THE NATIONAL MINIMUM WAGE REPORT

Measuring the impacts of the 2024 national minimum wage increase

Report prepared for the National Minimum Wage Commission

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December 2024

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Executive summary

This report examines the short-term labour market effects of the March 2024 increase in the National Minimum Wage (NMW), which was the largest adjustment in real terms since the introduction of the NMW in 2019. In recent years, increases in the level of the minimum wage have outpaced average wage growth, such that the NMW is now set at almost 80% of the country's median wage – above average by international standards. This trend, combined with the broader challenges facing South Africa's labour market, are critical to understanding the implications of the latest NMW adjustment. Our main findings, which are summarised here, focus on the effects of the NMW increase on four key outcomes of interest, namely: hourly wages, employment, working hours, and monthly earnings.

1. **Hourly wages**: We find that the new NMW had a clear positive effect on the real hourly wages of sub-minimum wage workers, of around 19%. For a broader group of low-wage workers, we estimate a positive effect of 27%, which implies the presence of substantial spillover effects above the NMW level. Despite the large magnitude of these effects, we note that before March 2024 the average sub-minimum wage worker earned far below the incoming NMW level (37%). Given this gap, the wage effects we observe are not enough to move most workers up to the NMW, with evidence of only partial compliance. Moreover, the wage increases we observe appear to be driven by a minority of workers – the wages of many low-wage workers did not change in response to the new law. The overall result is that average wages have not kept pace with the rising NMW, and measured rates of non-compliance have increased.
2. **Employment**: The hourly wage increases also affected employment, working hours, and monthly earnings. On employment, only one of our two empirical specifications yields a statistically significant effect, although both consistently yield small, negative estimates. This suggests that a reduction at the extensive margin may have been used by some employers as a response to the higher NMW level. Importantly, the magnitude of this negative adjustment (3.4%) is considerably smaller than the real hourly wage adjustment.
3. **Working hours**: We find consistent evidence of a negative effect on the working hours of low-wage workers, similar in magnitude to the effect on employment. This suggests that some employers reduced working hours to absorb the wage increase. As with the measured employment changes, the magnitude of the reduction in working hours is considerably smaller (2.2 – 3.9%) than the increase in real hourly wages (19 – 27%). Hence, the overall effect on covered workers who remained employed is 'net' positive, only partially offset by slightly lower working hours.
4. **Monthly earnings**: The 'net' effect of adjustments in wages and working hours – real hourly wage growth and reduced working hours – is captured by a positive, significant effect on real monthly earnings, which absorbs both changes. Like the hourly wage adjustments, these are non-negligible in size (16.8 – 23.5%), and suggest that despite a reduction in working hours, average labour market welfare has improved, at least with respect to earnings. However, these effects pertain only to those who remained employed, and as such, the small negative employment effect we observe ought to be kept in mind when considering the combined outcome of the NMW increase.

1 Introduction

South Africa's national minimum wage (NMW) increased by 8.5% in March 2024, which is a 3.2% increase in real terms. This sets the minimum hourly rate at R27.58 – equivalent to a monthly wage of R4,744 for a 40-hour week.[1] The adjustment for 2024 follows a real increase of 2.5% in 2023 and is the largest inflation adjusted increase since the NMW was introduced. In terms of coverage, 2024 NMW applies to approximately 37% of all employees in South Africa (over 5 million people), who were paid below the new level before it came into force. Crucially, these employees earned about R17/hr on average, meaning that their hourly wages would have to go up by over 60% if all workers were to earn at least R27.58/hr. Such an increase did not materialize and in fact the average rate of noncompliance has risen. To understand this result and other key impacts of the 2024 NMW increase we focus on the labour market outcomes of covered workers, contributing to an evidence base upon which future wage adjustments will be determined. Many different factors are important for such a determination, and our scope is restricted to measuring the causal impact of the NMW increase on a subset of specific variables; namely, real hourly wages, working hours, employment, and real monthly earnings. Additionally, it is worth noting that we only analyse short-term effects – that is, a single quarter following the latest increase – and the results should be interpreted with this in mind.[2]

In theory the ideal minimum wage policy is able to raise the level of the minimum wage and generate income gains for low-wage workers without any associated negative outcomes, particularly on employment.[3] Fortunately there is now a wealth of global evidence on the effects of minimum wages, with a major focus on employment, suggesting that in practice raising the level of the minimum wage does generate wage gains and does not usually result on job losses (Wolfson & Belman, 2019; Dube, 2019; Neumark & Corella, 2021; Neumark & Shirley, 2022; Dube & Lindner, 2024). While the international evidence concentrates primarily on high-income countries the empirical literature in South Africa generally supports this conclusion, finding that sectoral minimum wage increases since the early 2000s (prior to the introduction of the NMW) raised the wages of covered workers with no evidence of associated decreases in employment (Dinkelman & Ranchhod, 2012; Bhorat et al., 2013, 2021; Bassier & Ranchhod, 2024). One exception to this, however, is in the agricultural sector, where there is some evidence of negative employment effects alongside capital intensification and slower job creation (Bhorat et al., 2014; Garbers et al., 2015; Bhorat et al., 2016; Van der Zee, 2017; Piek & von Fintel, 2020; Piek et al., 2023).

At the national level, detailed empirical evidence on the impact of the NMW in South Africa remains scarce, but there are some data points that suggest a cautious approach may be warranted. An assessment of the labour market effects of the NMW increase in 2023 (Development Policy Research Unit, 2024), as well as our analysis below, finds some evidence of small but statistically significant negative employment effects, and we also find negative effects on working hours in 2024. Second, as we discuss shortly, the 'bite' of South Africa's NMW – measured by the ratio of the NMW to the median wage (or the 'Kaitz' ratio) – has been increasing steadily in recent years and is relatively high compared to a sample of other countries for which we have data. Put simply, the NMW has risen faster than median wages for several years now. Taken together, this

may suggest that the NMW is reaching the frontier of what the labour market is able to absorb without some negative trade-offs. So, while empirical studies generally find that minimum wages have negligible adverse effects, or no adverse effects at all, in certain contexts adverse effects are more likely, particularly where a minimum wage has more 'bite', when increases are larger, and when effects are measured for more economically vulnerable cohorts (Belman et al., 2015; Broecke et al., 2017; Del Carpio & Pabon, 2017; Piek et al., 2023).

In addition to these specific points, it is generally accepted that prevailing economic conditions play a major role in how minimum wages affect workers' labour market outcomes. An economy with strong output and employment growth can more easily absorb legislated wage increases with no negative impacts. Indeed, successful minimum-wage-setting bodies globally pay close attention to such indicators. For example, in the United Kingdom, the Low Pay Commission's most recent remit identifies the 'state of the economy', employment, and unemployment as central considerations for recommending future adjustments to ensure that, "the lowest-paid workers continue to see pay rises without significant risks to their employment prospects".[4] South Africa's NMW Act of 2018 includes considerations which echo this view, with a detailed list of economic and policy targets that NMW changes should take into account.[5] In this regard, South Africa's current economic situation is a relevant concern – economic growth remains below 1%, employment growth has been slow, unemployment has increased in recent years, while income inequality and poverty remain stubbornly high.

The NMW is a key progressive policy in South Africa, but it is also constrained by the county's economic environment, which limits what it can achieve in isolation. Relying too heavily on the NMW as the primary tool for improving the economic welfare of workers does contain a level of inherent risk. More specifically, consistent above-inflation increases may not be able to consistently raise wages without some form of trade-off. An obvious concern in South Africa is around the potentially negative effects on employment and employment growth, but there is also the possibility of increasing non-compliance, where higher minimum wages do not translate into equivalent increases in workers' wages. Indeed, the effects of the latest NMW increase are already muted by the fact that non-compliance has gone up, and many workers' wages did not change in response to the new level. This risks turning the NMW into an aspirational policy only adhered to by a subset of employers, rather than a binding wage floor for all workers across the country.

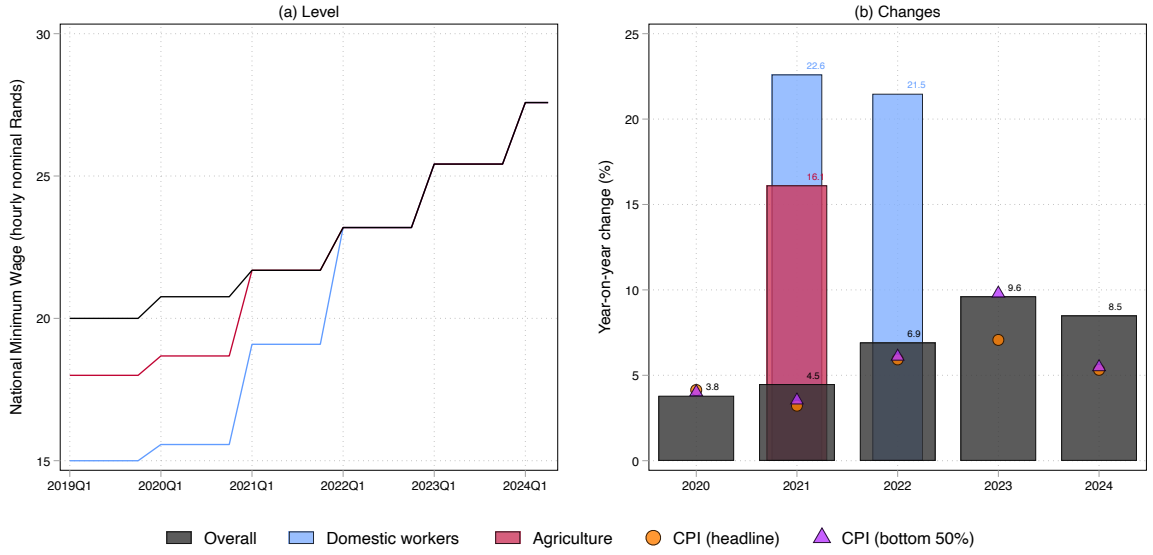
Lessons from the existing academic and policy literature are critical to inform South Africa's minimum wage policy, but there remains a need for careful, case-specific empirical research. In this regard, our paper aims to contribute towards a growing body of evidence on minimum wages in South Africa, with a direct focus on policy. The paper is structured as follows: In the background section below, we examine how the NMW has evolved since its introduction in 2019, and how the level of the NMW compares internationally. This provides some important context for the analysis that follows. In Section 3, we discuss the data used in our analysis, which includes specific detail on wages and how the wage data we use is generated. Following this, in Section 4 we examine some descriptive trends in wages, employment, working hours, measure

levels of non-compliance, and unpack the characteristics of workers covered by the NMW. Section 5 outlines how we use the available data to identify the causal effects of the NMW increase on covered workers. And then in Section 6 we present our key results for each outcome of interest, followed by a short discussion of the findings. The report concludes by reflecting on our main findings and discussing their implications in Section 7.

2 Background

To put the 2024 NMW adjustment into perspective, Figure 1 presents changes in the NMW since its introduction at the beginning of 2019. Panel (a) plots the level of the NMW in nominal Rands per hour, while panel (b) shows the year-on-year percentage increase in each year. To account for changes in purchasing power the headline Consumer Price Index (CPI) inflation, and inflation calculated for the poorest 50% of the household expenditure distribution, are included in panel (b). In both panels, we also show separate minimum wage rates and increases for Agricultural and Domestic workers, until these sectoral rates were merged with the general NMW – 2021 for Agriculture and 2022 for Domestic workers. A general observation is that over time the scheduled increases in NMW have become progressively larger. Notably, the 2023 and 2024 increases have been the largest in nominal terms, apart from the one-off increase in Agriculture in 2021 (16%), and the two increases for Domestic workers in 2021 (22%) and 2022 (21%), which were far more substantial. What is also clear in panel (b), however, is that inflation was relatively high in 2022 and 2023, particularly for the bottom 50% of households, meaning that the real increase for these years was smaller than the nominal change suggests. Lower levels of inflation in 2024, however, make the most recent NMW adjustment the largest real increase to date.

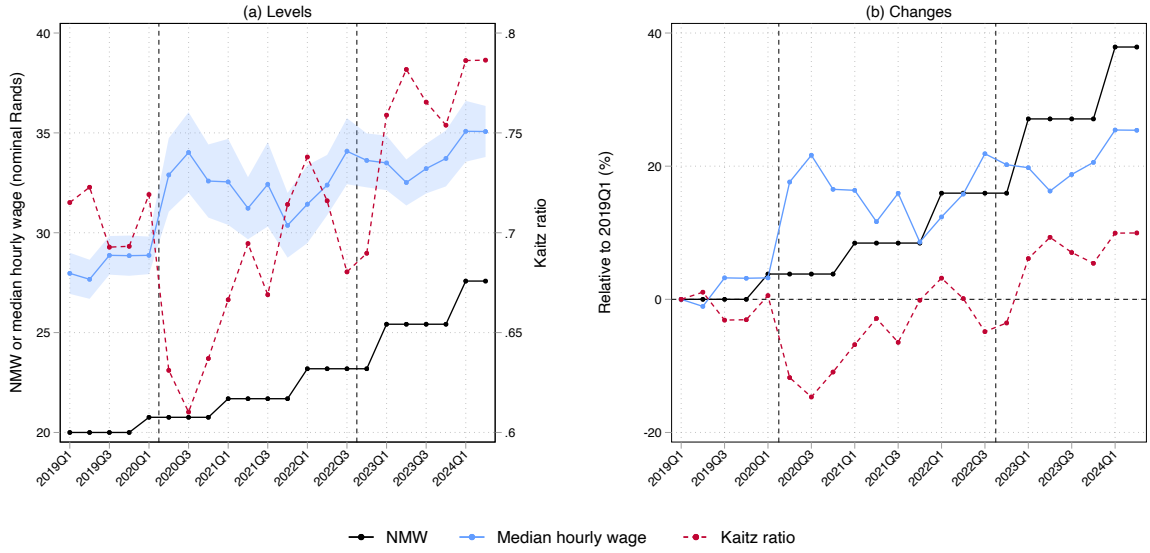
Figure 1: Changes in the nominal National Minimum Wage and Consumer Price Index: 2019 – 2024



[a] Author's own calculations.
[b] Notes: Year-on-year changes in panel (b) are calculated using National Minimum Wage and CPI values for March of each year. CPI data sourced from Statistics South Africa (2024).

In isolation, a rising minimum wage may not be of much significance, especially if wages are also rising at a similar rate – i.e. the ratio of the minimum wage to average wages is relatively stable. To examine how the level of the NMW compares to average wages, we plot three variables of interest in Figure 2: the NMW level; the median hourly wage for all employees; and the Kaitz ratio, which a well-established measure of 'bite' and measures the level of the NMW relative to the median wage. [6] Wage trends during the middle of this period are unusual due to the impact of the COVID-19 pandemic, which is contained between the vertical dotted lines, and we largely ignore the pandemic impacts here.[7] There are two main observations worth highlighting. First, together with the NMW level, median wages have risen, even if we account for large compositional changes in employment during the pandemic. Over the five-year period from the beginning of 2019 to the second quarter of 2024, the NMW increased by a cumulative 38% while the median hourly wage increased by a cumulative 25%, both in nominal terms. Second, and because of the former exceeding the latter, the Kaitz ratio has increased by 10% from 0.72 in the first quarter of 2019 to 0.79 in the second quarter of 2024. In other words, the NMW was set at 72% of the median wage when it was introduced, but in 2024 it has risen nearly 80%. Notably, this represents the highest level of the Kaitz ratio since the NMW's introduction.

Figure 2: Trends in the National Minimum Wage, nominal median hourly wage, and Kaitz ratio in South Africa, 2019 – 2024

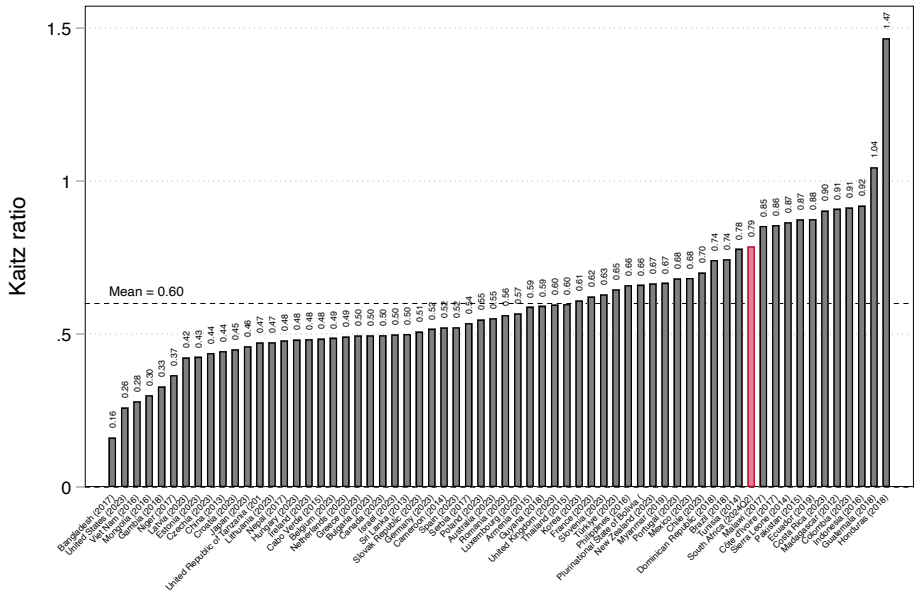


[a] Author's own calculations. Source: QLFS 2019Q1 – 2024Q2.
[b] Notes: Sample restricted to working-aged (15 – 64 years) employees. Estimates weighted using sampling weights. Wage data adjusted for outliers and missing data and are expressed in nominal terms. Vertical reference lines indicate the COVID-19 pandemic period. For brevity, only the general National Minimum Wage level is used.

A rising Kaitz ratio is evidence of increasing minimum wage bite over time, however, for context it is useful to benchmark South Africa's Kaitz ratio against other countries. In Figure 3, we compare South Africa's Kaitz ratio to a sample of 63 low, middle- and high-income countries.[8] As an indicator the main function of the Kaitz ratio is simply to measure how high the minimum wage is set relative to average wages, where this can be a useful policy guide, but it also provides an indication of the share of employees earning at or below the legislated minimum level. The

South African Kaitz ratio is in the top 20% of the sample, measured at 0.79. This is 32% above the group average of 0.60 and 43% above the group median of 0.56. To be specific, in the second quarter of 2024, South Africa's NMW of R27.58 per hour was approximately 79% of the median nominal hourly wage, which we estimate at R35.07. This ratio also implies that approximately 39% (0.79×0.5) of all employees in the country were earning at or below the NMW level in 2024Q2, and we examine this in more detail shortly. An additional point to highlight is that underlying the national Kaitz ratio estimates for South Africa there is substantial regional and sub-group variation. For example, Figure A4 in the Appendix compares Kaitz ratios across provinces, where we find that outside of key provinces the Kaitz ratio is significantly higher than the national average. Indeed, poorer provinces and worker cohorts will have Kaitz ratios above the average.

Figure 3: Minimum-to-median wage ratio ('Kaitz' ratio), by country



[a] Author's own calculations. Source: International Labour Organization; Organisation for Economic Co-operation and Development (2024)
[b] Notes: Kaitz ratio defined as the ratio of a given country's legislated minimum wage to the median nominal wage of employees. Data period for each country indicated in parentheses. The estimate for South Africa makes use of the latest period of data (2024Q2).

We know that South Africa has a large share of workers earning below the current NMW, and this is confirmed by the high Kaitz ratio. These workers are the intended beneficiaries of the NMW legislation, so before moving on it is useful to provide a basic description of this cohort. To do this we compile an overview in Table 1, which looks at a variety of labour market characteristics of covered workers. In total, there are approximately 5.4 million workers earning below the NMW in 2024Q2, where this is based on reported earnings and is likely an upper bound.[9] The average worker in this group earns just under R17 per hour (in June 2024 Rands), which is 38.5% below the 2024 NMW, placing them at around the 20th percentile of the employee wage distribution in South Africa. Working just over 44 hours per week (two hours longer than the national mean), the average sub-minimum wage worker earns around R3,300 per month.[10] By sector, over 2 million sub-minimum wage workers are in Wholesale and Retail Trade, or Community, Social

and Personal (CSP) services, which together represent about 40% of all workers in this cohort. Another 788,000 work in the financial services industry, and close to 25% are either farm or domestic workers. Notably, low wage workers make up the majority of employees in domestic work and agriculture and as such changes to the NMW affect a much larger share of workers in both of these sectors.

Table 1: Labour market characteristics of sub-minimum wage workers, 2024Q2

	Level		Share		Level		Share
	Estimate	s.e.			Estimate	s.e.	
Aggregate statistics				Contract duration			
Number of workers	5,377,049	106,019	1.00	*Limited duration*	1,198,052	48,081	0.22
Mean real hourly wage	16.98	0.12	.	*Permanent nature*	1,853,148	60,168	0.34
Mean weekly working hours	44.44	0.23	.	*Unspecified duration*	2,325,850	66,470	0.43
Industry				Wage determination			
Trade	1,058,860	42,506	0.20	*Negotiation between myself and employer*	428,138	29,436	0.08
CSP services	1,004,667	37,863	0.19	*Negotiation between union and employer*	509,910	32,982	0.09
Finance	788,435	34,434	0.15	*Bargaining council*	274,687	28,233	0.05
Private households	716,638	32,223	0.13	*Employer only*	3,636,855	91,744	0.68
Agriculture	585,179	42,852	0.11	*No regular increase*	501,715	36,571	0.09
Other	1,223,270	46,513	0.23	*Other*	25,744	7,055	0.00
Occupation				Paid leave			
Elementary	2,067,043	64,636	0.38	*Yes*	2,492,012	71,980	0.46
Service workers	1,078,089	40,976	0.20	*No*	2,812,605	76,010	0.52
Domestic workers	540,774	25,937	0.10	*Don't know*	72,432	11,477	0.01
Other	1,691,143	57,294	0.31				
Formality				Pension fund			
Formal sector	4,397,366	95,952	0.82	*Yes*	1,053,256	46,035	0.20
Informal sector	979,683	40,195	0.18	*No*	4,184,926	91,702	0.78
Firm size				*Don't know*	138,867	18,698	0.03
0-9 workers	1,976,561	54,479	0.41				
10-49 workers	1,548,759	54,000	0.32	Medical aid			
50 or more workers	1,333,110	57,725	0.27	*Yes*	376,581	24,905	0.07
Union membership				*No*	4,943,932	101,315	0.92
Non-member	4,754,871	99,423	0.88	*Don't know*	56,536	10,844	0.01
Member	622 178	36 903	0.12	UIF			
Contract type				*Yes*	2 697 731	71 162	0.50
Verbal agreement	1 755 173	56 148	0.33	*No*	2 541 187	69 034	0.47
Written contract	3 621 876	85 103	0.67	*Don't know*	138 132	17 171	0.03

[a] Author's own calculations. Source: QLFS 2024Q2.

[b] Notes: Sample restricted to working-age (15–64 years) employees earning below the 2024 National Minimum Wage level in 2024Q2. Estimates weighted using sampling weights. Standard errors (s.e.) are adjusted for the complex survey design. Hourly wages adjusted and expressed in June 2024 Rands. Formal and informal sectors defined as per Statistics South Africa's definition. CSP services = community, social, and personal services. UIF = Unemployment Insurance Fund contributions.

By occupation, most covered workers are employed in elementary and service jobs (58%), while the formal/informal sector split is in line with the national figures – informal sector employment accounts for just 20% of total employment. Over 40% of sub-minimum wage workers are employed in small firms (<10 workers), with another 32% employed in medium-sized firms (10–49 workers). So over 70% of the workers covered by the NMW are in small and medium-sized firms. Only a small minority of covered workers are unionised (12%), which is consistent with most unionised workers being in higher-paying industries such as mining and manufacturing that are characterised by a different system of organised wage bargaining. Regarding wage determination, 68% of workers report that their wage increases are determined by their employers alone, which in theory should be influenced by the NMW. Other types of wage determination, such as negotiations between unions and employers, workers and employers, and bargaining councils, affect less than 10% of sub-minimum wage workers in each case. For other non-wage conditions, one-third of covered workers do not have written contracts, and 43% of contracts are of an unspecified duration – potentially an indicator of job insecurity. It is not surprising then that many low wage workers report not having access to various employment benefits such as paid leave (52%), a pension fund (78%), private health insurance or medical aid (92%), and unemployment insurance (47%).

3 Data

3.1 Overview

To examine the effects of the NMW increase we use individual-level data from the Quarterly Labour Force Survey (QLFS), a nationally representative household survey conducted by Statistics South Africa (StatsSA) every quarter. Our period of interest in this case is from the second quarter of 2023 (2023Q2) through to 2024Q2. The survey contains detailed labour market data for individuals aged 15+, including a wide range of demographic and socioeconomic characteristics. Although the QLFS is primarily used as a cross-sectional dataset – providing a snapshot of the country's labour market in each quarter – it contains a rotational panel component which allows for a sample of the same individuals to be observed over multiple periods. We make use of the panel in our analysis and discuss it in more detail below. Our overall sample is restricted to individuals of working-age (15–64 years) and, among the employed, only those who are wage earners or employees – that is, those who report working for someone else for pay, who represent over 80% of employed individuals in the country. To be clear, we exclude employers, the self-employed, and unpaid household workers. All our estimates are weighted using the sampling weights provided by StatsSA, which account for the QLFS survey design to provide population-level estimates.

All the descriptive data in the paper, including in Section 4 below, is based on the full cross-sectional QLFS, approximately 13,500 working-age employees in each quarter, within a larger sample of 200,000 observations over the full period.[11] In our main analysis, however, which seeks to identify the causal effects of the 2024 NMW increase on covered workers, we make use of the panel component of the data, which consists of approximately 26,000 unique individuals each

observed multiple times over the period – amounting to roughly 78,000 observations in total. Despite the sample size reduction that comes with using the panel we show that the composition profiles of the cross-sectional and panel samples are almost identical. Finally, it should be noted that while the survey previously experienced a significant reduction in its sample size due to relatively low response rates during the COVID-19 pandemic (Bhorat et al., 2022), the sample size returned to its pre-pandemic level at the end of 2022, and has remained at this level since then.

3.2 Wage data adjustments

Beyond the basic sample restrictions described above, there are several specific adjustments we make to the wage data to prepare it for this analysis. Importantly, the wage data we use here is not publicly available at present and was provided by StatsSA for the purposes of this work. For this reason, we include some additional notes on the data and how we use it. In the QLFS, all employed respondents are asked to report their gross earnings (before taxes and deductions) in one of two ways. They are initially asked to report a Rand value of what they earn over a chosen period (annually, monthly, weekly etc.). If they do not, they are then shown a set of earnings brackets (e.g. R501 – R1,000 per month) and asked to select the bracket within which their earnings fall. The bracket question also allows respondents to select 'refuse' or 'don't know'. As a result, there are three categories of earnings response in the data: (i) those who reported exact Rand values; (ii) those who did not report a Rand value but select an earnings bracket; and (iii) those who reported neither a Rand value nor a bracket. In Figure A1, we show the share of employed respondents across these three categories over the period. About 44% of workers provide the survey enumerators with an actual Rand value. The remainder either select an earnings bracket (approximately 19%) or do not provide any explicit earnings information (approximately 37%).

To make use of this data, two initial adjustments are required. First, implausible, or 'outlier', wage values need to be identified and dropped, as not doing so may lead to some degree of bias in the wage estimates. Second, wage values need to be imputed for those employed respondents who did not provide an exact Rand amount.[12] Because about half of all employed respondents do not provide such data, and this non-response is typically not randomly distributed, any estimates of wages using only the reported Rand values will be biased. Put another way, the sample of workers who choose not to report a Rand value are characteristically different from those who do. This is a common issue globally, and such non-response tends to be concentrated towards the top of earnings distribution, which is fortunate in this case as our focus is on the lower end of the distribution. To confirm, Figure A2 shows that higher-wage workers are significantly more likely than their lower-wage counterparts to not report their wages.

So, we adjust the raw wage data by first identifying and removing outliers, and then imputing for wage non-response. To do this we follow work by Wittenberg (2017) and Köhler & Bhorat (2023), and use two parametric statistical techniques, described briefly below, which are considered to be among the most effective methods for addressing implausible outlying values and item non-

response (Wittenberg, 2017; Daniels, 2022). To identify outliers across the full wage distribution (not just at the top), we adopt the studentized regression residual approach. Using the sample of employed respondents who do report their wages, this entails estimating an expanded Mincerian wage regression of the logarithm of monthly wages on a vector of observable covariates[13] using ordinary least squares (OLS), predicting and standardizing the residuals, and then flagging observations with large residuals as outliers.[14] Conceptually, a worker's reported wage is regarded as an outlier if it differs significantly from the wage that their demographic and labour market characteristics predict. Crucially, such outlier values are detected in less than 1% of the employed QLFS sample. We recode wages for this small set of outliers as missing.

Following this, to deal with wage non-response we adopt a multiple imputation (MI) approach that allows us to impute the wages of workers in groups (ii) and (iii) above, as well as those whose reported wages that were identified as outliers. In brief, this entails first predicting an earnings bracket for outliers and those in group (iii) using an ordered logit model on a vector of observable covariates[15], and second, predicting log monthly wages based on the predicted bracket and the same vector of covariates, using predictive mean matching (PMM). For observations in group (ii), the imputation process skips the first step. This process is repeated iteratively to produce multiple values of what the 'true' wage value might be for each individual, which are then combined using the standard rules for estimation and inference (Rubin, 1987). The interested reader is referred to Köhler & Bhorat (2023) for a more detailed discussion of these techniques, where it is shown that they are robust to a wide range of diagnostic tests. After applying these adjustments we have robust wage estimates for almost all workers in the QLFS sample.[15] The results presented here rely on the complete combination of reported and imputed data.[16] Finally, we adjust all wage data for inflation using headline CPI data, benchmarking our estimates to June 2024, the latest month in our data. All wages are converted to hourly frequency using data on reported usual weekly working hours.

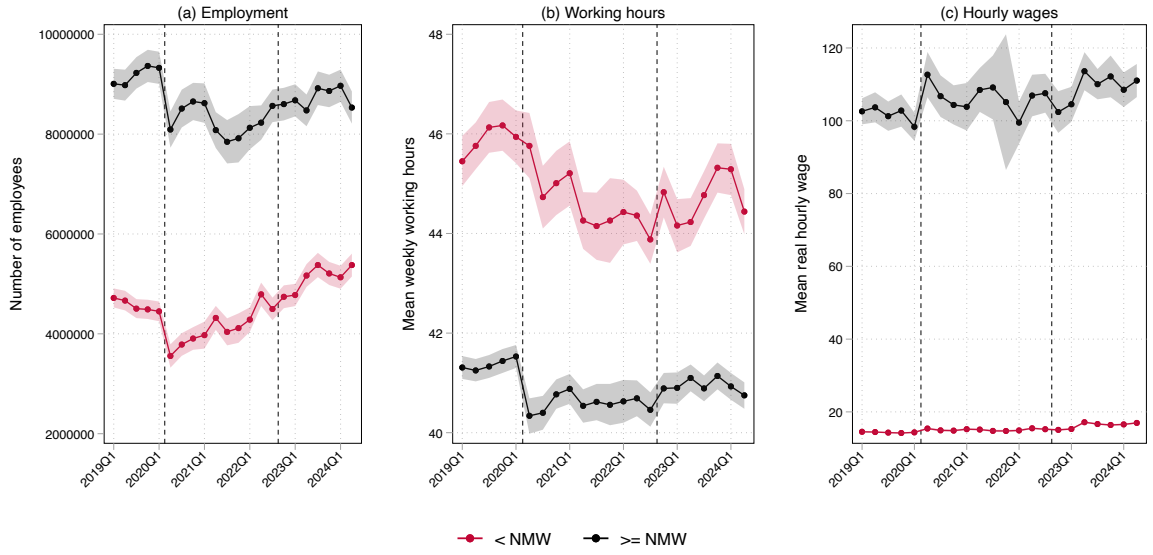
3.3 Timing

Our period of interest is 2023Q2–2024Q2, which includes five quarters of QLFS data: four following the 2023 NMW increase (but before the 2024 increase), and one following 2024 increase. We note that 2024Q2 was the latest available data at the time of writing. An additional point to highlight is that the NMW changes at the beginning of March, which is in the final month of quarter 1. To accurately identify the timing of the change, we use data provided by StatsSA on the month in which QLFS respondents were surveyed and treat those surveyed after February 2024 as being subject to the new NMW. Put another way, we divide individuals into 'pre-NMW' and 'post-NMW' groups based on both the quarter and month in which they were surveyed. This ensures that we can precisely identify the timing of the 2024 increase in the data. We also conduct sensitivity tests on our results to examine other reasonable approaches related to timing. For example, we run the same analysis excluding all March 2024 observations, as well excluding the full first quarter of 2024. This may be relevant if some employers chose to respond to the higher NMW preemptively. However, changing the timing in these ways does not meaningfully influence our findings.

4 Descriptive trends

We briefly examine aggregate labour market trends to provide some basic context for the more detailed analysis that follows. We begin with Figure 4, which is an overview of trends in employment, working hours, and real hourly wages since the NMW's introduction in 2019. In each plot, we separate workers into those earning at or above the NMW, and those earning below, noting that the composition of these groups changes in each quarter. We include vertical lines to mark out the COVID-19 period, where immediate decreases in employment in 2020 are clear for all workers, after which we observe a consistent upward trend. In 2024Q2, the first quarter after the NMW increase, the share of workers above versus below the NMW moves in opposite directions. This is likely a result of the minimum wage increasing but earnings not immediately keeping pace, resulting in an increased share of employees being shifted into the sub-NMW category. Working hours vary over the period, with sub-NMW workers consistently reporting significantly longer weekly hours than employees earning above the NMW. There is also a noticeable decrease in reported working hours in 2024Q2, but this may be due to seasonal variation rather than the NMW increase, and we isolate this carefully in our econometric analysis. Finally, mean real wages are relatively flat over the period, with slight increases evident over the last year for all workers.

Figure 4: Trends in employment, working hours, and real hourly wages in South Africa, 2019 – 2024

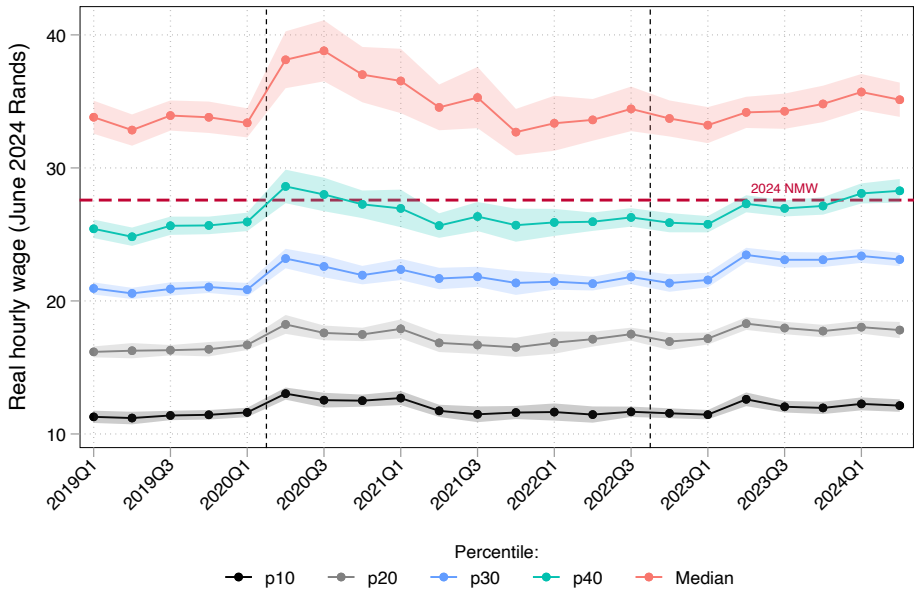


[a] Author's own calculations. Source: QLFS 2019Q1 – 2024Q2.
[b] Notes: Sample restricted to working-aged (15 – 64 years) employees. Estimates weighted using sampling weights and are adjusted for the complex survey design. Shaded areas represent 95% confidence intervals. Wage data adjusted for outliers and missing data. Vertical reference lines indicate the COVID-19 pandemic period.

While looking at aggregate trends in employment, hours, and wages is useful for some context, the initial variable of interest for us is wages, and whether we can pick up an impact of the NMW increase in the descriptive data. For a more detailed picture of wage changes over time, Figure 5 plots real hourly wages for employees in the bottom half of the distribution, showing

the level of the median as well as the 10th, 20th, 30th, and 40th percentiles. The level of the 2024 NMW is shown as a horizontal reference line. After the pandemic, we observe a wage distribution for almost all lower-wage workers in South Africa that is relatively static in real terms; that is, just keeping pace with inflation. The changes in early 2023, where there is a noticeable spike, follows the NMW increase. Indeed, previous work by Development Policy Research Unit (2024) found clear evidence that this spike was linked to the causal effects of the NMW change. In 2024, however, there is no initial evidence of a similar wage spike. This is, however, certainly not definitive evidence of the NMW having no impact, due to the presence of other economy-wide factors happening simultaneously, which may mask its impact. Regardless, it is suggestive that the 2024 increase may have had a more limited direct effect on covered workers. Similarly, when considering changes across the full wage distribution, we observe no obvious positive change in the real wages of those earning at or below the NMW (Figure A3 in the Appendix).

Figure 5: Trends in real hourly wages across the wage distribution, 2019 – 2024

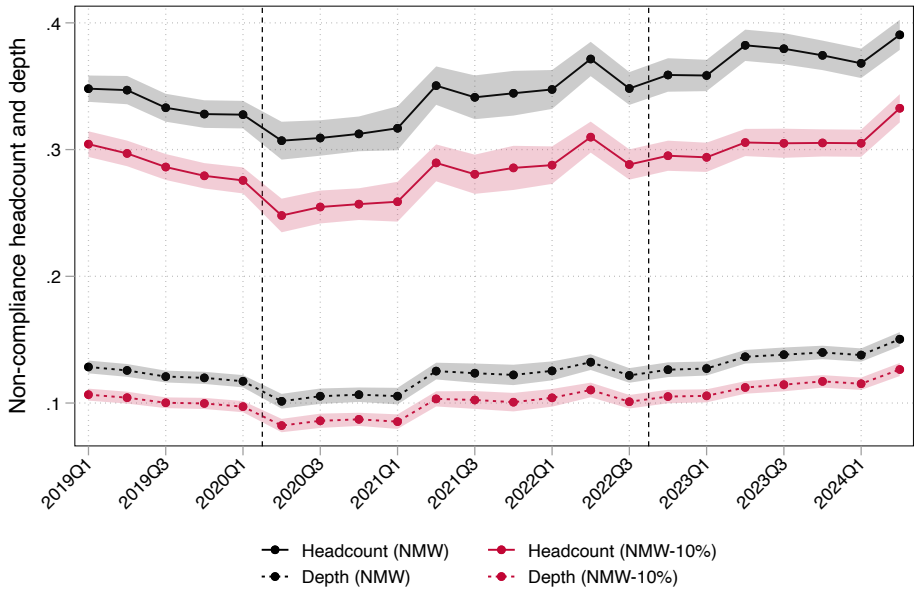


[a] Author's own calculations. Source: QLFS 2019Q1–2024Q2.
[b] Notes: Sample restricted to working-aged (15 – 64 years) employees. Estimates weighted using sampling weights and are adjusted for the complex survey design. Shaded areas represent 95% confidence intervals. Wage data adjusted for outliers and missing data and are expressed in June 2024 Rands. Vertical reference lines indicate the COVID-19 pandemic period. Horizontal reference line indicates the 2024 National Minimum Wage level.

The lack of a clear wage effect in the aggregate wage data suggests that while the level of the NMW has increased, the wages of many workers have not increased commensurately.[17] As a consequence, levels of non-compliance in the period directly after the NMW increase have risen. We show this in Figure 6, which plots two aspects of non-compliance over the period – the total share or 'headcount' of non-compliance, and the measured depth of non-compliance.[18] In each case, we report two different estimates: the first (shown in black) is based on reported earnings in the QLFS; while the second (shown in red) takes account of the fact that up to 10% of employees' earnings may be paid in kind according the NMW Act. Given that in-kind payment are not observable in the data, but would result in lower estimate of non-compliance, we allow for a 10%

adjustment.[19] In 2024Q2, we observe the highest levels of both non-compliance headcount and depth since the NMW was introduced in 2019. Following the recent NMW increase, we estimate that 39.1% of employees earned less than the NMW, compared to 34.8% in 2019. Initially, both the level and depth of non-compliance gradually fell but this trend was upset by the pandemic. From 2021, non-compliance has continued to rise and has increased noticeably in 2024Q2. These aggregate estimates obscure quite large sub-national variation, and non-compliance trends by industry are presented in Figure A5 in the Appendix.

Figure 6: Trends in National Minimum Wage non-compliance in South Africa, 2019 – 2024



[a] Author's own calculations. Source: QLFS 2019Q1 – 2024Q2.
[b] Notes: Sample restricted to working-aged (15 – 64 years) employees. Estimates weighted using sampling weights and are adjusted for the complex survey design. Shaded areas represent 95% confidence intervals. Wage data adjusted for outliers and missing data. Vertical reference lines indicate the COVID-19 pandemic period.

As a final and more detailed account of descriptive wage trends we calculate changes in wages at different points of the distribution, before and after the 2024 NMW increase. Specifically, we measure how the quarterly growth rate of wages prior to the 2024 NMW increase (2023Q2 – Q3; 2023Q3 – Q4; and 2023Q4 – 2024Q1) compares to the growth rate following it (from 2024Q1 – Q2). We also divide workers into various wage 'bins' to see if wage changes varied based on their position in the pre-NMW earnings distribution. Our *a priori* expectation is that the NMW increase would affect workers primarily earning near the incoming NMW level. The results presented in Table 2 appear to confirm this, revealing larger statistically significant growth rates concentrated among workers earning close to the level of the incoming NMW. Specifically, following the NMW increase we observe larger real wage growth rates for workers who were earning between 60 – 110% of the 2024 NMW, but not for any other worker group. Put differently, for workers earning within this band, wages rose by more after the NMW increase than in any period the year before. We do not observe similar changes for lower-wage workers, or those earning substantially above the NMW. These descriptive results do not provide evidence of a causal NMW effect but they do identify a positive real wage increase for workers earning

relatively close to the NMW, that was not clearly evident in the aggregate data.

Table 2: Changes in log real hourly wages by bins of the hourly wage distribution

	Pre-NMW hike			Post-NMW hike	Change in growth rate
	'23Q2-3 (1)	'23Q3-4 (2)	'23Q4-'24Q1 (3)	'24Q1-2 (4)	(5) = [(4)-(3)] - [(3)-(1)]
<30% NMW	0.00	-0.02	0.01	-0.03	-0.02
30-60% NMW	-0.02	0.01	-0.02	-0.01	0.01
60-90% NMW	-0.02	0.00	-0.02	-0.01	0.02**
90-110% NMW	-0.02	0.00	-0.01	-0.01	0.02***
110-130% NMW	-0.01	-0.01	-0.01	-0.02	0.01
130-160% NMW	-0.02	0.00	-0.01	-0.02	0.01
160-200% NMW	-0.02	0.00	-0.02	-0.01	0.02
>200% NMW	-0.04	0.02	-0.01	-0.03	0.00

[a] Author's own calculations. Source: QLFS 2023Q2–2024Q2.
[b] Notes: Sample restricted to working-age (15–64 years) employees. Estimates weighted using sampling weights and account for the complex survey design. Wage data adjusted for outliers and missing data. Columns (1)–(4) presents growth rates of bin-specific mean real hourly wages, as measured by the log point difference between the respective years indicated by the column heads. Column (5) presents the change in the growth rates from before to after the minimum wage hike. * p<0.10, ** p<0.050, *** p<0.010.

5 Empirical approach

Accurately identifying the causal effect of a minimum wage increase can be complex, and simply measuring changes in key variables, as we have done above, is insufficient. Ideally, one needs to compare the outcomes of affected workers to those of unaffected workers that are both observably and unobservably similar. The major challenge facing an assessment of a national minimum wage in this case is that the law applies to all low-wage workers in the country, with no sectoral, geographic, or other form of variation. This makes it difficult to find a suitable direct comparison or 'control' group against which to compare affected workers.[21] To develop a suitable empirical approach, we draw on local and international literature, noting a recent summary paper by Dube & Lindner (2024) on minimum wage analysis that discusses a variety of potential strategies. We adopt two separate methods that are different in their underlying approach but offer complementary insights. In short, the first method uses variation in worker earnings before the 2024 NMW increase to identify those workers for whom the 'bite' of the incoming NMW is larger. We expect workers with lower pre-law wages (larger bite) to be more affected by the policy change and compare their outcomes to higher-wage workers for whom the bite of the new NMW is smaller. The second method is simpler and compares low-wage workers, who are likely to be affected by the NMW change, to workers higher up the earnings distribution who are unlikely to be impacted by the policy. Both approaches are discussed in more detail below.

An initial choice we make is to use the panel component of the QLFS which, as described earlier, allows us to follow the same individuals over consecutive survey waves. In each wave, the QLFS includes 75% of households surveyed in the wave before, making it possible to follow a small subset of the same individuals for a maximum of four waves, and a larger subset over two or

three waves. We construct a panel that includes five quarters of data to maximise the size of the sample, covering the period 2023Q2 – 2024Q2. We ensure that each unique individual is observed at least twice – once before the NMW increase (the 'pre-NMW hike' period) and once thereafter (the 'post-NMW hike' period). Because the NMW changes in the beginning of March, which is partway through 2024Q1, we use information on the survey month to accurately identify the timing of the NMW change in the data.[20] The resulting panel sample includes 25,733 unique individuals, each of whom are observed multiple times. In total we have 77,758 observations across the period.[21] This makes it possible for us to identify covered workers in the lead-up to the 2024 increase and examine what happens to them after the law changes. Using the panel also allows us to control for individual-level variables that would otherwise not be possible using the cross-sectional data, and relatedly, for changes in the composition of the labour force over the period.

There are, however, at least two main drawbacks to using the panel sample. First, the sample is smaller than if we were to include all individuals in each wave, which means that our estimates may be subject to lower levels of precision. As shown in Table 3, the full cross-sectional sample is considerably larger (199,505 observations). However, the profile of individuals included in our panel sample is almost identical to that of the larger cross-sectional sample. Irrespective of sample, the average individual is approximately 35 years old, has 10.6 years of formal education, the slight majority (51 – 52%) are female, just under one-third (31%) are married, and most (82%) are self-reported African/Black individuals who live in urban areas (67 – 68%). We also note that in column (3), most of the between-sample differences are not statistically significant, and among the two that are, they are close to zero in magnitude. Hence, despite the difference in sample size, we are confident that our use of the panel sample does not introduce any meaningful bias into our analysis and remains representative. Second, because we follow a fixed group of individuals over time, we cannot account for workers who gain or lose jobs over the period and are outside of the panel. Considering the available options for identifying labour market effects, this is a trade-off we believe is acceptable, and we introduce our two empirical approaches below.

Table 3: Covariate balance table by sample

Sample: Observations:	Cross-section n = 199,505 (1)	Panel n = 77,758 (2)	Difference (3) = (2) - (1)
Age (years)	35.142	35.486	0.343***
	(0.052)	(0.093)	(0.068)
Female	0.512	0.516	0.003
	(0.002)	(0.004)	(0.003)
African/Black	0.822	0.820	-0.003
	(0.002)	(0.003)	(0.002)
Married	0.313	0.315	0.003
	(0.002)	(0.003)	(0.002)
Urban	0.678	0.672	-0.006**
	(0.002)	(0.003)	(0.002)
Education (years)	10.624	10.616	-0.008
	(0.011)	(0.020)	(0.015)

[a] Author's own calculations. Source: QLFS 2023Q2 – 2024Q2.
[b] Notes: Samples are pooled across survey waves. Estimates weighted using sampling weights. Standard errors are presented in parentheses and are clustered at the individual level. * p<0.10, ** p<0.050, *** p<0.010.

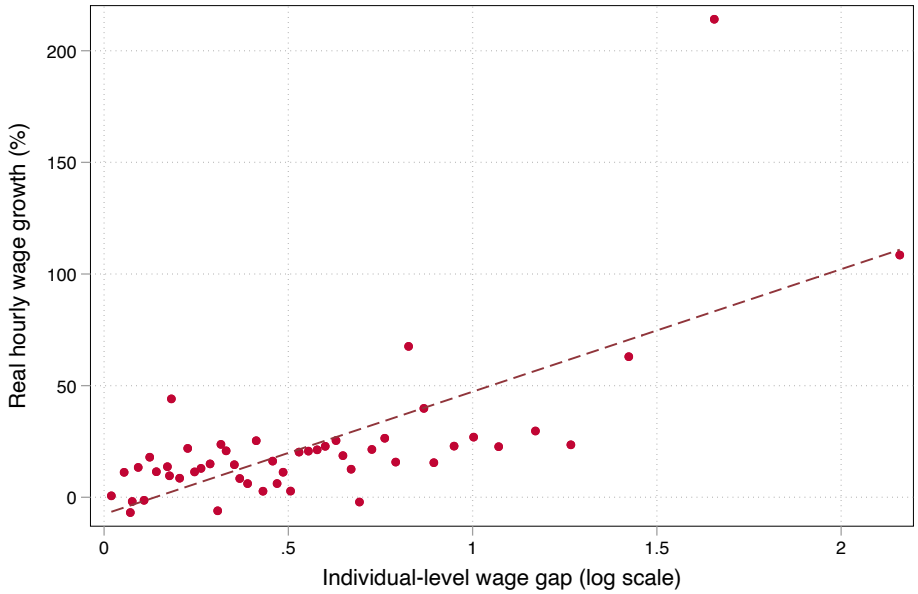
5.1 Wage gap specification

In our first specification we focus only on the sample of workers who earn below the incoming NMW. That is, workers who we observe in at least one wave prior to the NMW change and who report earning below R27.58 per hour. Similar to strategies used by Card & Krueger (1994), Lee (1999), Dinkelman & Ranchhod (2012), and Bassier & Ranchhod (2024), we create a time-invariant 'wage gap' variable for each individual in the period prior to the NMW increase. This measure can be likened to the 'Kaitz' ratio introduced above, identifying how binding the minimum wage is relative to an individual's current earnings. The wage gap is calculated as the difference between the mean 'pre-NMW' hourly wage and the incoming NMW, as follows:

$$WageGap_i = log(NMW_{2024}) - log(\frac{\sum_{k=2023Q2}^{2024Q1} W_{i,k}}{n}) \quad (1)$$

where the $WageGap_i$ for individual i is the log difference between the incoming NMW and their mean nominal hourly wage during the period prior to the increase (2023Q2 – 2024Q1). This returns a positive value for those earning below the incoming NMW, while those earning above the incoming NMW are excluded from our sample. The intuition here is that while many workers earning below the incoming NMW could expect to see their wages rise, those with wages further below the incoming NMW (a larger wage gap) are more likely to see their wages rise by more. This should be the case despite widespread non-compliance, and we can confirm such a relationship does exist. Figure 7 plots the relationship between real hourly wage growth after the NMW increase and the wage gap. This is calculated at the individual level and grouped into wage 'bins' to plot the data. A clear positive correlation shows that wages tend to rise more for workers with a larger wage gap.

Figure 7: Binned scatterplot of individual-level real hourly wage growth and National Minimum Wage gap



[a] Author's own calculations. Source: QLFS 2023Q2 – 2024Q2.
[b] Notes: Sample restricted to working-aged (15 – 64 years) employees. Estimates weighted using sampling weights and are adjusted for the complex survey design. Wage data adjusted for outliers and missing data.

To estimate the causal effects of the NMW increase at the individual-level, we use our calculated wage gap in a canonical Difference-in-Differences (DiD) design. The outcome variable is either the logarithm of real hourly wages, the logarithm of real monthly earnings, a binary employment variable, or the logarithm of weekly hours worked. In the case of employment, we allow for employment status to vary between employed (1) and not employed (0), with the only condition being that everyone must have been employed at some point prior to the 2024 increase, which is necessary for us to generate a wage gap value. The employment regression therefore picks up average effects on the probability of employment. Our formal model specification is as follows:

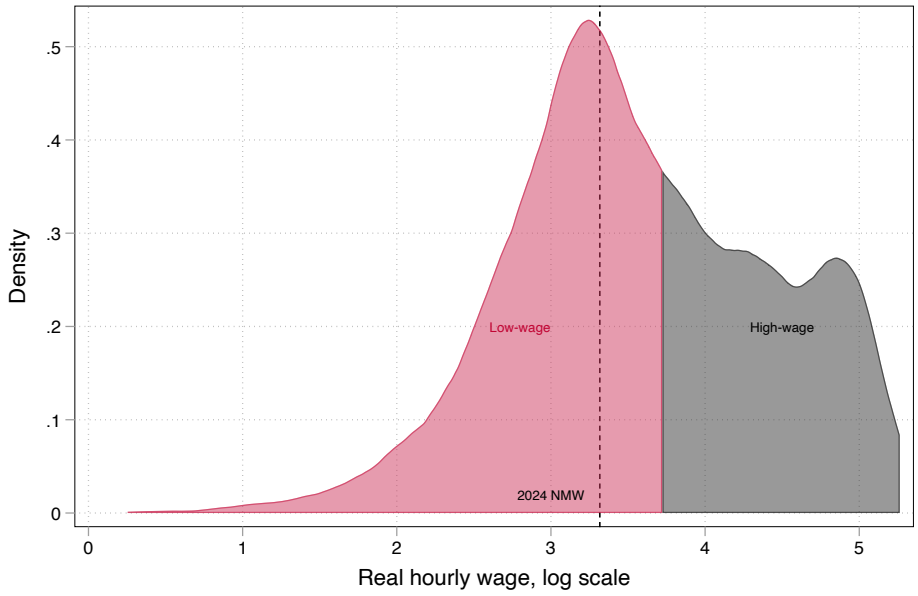
$$Y_{it} = \beta_1 + \beta_2 WageGap_i + \beta_3 Post_t + \beta_4 WageGap_i \times Post_t + \gamma_t + \epsilon_{it} \tag{2}$$

where Y_{it} represents one of the four outcomes of interest. Our coefficient of interest β_4 is on the interaction term $WageGap_i \times Post_t$. We report results with and without controlling for individual fixed effects, γ_t, which account for any observable and unobservable factors which vary within individuals but are constant over time. Throughout this approach, our standard errors are clustered at the panel (individual) level to account for correlation in the error term for the same individual over time.

5.2 Low-wage versus high-wage specification

As an alternative specification, we follow work by Stewart (2004) who estimates the effects of the NMW in the United Kingdom using a low-wage 'treatment' and higher-wage 'control' group. The two groups are identified by a wage cutoff which distinguishes 'covered' and 'uncovered' workers, where covered workers are low-wage workers with earnings close to or below the NMW and uncovered workers are those earning high enough wages such that it is unlikely they would be affected by the policy. We define our low-wage sample as workers who earned less than the incoming NMW×1.5 in nominal terms during the 'pre-NMW' period, which allows for some spillover effects above the NMW. Our high-wage sample is comprised of workers who earn above the low wage group, but not more than NMW×7. The resulting hourly wage bands are: low-wage (R0 – R41.36) and high-wage (R41.37 – R193.06). Those earning above R193.06 per hour – who sit above the 90th percentile of the hourly wage distribution – are excluded from the sample. Visually, Figure 8 shows where these workers are in the wage distribution relative to the 2024 NMW during the period immediately preceding its introduction (2024Q1). The figure highlights our inclusion of workers above the NMW level to allow for potential spillover effects.

Figure 8: Distinction of low versus high-wage workers in the real hourly wage distribution, 2024Q1



[a] Author's own calculations. Source: QLFS 2024Q1.
[b] Notes: Sample restricted to working-aged (15 – 64 years) employees in the panel sample earning less than NMW×7 prior to the NMW increase. Estimates weighted using sampling weights. Wage data adjusted for outliers and missing data.

As in the case of the 'wage gap' approach above, this specification uses a DiD design. A key identifying assumption then is *parallel trends*, which requires that in the absence of the NMW increase trends in the outcomes of low-wage workers would have evolved in parallel to those of high-wage workers. This counterfactual is, of course, impossible to observe and hence cannot be explicitly tested. However, various diagnostic tests can be conducted to assess whether it is plausible. We conduct two. First, Table 4 examines the composition of workers in both groups

prior to, and following, the 2024 NMW increase across a range of demographic and labour market variables. Here we do not require between-group 'balance' or similarity in characteristics between low- and high-wage workers, rather we require that any differences in characteristics remain stable from before to after treatment. As shown in column (3), the estimates suggest that prior to the NMW increase low-wage workers were approximately three years younger than their high-wage counterparts on average; were significantly more likely to be African/Black; and were significantly less likely to live in an urban area, have a tertiary-level education, work in the tertiary sector, and be a union member. Encouragingly, as shown in column (6), the magnitude, sign, and significance of the differences remain relatively unchanged in the period following the NMW increase. Hence, it is unsurprising that the magnitudes of all characteristic differences remained statistically similar (as shown in column 7).[22] This provides good empirical support for our key identifying assumption.

Table 4: Balance table of low- and high-wage workers, before and after the 2024 NMW increase

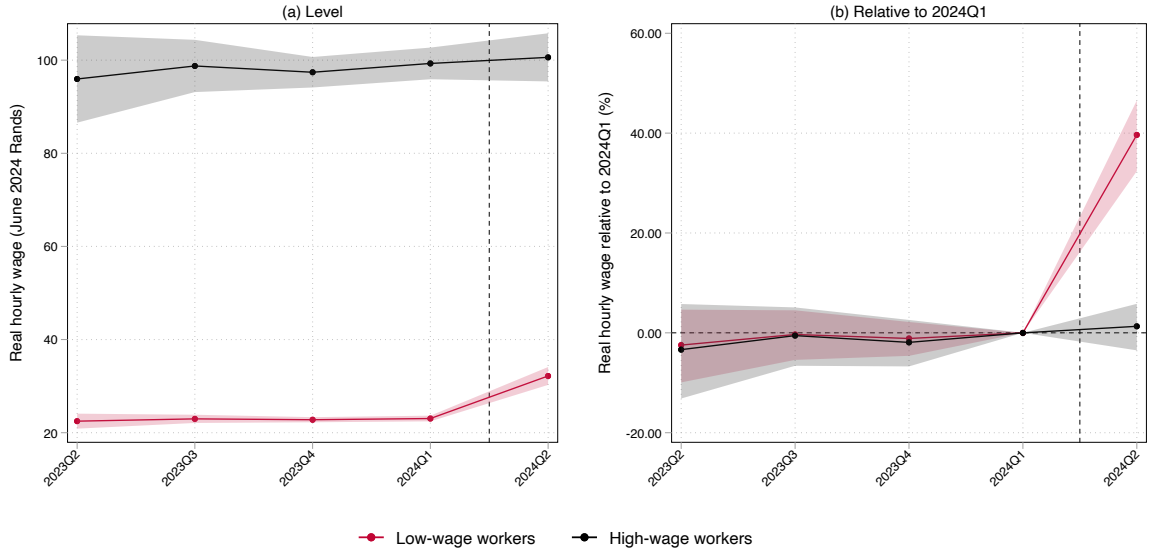
	Pre-NMW hike			Post-NMW hike			DiD
	High-wage (1)	Low-wage (2)	Diff. (3)=(2)-(1)	High-wage (4)	Low-wage (5)	Diff. (6)=(5)-(4)	(7)=(6)-(3)
Age	40.789	37.728	-3.061***	41.066	38.099	-2.967**	0.093
	(0.238)	(0.178)	(0.312)	(0.235)	(0.180)	(0.304)	(0.173)
Female	0.456	0.478	0.022	0.453	0.473	0.021	-0.001
	(0.010)	(0.008)	(0.014)	(0.010)	(0.009)	(0.014)	(0.009)
African/Black	0.671	0.868	0.197***	0.660	0.861	0.200***	0.003
	(0.014)	(0.010)	(0.015)	(0.013)	(0.009)	(0.014)	(0.010)
Urban	0.861	0.655	-0.207***	0.859	0.661	-0.198***	0.009
	(0.009)	(0.012)	(0.014)	(0.010)	(0.011)	(0.013)	(0.008)
Tertiary education	0.381	0.063	-0.318***	0.378	0.075	-0.303***	0.015*
	(0.012)	(0.004)	(0.012)	(0.012)	(0.005)	(0.012)	(0.009)
Tertiary sector	0.750	0.722	-0.028**	0.746	0.716	-0.030**	-0.002
	(0.010)	(0.009)	(0.014)	(0.010)	(0.009)	(0.014)	(0.010)
Union member	0.449	0.133	-0.316***	0.476	0.171	-0.305***	0.011
	(0.013)	(0.006)	(0.014)	(0.013)	(0.008)	(0.015)	(0.013)

[a] Author's own calculations. Source: QLFS 2023Q2–2024Q2.
[b] Notes: Sample restricted to working-age (15–64 years) employees in the panel sample earning less than NMW×7 prior to the NMW increase. Estimates weighted using sampling weights. Standard errors presented in parentheses and are adjusted to account for the complex survey design. Wage data adjusted for outliers and missing data. Diff. = difference. DiD = Difference-in-Differences. * p<0.10, ** p<0.050, *** p<0.010.

A second diagnostic test to support our approach is shown in Figure 9, which presents trends in mean real hourly wages over the period for both low- and high-wage workers. We observe in panel (a), prior to the NMW increase, that our pre-defined sample of high-wage workers earn on average four times more than low-wage workers. It is also clear that high-wage workers are significantly above the incoming NMW level (by definition), and hence, are a priori expected to be unaffected by the change in legislation. Indeed, as shown in both panels (a) and (b), following the NMW increase average real earnings for the high-wage group remain flat, unchanged compared to prior quarters. Among low-wage workers we observe real wages that are relatively flat for each quarter prior to the NMW increase, but in contrast to the high-wage group, wages increase significantly after 2024Q1. Panel (b) measures the wage changes in percentage terms, emphasizing the relative differences between the wage changes in each group. The observed

difference between the outcomes of lower- vs higher-earners provides additional empirical support for our identifying assumption and, hence, the validity of our research design.

Figure 9: Trends in real hourly wages for low- and high-wage workers, 2023Q2 – 2024Q2



[a] Author's own calculations. Source: QLFS 2023Q2 – 2024Q2.
[b] Notes: Sample restricted to working-aged (15 – 64 years) employees in the panel sample earning less than NMW×7 prior to the NMW increase. Estimates weighted using sampling weights and are adjusted for the complex survey design. Wage data adjusted for outliers and missing data. Shaded areas represent 95% confidence intervals. Data for March 2024, the first month of the NMW hike, included in 2024Q2 data here.

Similar to the previous estimation strategy, we estimate the causal effects of the NMW increase on our four outcomes of interest by testing whether these outcomes are, on average, systematically different between the two groups from before to after the change in the NMW. We use the same DiD specification as before, formally described as follows:

$$Y_{it} = \beta_1 + \beta_2 LW_i + \beta_3 Post_t + \beta_4 LW_i \times Post_t + \gamma_t + \epsilon_{it} \tag{3}$$

where Y_{it} is again the outcome variable of interest (wages, employment, working hours). The coefficient β_4 on the interaction term $\beta_4 LW_i \times Post_t$ measures the difference in outcomes between low-wage and high-wage workers from before to after the NMW increase; in other words, the causal effect estimate of the NMW. Again, γ_t controls for individual fixed effects and our standard errors are clustered at the individual-level.

6 Results

The results from our regressions are presented below, separated into effects on hourly wages, employment, working hours, and monthly wages.[23] In each case we report the results of both our regressions specifications, using the QLFS panel sample. The first approach includes only sub-NMW (or 'covered') workers in the sample and estimates the effect of the NMW increase by exploiting variation in an individual-level wage gap. The second approach includes all employees who earned up to NMW×7 in the 'pre-NMW increase' period and estimates the effect of the NMW increase by comparing the outcomes of low-wage workers to a group of uncovered, higher-wage workers. In the output tables, results for the wage gap approach are reported in columns (1) and (2), where column (2) controls for individual fixed effects and serves as our preferred set of estimates. The low-wage versus high-wage results are reported in columns (3) and (4), with fixed effects included in column (4). Following the tabulated results, which are estimates of average effects, we also produce event-study estimates that show how the effects are measured for each quarter during our period of interest. These estimates provide some additional support for the empirical strategies we use, and only pick up effects at the time of the NMW change.

6.1 Effects on hourly wages

Our estimates for the effect of the NMW increase on hourly wages are presented in Table 5, where the DiD coefficient is reported for each specification. Overall, there is strong evidence of a real wage increase in response to the NMW hike, regardless of the worker sample, method, or the inclusion of additional controls. Looking first at the wage gap estimate in column (2), which focuses on a sample of sub-NMW workers, we find an effect coefficient of 0.300. This means that for the average worker earning below the NMW, with a wage gap of 0.632 (in other words, they earned approximately 37% below the incoming NMW level), their earnings increased by 19% (0.632×0.300). Our second set of estimates in column (4), which compares the wage changes of low- to those of higher-wage workers, suggest that on average low-wage workers experienced a 27.5% wage increase from before to after the NMW change, relative to higher-wage workers.

Table 5: Average effect estimates of the 2024 NMW increase on real hourly wages

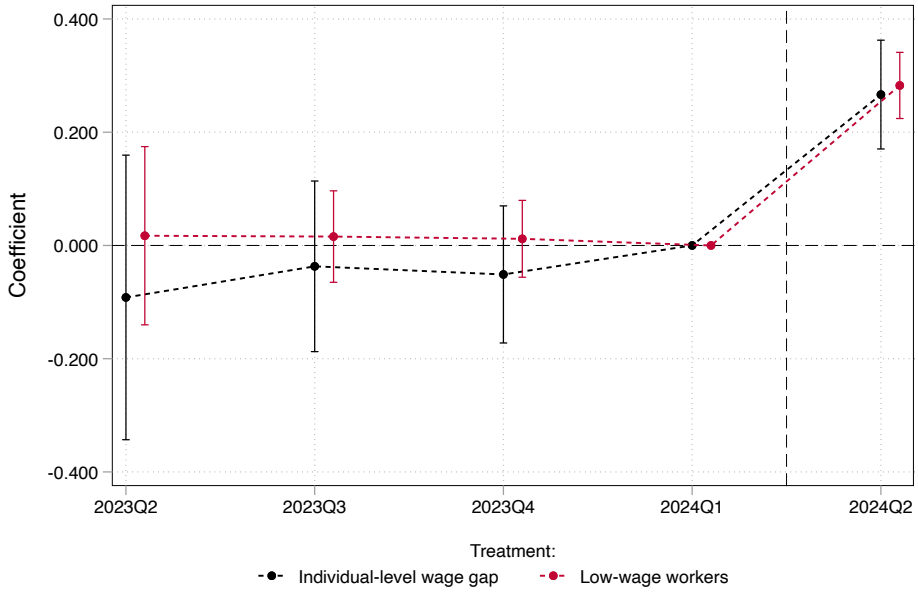
	(1)	(2)	(3)	(4)
Treatment:	(i) Individual-level wage gap		(ii) Low-wage workers	
Outcome:	Real hourly wages (log scale)			
Wage gap × Post	0.284***	0.300***		
	(0.037)	(0.034)		
Low-wage × Post			0.288***	0.275***
			(0.028)	(0.027)
Individual FE	✗	✓	✗	✓
Constant	3.481***	3.361***	4.420***	4.133***
	(0.013)	(0.045)	(0.013)	(0.047)
Observations	12,229	12,229	23,527	23,527

[a] Author's own calculations. Source: QLFS 2023Q2–2024Q2.
[b] Notes: Sample restricted to working-age (15–64 years) employees. Estimates weighted using sampling weights and account for the complex survey design. Standard errors presented in parentheses and are clustered at the panel (individual) level. Wage data adjusted for outliers and missing data. FE = individual fixed effects. * p<0.10, ** p<0.050, *** p<0.010.

Importantly, as described in Section 5, the results in the first two columns here speak to effects on sub-NMW workers, while the results in columns (3) and (4) speak to effects on a selected group of low-wage workers, which includes those earning up to 50% more than the incoming NMW. As such, the results are suggestive of effects on both sub-NMW workers as well as some spillover effects on workers earning above but near to the new NMW. Both effects are non-negligible in magnitude. To put these results into perspective, the average sub-minimum wage worker in our sample earned R16.55 per hour prior to the NMW hike. The wage-gap results imply that the NMW hike caused their real hourly wage to increase by over R3, to R19.69. The average low-wage worker in our sample earned R25.85 per hour prior to the NMW hike. The second set of results suggest that the NMW hike caused their hourly wage to increase by over R7 to R32.96.

These results rely on a simple, aggregated two-period time dummy variable, which only distinguishes between a 'pre-NMW increase' and 'post-NMW increase' period. While we have taken care to identify these periods accurately, a more detailed event study design can provide additional evidence of the observed effects, together with some empirical support for the parallel trends assumption upon which our DiD analysis relies. We estimate these results using the same empirical specifications as above but adjusting it to replace the $Post_t$ variable with a categorical survey wave variable. To confirm that our results are indeed picking up the causal effect of the NMW, we should not observe any statistically significant differences between the hourly wages of low verses high-wage workers in any period prior to the NMW increase.

Figure 10: Event study estimates of the effect of the 2024 NMW increase on real hourly wages



[a] Author's own calculations. Source: QLFS 2023Q2 – 2024Q2.
[b] Notes: Sample restricted to working-aged (15 – 64 years) employees. Estimates weighted using sampling weights and are adjusted for the complex survey design. Wage data adjusted for outliers and missing data.

As shown in Figure 10, both specifications confirm our aggregate findings, with confidence intervals included for each quarterly estimate to identify a result that is statistically difference from zero. Prior to the NMW increase (2023Q2 – 2024Q1), we observe no significant differences in real hourly wages between our treatment and control groups. The DiD estimates are close to zero in magnitude, are statistically insignificant, and are very stable over time, suggesting that this trend would have continued in the absence of the NMW increase. However, following the NMW increase, a large, positive, and statistically significant difference in wages is evident – reflecting the causal effect of the NMW increase. As before, the magnitude of this effect is similar across both of our approaches.

6.2 Effects on employment

Table 6 presents our estimates of the effect of the NMW increase on employment. Across all specifications, we observe small, negative coefficients, which is suggestive of marginal employment declines. However, the results in columns (1) and (2) using our wage gap specification are statistically insignificant. Hence, for this approach we do not find clear evidence of disemployment effects that are statistically distinguishable from zero. But we do find such evidence in our low- versus higher-wage approach, regardless of whether individual fixed effects are controlled for or not. In column (4), the estimate suggests that the NMW increase caused the average low-wage worker's employment probability to decline by 3.4 percentage points, which is also equivalent to equivalent to 3.4%. Translated into an estimated number of jobs, this is equivalent to approximately 86,500 fewer people employed, based on the sample of workers included in our panel.[24] Importantly, while this provides evidence of a marginal disemployment effect, the magnitude of this effect is substantially smaller than the observed wage effects above.

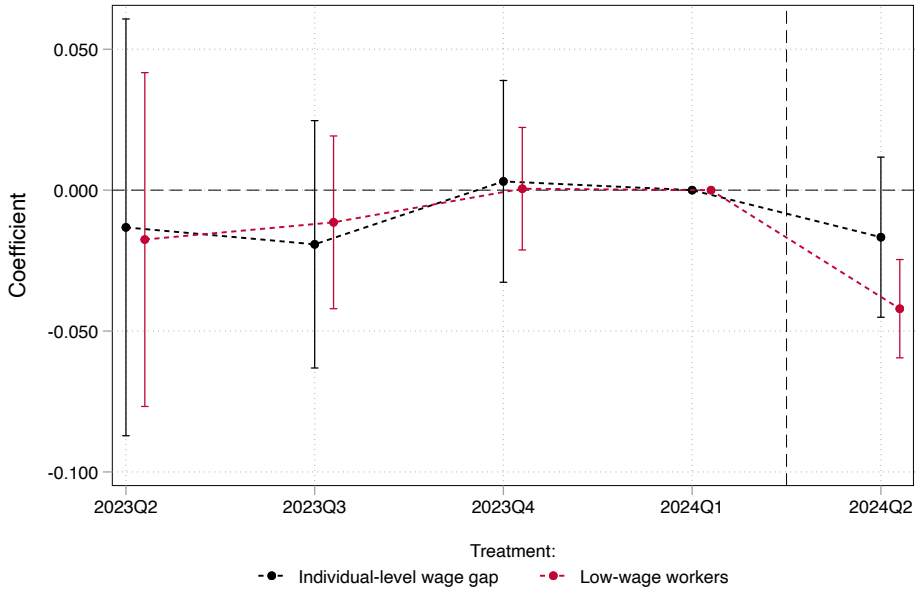
Table 6: Average effect estimates of the 2024 NMW increase on employment

	(1)	(2)	(3)	(4)
Treatment:	(i) Individual-level wage gap		(ii) Low-wage workers	
Outcome	Pr(employment)			
Wage gap × Post	-0.018	-0.013		
	(0.013)	(0.012)		
Low-wage × Post			-0.035***	-0.034***
			(0.011)	(0.010)
Individual FE	✗	✓	✗	✓
Constant	0.916***	0.962***	3.708***	3.691***
	(0.006)	(0.018)	(0.007)	(0.020)
Observations	14,017	14,017	26,178	26,178

[a] Author's own calculations. Source: QLFS 2023Q2–2024Q2.
[b] Notes: Sample restricted to the working-age (15–64 years). Estimates weighted using sampling weights and account for the complex survey design. Standard errors presented in parentheses and are clustered at the panel (individual) level. Wage data adjusted for outliers and missing data. FE = individual fixed effects. * p<0.10, ** p<0.050, *** p<0.010.

As we did for the wage results we also present the employment estimates using an event study design – that is, wave-by-wave timing rather than an aggregate 'pre-NMW' versus 'post-NMW'. In Figure 11, we observe that the estimates remain consistent with those described above, across both approaches. For the wage gap approach, we do not find any evidence of statistically significant employment changes linked to the NMW increase after 2024Q2. However, in our second approach which compares low-wage to high-wage workers, we observe small, negative, and statistically significant employment changes. Again, given that the magnitudes of both estimates are negative, this suggests that the 2024 NMW increase resulted in a relatively small degree of job loss.

Figure 11: Event study estimates of the effect of the 2024 NMW increase on employment



[a] Author's own calculations. Source: QLFS 2023Q2 – 2024Q2.
[b] Notes: Sample restricted to the working-aged (15 – 64 years). Estimates weighted using sampling weights and are adjusted for the complex survey design. Wage data adjusted for outliers and missing data.

6.3 Effects on working hours

Estimates for the effects of the NMW increase on working hours are presented in Table 7. In this case, the results are quite consistent, and statically significant across both of our approaches. We find evidence that the NMW increase had a small negative effect on the working hours of sub-NMW workers as well as for a broader sample of low-wage workers. In the wage gap specification, the coefficient translates into a decrease of approximately 2.2% (0.632×0.034) in weekly hours worked. For the low- versus high-wage approach, the estimate suggests that the NMW increase caused a 3.9% decrease. As in the employment results, the magnitude of this effect is substantially smaller than the observed wage effects. It translates into a reduction of between 0.9 – 1.7 hours per week, for sub-NMW workers and low-wage workers, respectively. Additional analysis finds that these negative effects are quite uniform across worker types, and are observed for those who report working above and below 45 hours per week (the statutory limitation in the Basic Conditions of Employment Act).[25]

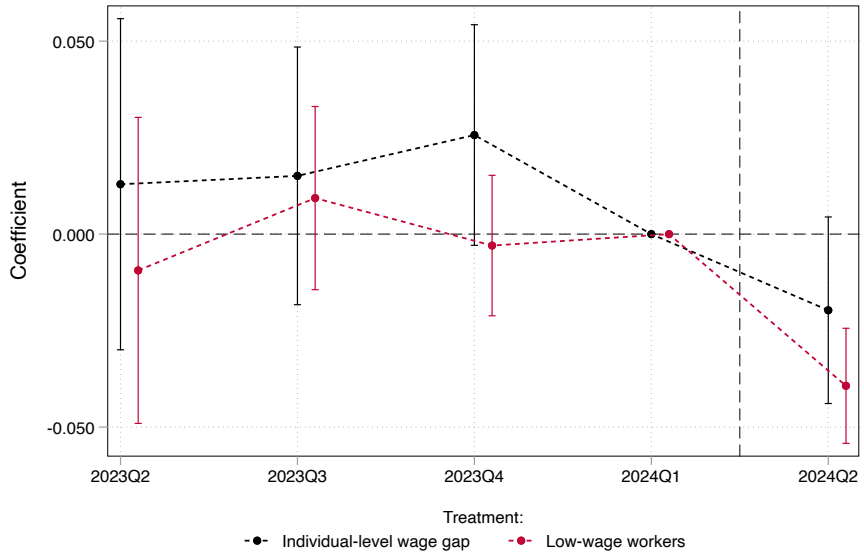
Table 7: Average effect estimates of the 2024 NMW increase on working hours

Treatment:	(1)	(2)	(3)	(4)
	(i) Individual-level wage gap		(ii) Low-wage workers	
Outcome	Weekly working hours (log scale)			
Wage gap × Post	-0.035***	-0.034***		
	(0.011)	(0.010)		
Low-wage × Post			-0.048***	-0.039***
			(0.008)	(0.006)
Individual FE	✗	✓	✗	✓
Constant	3.708***	3.691***	3.670***	3.655***
	(0.007)	(0.020)	(0.006)	(0.031)
Observations	12,279	12,279	23,609	23,609

[a] Author's own calculations. Source: QLFS 2023Q2–2024Q2.
[b] Notes: Sample restricted to working-age (15–64 years) employees. Estimates weighted using sampling weights and account for the complex survey design. Standard errors presented in parentheses and are clustered at the panel (individual) level. Wage data adjusted for outliers and missing data. FE = individual fixed effects. * p<0.10, ** p<0.050, *** p<0.010.

The event study estimates measuring the dynamic effects of the NMW increase on weekly working hours are shown in Figure 12. We observe similar findings to the aggregate case, but with some slight nuance. As in the employment analysis, we observe a negative but statistically insignificant coefficient using the wage gap approach, alongside a negative but statistically significant coefficient using the low- versus high-wage approach. Additionally, while insignificant, the pre-treatment estimates obtained using the wage gap approach are also less supportive of our approach's identifying assumption. In other words, it is primarily in the low vs high wage worker specification where we observe a clear negative and statistically significant effect, although both effect estimates are negative in sign.

Figure 12: Event study estimates of the effect of the 2024 NMW increase on working hours



[a] Author's own calculations. Source: QLFS 2023Q2 – 2024Q2.
[b] Notes: Sample restricted to working-aged (15 – 64 years) employees. Estimates weighted using sampling weights and are adjusted for the complex survey design. Wage data adjusted for outliers and missing data.

6.4 Effects on monthly earnings

Our analysis thus far suggests that at the intensive margin the 2024 NMW increase caused real hourly wages to rise, but weekly working hours to fall. What is the 'net' effect of these adjustments on the earnings of low-wage workers? One way to model this is by considering effects on monthly earnings, which are implicitly affected by both working hours and hourly wages. We present the relevant effect estimates in Table 8. As shown in column (2), using the wage gap specification and controlling for individual fixed effects, we estimate a coefficient of 0.265, which is significant at the 1% level. This translates into an increase of 16.8% (0.632×0.265), again a non-negligible positive effect. For the average sub-minimum wage worker in our panel sample this implies that the NMW increase resulted in monthly earnings increasing by approximately R780 in real terms. Similarly, using the low-wage worker specification and controlling for individual fixed effects as shown in column (4), we estimate a coefficient of 0.235, or a positive effect of 23.5% on low-wage workers.

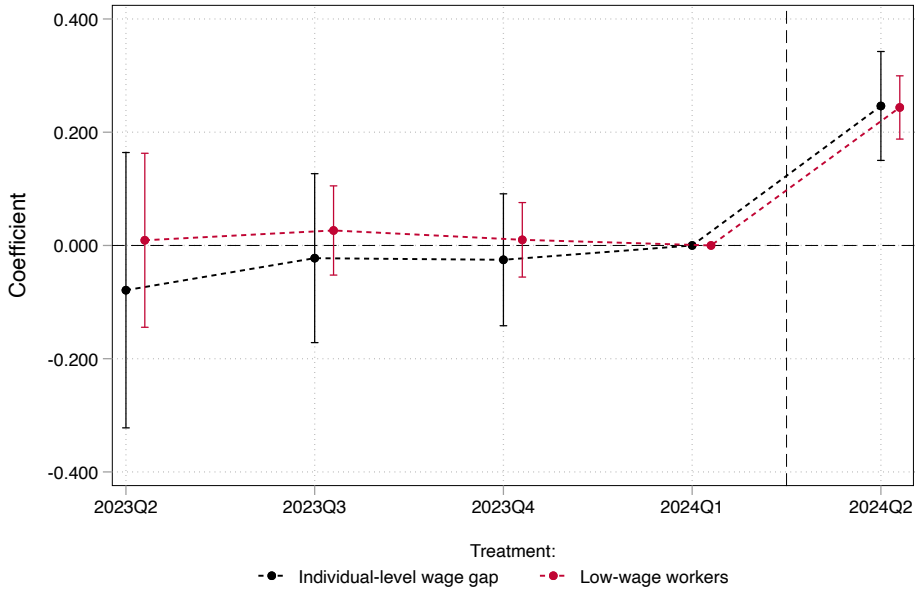
Table 8: Average effect estimates of the 2024 NMW increase on real monthly earnings

	(1)	(2)	(3)	(4)
Treatment:	(i) Individual-level wage gap		(ii) Low-wage workers	
Outcome:	Real monthly earnings (log scale)			
Wage gap × Post	0.250***	0.265***		
	(0.037)	(0.033)		
Low-wage × Post			0.240***	0.235***
			(0.028)	(0.026)
Individual FE	✗	✓	✗	✓
Constant	8.654***	8.517***	9.555***	9.253***
	(0.014)	(0.043)	(0.014)	(0.046)
Observations	12,229	12,229	23,527	23,527

[a] Author's own calculations. Source: QLFS 2023Q2–2024Q2.
[b] Notes: Sample restricted to working-age (15–64 years) employees. Estimates weighted using sampling weights and account for the complex survey design. Standard errors presented in parentheses and are clustered at the panel (individual) level. Wage data adjusted for outliers and missing data. FE = individual fixed effects. * p<0.10, ** p<0.050, *** p<0.010.

Below we present the event study estimates for both specifications in Figure 13, which are again suggestive of a large, positive effect, alongside insignificant pre-trends that lend strong support to the credibility of our research design. Together, these effects of 16.8 – 23.5% are marginally smaller in magnitude to those on hourly wages (19 – 27.5%). This is not surprising given the negative (but small) working hour effect estimates of 2.2 – 3.9%. Overall, it appears that while the NMW increase does seem to have reduced the working hours of sub-NMW and low-wage workers to some extent, the rise in hourly wages offsets this and translates into higher earnings on a monthly basis.[26]

Figure 13: Event study estimates of the effect of the 2024 NMW increase on real monthly earnings



[a] Author's own calculations. Source: QLFS 2023Q2 – 2024Q2.
[b] Notes: Sample restricted to working-aged (15 – 64 years) employees. Estimates weighted using sampling weights and are adjusted for the complex survey design. Wage data adjusted for outliers and missing data.

6.5 Discussion

The DiD estimates above use two different specifications to measure the causal effects of the NMW increase on covered workers. In both approaches we make use of a panel sample which allows us to follow the same individuals over time. Based on several diagnostic tests we contend that the chosen strategies credibly isolate the effects of the NMW adjustment and should therefore provide robust results. In addition to estimating aggregate effects of the NMW in each outcome, we also make use of an event study design to test the impact of the NMW change. The plots from this design help to support our contention that in the absence of the 2024 NMW increase we would not observe the documented trends and give us confidence that our two DiD specifications are accurately measuring the effect of the NMW.

As in 2023, we find clear evidence of real hourly wage increases among low-wage workers, amounting to 19 – 27.5% on average. The lower portion of this range speaks to effects on sub-NMW workers specifically, while the upper portion speaks more broadly to a group of selected low-wage workers, some of whom earn up to 1.5*NMW. As such, the results suggest that the NMW increase had positive wage effects on both sub-NMW workers, as well as spillover effects on slightly higher-earning workers. Both effects are relatively large in magnitude. For example, we find that on average, among sub-NMW workers in our sample wages increased from R16.55 to just under R20 per hour, in real terms. However, despite the size of this effects, this is not enough to push the average sub-NMW worker in South Africa up to the NMW. Indeed, covered workers continue to earn significantly below (37%) the 2024 NMW. Implicitly then, this is suggestive of partial compliance, where a subset of employers respond to the higher NMW by increasing wages towards, but not all the way up to the NMW.

A key point to note is that the aggregate wage effects we observe appear to be driven by a relatively small share of workers. In our low-wage sample, among those who earned below the NMW prior to the increase, only around one-third (31%) experienced a wage rise. And even within this group, most workers still earn below the new NMW in 2024Q2 – indeed, only 35% in this subgroup saw their wages rise to the NMW, or above it. As a result, overall rates of non-compliance have increased. We estimate the highest level of non-compliance since the NMW's introduction, where this is the result of average wages for low-wage workers not keeping pace with the NMW.

Muted aggregate wage responses necessarily dampen the effect of the NMW increase on other outcomes, such as employment. And in our first specification, which relies on the individual-level bite of the minimum wage to identify effects, we do not find evidence of a statistically significant employment effect of the NMW hike. In contrast, our second specification does suggest a statistically significant and negative effect on employment. This provides evidence of the trade-off which some employers have made, and overall suggests that the 2024 NMW increase likely had a small negative impact at the extensive margin. The employment effect we find is a 3.4% decrease, equivalent to 86,500 fewer low-wage workers.

The results on working hours also indicate that the 2024 NMW hike resulted in a reduction in working hours among low-wage employees. Specifically, we estimate a reduction of between 2.2 – 3.9%, equivalent to up to 1.7 fewer hours worked per week. This adjustment on the intensive margin, consistent across both of our econometric specifications, has not been observed in evaluations for previous years. However, the effect is small compared to the observed wage effects. Hence, while this implies that on average reductions at the intensive margin have been used by employers in response to the higher NMW level, these reductions have only partially offset the larger wage gains. The 'net' effect of these adjustments on the welfare of low-wage workers is reflected in the results on monthly earnings. The higher NMW caused the average low-wage worker's real hourly wage to rise by 19 – 27.5%, their working hours to reduce by 2.2 – 3.9%, and hence real monthly earnings rose by slightly less by 16.8 – 23.5%.

7 Conclusion

The NMW in South Africa aims to set a basic wage floor across all sectors and at present is not intended to be a living or decent wage by any definition. Even at its current level the total monthly earnings for a four-person household with only one earner would fall below StatsSA's Upper-Bound Poverty Line. At the same time, following the latest increase, the NMW is now set at 79% of the country's median wage. This is high compared to most countries for which we have reliable data. Moreover, current labour market conditions are poor, and a large share of workers continue to earn below the prescribed minimum – the exact figure is difficult to calculate accurately but could be as high as 39% or 5.4 million employees – and has increased in 2024 following the latest NMW hike. While such high levels of non-compliance are common for middle-income countries, this holds important implications for the objectives and limits of minimum wage policy in South Africa.

In this paper, we present an empirical account of the labour market effects of the 2024 NMW hike. At 3.2% in inflation-adjusted terms, the latest increase raised the NMW to R27.58 per hour, making it the largest hike since the NMW's introduction in 2019. For the average sub-minimum wage worker, who earned approximately R17 per hour prior, this adjustment legally required their employer to increase their wage by over 60%. Perhaps expectedly, this did not materialise. Indeed, we note that real wages at the bottom end of the distribution have not kept up with the rising NMW level in recent years. The result is that non-compliance has not only remained high but has risen.

Despite a lack of compliance on aggregate, our analysis points to strong evidence of labour market effects in response to the 2024 NMW adjustment. We rely on two different econometric specifications, each with their own advantages and limitations, to isolate the causal effects of the NMW increase on four key outcomes: real hourly wages, employment, working hours, and real monthly earnings. Importantly, due to data availability and time constraints, we are only able to include a single quarter of data following the increase, so all our results are limited to the very short-term. A more comprehensive analysis would certainly include a longer post-increase period, and could also focus on a broader set of outcomes – such as changes in non-wage employment benefits, poverty, wage inequality, and employment growth.

In this analysis we find that the 2024 NMW increase had a large, positive average effect on the hourly wages of sub-minimum wage workers. We also find evidence of spillover effects on slightly higher-earning (but still low-wage) workers. This effect is large in magnitude but because the average sub-minimum wage worker earned significantly below the 2024 NMW, it was not sufficient to move most workers up to the NMW. Indeed, a relatively small share of sub-minimum wage workers experienced a wage increase. Additionally, we find evidence that the NNW increase did have some effect on employment, working hours, as well as real monthly earnings. While only statistically significant in one of our specifications, we estimate a small, negative effect on employment. Similarly, we find evidence of a negative effect of a similar magnitude on working hours. This suggests that reductions at both the extensive and intensive margins have been used

by employers in response to the higher wage floor. However, for low-wage workers who remained employed the reduction in working hours only partially offset the much larger wage gains and this 'net' effect is reflected in the positive impact on monthly earnings.

Overall then, there is evidence of the NMW increase raising wages, marginally reducing working hours, and having a small negative effect on employment. The average reduction in hours is offset by the wage gains to reflects an aggregate 'net' welfare gain to employees, but we note that these intensive margin adjustments speak only to those workers who remained employed. Comparing these results to the existing South African literature and the international evidence, we note that while most research does not find minimum wage increases have significant adverse effects on employment or working hours, the impact of minimum wage policies remain contested. And what the literature does clearly suggest is that effects can vary considerably across countries, labour market contexts, and affected subgroups. Perhaps then the key takeaway from the literature to date, and the results of this report, is that contextual factors, and local labour market conditions are often decisive in shaping the effects of minimum wage policy. As Bhorat et al. (2021, pp.154) write, "*This is particularly relevant in low- and middle-income country settings, where in many cases the proportion of low-skilled workers and rates of unemployment are higher, and levels of compliance with labour laws remain imperfect.*"

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Notes

1. For reference, Statistics South Africa's 2024 Upper Bound Poverty Line is R1,634 per person per month.

2. This limitation is due to time constraints and data availability.

3. Indeed, South Africa's NMW Act of 2018 identifies the "likely impact on employment or the creation of employment" as one of the key aspects to be considered when the NMW Commission recommends an adjustment.

4. See https://www.gov.uk/government/publications/national-minimum-wage-and-national-living-wage-low-pay-commission-remit-2023/national-living-wage-and-national-minimum-wage-low-pay-commission-remit-2023.

5. These include the following: (1) the alleviation of poverty; (2) the reduction of wage differentials and inequality; (3) inflation and the cost of living; (4) general wage levels and collective bargaining outcomes; (5) gross domestic product; (6) productivity; (7) the ability of employers to carry on their businesses successfully; (8) the operation of SMMEs; (9) the likely impact on employment or the creation of employment; and (10) any other relevant factor.

6. Formally, the Kaitz ratio is calculated as $\frac{NMW}{W_m}$ where W_m represents the median hourly wage.

7. In brief, the onset of the pandemic led to a rapid mechanical rise in average wages primarily due to a disproportionate share of low-wage workers losing their jobs (Köhler & Bhorat, 2023). Since this has very little to do with the evaluation of the 2024 NMW revision, we do not spend time discussing it here.

8. We are grateful to colleagues at the International Labour Organisation (ILO) for sharing data with us to generate this comparison.

9. These estimates are based on earnings data from the Quarterly Labour Force Survey (QLFS), privately provided by Statistics South Africa and adjusted for outliers and non-response. The estimated number of sub-minimum wage workers here likely serves as an upper-bound for several reasons. For example, due to data constraints, we cannot account for in-kind payments, which the minimum wage legislation allows to comprise up to 10% of an employee's monthly earnings. In addition, we are unable to identify those employed in public employment programs, who are subject to a considerably lower minimum wage of R15.16 per hour.

10. In 2024Q2, most (84%) sub-minimum wage workers usually worked at least 40 hours per week.

11. This includes both the searching and non-searching unemployed, as well as economically inactive individuals and students.

12. The data provided to us by StatsSA allows us to explicitly identify such non-responders. This is important to note because the public domain data for which wage data is available includes poor-quality wage imputations for workers who did not report them which, unfortunately, cannot be distinguished from the reported data. These have been shown to produce implausible and volatile wage estimates (**??**Kerr & Wittenberg, 2021; Köhler et al., 2023; Köhler & Bhorat, 2023).

13. The vector of observable covariates includes the usual Mincerian covariates – years of education and experience (and its squared term) – as well as age (and its squared term), sex, racial population group, province, an urban indicator, marital status, main industry and occupation, a public sector indicator, a formal sector indicator, and survey wave fixed effects.

14. Outliers are defined as those with absolute studentized residuals in excess of three.

15. Wages could not be imputed for just 0.9 per cent of workers in the sample due to missing data on variables used in the imputation model. Our results are, however, unaffected by the inclusion of this subsample through an adjustment of the imputation model.

16. Our results are robust to the inclusion of, among employed respondents, those who provided at least some wage information only (that is, those who either reported a Rand value or their earnings bracket), thus excluding complete non-responders.

17. This was reflected earlier in Figure 2.

18. Non-compliance headcount is measured as the proportion of workers earning less than the NMW, while the non-compliance depth is measured as the average wage distance from the NMW for workers earning less than it.

19. It is worth noting that any estimate of non-compliance using labour force survey data is likely to be overestimated to some extent if there is some level of under-reporting of wages, which may be the case here. However, estimates of non-compliance using administrative taxation data in South Africa are not substantially lower than those presented here Piek et al. (2023). Finally, another reason to treat these estimates with some caution is that we cannot accurately identify Expanded Public Work Programme (EPWP) workers in the survey, who are all subject to a much lower NMW.

20. There is a subset of individuals who are surveyed in March 2024 and again in 2024Q2. The implication is that these individuals are observed twice in the 'post-NMW hike' period. These individuals are retained in the sample as long as they are also observed at least once in the 'pre-NMW hike' period.

21. The largest share of unique individuals are those observed in 2023Q4, 2024Q1, and 2024Q2 (32.5%), followed by those observed only in 2024Q1 and 2024Q2 (28%) and those observed in every wave for one complete year from 2023Q3 – 2024Q2 (24%).

22. Tertiary education serves as one exception; however, the magnitude of the estimate is only marginally statistically significant at the 10% level and is close to zero in magnitude.

23. We include monthly wages to take account of potential changes in hours worked.

24. This estimate is calculated as follows: As an Average Treatment Effect on the Treated (ATT) estimate, the 3.4 percentage point effect is equivalent to 3.4% given the 100% pre-treatment employment rate of the treatment group (low-wage workers). Using this group's average pre-treatment employment level of 2,543,776 in our sample,

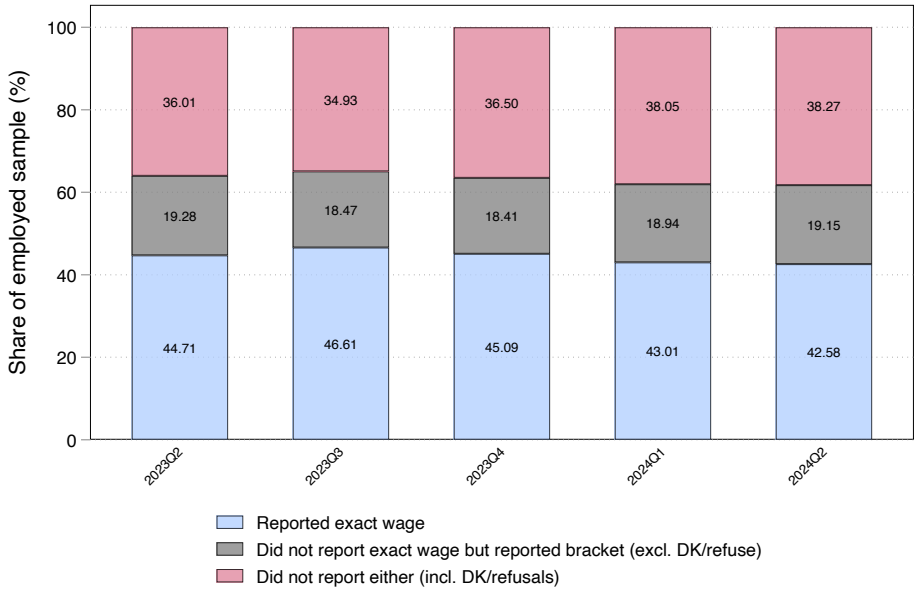
a 3.4% reduction translates into 86,489 fewer workers.

25. To investigate these heterogeneous effects, we interact the $Wagegap \times Post$ or $Low - wage \times Post$ terms in specifications (2) and (3), respectively, with a binary indicator of whether an employee worked more than 45 hours per week on average during the period prior to the NMW increase.

26. While this reflects significant net welfare gains, it is important to note that these intensive margin adjustments speak to only those workers who remained employed. Hence, the negative but small employment effects above ought to be kept in mind.

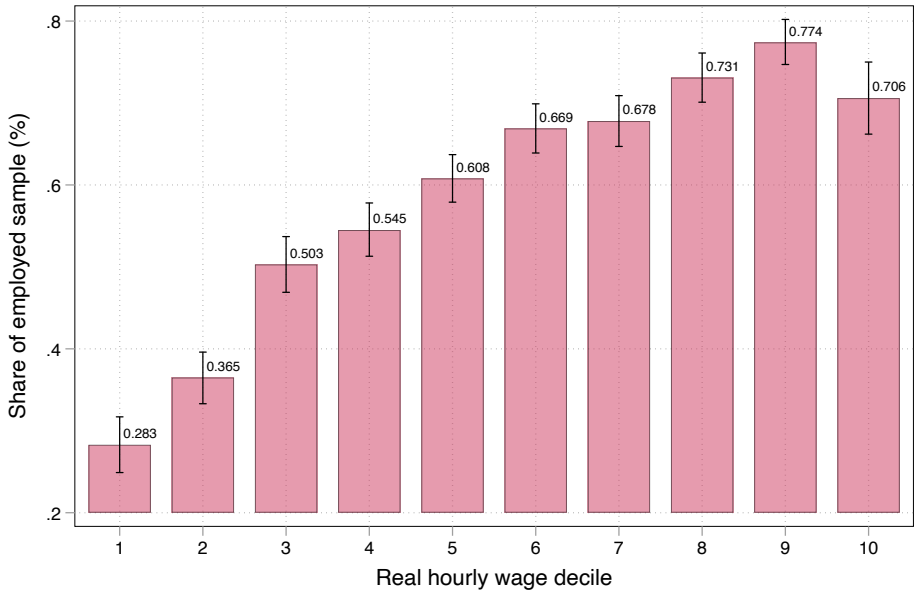
8 Appendix

Figure A1: Distribution of wage responses in the QLFS, 2023Q2 – 2024Q2



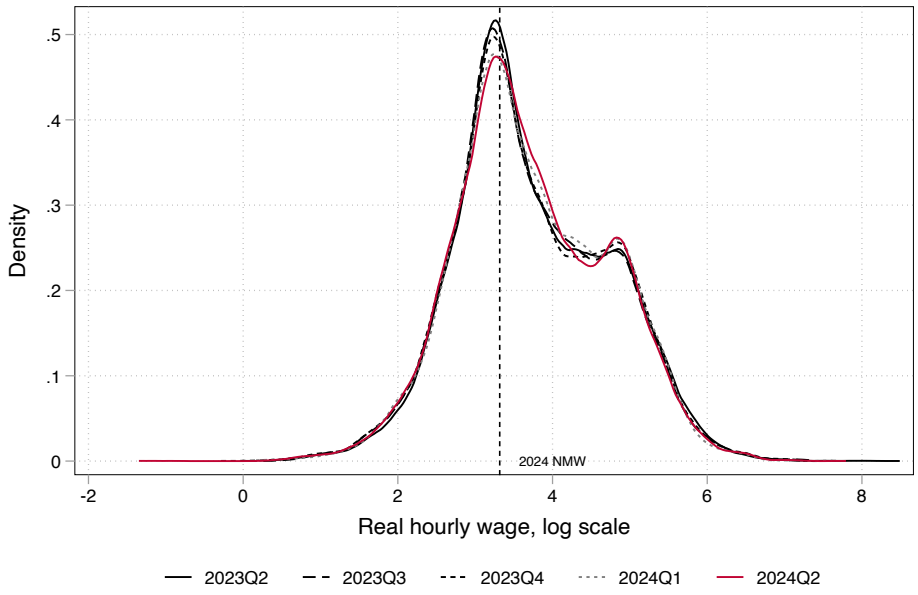
[a] Author's own calculations. Source: QLFS 2023Q2–2024Q2.
[b] Notes: Derived from unimputed QLFS wage data privately provided by StatsSA. Sample restricted to working-aged (15 – 64 years) employees. Estimates are unweighted. DK = Don't know.

Figure A2: Probability of wage non-response across the real hour wage distribution, 2024Q2



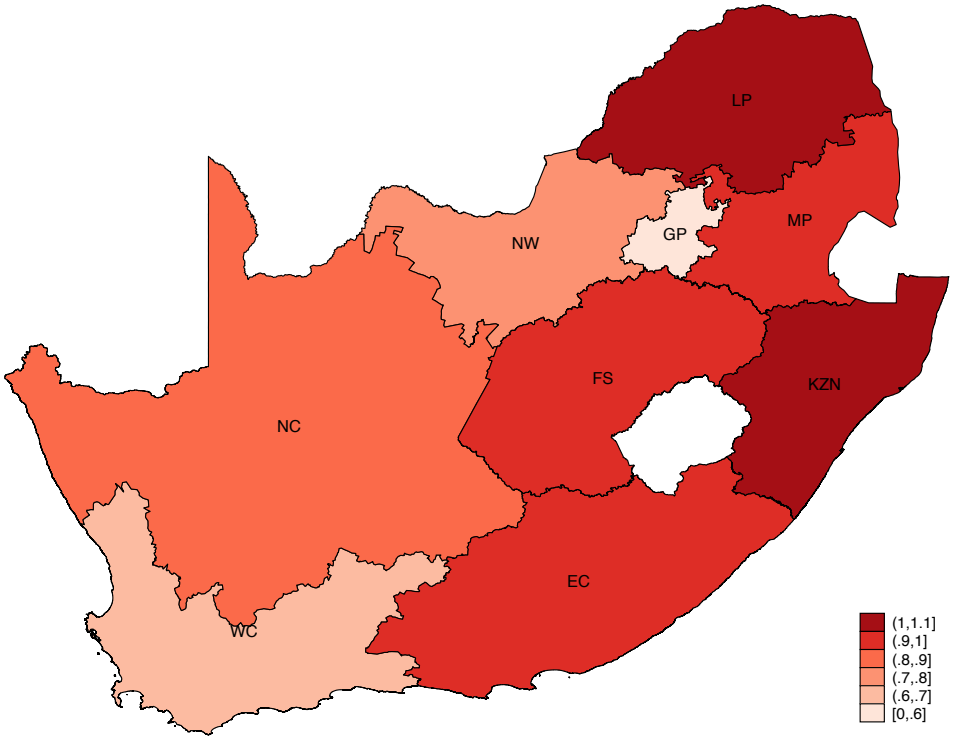
[a] Author's own calculations. Source: QLFS 2024Q2.
[b] Notes: Sample restricted to working-aged (15 – 64 years) employees. Estimates are weighted using sampling weights and are adjusted for the complex survey design. Capped spikes represent 95% confidence intervals. Real hourly wage estimates obtained using the outlier detection and multiple imputation models on the unimputed QLFS wage data privately provided by StatsSA, as described in the text.

Figure A3: Trends in the real hourly wage distribution, 2023Q2 – 2024Q2



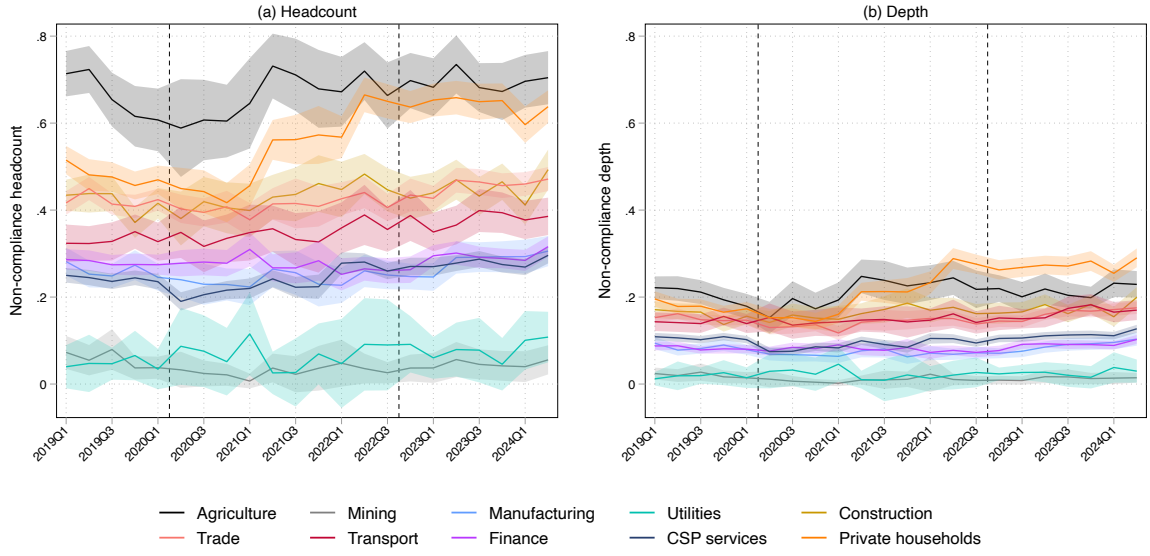
[a] Author's own calculations. Source: QLFS 2023Q2–2024Q2.
[b] Notes: Sample restricted to working-aged (15 – 64 years) employees. Estimates weighted using sampling weights. Wage data adjusted for outliers and missing data and are expressed in June 2024 Rands. Vertical reference line indicates the 2024 National Minimum Wage level.

Figure A4: Legislated minimum wage to median wage ratio ('Kaitz ratio') in South Africa, by province, 2024Q2



[a] Author's own calculations. Source: QLFS 2024Q2.
[b] Notes: Sample restricted to working-aged (15 – 64 years) employees. Estimates weighted using sampling weights. Wage data adjusted for outliers and missing data. Kaitz ratio defined as the ratio of the legislated National Minimum Wage as of March 2024 to the median nominal hourly wage.

Figure A5: Trends in National Minimum Wage non-compliance in South Africa, by main industry, 2019 – 2024



[a] Author's own calculations. Source: QLFS 2019Q1 – 2024Q2.
[b] Notes: Sample restricted to working-aged (15 – 64 years) employees. Estimates weighted using sampling weights and are adjusted for the complex survey design. Shaded areas represent 95% confidence intervals. Wage data adjusted for outliers and missing data. Vertical reference lines indicate the COVID-19 pandemic period.

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