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An Analysis of the Impact of the UK's National Living Wage (NLW) on Low-Skilled Employment, In-Work Poverty, and Regional Income Disparities

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ABSTRACT

This paper provides an empirical evaluation of impact the National Living Wages of the UK has made at the level of low-skilled employment, in-work poverty, and regional disparities since its introduction in 2016. It combines time-series analysis with quasi-experimental regional comparisons to study the data available in public domain from Labour Force Survey (LFS), Annual Survey o Hours and Earnings (ASHE), Household Below Average Income (HBAI) statistics, and Low Pay Commission (LPC) reports. Analysis reveals stability in overall employment with firms resorting to reduction in working hours for part-time jobs to offset the increased labour costs due to higher wages under NLW instead of reducing jobs. Post NLW the workers employed in low-paid jobs have witnessed substantial increase in earnings. 10th percentile income has increased by 34% between 2015 and 2020, P50 to P10 ratio decreased rfom 1.87 to 1.51 showing compressed lower end wages in wage distribution and in-work poverty has also modestly declined from 15.2% to 13.8%. A regional divide based analysis shows heterogeneity in impacts. High impact regions with traditionally lower wages show deceleration in employment growth but significant gains in wages and reduction in income inequality. On the other hand, low impact regions with traditionally high wages show minimal impact on employment growth and wages. NLW has been successful in terms of achieving its social objectives like higher wages and reduced income inequality without causing any substantial loss of employment. However, some targeted policies, especially for economically vulnerable regions and low-productivity sectors, are recommended for maximizing the social objectives.

Keywords: National Living Wage, low-skilled employment, in-work poverty, regional disparity, UK labour market, income inequality

INTRODUCTION

In the modern economic policy making, the minimum wages is one of the most debated elements as its goal of promoting social equity through income redistribution comes in conflict with the classical economic principle of market equilibrium. Economy experts have often debated whether increased labour cost due to the legally mandated minimum wages adversely affects the employment or its potential benefits in terms of reduced poverty and inequality largely offsets the negative impacts (Neumark & Wascher, 2008; Card & Krueger, 1995). The focus of all these debates remains on comparative evaluation of trade-off between economic efficiency and social welfare.

April 2016 witnessed a key change in its minimum wage policy through introduction of National Living Wage (NLW)- a rate that was initially applicable to workers with the minimum age of 25 years and was later revised to a minimum age of 23 years. This policy was introduced with a clear purpose of changing the low-paying British economy and creating a sustainable mechanism to address in-work poverty- a condition where workers' income remains below the poverty threshold even though they remain employed (Low Pay Commission, 2016; Department of Business, Energy & Industrial Strategy, 2021). Since the introduction of the policy, the increase in NLW has outpaced the average earnings and the legal wage of the UK remains one of the highest among the G7 economies when calculated as a proportion of median wages (OECD, 2023).

NLW has been lauded as a landmark measure in the pursuit of social justice with its supporters highlighting how it improves the living standard of millions of workers and financial resilience of households as the wages growth remains sluggish (resolution Foundation, 2020). Critics of this policy, however, argue that the rapid growth of NLW may reduce the demand for low-productivity workers in the labour market, incentivizing businesses to replace such workers through automation or reduce working hours of the employees (Machin, 2017; Blundell, 2020). Moreover, there may be regional differences in the impact with a potential amplification of pre-existing disparities between regions with high and low wages (Low Pay Commission, 2022).

This paper considers the theoretical debates around the issue and moves further to provide an empirical evaluation of impact made by NLW since it has been implemented. The key focus on this paper remains on three dimensions of these impacts that are interrelated. The first dimension that this paper looks into is the effect of NLW on low-skilled workers in terms of employment level and hours worked. The second dimension is its effectiveness in alleviation of in-work poverty. the third and final dimension is its impact on income disparities among regions of the UK. Through this multipronged analysis of the impact of NLW as a high rate legal minimum wage policy, this paper evaluates it overall effectiveness and also attempts to find out any unintended consequences that come with the uniform national application of this policy.

LITERATURE REVIEW

For assessing the impact of NLW in the United Kingdom, it is essential to look into the wider economic literature that offers varying and sometimes contradicting perspectives on the issue of minimum wage policy. This literature review explores and combines traditional theoretical views on the issue of minimum wages with the recent data in the context of the UK economy. In this process, the focus remains on the three central themes- effects on employment, effects on poverty and income inequality, and regional disparities in income level.

Theoretical understanding of the employment debate:
The classical and neo-classical perspectives

The classical and neo-classical economic theories describe minimum wages as a price floor that is set above the wage rate derived through market equilibrium. This state intervention is likely to create a labour surplus or unemployment because a minimum wage above the market equilibrium results in simultaneous increase in the supply of labour and decline in the quantity of labour being demanded (Stigler,1946). Within this theoretical framework when wage rises from the equilibrium level (W_e) to the legal minimum (W_{min}), the employment of workers declines ($Q_e – Q_{min}$). It means that there is a negative correlation between the employment rate of low-skilled workers and the level of minimum wage (Neumark & Wascher, 2008).

This perspective is based on the assumption that the labour market is perfectly competitive where labour is homogenous and the employers are price takers. Hence, any changes in the market equilibrium derived wage (in this case through government regulations) is bound to result in misallocation of labour resources and loss of efficiency.

Non- Competitive Models and Alternative theories

The classical and neo-classical perspective on minimum wages is highly contested. A sizeable amount of modern researches in the field of economics has described the labour market, particularly for low skills and low wage sectors, as a monopsonic competition where employers have certain degree of market power (Mannin, 2003). In this context, the employers may set the wage below the marginal revenue product of labour even though the profit maximizing level of employment is achieved where marginal revenue product of labour is equal to the marginal cost of labour. Introduction of a moderately higher minimum wages can reduce the distortion caused by monopsony in labour market by increasing both wages and employment (Boal & Ransom, 1997).

Along with this perspective, there is another contesting idea in the form of Efficiency Wage Theory. This theory proposes that higher wages have positive impact on the morale and productivity of the labour and also reduces the problem of absenteeism and turnover (Akerlof & Yellen, 1986). These gains in form of increased efficiency may somewhat offset the increase in the labour costs, allowing firms to maintain their employment level without any significant reduction in the number of employees. Hence, if the imperfect competition in the labour market holds true, the adverse effect of minimum wages on employment level, as predicted by the classical and neo-classical model, may not materialize.

Empirical Evidence on Employment

There is an extensive body of research literature focused on empirical analysis of minimum wages and it is often contradictory. Card and Krueger (1994) provide a seminal study in the field as they examined the employment trend in the fast-food sector in New Jersey and Pennsylvania. They found that increase in minimum wages did not result in any measurable decline in employment- a finding that contradicts the prediction of classical economics. Their work led to many more empirical researches in this area and a general trend in these reports suggest that a moderate increase in the minimum wage may result in small, statistically insignificant or heterogenous effects on employment (Dube, Lester, & Reich, 2010; Neumark & Wascher, 2008).

In the context of the United Kingdom, the introduction of NLW marks a major shift in policy as the increase in statutory minimum wages was rapid and substantial as compared to earlier minimum wages rates. Early findings by the Low pay Commission (LPC) suggest that the negative effect of NLW on employment was limited (LPC,2017). Instead of reducing their workforce on large scale, many businesses made other adjustments. Some sectors like hospitality and retail absorbed the increased labour cost by increasing their prices (LPC, 2017). Many other businesses, particularly the smaller businesses that have high staff turnover, absorbed the increased wages through their profit margins. The financial burden of increased wages was also offset through increased productivity, which was achieved through training of staff, reorganization or technological investment(Machin, 2017). Another strategy has been the adjustment of working hours, resulting in more part-time works (Stewart, 2021).

However, recent evidences suggest that the impact of NLW varies across different demographics. According to studies done by Cribb, Joyce, and Norris Keiller (2020), underneath the resilience shown in aggregate employment, there has been modest decline job hours and job availability for young workers, especially those who are just above the age threshold set of NLW.

Impact on In-Work Poverty and Income Inequality

One of the key focusses of NLW was to reduce in-work poverty by increasing the income of workers who are at the lowest level of wage distribution. Studies, based on empirical evidences, support a direct correlation between increase in statutory wage and improved individual earnings in low paying occupations (Resolution Foundation, 2019). However, studying the impact of NLW on household poverty is quite challenging because poverty at household level is influenced by the combined effect of factors like wages, taxation and social transfers (Brewer & De Agostini, 2017).

Households that rely on minimum wage income also receive many other welfare benefits like Universal Credit, and their combined value may offset the net benefit received through higher wages (Bourquin et al., 2019). Besides this, a sizeable portion of labour force earning minimum wages come from non-poor households. They can be students or secondary earners in a family. It limits the direct reach of this policy to the poorest families (Resolution Foundation, 2019). Thus, the NLW seems to compress the lower end of wage distribution but its effect in terms of reduction in poverty and inequality is heavily dependent on larger fiscal policies.

Regional Disparities

While NLW has undergone a uniform national application, it has also fueled debates over its implications on regional level. In regions that already have high wages and high productivity, like London and the South East, NLW makes a small proportion of median wage and its adverse effect on employment is minimal. On the other hand, regions with traditionally lower wages, like the North East and Wales, the NLW forms a much larger proportion of the median wage and can have straining effect on the small and medium sized enterprises of these regions (Beatty, Fothergill, & Gore, 2019).

Based on the early data, these regions with traditionally lower wages have witnessed a rapid wage growth but the long term impact on the viability of business and the local labour market seems uncertain (LPC, 2022). Many economists voice their concern that a uniform NLW may undermine its intended purpose of increasing equity by increasing regional economic disparities if the productivity level in certain regions fails to match the pace of statutory wage growth (Bell & Machina, 2018).

Data Sources, Methodology, and Key Variables

This paper uses empirical and comparative methodology as it explores the causal link between the National Living Wage in the UK and the impact on three key areas- employment of low skilled workers, in-work poverty, and regional disparities.

Data Sources

This study uses high frequency data sets produced by the government agencies of the UK and independent research bodies that available in the public domain. Office for Natinal Statistics (ONS) provides Labour Froce Survey (LFS) and Annual Survey of Hours and Earnings (ASHE) that cover detailed data on employment rate, working hours and distribution of wage across different percentiles in low-paying sectors. Regional Economic Activity Data is used to compare outcomes in labour market of 12 primary regions of the UK.

Department for Work and Pensions (DWP) provides statistics related to Households Below Average Income (HBAI). This data set tracks in-work poverty at household level, particularly the size of working-age adult population that are below the poverty threshold before and after housing costs.

Low Pay Commission Reports are published annually and offer very important context for this study. These reports cover the impacts of NLW on the industries, provide employment forecasts and breakdown the affected workers along the demographic lines.

RESEARCH METHODOLOGY

The empirical strategy used to understand the effects of NLW is two pronged. As the first prong it uses time-series comparison as pre-NLW and post-NLW is analyzed. It looks into the trends from 2010-15 when standard minimum wages framework was used in the UK and the trends from 2016 to present when NLW policy has been implemented at accelerated level (*As the covid-19 had significant impact on the economy and the labour market, this study only takes data up to 2019 into consideration for a more realistic evaluation of the impact of NLW*). This method looks for significant structural breaks or shifts in the trajectories of employment and poverty since the implementation of NLW started.

The second prong in this study is quasi experimental comparative regional analysis that uses high impact regions as the treatment group and the low impact regions as the control group. Regions like the north east and Wales where NLW formed a high proportion of median wage are in the high impact regions. On the other hand, regions like London and the South East are in the low impact regions where NLW formed a smaller proportion of the median wage.

Through comparison between the high impact regions and low impact regions in terms of changes in employment and poverty after 2016, this study seeks to establish causal effects.

Key variable

Area of Analysis	Key variables	Rationale
Low Skilled Employment	Employment rate in the age group of 16 to 24	They are a proxy for the vulnerable and low skilled labour .
	Total weekly hours worked in part-time jobs	It reflects adjustments through reducing work hours instead of reducing jobs.
	Employment in Retail sector and Hospitality sector	These sectors have higher exposure to NLW
In-Work Poverty	Relative poverty rate among the working-age population	It is a measure of households with at least one employed individual below the poverty line.
	Wage Decile Ratio (P50/P10)	It is an assessment of wage compression at the lower end of wage distribution.
Regional disparity	Regional Kaitz Index	It is the ratio of NLW to regional median wage that defines the high and low impact regions.
	Regional Gini Coefficient	It shows the negative or positive impact of NLW on income inequality within regions.

ANALYSIS

Low-Skilled Employment and Adjustment

The classical theory of minimum wage cautions that increasing the legal minimum wage may adversely affect employment, especially for the young and low-skilled workers (Neumark & Wascher, 2008). This section looks into the empirical evidences from the UK to examine the measurable effects of National Living Wage on employment levels.

Time-series comparison

A comparative analysis of pre (2010-2015) and post (2016-2023) NLW period shows that the impact of wage increase on overall employment in the UK labour market has been minimal, with no clear decline. Labour in the age group of 16 to 24 years, which is treated as representative figure for the low skilled and vulnerable labour, witnessed an increase in employment rate from 55.2 % in 2015 to 57.1% in 2019, showing that employment for this group rose even after wage increase due to NLW introduction (ONS,2023 a). a similar pattern of upward growth in employment is observed in sectors with maximum exposure to NLW. While the total employment figure in the retail sector grew from 2.78 million to 2.85 million between years 2015 and 2019, hospitality sector also shows growth in employment from 1.42 million to 1.48 million in the same timeframe (ONS, 2023 b).

Based on these figure it appears that macro-level trends in job creation, stemming from economic growth, labour demand, and other macro-level policy making, have allowed the labour market to successfully absorb the negative pressure created by introduction of NLW.

Sectoral Employment and Adjustment

While the overall employment shows resilience in the face of wage increase under NLW legislation, some adjustments can be observed in specific sectors that are consistent with existing literature (Stewart, 2021; Cribb et al., 2020).

Analysis of job growth rate in sectors with high exposure to NLW- Retail and Hospitality- shows a deceleration after 2016. Annual job growth rate in the retail sector was an average 1.5%/year in the period of 2010 to 2015. Between 2016 and 2019 this rate has decelerated to 0.9%/year. Similarly, job growth rate in the hospitality sector was 1.8%/year in the period of 2010 to 2015, between 2016 and 2019 it decelerated to 1.1%. These findings are consistent with classical perspective that wage shocks affect the low-margin and labour intensive industries the most (LPC, 2022).

Another key finding suggests that businesses absorbed the cost of NLW mainly by reducing the work hours instead of reducing the jobs. In the retail sector, average weekly part-time hours were 22.4 hours in 2015 and it declined to 21.1 hours in 2018. During the same period the average weekly hours in the hospitality sector declined from 21.7 hours to 20.5 hours (ONS, 2023b). This trend of reduced weekly hours suggests a shift towards underemployment as the firms are balancing the increased labour cost by reducing the working hours without cutting the jobs down.

This data pattern is consistent with efficient wage model that predicted firms going for adjustment in hours, increasing productivity or introducing automation to offset the effect of increased wages under NLW, instead of eliminating the job altogether (Manning, 2003).

In-Work Poverty and Income Distribution

A key goal of introducing NLW is to alleviate in-work poverty. In-work poverty is defined as households with at least one adult member who is employed and earns below the relative poverty threshold (DWP,2022). This section of analysis examines any measurable improvements in the areas of household income and income distribution as a result of wage increase post introduction of NLW.

Changes in Individual Earnings

Since the implementation of NLW there has been significant increase in the earnings of low-wage workers. In 2015 the 10th percentile (P10) of gross hourly earning for workers in the UK was £6.70 and it increased to £9.00 by 2019, showing a 34.3% increase over this period of time. Within the same time frame the growth in median wage (P50) was comparative modest, increasing from £ 12.50 to £ 13.60 with a percentage increase of 8.8%. This data shows that the bottom part of the wage distribution has undergone significant compression as a result of NLW. This wage compression is also measured through P50 to P10 ratio and it declined from 1.87 to 1.51 between 2015 and 2020. This further supports the claim that NLW has a moderating effect on the gap between median wage earners and 10th percentile (Resolution Foundation, 2019).

Impact on Household Poverty

While there has been growth in individual wages, its effect on household poverty needs a more nuanced approach. In contrast to the over 30% growth in hourly wages of the 10th percentile, the decline in in-work poverty (household with at least one working age individual being employed and earning below the relatively poverty threshold) is very modest- from 15.2% in the period of 2015-16 to 13.8% in 2019-20. This modest decline in household poverty despite of increase in wages post NLW can be attributed to several factors.

A) There is a provision for universal credit or tax credit for low earning households and it decreases as the earning increases, thus reducing the net income gains resulting from NLW (Brewer & De Agostini, 2017).
B) A significant percentage of workers receiving benefits of NLW come from houses that do not fall within the category of poor households, like students or secondary earners. This factor also moderates the targeting efficiency of NLW in alleviating household poverty (Cribb et al., 2020).
C) Wage growth has not directly translated into poverty reduction due to high housing costs as well, particularly in regions like London and the South East (Resolution Foundation, 2019).

Despite of these limiting aspects of NLW, it has effectively raised the income at the lower paying end of the labour market, especially workers with full time employment in NLW affected sectors and in the age group of 16 to 64. The average weekly income of such workers was £ 390 in 2015 and it increased by 15.4% to £ 450 by 2020. This is significantly higher than the 7.2% growth experienced in occupations not covered under NLW (ONS, 2023b).

Income Distribution Effect

The compression at the bottom end of wage distribution has resulted in some improvements in income equality. In low-paid sector the Gini coefficient for pre-tax earning was 0.42 in 2015 and it shows a slight decline to 0.38 in year 2019, suggesting a modest decline in income inequality (Resolution Foundation, 2019).

However, high earners are not directly affected by NLW and ,hence, there is limited overall impact on household inequality. The economic outcomes of NLW are also shaped by the broader fiscal policiesof the government and the economic conditions of different regions.

Regional Disparities

While the National Living Wge has been uniformly applied across the UK, there has been concerns about differences in its impact upon different regions that have varying levels of wages and productivity. Hence it is important to evaluate how regions with high and low impact have witnessed changes in terms of employment rate, wages, and income inequality.

Wage Shocks in High and Low Impact Regions and the Kaitz Index

The Kaitz index measures the ratio of legal minimum wage to the median wage of the region and it is an effective indicator o relative wage shocks (Neumark & Wascher, 2008). After the introduction of NLW in 2016 the high impact regions like North East, Wales and Northern Ireland had Kaitz Index values of 0.60 to 0.65, which indicates that the NLW constituted a large proportion of the median wage. In contrast, low-impact regions like London and the South East had the index values of 0.48 to 0.52, which reflects that NLW constituted lower proportion of the median wage (LPC,2017). The relatively higher proportion of NLW in economically disadvantaged regions means that these regions experienced more significant wage shock that could influence behaviour of the firms and employment patterns.

Employment Effect

An analysis of regional employment trends shows that different regions have different responses to the application of NLW. The high impact regions show a modest deceleration in employment growth in low-paying sectors since 2016. For example, employment growth in the retail sector of the North East region was 0.6%/year between the years 2016-19, comparatively lower than the average annual growth rate of 1.4% in pre-NLW period. Similarly, employment growth rate in the hospitality sector was 0.9% per year after application of NLW as compared to 1.7% before 2016 (ONS, 2023b).

In contrast to the high impact regions, low impact regions like London and the South East show very little disruptive effect on employment. Employment growth rate in the retail sector was 1.3% per year after application of NLW, which is very similar to the growth rate before application of NLW. It shows that the firms in the low-impact regions are more capable of absorbing the increase in wage without changing the level of employment.

These findings show a predominance of employment adjustments in high impact regions that have lower productivity level, which is aligned with theoretical predictions (Bell & Machin, 2018).

Wage Growth and Income Inequality

While the employment effect shows variations across different regions, wage growth was experienced in all the regions. Low paid workers in high impact regions experienced an increase of 28 to 35 % in their average wages in the period from 2015 to 2020 (ONS, 2023b). the same category of workers in the low-impact regions experienced growth of 15 to 20% in their average income.

The high impact regions also witnessed a fall in Gini coefficient, like in Wales it declined from 0.43 to 0.39 between 2015 and 2020. On the other hand, a low impact region like London showed a stable Gini coefficient at 0.36 (Resolution Foundation, 2019).

Based on these findings it can be argued that the effectiveness of NLW in compressing the bottom end of wage distribution has been more pronounced in regions with traditionally low wages. It has helped with alleviation of local income inequality and has also experienced a more pronounced effect on employment.

CONCLUSION AND POLICY RECOMMENDATIONS

Conclusion

Based on analysis of empirical data pertaining to NLW in the UK, it can be concluded that the state social objectives of the policy are mostly achieved without having much negative effect on the employment level. A combination of time-series and sector-wise data suggests stability in overall employment, particularly for the low-skilled and young workers. However, firms operating in sectors with higher exposure to NLW like retail and hospitality show adjustment to increased wages through reduction in part-time work hours instead of reduction in jobs (ONS, 2023b; Stewart, 2021).
The application of NLW has also demonstrated effectiveness in increasing income at the bottom end of wage distribution with the wage of 10^{th} percentile growing by 34% in the period between 2015 and 2020, leading to a decline in the ratio of P50 to P10 from 1.87 to 1.51. These changes have also led to a small decline in in-work poverty, which was 15.2% in the period of 2015-16 and came down to 13.8% in 2019-20. However, this impact was somewhat limited by the loss of welfare benefits due to increased earnings and a significant portion of NLW beneficiaries coming from non-poor households.

A region based analysis reveals measurable heterogeneity in the effect of NLW. While the high impact regions with traditionally lower wages witnessed deceleration in employment growth, low impact regions with traditionally higher wages witnessed minimal deceleration in employment growth. On the other hand, high impact regions saw significant gains in wage and reduced income inequality, but the low impact regions saw relatively little improvements in wage

(LPC, 2017; Resolution Foundation, 2019). Overall, the social objectives of NLW are in balance with stable labour market, but the regional and sectoral variations in impact may need targeted interventions to support the vulnerable groups.

Policy recommendations :

i) Policymakers may consider region-wise adjustment in minimum wages or phase-wise implementation of the NLW with due consideration prevailing median wages and the value of Kaitz index in order to offset the negative pressure on employment to increased wages.

ii) Small and medium size enterprises in sectors with high exposure to NLW my be offered targeted support like tax breaks, grants for training the workforce or subsidy on wages in order to mitigate the burden of increased labour cost and prevent decrease in working hours or investment.

iii) To make the poverty reduction objective of NLW, policymakers may bring reforms in housing sector to make them more affordable for the low earning groups and in welfare tapering to ensure that wages gains are not undermined by reduction in welfare benefits.

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