labour Committees (JLC). However, the wages specified in these agreements were often quite low and covered less than a quarter of the workforce. Furthermore, the level of enforcement was weak, such that the specified wages had very little bite (O'Neill, 2004). The minimum wage in Ireland was introduced in April 2000, at a rate of €5.58 per hour, and, from 2000 to 2007, it increased on a regular basis, reaching €8.65 per hour in July 2007 (Table 1). However, this trend shifted in the aftermath of the 2008 economic recession, which had severe consequences in Ireland and its labor market, as the unemployment rate rose by 10.5 percentage points (from 5% to 15.5%) between 2007 and 2012, with men and young people being particularly exposed to job loss (Bergin et al., 2019). During this period of economic downturn, not only did Ireland's minimum wage not rise, but it actually fell by 11.6% in January 2011 to €7.65 per hour worked. That decision was reversed just six months later.

Due to the economic and social consequences of the Great Recession, the Irish government established the Low Pay Commission in 2015 as part of its commitment towards ensuring that the economic recovery was felt by low and middle-income working families. The Commission was envisioned as an independent, non-political body that would make annual recommendations to the government on the appropriate level of the minimum wage and other related matters, considering certain economic and social considerations (Low Pay Commission, 2022). The Low Pay Commission consults with and gathers information and opinions from employers, workers, and a wide range of organizations in its role of advising the Irish government on changes to the National Minimum Wage. In this way, the Commission aims to ensure that changes to the National Minimum Wage are evidence-based and have the least possible impact on employment and labor market competitiveness. Since the establishment of the Low Pay Commission, Ireland's minimum wage has steadily increased year after year, rising from €9.15 per hour worked in 2016 to €10.50 in 2022 (see Table 1). According to a recent Low Pay Commission report, these increases have pushed Ireland's minimum wage to the top of the EU list. In particular, Ireland has the second highest nominal minimum wage per hour worked in the EU, and the sixth highest when adjusted for purchasing power (Low Pay Commission, 2022). Finally, it should be noted that the Irish government has committed within its coalition agreement to move towards a living wage (Eurofound, 2021a).

Table 1. Hourly minimum wage rates for adult workers in Ireland (2000-2020)

Date	Minimum wage (€)	Increase in minimum wage (€)	Increase in minimum wage (%)
1 April 2000	€5.58 (£4.40)	-	
1 July 2001	€6.00 (£4.70)	0.42	7.5%
1 October 2002	€6.35 (£5.00)	0.35	5.8%
1 February 2004	€7.00	0.65	10.2%
1 May 2005	€7.65	0.65	9.3%
1 January 2007	€8.30	0.65	8.5%
1 July 2007	€8.65	0.35	4.2%
19 January 2011	€7.65	-1.00	-11.6%
1 July 2011	€8.65	1.00	13.1%
1 January 2016	€9.15	0.50	5.8%
1 January 2017	€9.25	0.10	1.1%
1 January 2018	€9.55	0.30	3.2%
1 January 2019	€9.80	0.25	2.6%
1 February 2020	€10.10	0.30	3.1%
1 January 2021	€10.20	0.10	1.0%
1st January 2022	€10.50	0.30	2.9%

Source: Low Pay Commission Annual Report 2022.

3.1.1 Young workers and minimum wages

A specific feature of minimum wages in Ireland—which can also be found in several OECD countries (Kelly & McGuinness, 2017)—is that certain workers may be paid less than the minimum wage depending on their age. Prior to 2019, employees under the age of 18 could receive 70% of the minimum wage; those in their first year of employment, received 80%; employees in their second year of employment, received 90%; and those in structured training during working hours could receive 75%, 80%, or 90% of minimum wages, depending on their level of progression.

However, the Low Pay Commission conducted an analysis of sub-minimum rates in 2017, recommending the elimination of training rates and simplifying rates for young people. In accordance with these recommendations, the minimum wage for those under the age of 18 was set at 70% of the MW. This rate is 80% for 18-year-olds and 90% for 19-year-olds (see Table 2).

Table 2. Current rates of the National Minimum Wage in Ireland, by category of worker

	Category of Worker	Effective from 1 Jan 2021	% of minimum wage
Adult Rate	Experienced adult worker	€10.50	100%
	Aged under 18	€7.35	70%
Age-based Rates	Aged 18	€8.40	80%
	Aged 19	€9.45	90%

Source: Low Pay Commission Annual Report 2022.

Kelly and McGuinness (2017) note that the effects of the policy on young peoples' employment or continued education decisions, whether positive or negative, are small and weak, and sometimes insignificant. Their finding is in line with prior literature, including research at the international level. Separately, the authors also find that young workers are more prone to being recipients of the National Minimum Wage. In fact, they find that, relative to employees in the 40-49 age group, those who are aged 15-24 have a higher probability of earning the National Minimum Wage by 0.7 percentage points

In terms of broader available evidence for minimum wage increases in Ireland, O'Neill et al. (2006) analyze its pioneering implementation in 2000 and find little to no effect on employment, with an implied elasticity of labor demand that is relatively small given the unskilled nature of the workers involved. Since its implementation, subsequent studies have analyzed the impact of minimum wage increases on employment, labor market transitions and wage inequality.

3.1.2 Effects on employment

In a separate analysis on the impact of MW on employment, McGuinness and Redmond (2019) investigate the impact of the 2016 rise in the Irish minimum wage (from €8.65 to €9.15 per hour) on the hours worked and employment of minimum-wage workers. They find no evidence that the MW rise increased the likelihood of minimum wage employees losing their jobs, nor that it affected employment shares in industries with a high concentration of minimum wage employees. However, there was a 0.6-hour decline in hours worked per week, with bigger reductions for temporary contract workers, at three hours per week. Furthermore, these authors emphasize that the decrease in average hours worked could be attributable to incentive effects, with more people choosing to work fewer hours as the MW increased. However, the effects on employment may not be evenly spread across the entire population affected by the MW increase.

Given that McGuinness and Redmond's (2019) analysis indicates that the effect of the 2018 MW increase on hours worked is not homogeneous across the entire population affected by the increase (temporary employees were particularly affected), McGuinness et al. (2019) examine potential heterogeneity in hours worked among minimum wage workers across regions and sectors in Ireland

following the increase (from €9.25 to €9.55 per hour). Their results reveal heterogeneous regional and sectoral effects (despite the lack of evidence of an overall change in hours worked at an aggregate level). In terms of territorial differences, the authors discover that the regional effects were primarily concentrated in Dublin (where minimum wage employees saw a reduction in hours worked of approximately 1.6 hours per week), whereas there was some weak evidence of reduction in hours worked in the western regions and no evidence for the other regions.

Redmond and McGuinness (2022) expand this analysis focusing on three consecutive increases between 2016 and 2018, during which time the minimum wage increased from €8.65 per hour to €9.55 per hour. In terms of the intense margin adjustment, the hours worked by minimum wage workers decreased by nearly one hour per week compared to those paid just above the minimum wage, implying an elasticity of approximately -0.3. Workers in the industry sector and workers in the accommodation and food sector saw their hours reduced by around three hours per week and 2.5 hours per week, respectively. Similarly, non-Irish nationals receiving the minimum wage saw a drop in hours worked of approximately 2.5 hours per week (reflecting their high concentration in sectors that had been affected by the policy, notably the aforementioned accommodation, food and industry sectors).

3.1.3 Effects on labor market transitions

Focusing on the effect of a minimum wage rise on labor market transitions, Redmond et al. (2018) show that over a three-quarter (nine months) period, individuals are much more inclined to move to higher-paying jobs than to remain in minimum wage employment. However, this happens most often within the same occupation and with the same employer. As a result, rather than changing employment to locate higher-paying work, the majority of people appear to transition towards higher-paying jobs with the same employer.

Regarding the heterogeneity of this effect, the authors show that Irish nationals, older workers, those with higher levels of education, and full-time employees are more likely than non-nationals, younger people, those with lower educational attainment, and part-time workers to move from minimum wage to higher paid employment. Finally, Redmond et al. (2018) also find that low pay employees have a higher transition rate to unemployment or inactivity than higher paid ones.

3.1.4 Effects on wage inequality

Aside from the implications that a raise in the minimum wage may have on employment levels or labor market transitions, this policy may also have an impact on wage inequality. In this context, Holton and O'Neill (2017) examine pay inequality in Ireland over the business cycle (from 2007 to 2013), emphasizing the critical role of the National Minimum Wage in protecting and lowering inequality by preserving the incomes of the least qualified workers. The minimum wage in Ireland prevented major salary cuts for the lowest paid workers during the 2008-2013 economic slump by providing a contractual wage floor.

Redmond et al. (2021) examine the influence of the 2016 minimum wage hike on the hourly pay distribution in Ireland using distributional regression techniques. They discover that, following the

rise, wage disparity decreased by 8% and 4%, respectively, as measured by the ratio of salaries in the 90th and 10th percentiles and the 75th and 25th percentiles. Redmond et al. (2021) also find pay spillover effects, in which workers earning more than the minimum wage saw their wages grow as well, which extend to the 30th percentile of the wage distribution.

3.1.5 Non-compliance with minimum wages

While the academic literature assumes that the minimum wage is fully enforceable, some non-compliance appears plausible, which could affect possible wage, income, or employment effects related with minimum wage increases (Redmond, 2020).

McGuinness et al. (2020) use a question in Ireland's Labor Force Survey that directly asks employees whether they are paid the minimum wage or less to estimate minimum wage non-compliance. If respondents claim they are paid less than the legal minimum, they are questioned as to why. According to McGuinness et al. (2020), 5.6% of minimum wage employees are paid less than the minimum wage rate for reasons other than those permitted by law. Their results show that, non-compliance minimum wage employees are more likely to be male, Irish, over 35, have lower education levels, and be on temporary contracts than legally complying minimum wage employees. Working in personal care services, childcare, and agriculture relates to a higher likelihood of non-compliant sub-minimum wage employment.

3.2 Greece

Before 2012, employers and employees in Greece could constructively collaborate in order to sign collective agreements including a collective agreement at the national level (Karamanis & Naxakis, 2014). Among the measures taken to mitigate the effects of the economic downturn was the introduction of a new legislative framework based on the National General Collective Agreement (NGCA), which gave the Greek national government the authority to set the minimum wage without the need for an agreement with the social partners.

In this new scenario, in February 2012, the Greek government agreed to *reduce* the monthly minimum wage by 22% to €585.08 gross, and by 32% to €510.95 gross for those under 25 years of age (Table 3). These reduced levels remained in force until the completion of the structural adjustment programme in September 2018 (Monastiriotis, 2022). In that year, and following the recommendations from an independent experts' committee, the Greek government agreed to *increase* the statutory minimum wage by almost 11% and to abolish the youth subminimum wage (Monastiriotis, 2022). This increase, which became effective in February 2019, was the first in seven years and the second highest in the EU (Spain's MW increased by 22% in the same year), setting the monthly Greek MW at €650 (Eurofound, 2019).

Table 3. Evolution of minimum wage in Greece (2000-2019)

Year	NGCA	Monthly wage (€)*	Day wage (€)*	% change	
2000	2000-01	457.66	20.50	-	
2001	2000-01	472.76	21.18	3.3	
2002	2002-03	498.86	22.35	5.4	
2003	2002-03	519.87	23.29	4.2	
2004	2004-05	559.98	25.01	6	
2005	2004-05	591.18	26.41	5.5	
2006	2006-07	625.97	27.96	5.8	
2007	2006-07	657.89	29.39	5.1	
2008	2008-09	701	31.32	6.45	
2009	2008-09	739.56	33.04	5.5	
2010	2010-12	739.56	33.04	0	
2011	2010-12	751.39	33.57	1.6	
2012	age >25	Law 4046/12	586.08	26.18	-22
	age <25	Law 4046/12	510.95	22.83	-32
2013	age >25	Law 4046/12	586.08	26.18	0
	age <25	Law 4046/12	586.08	22.83	0
2019			650	29.12	10.9

Source: Karamanis & Naxakis (2014) and Eurofound (2019).

* In the annual personal income were included 2 extra monthly payments (holiday bonuses) according to the provisions of Greek labor law.

In this context, several studies were conducted to investigate the consequences of these modifications on the Greek minimum wage. Using administrative panel data and a difference-in-difference estimator, Georgiadis et al. (2020) investigate firm heterogeneity in responses to the policy reform that entailed a reduction in minimum wages in 2012. Overall, their findings indicate that firms' responses to cuts in the minimum wage are heterogeneous, which contradicts the labor market's competitive model. Specifically, the authors discover that, while wages fell across the board between December 2011 and December 2012, adult wages fell more in firms with a higher proportion of young workers. Furthermore, they show that adult employment increased more in firms with a sufficiently high proportion of young workers.

Yannelis (2014) analyzes the employment effects and dynamics of the minimum wage using the same reform, which differentially reduced the wage of workers above and below 25 (32% and 22%, respectively). The author finds that employment increases following minimum wage cuts, and this is entirely through new hires of workers, and no effect is found in terms of job destruction. By identifying substitution elasticities and comparing younger to older workers, the author estimates the actual impact of the minimum wage on employment, concluding that the employment elasticity

for young workers ranges between -0.28 and -0.46. The findings from Yannelis (2014) apply to a wide range of outcome variables, including unemployment, full-time employment, and hours worked. In addition, this author also points out that young workers (who had a lower MW) were more likely to transition to another job than older workers. Kanellopoulos (2015) finds that minimum wages appear to significantly reduce employment for both genders (i.e., employment elasticity to relative minimum wages of -0.17), which is relevant in times of economic recession and high unemployment, as Greece experienced in 2012.

Finally, Karamanis and Naxakis (2014) investigate the relationship between the minimum wage level and unemployment and employment rates in the Greek labor market, analyzing the minimum wage's evolution from 2000 to 2013. The findings suggest that the level of the minimum wage in Greece had little effect on unemployment and employment rates.

3.3 Spain

In Spain, the national government manages the annual setting of minimum wages following discussions with the most representative unions and employers' organizations, which are in any case non-binding. The Spanish minimum wage has no territorial variations as it is applied nationally. Since 1998, the minimum wage coverage has been extended to all workers, regardless of age or union status (Galán & Puente, 2015). Annual MW revisions often consider a variety of factors such as the Consumer Price Index (CPI), national average productivity, and the overall economic environment. Unlike other countries such as Ireland, in Spain there are no exceptions to the legal minimum for young workers, since this was abolished in 1997. In addition, it is worth mentioning that the minimum wage in Spain is fixed monthly.²

As Gorjón et al. (2022) explain, the evolution of minimum wages in Spain has been unequal in recent years (Figure 2). The MW steadily increased from €490.8 to €600 between 2004 and 2008 (a nominal increase of 22.3%, or 5.6% per year). The MW increased at a slower rate throughout the Great Recession and early phases of the recovery because of the economic downturn, reaching €655.2 in 2016. Although the annual rise was minor (1.2% on average), it ensured that affected workers' purchasing power remained consistent with those set in collective bargaining agreements (Barceló et al., 2021). After 2017, the MW began to expand at a quicker rate. First, the People's Party (PP), the centre-right's government, raised the minimum wage by 8% (from €655.2 to €707.7). Then, the Socialist Party (PSOE) increased the MW to €900 per month. Given that the Spanish MW in 2018 was €735.90, this decision constituted an unprecedented 22.3% year-on-year increase. Further increases have happened in succeeding years, but at a lower scale than in 2019, until the MW reached €1,000 in 2022. The Spanish government has already approved the subsequent increase for 2023, with the aim of gradually reaching 60% of the average gross wage in Spain, as discussed in the following subsection.

² When determining the annual minimum wage, it is essential to consider that, as per the legislation, this amount is paid in 14 payments. It is a common practice in Spain for employees to receive their salary divided into 14 payments instead of 12.

Table 4. Minimum wage in Spain (2004-2021)

Year	Monthly minimum wage	% change
2004	€ 490.80	-
2005	€ 513.00	4.5%
2006	€ 540.90	5.4%
2007	€ 570.60	5.5%
2008	€ 600.00	5.2%
2009	€ 624.00	4.0%
2010	€ 633.30	1.5%
2011	€ 641.40	1.3%
2012	€ 641.40	0.0%
2013	€ 645.30	0.6%
2014	€ 645.30	0.0%
2015	€ 648.60	0.5%
2016	€ 655.20	1.0%
2017	€ 707.70	8.0%
2018	€ 735.90	4.0%
2019	€ 900.00	22.3%
2020	€ 950.00	5.6%
2021	€ 965.00	1.6%

Note: The table shows monthly MW at 14 full time payments. For the year 2004, it shows the MW in effect as of July 1. For the year 2021, it shows the MW in effect as of September 1.

Source: Ministry of Labor and Social Economy.

3.4.1 Young workers and minimum wages

The academic literature covering the successive increases in the minimum wage in Spain is extensive. When sub-minimum wages were set for young workers in Spain, the study by Dolado and Felgueroso (1997) discovered that there may be a negative association between the minimum wage and employment in the case of adolescent workers. This indicated that a 10% rise in the minimum wage can lower employment in this age group by roughly 2%. This negative effect is not uniform across the country, as those regions with a higher share of low-pay workers were particularly vulnerable to the detrimental impact of successive hikes in the minimum wage. These authors also found evidence of a high level of noncompliance with legal regulations, and no evidence on the effects of minimum wage increases on labor supply and the setting of collective bargaining agreement minimum wages. This implied a high level of risk in recommending a strong upward revision of collective bargaining minimum wages across the board. Dolado et al. (1997) estimate wage gains due to minimum bargained wages and their employment effects, suggesting that unions only succeed to a limited extent in limiting wage dispersion. Among the probable explanations as to

why this happens, the authors claim that by establishing minimum salaries for unskilled workers, unions may create spillover effects that enhance the pay of skilled people. Furthermore, even in the absence of these spillover effects, skilled employees' salaries may be affected due to the elasticity of substitution between both sets of workers.

After the minimum wages of young workers and the rest of the population were equalized in 1997, González et al. (2003) analyze, using panel data, the effect of the minimum wage on the employment of Spanish teenagers. Taking into account the community effects in the estimations, the results show that the aggregate response of youth employment to changes in the contemporary minimum wage is positive and significant. More recent analyses looking at, among others, the effect of the minimum wage on young workers have come to mixed conclusions. Using administrative data from Social Security records, Galán and Puente (2015) examine the effects of a significant increase in the minimum wage in Spain between 2004 and 2010 on the individual probability of losing employment. They find that an increase in the minimum wage has a positive and significant impact on the probability of losing employment for both young and older workers. Their results show that the magnitude of this effect doubles in the case of older workers compared to young workers. Arellano and Jansen (2013) investigate the relationship between the minimum wage and the employment status of young employees in Spain prior to and after the economic crisis (2007 and 2013). Using administrative data on employment histories retrieved from the Spanish Social Security, they find that the minimum wage sets a higher barrier to employment for younger workers than for all workers, particularly for new hires in 2013. Cebrián et al. (2010) assess the potential employment consequences of raising the minimum wage from 600 to 800 euros per month in the period 2008-2012, as specified in the government program, which entailed a 33.33 percent increase in the minimum salary over four years. Among the findings, the authors discover no significant effect of changes in the Kaitz index on the employment rates of teenagers, young people, and the general population. Blázquez et al. (2009) examine the impact of the minimum wage on young employment in Spain, taking into consideration both existing regional disparities and dynamic employment behavior, as well as labor seasonality, which is a relatively common element of youth employment in Spain. Considering existing geographical differences, lags, and seasonal job variations, they find no conclusive evidence of any negative effects of minimum wage on youth employment in Spain over the study period.

Regarding other groups affected by the increase in the minimum wage in Spain, González Güemes et al. (2012) focus on immigrant workers, discovering that increases in the minimum wage have a greater negative impact on total employment of immigrant workers than previous research has found for sensitive groups, such as Spanish teenage workers. Furthermore, the effect varies depending on the worker's gender. The most relevant adjustment happens in the short term for women, whereas for men, the instantaneous effect appears to be non-existent; nonetheless, it becomes relevant with time. Finally, before reviewing the studies that examine the 2019 increase, it is worth noting that Cebrián et al. (2020) examine the probability of maintaining employment for people affected by the 2017 increase. They discover a negative effect just before the increase occurred while they also note that this did not occur following the increase.

3.4.2 The 2019 Minimum Wage increase in Spain

Of all the minimum wage increases presented in this paper, the one that was implemented in 2019 in Spain is perhaps the most relevant, given the unprecedented increase of 22.3% in a single year. Regarding this increase, using administrative microdata from the 2017 Spanish Social Security and following a projection of the analysis of the 2017 increase, Lacuesta et al. (2019) estimate that this measure has resulted in a 0.8% decline in full-time salaried employment, with older persons bearing the brunt of the impact. According to the Independent Authority for Fiscal Responsibility (AIReF), the 2019 increase triggered an employment loss of 0.13 to 0.23% percentage points (p.p.) in 2020. This translated into a decline of between 19,000 and 33,000 people affiliated with the general regime. Moreover, the impact of the increase is found to be uneven, with a greater negative effect on women, young workers, and regions with lower average wages (AIReF, 2020). The Economic Cabinet of Comisiones Obreras (one of the country's most important workers' unions), by contrast, uses data from the Spanish Labor Force Survey in addition to Social Security data to analyze the effect on employment of this minimum wage increase. According to the Economic Cabinet's findings, the decline in enrollment in the first quarter of 2019 was very similar to that of 2018, while the probability of maintaining employment for certain groups at risk due to the rise in the MW increased from 2018 to 2019. Therefore, the authors conclude that the minimum wage increase had no effect on job creation or job destruction. Using administrative microdata for 2019, Barceló et al. (2021) examine the impact of this wage increase. The authors detect a net employment loss of between 6% and 11% for workers directly affected by the legislation, considering both job creation and destruction. The anticipated impact on job loss, on the other hand, is between 2% and 3% for persons working full-time for 30 days per month, and up to 4% for workers in the hospitality sector in terms of equal working hours. Furthermore, the study shows that young people who were working full time before the implementation of the measure may have witnessed a reduction in hours worked. Unemployed people who worked in jobs that earned the minimum wage before 2019 had a reduced chance of finding work.

Finally, by using the work histories from a sample of Social Security affiliates,³ Gorjón et al. (2022) examine the employment effects of the 2019 MW increase in Spain on individual probabilities of losing employment (extensive margin) and reducing work intensity (intensive margin). Following the MW reform, these authors discover no immediate substantial effects on the likelihood of losing a job or a reduction in the number of working hours. Dynamic estimates, by contrast, show statistically significant and substantial negative employment consequences between four and twelve months following the reform. Overall, the findings indicate that, after one year, most of the negative employment effect can be attributed to job losses (69.6% of the total negative effect) rather than a reduction in working hours (30.4%). The baseline analysis indicates that, after twelve months, the 22% increase in the minimum wage increased the probability of losing employment (reducing working hours) by 1.92 percentage points (0.84 percentage points) for workers affected by the reform. This implies an employment loss elasticity of -0.09 (for an increase of 1 p.p. in the MW, the affected individuals' probability of remaining employed decreases by 0.09). Furthermore, the authors test the presence of diverse impacts by conducting separate analyses based on workers'

³ The research design controls for observable differences between treatment and control groups using a matching strategy.

gender, age, and prior work intensity. This analysis yields several conclusions. First, results show only minor (statistically non-significant) variations in the likelihood of leaving a job between men and women workers. In terms of labor intensity, men exhibit a quicker adjustment and women have a larger influence in the medium term. Second, the findings indicate significant age heterogeneity: whereas younger individuals are more affected in terms of labor intensity, older workers experience a greater employment loss effect. Finally, there are significant differences between full-time and part-time workers, with the former expecting a greater adjustment in job intensity.

3.4.3 Living wages amongst the Spanish young workers

In the spirit of combatting inequality and reducing poverty, minimum wage policies have been implemented in a number of European countries. However, levels of minimum wages vary significantly, and in many cases, those levels do not ensure that workers have adequate living conditions. In view of this, there are some countries where the government has committed itself to moving towards a living wage (e.g., Ireland) and others where a policy debate has been initiated to bring the minimum wage closer to the living wage. The latter case applies to Spain, where the government committed itself to set minimum wage levels at 60% of the national average wage by 2023. This measure is in line with that established in the European Social Charter (Court of Europe, 2015) and appears as a proxy of the living wage. In fact, the provision of the European Social Charter outlines that in order for minimum wages to ensure a decent standard of living for workers, these should amount to 60% of the country's average wage.

This subsection draws on recent research by Gorjón et al. (2023) which investigates the proportion of workers whose annual earnings are below 60% of Spain's average wage and analyzes the medium- and long-term effects of this situation on workers' labor trajectories, namely, five and ten years after the workers first accessed the labor market. In addition, the paper explores which labor market factors are most prominent in workers' future earnings (i.e., work intensity or hourly wages). To do so, the authors use the full work histories of young entrants in Spain affiliated to the Social Security since 2006.

At the national level, Table 4 contextualizes the dynamics of average wages, the underlying threshold of 60% of average wages, and minimum wages in Spain since 2006. The last column includes the Kaitz ratio to measure the distance between minimum wages and average wages in the country. The table shows that average wages in Spain have not recovered since 2010, although an increasing trend was observed following the post-crisis recovery until 2016. In 2019, average wages were still 3.5% below the peak levels. By contrast, the subsequent minimum wage increases enacted in recent years have implied that those levels approach 60% of the average wage, particularly after the sharp increase, which occurred in 2019, as seen in the previous subsection. The Kaitz ratio, in fact, highlights the closer distance between average wages and the minimum wage: in 2006, minimum wages represented only 30% of average wages, whereas as of 2019, these represent a high of nearly 60% following the sharp increase, which occurred during that year.

Table 4. Evolution of average wage and minimum wage in Spain (2006-2019)

	Real annual average wage	60% average wage per year	Minimum wage per year	Kaitz ratio (minimum wage / average wage)
2006	21,869.37	13,121.62	6,534.40	0.30
2007	22,221.43	13,332.86	7,089.71	0.32
2008	23,040.88	13,824.53	7,762.44	0.34
2009	23,627.47	14,176.48	8,053.72	0.34
2010	23,454.34	14,072.60	8,341.32	0.36
2011	22,798.64	13,679.18	8,704.82	0.38
2012	22,357.39	13,414.43	8,917.64	0.40
2013	22,244.69	13,346.81	9,109.18	0.41
2014	22,434.50	13,460.70	9,091.12	0.41
2015	22,724.40	13,634.64	9,080.40	0.40
2016	22,613.97	13,568.38	9,141.61	0.40
2017	22,290.69	13,374.41	10,075.24	0.45
2018	22,552.72	13,531.63	10,659.07	0.47
2019	22,815.77	13,689.46	13,136.76	0.58

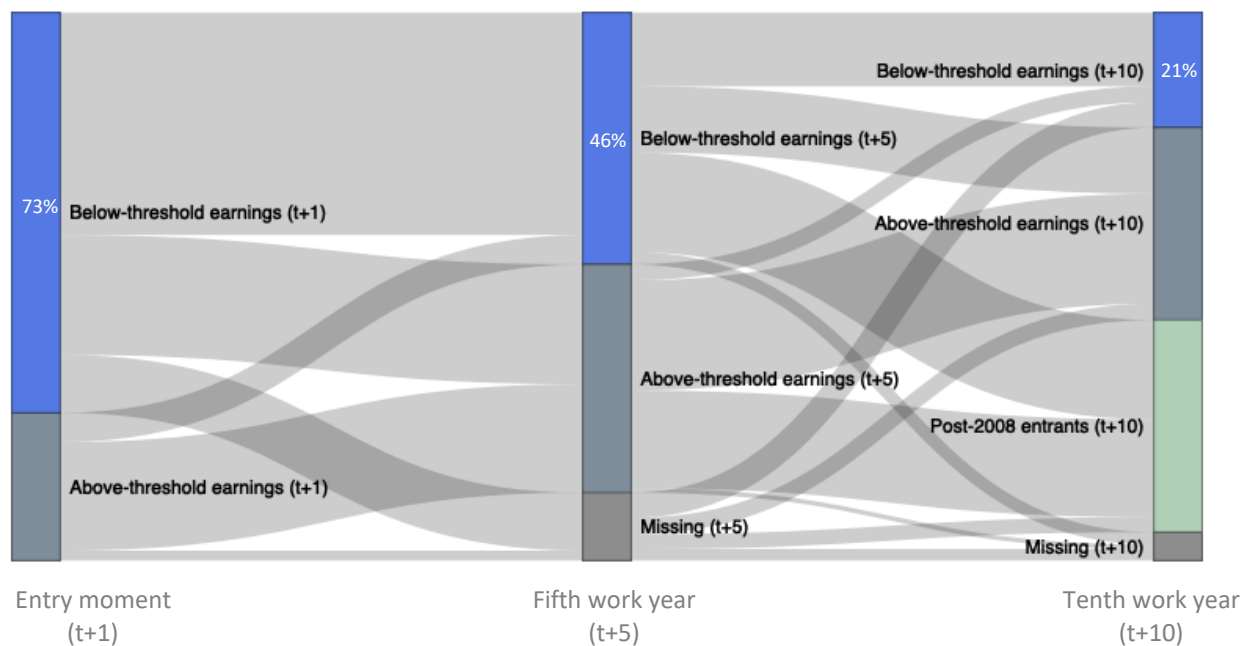
Note: Wages are measured in real euros of 2015.

Source: Gorjón et al. (2023) and authors' own calculations.

Focusing on the youth, Gorjón et al. (2023) document that three out of four young entrants (aged 16-30) earn below 60% of the national average in their first year of work experience, as shown in Figure 2. As time goes by and they gain work experience, the share of workers whose earnings are below this threshold diminishes five years after entry into the labor market, while these individuals continue to represent a large share of the total young workforce, 46%. Over the longer term (ten years after entry), one in every five workers has earnings below average.

Figure 2 also shows the transitions of workers depending on their wage levels and work experience (first, fifth and tenth year of work experience). The chart is a first indication of the extent of the “scar”, which captures how a bad job—or one that provides annual earnings below 60% of the national average—at present marks the youth’s future labor trajectories. Between the first and the fifth working year, 37% of individuals who started with bad jobs moved outside this category. However, 63% of them continued holding bad jobs five years later. This is in contrast with the fact that only 20% of those who did not start with a bad job ended up with a bad job in the fifth working year. This, in turn, is a strong indication that the quality of a job when entering the labor market affects the situation in the medium term.

Figure 2. Dynamics of young workers' earnings being below or above 60% of the national average



Note: The data refer to job market entrants aged 16-30 for the period 2005-2013. Post-2008 entrants are included in a separate category in given the lack of data availability for this cohort and later ones, since the last available year in the database is end-2019. The numbers on the bars reflect the total number of selected workers in each category. The missing category corresponds to individuals with no employment affiliation to the Spanish Social Security. Source: Gorjón et al. (2023).

In fact, Gorjón et al. (2023) empirically confirm the existence of scarring effects of entering the labor market with low wages after controlling for socio-demographic and macroeconomic factors. In particular, they find that those workers whose total earnings in the first working year do not reach 60% of the national average are twice as likely to continue in such a situation in the fifth working year compared to those who start with above-threshold earnings (a probability of 56% versus 24%, respectively). Over the longer term, the results convey a similar message. In this case, the authors find that workers who attain above-threshold earnings in the fifth working year, even if these were below threshold at the entry moment, are very likely to have above-threshold earnings over the longer term. These findings highlight the importance of the medium-term situation in order to attain better earnings over the longer term. The findings also reveal that college graduates exhibit a much smaller likelihood of holding jobs that provide annual earnings below 60% of the average. This provides evidence of the role of human capital in determining future earnings. Lastly, Gorjón et al. (2023) conclude that the key determinant of future earnings is the work intensity, more so than hourly wages, which are (as shown in this paper) converging towards a living wage following recent reforms implemented by the Spanish government.

3.4 Italy

Italy is the only one of the four countries examined in this review paper that lacks a legal minimum wage. Instead, the Italian wage floor is set by collective agreements, and wages are applied to most employees due to the high coverage of collective agreements on the one hand, and the action of Italian jurisprudence on the other (Tufo, 2018). As Adamopolou and Villanueva (2022) explain, collective bargaining agreements in Italy are negotiated between union representatives and employer federations, who set wages, maximum hours of work, rules regarding promotions and training, and other labor conditions for a specific period. Specifically, collective bargaining takes place at the national level in Italy for each sector, and contracts signed under these agreements have had a three-year duration since 2009. The discussion on the introduction of a statutory minimum wage was part of the public debate during 2019 and 2020, but the COVID-19 pandemic postponed the debate (Eurofound, 2021a)

Regarding recent literature examining the effects of collective bargaining agreements on the labor market and income inequality in Italy, Devicienti et al. (2019) analyze the evolution of Italian wage inequality between the 1970s and the 2000s using matched employee-firm data from the Veneto region and following the methodology from Card et al. (2013). Their results show that, in comparison to the German labor market, the highly centralized sector-wide wage setting mechanisms in Italy did not undergo a renewal process. Consequently, Italian firms were unable to opt out of the wage dynamics established within the relevant industry-wide collective agreements.

Adamopolou and Villanueva (2022) analyze collective contracts in Italy (and Spain), showing that the bite of collective contracts is high and wage cyclicality is low in southern Italy. Furthermore, by adapting the work from Cengiz et al. (2019), the authors also find that a one percentage-point increase in the unemployment rate reduces the fraction of workers earning at least 1.5 times their corresponding wage floors by 0.6 percentage points, while increasing accumulation at wage floors by 0.4 percentage point.⁴ After decomposing the margin of response across different types of workers and firms, these authors show increases in the unemployment rate result in wage floor accumulation only for employees of small firms. The authors also find that both young and old workers contribute to the cyclicality of wages in Italy.

⁴ A wage floor is a minimum wage which is usually bargained by unions or workers' associations at the industry level.

4. Conclusions

The minimum wage has been a topic of public debate in recent years as a tool towards combating the high unemployment, job insecurity, and income inequality that has characterized several European countries, notably peripheral regions. In this context, national governments and EU institutions have emphasized the necessity of providing adequate minimum wages to ensure that all workers have decent living conditions. This policy is, however, not exempt of controversy given its inconclusive effects on employment. This paper has reviewed minimum wage policies in Ireland, Greece, and Spain over the past three decades. In particular, the paper has reviewed literature regarding the effects of minimum wage on outcomes such as employment or inequality, and it has tackled the relationship of minimum wages with living wages across countries. In addition, it has briefly discussed the Italian system of collective bargaining agreements to establish wage floors, as the country does not have a statutory minimum wage.

In Ireland, the evidence suggests that, while the effects on employment are not particularly significant, it is important to consider the heterogeneous impact on the affected population, both in terms of groups (young people and those with a low level of education) and sectors of activity and regions. In terms of income inequality, the Irish minimum wage benefited the lowest paid workers during the 2008 economic recession (Holton & O'Neill, 2017). Moreover, after the 2016 minimum wage increase, the population above the minimum wage also benefited due to spillover effects. Finally, Redmond (2020) warns that non-compliance with the minimum wage, which seems likely to a certain degree, could influence the effect of this policy on the labor market and income inequality.

Literature examining the effects of the minimum wage in Greece also indicates heterogeneous effects on employment. Particularly, after the 2012 reform, wages fell more in firms with a greater proportion of young workers (Georgiadis et al., 2020), with most of the effect attributable to substitution from older to younger workers (Yannelis, 2014). However, evidence also suggests that before and during the economic downturn, the minimum wage in Greece had a negligible effect on the employment and unemployment rates (Karamanis & Naxakis, 2014).

In the case of Spain, a significant portion of the literature has examined the heterogeneous effect of minimum wage increases, with a particular emphasis on younger workers. In this regard, the evidence is mixed, with some studies finding that minimum wage increases may hinder the hiring of young people (Arellano & Jansen, 2013) and others finding no significant effect (Cebrián et al., 2010). This paper provides an in-depth review of the 2019 minimum wage increase in Spain, which implied an unprecedented increase of minimum wages by 22,3% in a single year. In general, analyses of this increase indicate a negative impact on employment, which amounts to either a loss or a lack of creation, although the magnitude of the effect varies (AIReF, 2020; Barceló et al., 2021; Gorjón et al., 2022).

The increasing commitment by governments to achieve convergence of minimum wages towards living wages is a matter of utmost importance, particularly given its potential effects on the population groups most exposed to low pay jobs, including the youth. In this regard, the paper

provides a case study focusing on the Spanish youth's earnings and how these relate to living wages. Drawing on recent research by Gorjón et al. (2023), the paper highlights that the vast majority of young entrants to the labor market between 2006 and 2013 earned wages below the living wage (defined as 60% of the country's average wage) The compiled evidence shows that low-earners at the moment of entry have double chances of continuing in such a situation in the future, a situation that is largely driven by non-employment spells that many young workers experience in the country.

In addition, a brief overview of the system of collective bargaining agreements that serve to establish a wage floor in Italy is provided. The most recent analyses in this area point to a differential impact on wage dynamics compared to other countries with a similar system, such as Germany (Devicienti et al., 2019). Furthermore, these analyses also highlight a greater presence of collective contracts in the south of the country and an accumulation effect around the wage floor when the unemployment rate rises (Adamopolou & Villanueva, 2022).

The general conclusion of this paper is twofold. First, there is no clear unidirectional effect of minimum wage increases on employment. Considering the likelihood that the levels of minimum wages in Europe might grow in the coming years to potentially converge towards living wages, it is necessary to emphasize the significance of continuing to evaluate future wage increases, considering the heterogeneous impact on the affected population and other dimensions beyond employment levels. Second, in the process fostered by governments to achieve convergence of minimum wages towards living wages, it is important to particularly monitor the dynamics of the youth's earnings. As highlighted in the case of Spain, the youth's difficulty in achieving a living wage is mostly channeled through the oftentimes continued interruptions of non-employment spells, rather than low hourly wages or part-time spells. Hence, alleviating those interruptions which mostly arise from temporary contracts could provide a way for the youth to gradually converge towards living wages.

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