



**An Roinn Caiteachais
Phoiblí agus Athchóirithe**
Department of Public
Expenditure and Reform

Social Impact Assessment 2018

National Minimum Wage

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This paper has been prepared by IGEES staff in the Department of Public Expenditure & Reform. The views presented in this paper do not represent the official views of the Department of Public Expenditure and Reform or the Minister for Public Expenditure and Reform.

Summary

Ireland introduced a National Minimum Wage (NMW) in 2000. It has increased over time and now stands at €9.55 as of January 2018. A 2016 QNHS Statistical Release reports 155,000 employees earning at or below the NMW which represented 9.2% of total employees.

This paper presents a profile of NMW recipients and selected domestic and international evidence regarding the magnitude and impact of a minimum wage.

Profile of NMW recipients:

- 54% are female;
- 38% are aged under 25 and 65% are under 35;
- 27% of recipients live in Dublin;
- 72% are Irish nationals;
- 40% of employees report higher secondary as their highest level of education;
- 30.5% of employees reside in a household with 3 or more adults with no children;
- 28% work in the wholesale and retail and 27% in Accommodation & Food Services;
- 59% work part-time;
- 52% work less than 30 hours per week; and
- 73% are permanent employees.

Compared to the total employee cohort, the NMW employees are more likely to:

- Be Female;
- Be aged less than 25, particularly aged between 15 and 19;
- Be from the Border region;
- Be a non-national, particularly from non EU-15 countries;
- Work in the wholesale, retail, accommodation and food services sectors;
- Work part-time;
- Work a lower or variable number of hours; and
- Be employed on a temporary basis.

International Comparison

Ireland's minimum wage level is in the middle of a range of selected advanced OECD countries. Ireland moves to the higher end of the distribution when considering the net minimum wage (take home pay after tax and social contributions).

Data issues

Overall the results point to approx. 9% of employees earning at or below the NMW when the rate was set at €9.15. However this estimate is subject to numerous caveats. Neither the QNHS nor SILC surveys are designed to measure earnings. These analyses are also limited in that they do not account for the knock-on implications of a change in the NMW for employees with earnings just above the rate.

Future Outlook

Further development of the evidence base in this area is required to inform future changes in the National Minimum Wage.

- Given the higher number of persons earning the NMW wage it is important to have greater clarity regarding the full earnings distribution. This would facilitate a greater understanding of the dynamics of minimum wage/low pay and hours worked.
- Therefore it may be useful to develop a more comprehensive database with linkages between different administrative data sources including PRSI data from the Department of Employment Affairs and Social Protection and PAYE data from the Revenue Commissioners. Further analysis could also benefit from the next release of the *CSO's Earning Analysis using Administrative Data Sources*.

1. Introduction

A national minimum wage (“NMW”) was introduced in Ireland in 2000 under the National Minimum Wage Act. It was originally set at €5.58 per hour (IR£4.40) for experienced adult workers, which was based on an estimated value of two-thirds of median earnings for all employees. Since then, it has been changed on eleven occasions with the most recent increase bringing the rate to €9.55 per hour from 1st January 2018.

This paper forms part of the Social Impact Assessment (SIA) Series which aims to apply an evidence based methodology to assess the impact of policy on households’ financial position. The Programme for Government commits to ‘develop the process of budget and policy proofing as a means of advancing equality, reducing poverty and strengthening economic and social rights.’ The Social Impact Assessment (SIA) Framework is a first step in this process (Lawless, 2016). In this context, there are a number of challenges in undertaking an analysis of the impact of the NMW given the difficulties associated with identifying the profile of individuals earning at or below the NMW. It is also difficult to isolate the impact of the prevailing rate of the NMW given the array of other labour market and economic variables which influence employment and earnings levels.

In 2016 it is estimated that c. 155,000 employees were earning at or below the minimum wage, reflecting c. 10% of total employee numbers (Source: QNHS, CSO). The objectives of this paper, in line with the overall Social Impact Assessment (SIA) Framework, are to:

- Provide an overview of the key trends associated with the NMW;
- Present a profile of NMW recipients using the recent QNHS NMW Estimates Statistical Release;
- Identify significant differences in characteristics between employees earning at or below the NMW and the total stock of employees;
- Compare the QNHS profile of NMW recipients with other published studies; and
- Briefly discuss the impact of the NMW in terms of delivering on the social policy commitment to protect workers.

Rationale for NMW

In Ireland the NMW was introduced in 2000 as a social policy commitment to protect workers considered to be most vulnerable and at risk of exploitation and protect against poverty. The Low Pay Commission was established under the National Minimum Wage (Low Pay Commission) Act, 2015 with the primary aim “*to have a minimum wage that provides an incentive to work, is set at a rate that is both fair and sustainable, and helps as many people as possible, without a significant adverse effect on competitiveness or a significant negative effect on employment.*” The Commission publishes reports which accompany recommendations to Government on the setting of the level of the minimum wage. This is in line with best practice as set out by the OECD which states that NMWs should be reviewed frequently and independent expert commissions

provide a good forum to consider a range of economic and social factors when deciding on the level of the NMW.

Key Figures

The current rate of minimum wage for experienced adult workers is **€9.55** per hour. There are three lower rates applicable to younger persons:

- Over 19 and less than 2 years since beginning first job **€8.60** per hour
- Over 18 and less than 1 years since beginning first job **€7.64** per hour
- Aged under 18 **€6.69** per hour

The NMW rate has increased ten times and reduced once since its introduction in 2000. Table 1 below shows the changes to the NMW since its introduction in 2000.

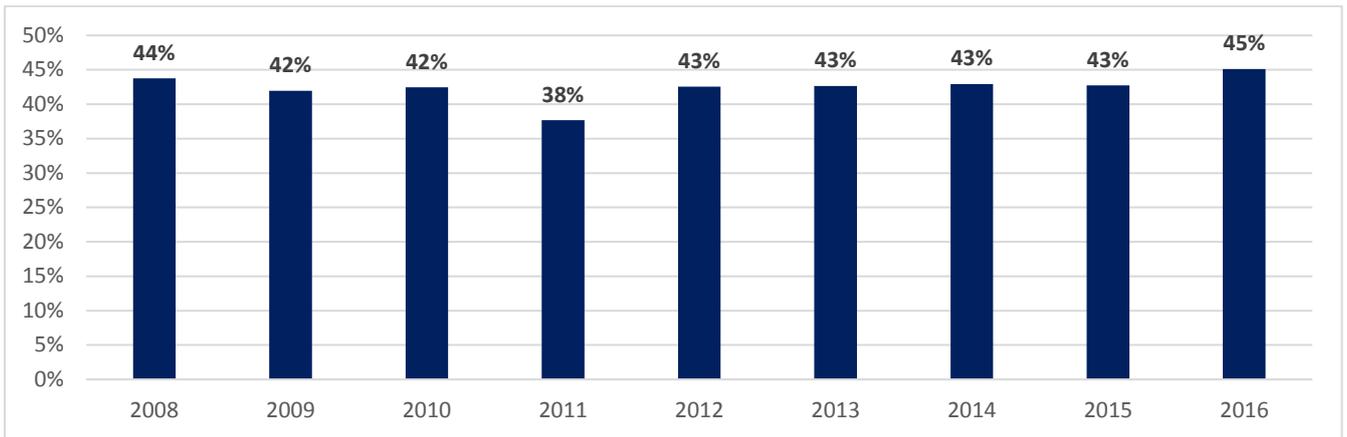
Table 1: Changes to NMW since introduction

Date	NMW Rate (€)	% Change from previous
Apr-00	5.58	-
Jul-01	6.00	8%
Oct-02	6.35	6%
Feb-04	7.00	10%
May-05	7.65	9%
Jan-07	8.30	8%
Jul-07	8.65	4%
Jan-11	7.65	-12%
Jul-11	8.65	13%
Jan-16	9.15	6%
Jan-17	9.25	1%
Jan-18	9.55	3%

Trends

Over the period 2008 to 2016, the NMW was equivalent to 42% of average hourly regular earnings. This percentage dropped to 38% in 2011 due to the €1 reduction implemented for six months.

Figure 1: NMW as a percentage of average hourly regular earnings, 2008 - 2016

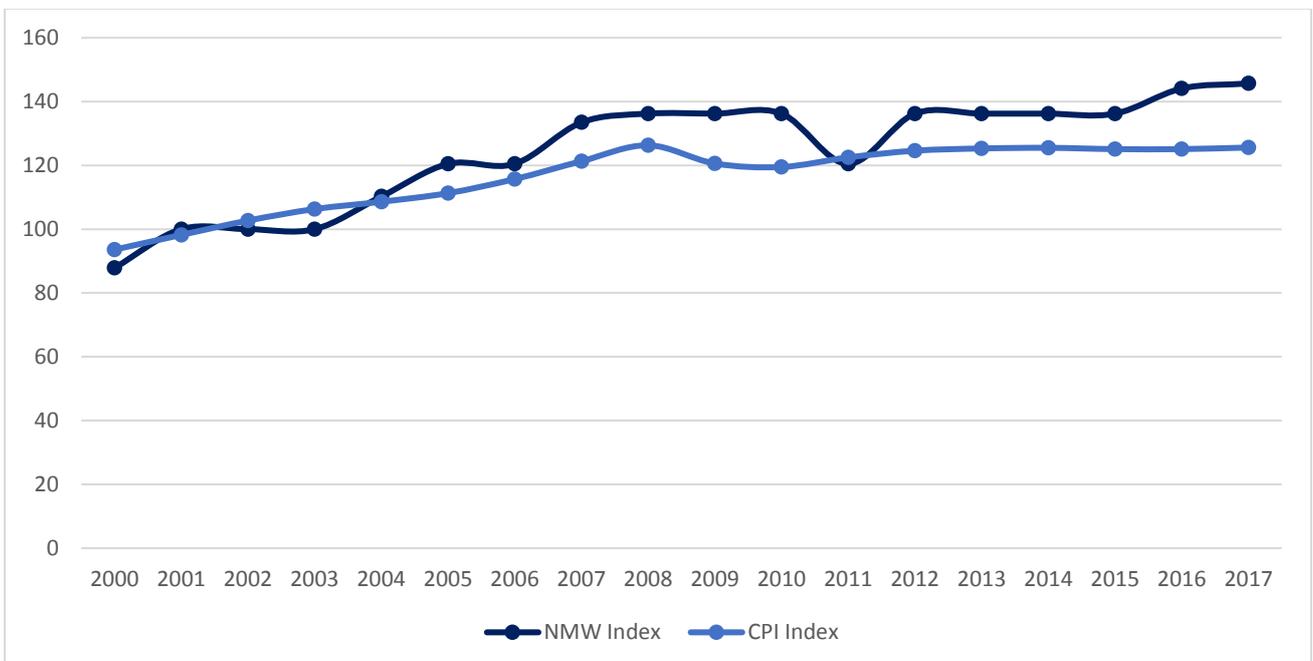


(Source: CSO, Author calculation)

Data relating to 2017 or median hourly income over the time period in question is not readily available.

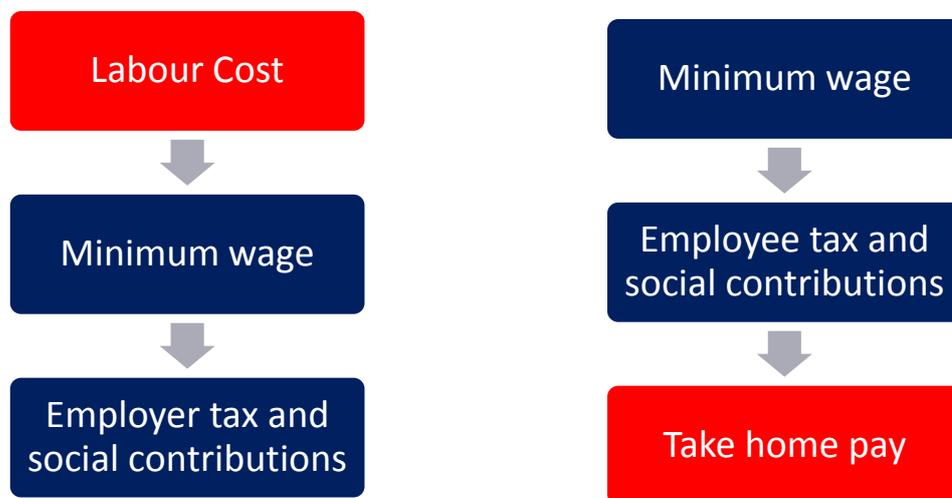
For the majority of years since its introduction growth in the NMW has exceeded inflation levels. Figure 2 illustrates the relationship between changes in the Consumer Price Index and an index of the NMW using a base year of 2001. Inflation (as measured by the CPI) was above growth in the NMW in 2002 and 2003. From 2004 to 2007 the NMW increased from €7.00 to €8.65 (23.6%) which was above the rate of inflation. The gap between the NMW index and the CPI index increased in 2009 and 2010 due to deflation and a constant NMW rate. This gap was closed in 2011 following a 6 month €0.65 reduction in the NMW. Since 2011 increases in the NMW have been above the rate of inflation.

Figure 2: NMW and CPI Indices, 2000 – 2017 (Base year = 2001)



Source: CSO CPI & author calculations

The tax burden for NMW earners is low and this results in a small difference between gross and net minimum wage. The diagrams below illustrate the prevailing costs and benefits for employers and employees from the minimum wage. Employers incur labour costs equal to the minimum wage plus employer tax and social contributions. Employees receive a wage which is equal to the minimum wage minus employee tax and social contributions. By driving a wedge between labour costs and workers' take-home pay, the size of the overall tax burden has implications for how well the minimum wage performs at supporting low wage workers and low-income families, while avoiding significant job losses. In Ireland the tax burden is relatively low for both employers and employees. For example, a person earning the NMW working a 40 hour week would take home approximately 91% of their gross earnings.



Box 1: Tax and Social Insurance Contributions

Employee PRSI

Class A employees earning €352 or less per week (before tax is deducted) do not pay any social insurance. Employees earning over €352 per week pay 4% PRSI on all earnings. A new PRSI credit was introduced in 2016 which reduces the amount of PRSI payable for people earning between €352.01 and €424 per week.

Income Tax

Standard income rate of 20% and system of tax credits.

Employer PRSI

Employers pay 8.5% Class A employer PRSI on weekly earnings up to €376. Employers pay 10.75% Class A employer PRSI on weekly earnings over €376.

2. Profile of NMW Recipients

This section utilises the latest CSO data from the Quarterly National Household Survey 2016 to provide an overview of the profile of NMW recipients, including age, gender, region, degree of urbanisation, nationality, educational attainment, household composition, economic sector of employment, type of occupation, number of hours worked and permanency of employment. The data was collected over three quarters in 2016 from quarter two to quarter four.

In 2016 there were, on average, 155,100 people earning at or below the minimum wage. This represents 9.2% of all employees. When non-respondents are excluded the percentage of NMW recipients increases to 10.1% of employees.

Table 2: Average number of NMW recipients, 2016

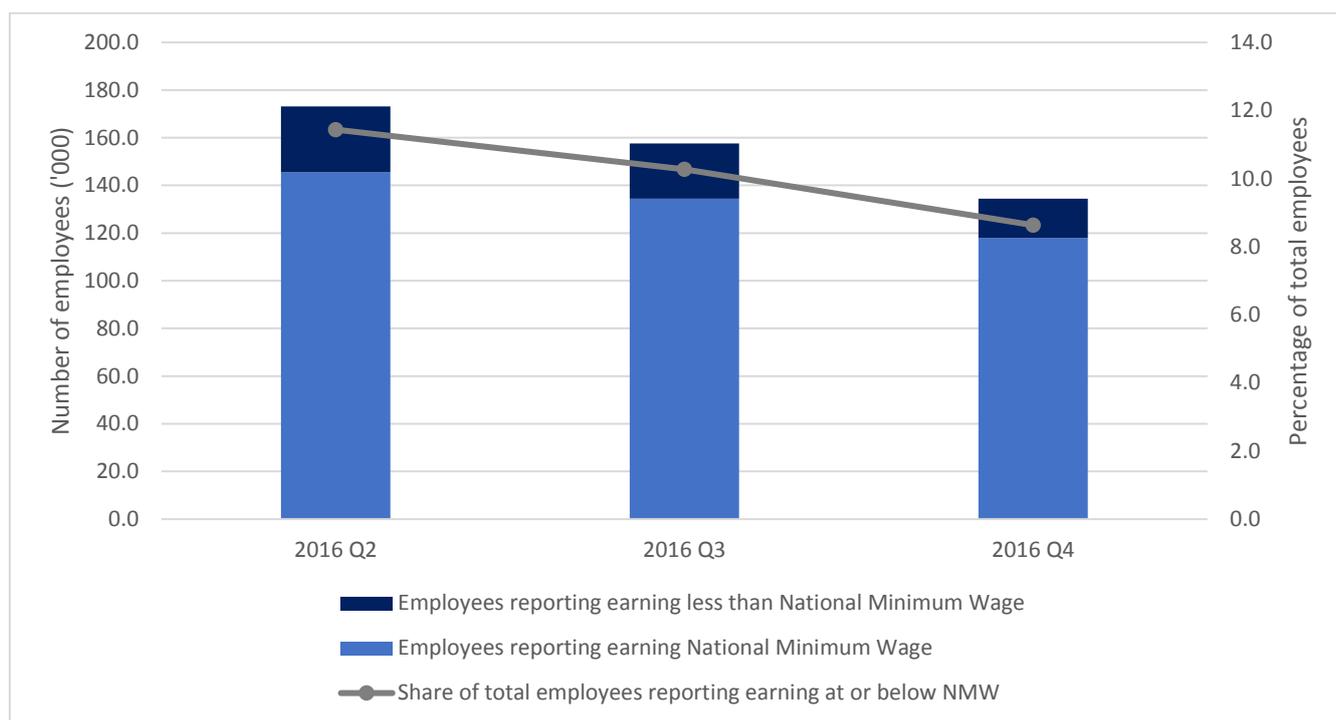
	Number of employees	Share of total employees reporting on NMW status*	Share of total employees
Less than NMW	22,467	1.5%	1.3%
At NMW	132,633	8.6%	7.8%
Total	155,100	10.1%	9.2%

*159,000 or 9% of total employees did not report whether or not they were earning the NMW.

(Source: CSO QNHS module)

The number of NMW recipients varies across the three quarters of QNHS data. The total number of employees, as reported by the QNHS, increased by 45,000 or 3% over the course of the three quarters. The number of NMW recipients fell by 39,000 or 22% which is a considerable fluctuation. The greatest percentage decrease was observed in the category of employees earning less than NMW, falling from 27,600 to 16,600, a reduction of 11,000 or 40%. The CSO state that it is not possible to identify seasonal patterns due to data limitations.

Figure 3: Trend in NMW recipients, 2016 Q2 - 2016 Q4



Source: CSO QNHS module

Employees earning at or below the NMW, on average, represented 7.6% of total employment (employees, self-employed and others) in 2016. Employees represented approx. 83% of total employment in 2016. Other categories include self-employed and assisting relatives. Data relating to the hourly earnings of the self-employed and persons assisting relatives is not included in the QNHS Minimum Wage module. Again the variation in the percentage of employees earning at or below NMW between the three quarters is evident.

Table 3: Percentage of employees earning at or below NMW as proportion of total employment, 2016

	2016 Q2	2016 Q3	2016 Q4	Average
Self-employed with paid employees	92,600	96,000	94,700	94,433
Self-employed with no paid employees	235,900	231,400	226,700	231,333
Employee (including schemes)	1,669,000	1,698,300	1,714,100	1,693,800
Assisting relative	17,400	14,800	12,700	14,967
All employment status	2,014,900	2,040,500	2,048,100	2,034,500
Employees earning at or below NMW	173,200	157,600	134,500	155,100
% employees earning at or below NMW as proportion of total employment	8.6%	7.7%	6.6%	7.6%

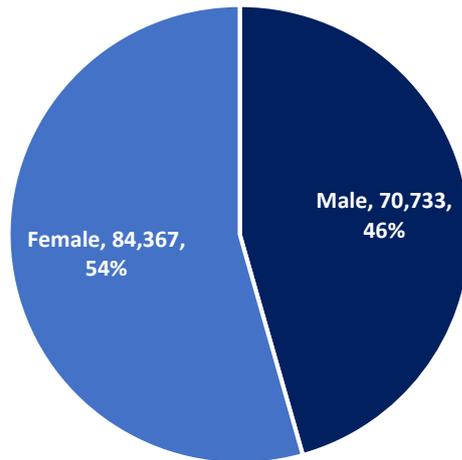
Source: CSO QNHS module

Individual characteristics of NMW recipients

This section utilises the QNHS data to build a profile of the individual characteristics of persons earning at or below the NMW (referred to as NMW recipients).

Gender

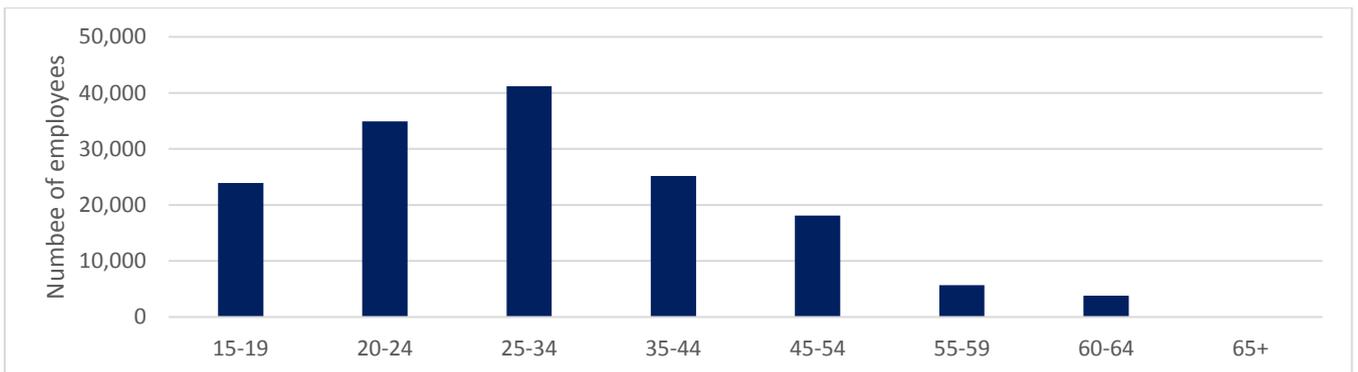
In 2016 54% of NMW recipients were female. Women are also more likely to be earning the NMW with 10.9% of female employees earning at or below the NMW compared to 9.3% of male employees.



Age

In 2016 38% of NMW recipients were aged under 25. The single largest group was 25-34 year olds with 27% of the total number of employees earning at or below the NMW.

Table 4: Age distribution of NMW recipients, 2016 (Source: QNHS CSO)



*65+ sample size is too small for a robust estimate to be included

For the youth cohort (aged less than 25), the percentage of total employees on the NMW is significant at 41%. This is particularly acute for the 15 – 19 year cohort with 70% earning at or below the NMW. For older cohorts, the percentage falls to approx. 5%.

Table 5: NMW recipients as a percentage of total employees by age cohort, 2016 (Source: QNHS CSO)

	NMW recipients	Total Employees	NMW recipients as % of total employees
15-19	23,900	34,000	70%
20-24	34,900	107,700	32%
25-34	41,200	399,200	10%
35-44	25,200	451,500	6%
45-54	18,100	330,600	5%
55-59	5,700	121,100	5%
60-64	3,800	70,200	5%
65+	0	18,500	n/a

Region

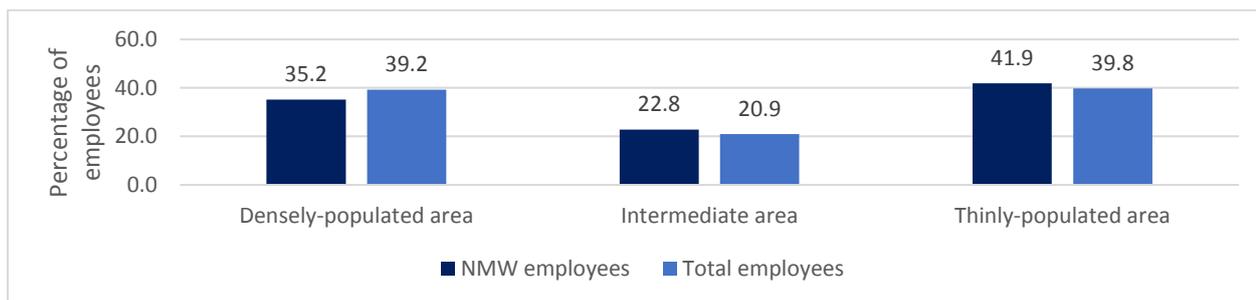
While Dublin has the largest number of persons earning at or below the NMW at 42,000, it has the lowest percentage of employees on the NWM at 8%. The Border area has the highest percentage of NMW recipients as a proportion of all employees at 14%. This is followed by the South-East at 13%. The colour scale in Table 6 depicts the regions with higher proportions of NMW recipients in red and lower proportions in green.

Table 6: NMW recipients per NUTS 3 region, 2016 (Source: QNHS CSO)

	NMW recipients	All Employees	NMW recipients as % of all employees
Border	20,200	141,100	14%
Midland	8,000	87,200	9%
West	14,300	140,000	10%
Dublin	42,000	507,800	8%
Mid-East	16,200	184,200	9%
Mid-West	11,800	119,100	10%
South-East	21,000	158,600	13%
South-West	21,500	197,100	11%

42% of employees earning at or below the NMW live in a thinly-populated area. This is followed by densely populated areas at 35% and then intermediate areas at 23%. The distribution of NMW employees is broadly in line with the trend for total employees.

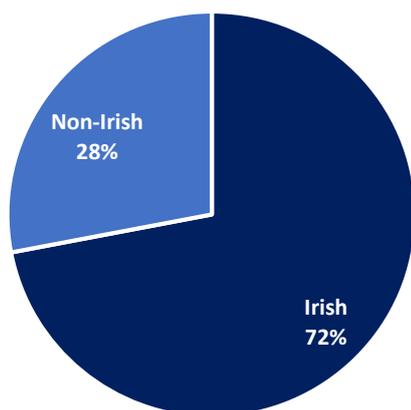
Figure 4: Total employees and NMW employees by degree of urbanisation, 2016 (Source: QNHS CSO)



Nationality

72% of persons earning at or below the NMW are Irish nationals. However, non-Irish nationals are overrepresented given that they comprise 16% of all employees but 28% of all employees earning at or below the NMW.

Figure 5: NMW recipients by nationality, 2016 (Source: QNHS CSO)



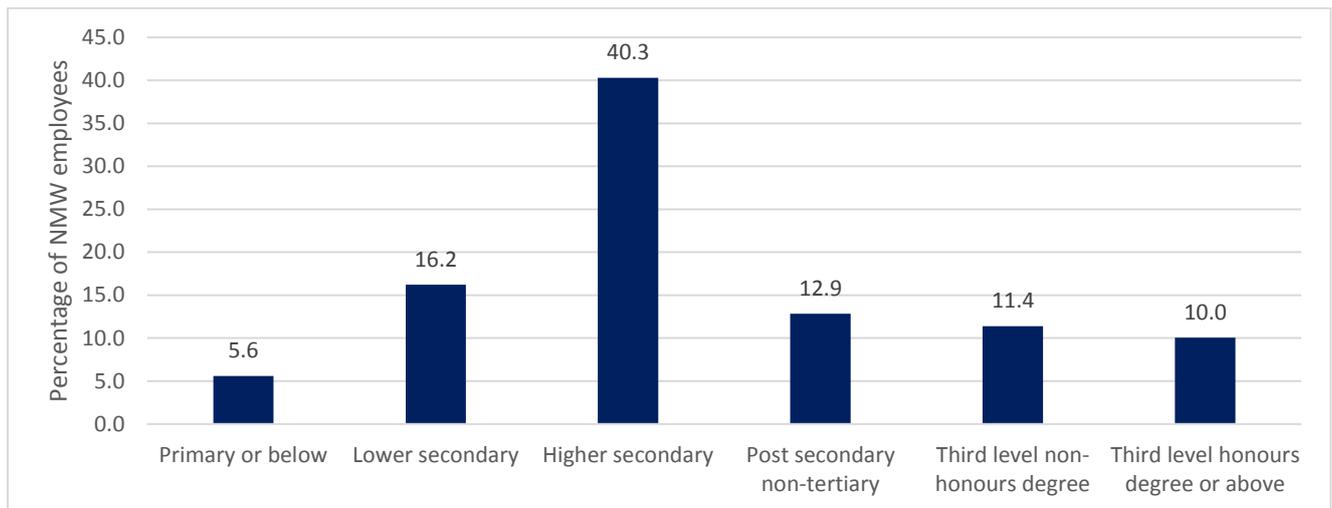
8.7% of Irish nationals report earning at or below the NMW compared to 17% of non-Irish nationals. The most significant categories are “EU-15 to EU-28” and “Other Nationals¹” with 18% and 22% of employees reporting earning at or below the NMW respectively.

Educational Attainment

40% of employees earning the NMW report having higher secondary as their highest level of education. Significant numbers of people with higher levels of education also report earning at or below the NMW.

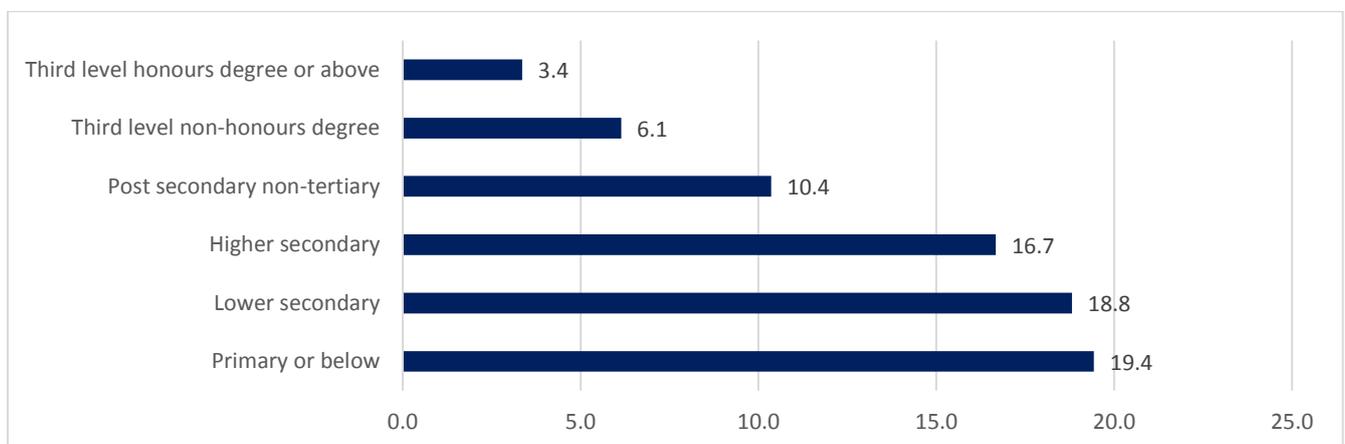
¹ Other Nationals refer to persons from outside EU28 countries.

Figure 6: Highest level of educational attainment of NMW recipients, 2016 (Source: QNHS CSO)



Employees with lower levels of educational attainment are more likely to be earning at or below the NMW. Approx. 19% of employees with primary or lower second level education earn at or below the NWM. This compares to 3.4% of employees with a third level honours degree.

Figure 7: Proportion of employees with different educational attainment earning at or below the NMW (Source: QNHS CSO)



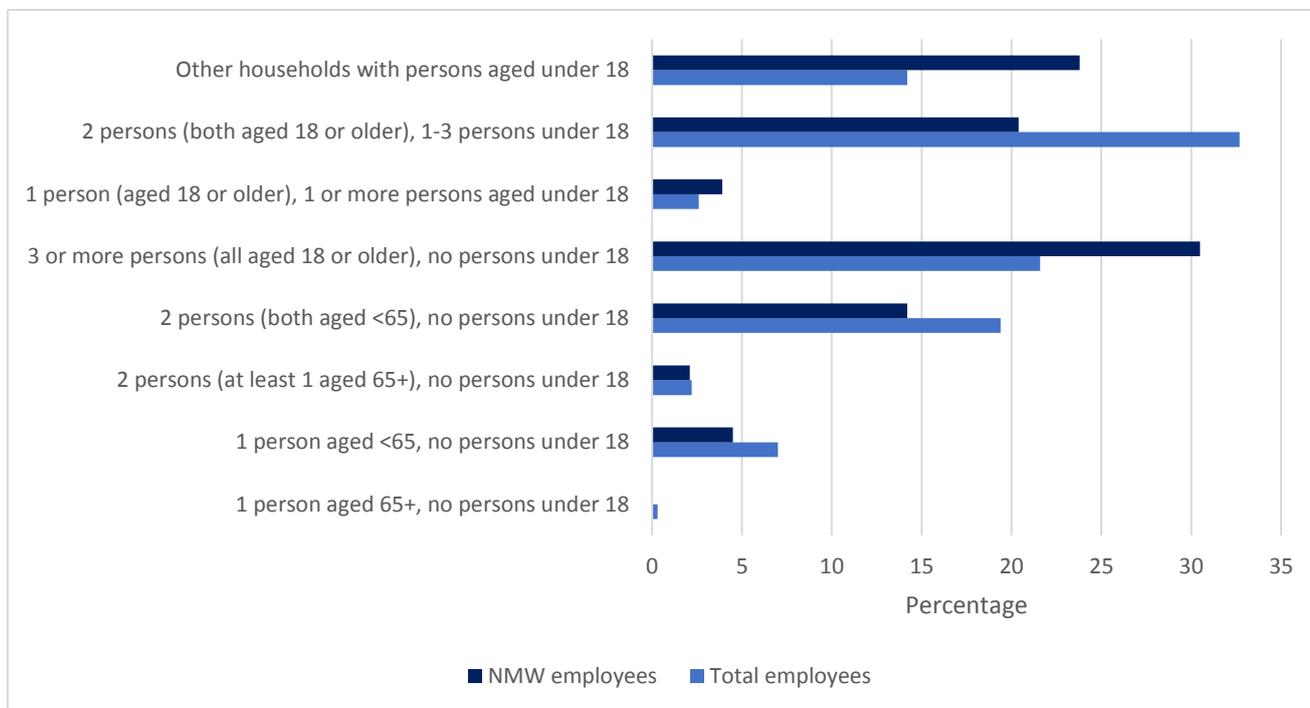
Household characteristics of NMW recipients

This section looks at the profile of households in which NMW earners live.

The largest proportion (30.5%) of NMW employees live in a household with 3 or more adults and no children. This figure is 10 percentage points higher than the percentage of similar composition households for total cohort of employees. The second largest household category for NMW employees is “Other

Households with persons aged under 18” at 23.8%. Again this is a significantly higher percentage than for the overall employee population.

Figure 8: Comparison of household composition of NMW employees and total employees, 2016 (Source: QNHS CSO)



The figures show that approx. 10% of employee households with children and those without children earn at or below the NMW. Therefore the presence of children in a household is not correlated with earning at or below the NMW. The vast majority of households with children have at least 2 adults (c. 92%). Unfortunately there is no data available to determine whether the NMW earner is the sole or second earner in the household.

Table 7: Number and percentage of households with and without children earning at or below NMW (Source: QNHS CSO)

	Earning at or below NMW	Total	% earning at or below NMW
Households with children	74,700	684,900	9.8%
Households without children	79,700	770,900	10.3%

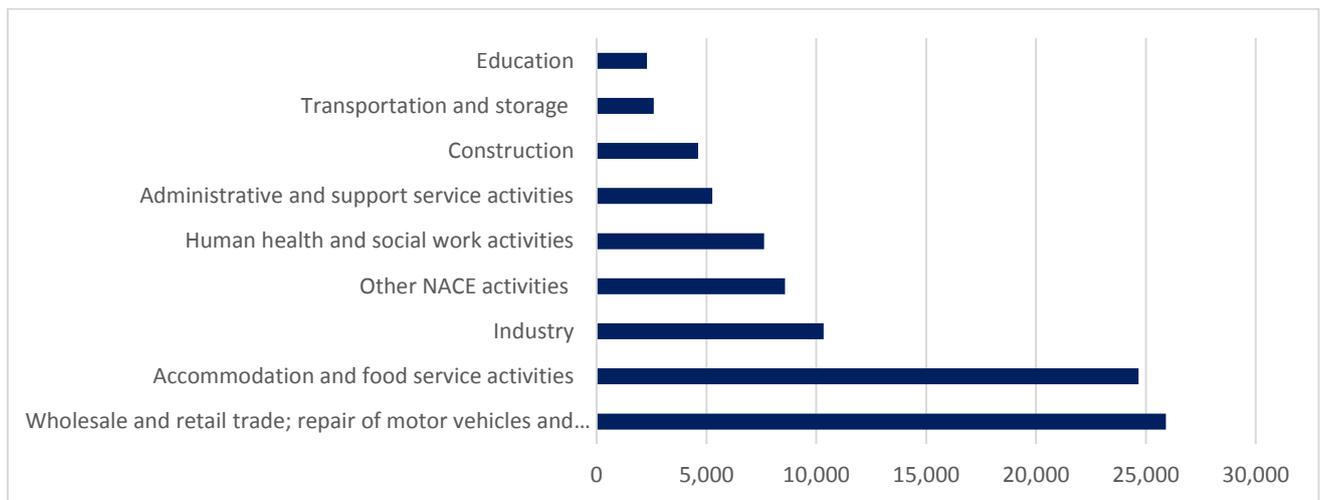
Employment characteristics of NMW recipients

This final section on the profile of NMW earners considers the type of employment undertaken by this cohort.

Economic Sector

The two sectors with the largest number of employees earning at or below the NMW are Accommodation and Food Services and Wholesale and Retail. One third of all NMW recipients (c. 50,000 employees) work in these two sectors. In relation to the Wholesale and Retail sector, 18.3% of employees earn at or below the NMW. The corresponding figure for the Accommodation and Food Service sector is 32.9%.

Figure 9: NMW recipients by economic sector, 2016 (Source: QNHS CSO)*



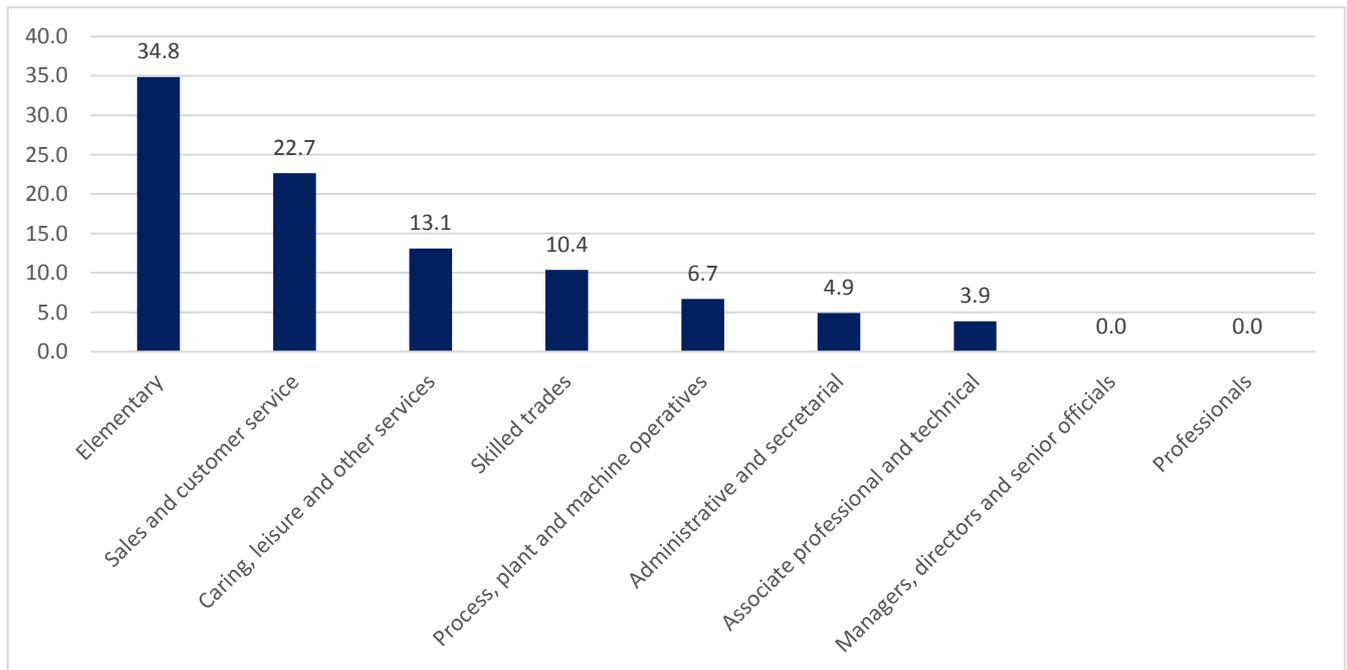
*A number of NACE categories are excluded due to small samples sizes

This is consistent with 34.8% of NMW recipients reporting an “elementary” occupation and a further 22.7% reporting “sales and customer service”.

Figure 10: Occupation of NMW recipients, 2016 (Source: QNHS CSO)*

Box 2: Employment Growth

Employment levels have increased by 192,500 over the period 2013 to 2017. Approximately 29,300 or 15% of this growth took place in the two sectors with the highest proportion of NMW employees: Accommodation and food service activities and Wholesale and retail trade.

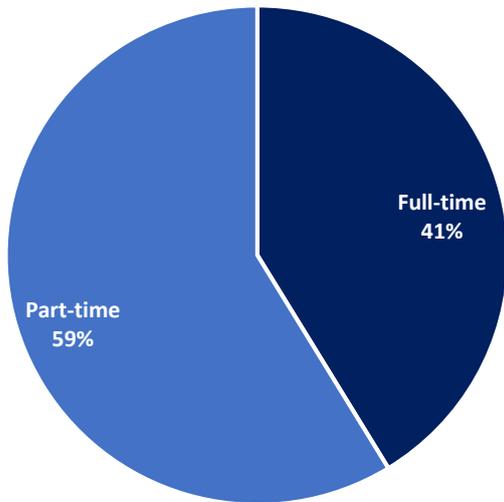


*Some categories are excluded or report zero due to small sample sizes.

Structure of Employment - Hours Worked & Permanency

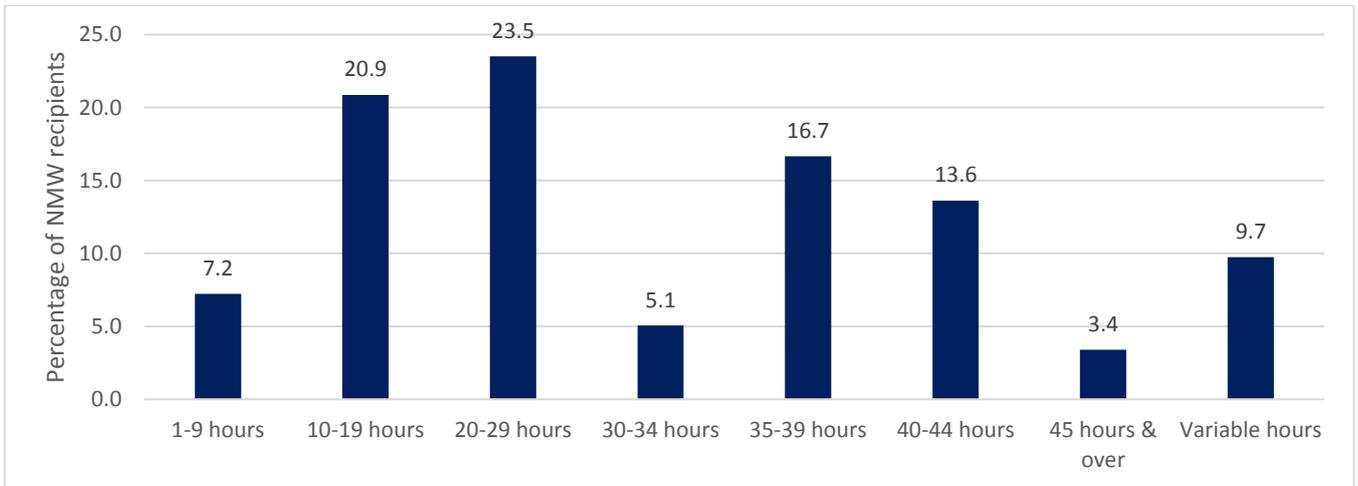
In 2016 59% of NMW recipients reported working on a part-time basis. Of the total part-time employee cohort, 26.7% earn at or below the NMW. This compares to 5.4% of the total full-time employee cohort.

Figure 11: Percentage of NMW recipients in full and part time employment, 2016 (Source: QNHS CSO)



52% of NMW recipients work less than 30 hours per week. The distribution of hours varies considerably with a significant number of people working between 35 and 45 hours also earning the NMW.

Figure 12: Number of hours worked per week by NMW recipients, 2016 (Source: QNHS CSO)



Persons working a lower number of hours are more likely to be earning at or below the NMW. 42% of employees working less than 10 hours per week are earning at or below the NMW. A considerable percentage (21%) of employees with variable hours are also earning at or below the minimum wage.

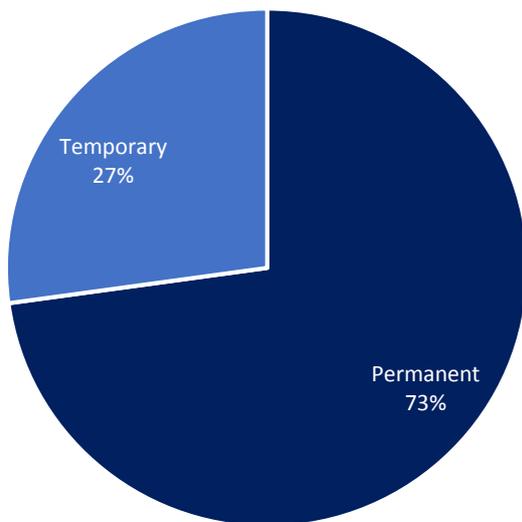
Table 8: Proportion of employees reporting earning National Minimum Wage or less within each usual hours of work per week

	% of employees reporting earning NMW
1-9 hours	41.7

10-19 hours	30.7
20-29 hours	18.2
30-34 hours	9.1
35-39 hours	4.9
40-44 hours	5.3
45 hours & over	4.2
Variable hours	21.4

73% of employees earning at or below the NMW are employed on a permanent basis. In Ireland 92% of employees have permanent status. Within the 139,000 employees with temporary employment, 35% are earning the NMW. Of the majority of permanent employees (1.53m), 8% are on the NMW.

Figure 13: Permanent or temporary job status of NMW earners (Source: CSO SILC)



Key groups

The above analysis presents a profile of personal, household and job related characteristics on an individual basis. While insightful it is also useful to consider the overlap between different characteristics in order to develop a more complete picture of the key groups earning at or below the NMW.

- Of the 155,000 persons earning at or below the NMW, 30,700 or 20% were aged under 25 and working less than 29 hours per week.
- Approx. one third of NMW recipients (47,400) live in a household with 3 or more adults (and no children). 44% of this cohort work less than 29 hours per week.

These two statistics would suggest that a significant portion of those in receipt of the NMW are young persons engaged in part-time jobs, possibly also engaged in education or training. One reason for younger persons earning less is due to lower levels of experience. This is consistent with work undertaken by the ESRI suggesting a considerable proportion of NMW earners have household income in the upper quintiles. This was again reflected in the Department of Social Protection's report on the impact of the increase in the NMW introduced in Budget 2016. This report found that the main beneficiaries of the minimum wage are *"more likely to be in the fourth quintile, along with the second and third quintiles. They are least likely to be in the bottom and top quintiles, for quite different reasons: people earn more than the minimum wage in the top quintile; few people are working in the bottom quintile"* (Department of Social Protection, 2015).

A number of metrics set out above point to the precarious nature of employment for persons earning the NMW; for example the high number of part-time workers and persons working low or variable hours and the higher proportion of temporary positions.

3. Other Evidence

International Evidence

Three quarters of OECD countries (26 out of 35) have some form of statutory minimum wage. However, minimum wage levels and wage-setting mechanisms vary markedly across countries, as do their coverage and the level of employer compliance (OECD, 2015b). Most European countries have a monthly rate with Ireland, the UK and Germany with hourly rates (KPMG, 2017).

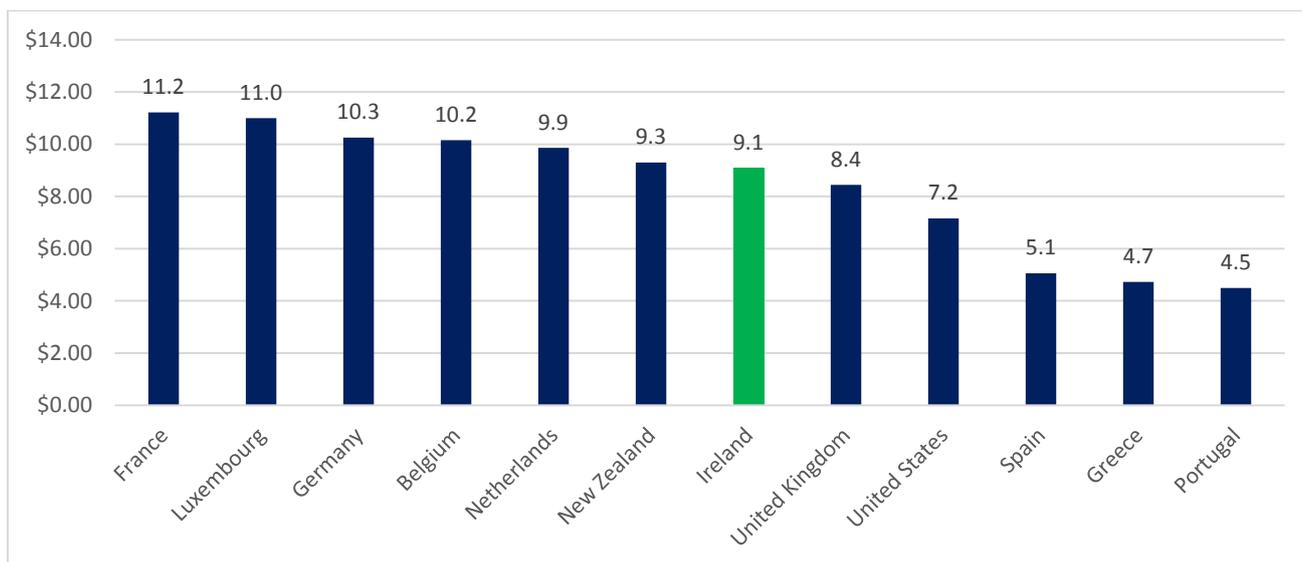
There are a number of different metrics which can be used to compare minimum wages across countries including:

- Minimum wage in constant prices correcting for purchasing power; and
- The difference between gross and net minimum wage (tax wedge) to determine the effective minimum wage received by employees.

Using 2015 levels of purchasing power parity, Ireland has an hourly minimum wage in the middle of the distribution of a selected group of advanced OECD countries.

Figure 14: Cross-country comparison of minimum wage levels 2016, (2015 constant prices at 2015 USD PPPs)

Source: OECD Stat



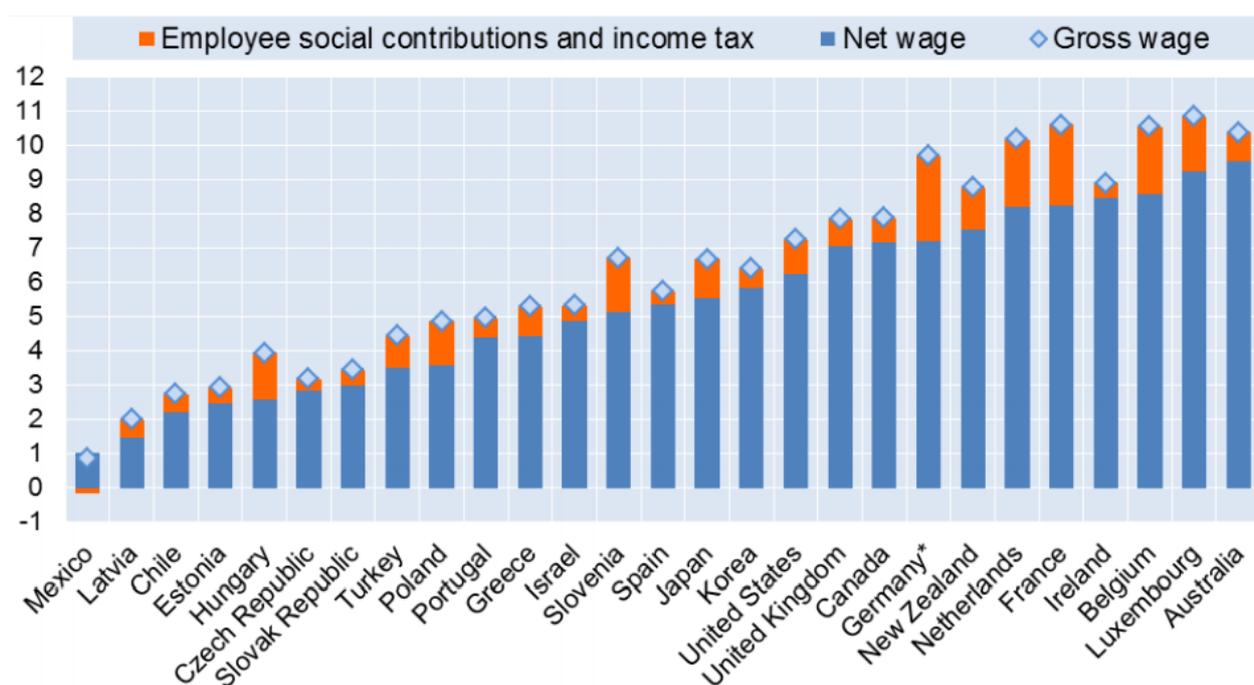
There is a small difference between gross and net minimum wage levels in Ireland compared to other countries.

It is interesting to note the effective tax rate applicable to the minimum wage and how this affects the take-home pay of workers earning the minimum wage. Ireland has a progressive tax system with lower rates of tax and social contributions for lower income earners. Therefore Ireland fares well in terms of the minimum wage as a proportion of median net monthly income.

As illustrated in Figure 15, the difference between the gross and net minimum wage is due to employee social contributions and income tax. The difference in Ireland is relatively small compared to other countries which results in Ireland having the fourth highest net minimum wage based on this sample of OECD countries. In comparison France (with the highest minimum wage level in Figure 14) has a larger tax wedge with net wages falling below Ireland.

Figure 15: Hourly minimum wage before and after taxes, 2013 data in US dollars at purchasing power parities (Source: (OECD, 2015))

Hourly minimum wage before and after taxes, 2013, in US dollars at purchasing power parities



The findings presented in this paper are consistent with similar data from other OECD countries. Data from OECD countries shows that younger workers, those with lower levels of education and those on temporary contracts are more likely to earn the minimum wage (OECD, 2015). A study by the Institute for Fiscal Studies provided a profile of NMW recipients in the UK: more than a quarter of women, more than a quarter of the private sector employees, almost half of part-timers, and more than a quarter of those in the North of England, Midlands and Wales (Low Pay Commission).

Irish Evidence

Numerous reports have been undertaken by different research bodies, e.g. ESRI and NERI, over the past number of years seeking to analyse the profile of NMW earners and the impact of the NMW. These reports have generally utilised data from the Survey on Income and Living Standards (SILC). The SILC is the official source of data on household and individual income and also provides a number of key national poverty

indicators in Ireland. However it is not designed to measure earnings. The Low Pay Commission, established in 2015, has utilised research by the ESRI to inform their reports on a number of occasions.

Profile

The national minimum wage is one of the parameters included in the ESRI's Switch microsimulation model. This model uses SILC data on people's income and living conditions to analyse the impact of national minimum wage policy.

In November 2017, the ESRI published a paper "*A Study of Minimum Wage Employment in Ireland: the role of worker, household and job characteristics*" funded by the Low Pay Commission. The paper examined the factors underpinning the relative risk of being in receipt of the National Minimum Wage (NMW) utilising EU-SILC 2014 data (Redmond, Mc Guinness, & Bertrand, 2017). The study considers groups which are at a higher risk of exposure to NMW employment, including females, young people and non-Irish nationals. The paper also compares the profile of Irish NMW employees to those in the UK. The study finds that women, younger people and non-Irish nationals are indeed more likely to earn the NMW. However, there are different factors underpinning these findings. The paper finds that while females were over twice as likely to be earning the NMW compared to males, a significant element of this can be explained by the type of job undertaken and the type of occupation or sector. The higher number of young people earning the NMW can be explained by lower levels of experience and the type of employment undertaken.

A 2016 paper, produced by the Nevin Economic Research Institute (NERI), profiled the recipients of National Minimum Wage and those on low pay (Collins, 2016). The author derives his information on minimum wage by using SILC data of usual hours worked and usual gross monthly pay. Using these two numbers an estimate of average hourly earnings is established. According to the analysis of the SILC dataset, the largest proportion of employees (31%) on the NMW live in households with 2 adults and 1-3 children. The second largest group (20%) is a household with 3 or more adults. This is in contrast to the data presented on page 14 which points to 30.5% of NMW employees living in a household with 3 or more adults representing a 10 percentage point difference. Of the estimated 75,000 workers on the minimum wage², most are women (65%), most are aged in their 20s and 30s and large proportions of these employees work in sectors such as accommodation and food and wholesale and retail. Relative to employees in general, minimum wage workers are more likely to be on temporary contracts, work less than 20 hours per week, work part-time and be in the private sector. These findings are broadly in line with the QNHS data presented in this paper. However the magnitude varies for some characteristics, e.g. SILC reports a higher proportion of females than the QNHS data.

² This estimate is based on a lower NMW rate of €8.65.

In terms of consistency regarding estimates of the magnitude of employees earning at or below the NMW, there are a range of estimated figures with the most up-to-date estimates pointing to a figure of 9.2% to 9.4%. Table 9 presents a comparison of a number of different estimates of the size of the NMW earning cohort at the €9.15 rate. The exact assumptions underpinning each of the estimates varies particularly the definition of at or below NMW and the age cohort included. The LPC 2017 estimate of 9.4% is close to the QNHS estimate of 9.2% (see figures in bold). The difference between the ESRI analysis using the 2014 wage distribution in 2016 and 2017 is considerable at 2.86 percentage points pointing to the underlying sensitivity of the wage distribution assumptions used and the potential impact of changes in the labour market during this period of employment growth.

Table 9: Comparison of size of NMW earner cohort from different sources (Min wage assumed to be €9.15)

Metric	Source	Data source description	NMW earners as proportion of employees
Below or at NMW	QNHS Module 2016	QNHS survey based on Q2-Q4 2016 (includes non-responses)	9.20%
<i>Below or at NMW</i>	<i>QNHS Module 2016 – adjusted to remove 15-19 year cohort*</i>	<i>QNHS survey based on Q2-Q4 2016 (includes non-responses)</i>	8.10%
Below or at NMW	Low Pay Commission Report 2016	ESRI analysis using SILC data and 2014 wage distribution	11.56%
Below NMW	Low Pay Commission Report 2017	ESRI analysis using SILC data and 2014 wage distribution	8.70%
Below NMW	Low Pay Commission Report 2017	ESRI analysis using SILC data and 2015 wage distribution	9.40%

*This adjusted figures removes those aged 15 to 19 from the data as SILC data is limited to 18 year plus cohort

The proportion of employees earning at or below the NMW appears to have increased in recent years coinciding with general increases in employment and increases in the NMW rate. Table 10 sets out a range of estimates for the proportion of employees earning at or below the NMW when the rate was set at €8.65. It is very difficult to compare different estimates given the different assumptions used. Based on the ESRI and Eurostat figures the proportion of employees has almost doubled from 2014 to 2016.

Table 10: Previous estimates of size of NMW earner cohort (Min wage of €8.65)

Source	Date	Age range	Results (@ NMW)	Results (below NMW)	Additional info
NERI – SILC	2014	All	3.6%	5.3%	8.9% of employees estimated to earn less than €9.99
ESRI - SILC	2014	18 and over	4.9%	<i>n/a</i>	Incidence of adult minimum wage employment in 2014 was 4.9% plus 0.2% for sub minima rates for persons 18 or over.
Eurostat	2014	Over 21	4.1%	<i>n/a</i>	Proportion of employees earning less than 105% of the minimum wage

Source: (Collins, 2016) (Redmond, Mc Guinness, & Bertrand, 2017) (Eurostat, 2017)

Estimates using the SILC data assess the impact of the NMW rate increase on the size of the NMW earning cohort using wage distribution data from before the change was implemented (2014 or 2015). The ESRI estimated the increased NMW rate would result in an approximate 3 percentage point increase in the percentage of workers earning at or below NMW (ESRI for the Low Pay Commission, 2017). The NERI report produced an income distribution analysis showing significant clustering above the minimum wage threshold (€8.65 in 2014). The analysis reported 5.3% of employees earning below the NMW with a further 8.9% of employees earning between €8.65 and €9.99. This estimate is close to the QNHS result of 9.2% at the €9.15 rate.

There are a number of similarities and differences between the analysis presented in this paper using the CSO data and the previous studies discussed above. Overall the QNHS data release from the CSO adds to the stock of information regarding the cohort earning the NMW.

- The conclusions set out on page 16 regarding the significant portion of those in receipt of the NMW are young persons engaged in part-time jobs support the ESRI analysis suggesting a considerable proportion of NMW earners have household income in the upper quintiles.
- While the profile of NMW earners is broadly similar across the different data sources, there are some differences including:
- The gender gap reported in the QNHS data is much smaller than that found in the EU-SILC data. As illustrated in Table 11 the gender gap in the QNHS data is 8 percentage points compared to 28 percentage points using the EU-SILC data.

Table 11: Comparison of NMW earner figures from different reports, gender split

	QNHS 2016	EU-SILC 2015 (as per ESRI analysis in LPC Report 2017)
NMW earners - female	46%	36%
NMW earners - male	54%	64%
Gender gap	8 p.p	28 p.p

Source: CSO QNHS Module, (ESRI for the Low Pay Commission, 2017)

- In terms of nationality, the results are similar across the two different data sources with non-nationals accounting for 72% and 69% in the QNHS and SILC data respectively.

- There are differences with regard to the educational profile of NMW earners. While the percentage of those with primary level education are similar, the QNHS reports a higher proportion of NMW earners with secondary level as their highest form of educational attainment. Consequently the percentage of NMW earners with post-secondary and tertiary education is lower for the QNHS than SILC data.
- Both datasets report Wholesale and Retail, and Accommodation and Food as the two sectors with the most significant number of NWM earners.
- The QNHS data reports a greater percentage of part-time workers (59% for QNHS compared to 50% for SILC) and a higher percentage of temporary workers (27% for QNHS versus 21% for SILC).

4. Policy Implications/Future Outlook

A minimum wage system is generally established to address working poverty and inequality. It can be seen as a policy lever designed to play an important role in ensuring that “fair” wages are paid and in bolstering the incomes of families with low-wage workers. However, there are some arguments that high minimum wages can reduce employment, damage international competitiveness of domestic firms relying on low-skilled labour and have a limited impact on poverty because many poor families have no working members. Overall there is little consensus in the international literature regarding the effectiveness of minimum wage policies in terms of reducing poverty. The OECD points out that while minimum wages can have a strong impact on wages at the bottom of the distribution, it is important that they be set at a level balancing the needs to provide adequate living standards with maintaining or creating job opportunities in formal sectors for low-skilled workers.

Impact of NMW in Ireland

The ESRI has undertaken significant research on the impact of the minimum wage. An ESRI study from June 2015 titled “*Low Pay, Minimum Wages and Household Incomes: Evidence for Ireland*” as part of their Budget Perspectives series concluded that the **NMW has a limited effect on widespread poverty reduction given the large number of NMW earners who are not from economically disadvantaged or deprived households** (Redmond, Mc Guinness, & Bertrand, 2017). This paper examined the relationship between low hourly wages and household incomes, and the potential impact of increases in the NMW wage on household poverty. The results found that raising the minimum wage led to only small increases in income for the bottom quintile, larger increases for middle quintiles, and limited increases in the top quintile. This analysis indicates that households in the second and fourth quintiles are most affected by this policy change. Similar results were published in the Department of Employment Affairs and Social Protection’s assessment of Budget 2018 which found that the 30c increase in the NMW resulted in above average gains for the second and fourth quintiles at 0.12% and 0.10% respectively. These findings are consistent with international studies showing that while in-work poverty is associated with low wage levels, substantial numbers of NMW earners live in households with income above the poverty line (OECD, 2015). In-work poverty may be due to low working hours rather than low wage levels.

In terms of poverty alleviation, minimum wages may be seen as only one lever within a policy toolkit. The impact of a minimum wage policy on poverty rates can depend on a number of factors including the prevailing level of the minimum wage, the number of hours worked and coordination with other policies such as taxes and social transfers. A paper by the Economic and Social Review reviews changes in Irish wage inequality over the period 2004 to 2013 (Holton & O’Neill, 2017). In normal economic conditions increases in the educational attainment level of the workforce would tend to increase wage levels. However given the severity of the

economic downturn, wage levels declined for most of the income distribution. Only workers in the bottom decile experienced wage gains. The authors point to the effect of the National Minimum Wage in preventing wage levels falling below a certain threshold as the NMW remained relatively flat over the course of the period (€8.65 for period 2007 to end 2015 except for 6 months in 2011 when it was reduced by €1).

Overall Ireland's National Minimum Wage and associated tax and social transfers provides a floor at approx. 42% of median wage. However the broader impact of the rate is not clear given the lack of data regarding the impact of the minimum wage on the overall wage distribution at different points in time.

Future Outlook

Overall the results point to approx. 9% of employees earning at or below the NMW when the rate was set at €9.15. However this estimate is subject to numerous caveats.

- All estimates are very sensitive to the underlying assumptions
- Neither the QNHS nor SILC surveys are designed to measure earnings. These analyses are also limited in that they do not account for the knock-on implications of a change in the NMW for employees with earnings just above the rate.
- This percentage may now be higher due to two further increases in the rate in 2017 and 2018 and further developments in the growing labour market (see Box 1).
- It is unclear whether these persons would also benefit from an increased minimum wage due to an upward shift in the distribution.

Further development of the evidence base in this area is required to inform future changes in the National Minimum Wage.

- Given the higher number of persons earning the NMW wage it is important to have greater clarity regarding the full earnings distribution. This would facilitate a greater understanding of the dynamics of minimum wage/low pay and hours worked.
- Therefore it may be useful for future analysis to consider linkages with administrative data sources including PRSI data from the Department of Employment Affairs and Social Protection and PAYE data from the Revenue Commissioners. Further analysis could also benefit from the next release of the *CSO's Earning Analysis using Administrative Data Sources*.
- A more comprehensive earnings database could be used to inform a range of policy issues. The Office for National Statistics in the UK publishes an *Annual Survey of Hours and Earnings Statistical bulletin* which

includes data on levels, distribution and make-up of earnings and hours worked for UK employees by sex and full-time or part-time status in all industries and occupations³.

Quality assurance process

To ensure accuracy and methodological rigour, the author engaged in the following quality assurance process.

- ✓ Internal/Departmental
 - ✓ Line management
 - ✓ Other divisions/sections
 - ✓ Peer review

- ✓ External
 - ✓ Other Government Department
 - ✓ Quality Assurance Group (QAG)

³
<https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/earningsandworkinghours/bulletins/annualsurveyofhoursandearnings/previousReleases>