A National Minimum Wage in the Context of the South African Labour Market

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Abstract

Understanding the composition and wage structure of the South African labour market is crucial in the progressing national minimum wage debate in the country. This study highlights the centrality of wages in household income, and in determining inequality and poverty levels in the county. It then charts key trends in the labour market, before presenting a snapshot of the composition and earnings of the workforce in the current environment. A definition for a "working-poor" threshold is developed in the paper by linking individual earnings to household poverty. Finally, we consider the differential coverage that a national minimum wage would have on different sectors and demographic groups in the economy.

Project information

This paper forms part of the National Minimum Wage Research Initiative (NMW-RI) undertaken by CSID in the School of Economics and Business Science at the University of the Witwatersrand. The NMW-RI presents theoretical and case-study evidence, statistical modeling and policy analysis relevant to the potential implementation of a national minimum wage in South Africa.

For more information contact Gilad Isaacs, the project coordinator, at gilad.isaacs@wits.ac.za or visit www.nationalminimumwage.co.za.

Author and Acknowledgements

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Executive Summary

Understanding the composition and wage structure of the South African labour market is crucial in the progressing national minimum wage debate in the country. In this paper the state of the contemporary South African labour market is contextualised by providing an overview of trends in the composition of workers, their earnings, and hours worked. The relationship between wages, poverty and inequality discussed, and a definition for a low-wage work threshold is developed.

The study shows that there were clear patterns in the changing composition of the labour market over the 2003 to 2012 period. Job growth was curtailed severely by the financial crisis of 2008/2009, and this was felt particularly strongly in the private sector and by African workers. There were gains in real earnings over the period, with some industries showing a significant rightward distributional shift between 2007 and 2011; this is particularly true for mining. There was an overall downward trend in the average number of hours worked per week, and this was true for almost all groups that were analysed.

Earnings inequality is very high in the labour market, and this is significant as it feeds directly into inequality at the household income level. The importance of within-sector earnings inequality in driving overall earnings inequality increased relative to between-sector inequality, from about 60% to about 85%.

A high proportion of wage earners in the country live in households that fall below the poverty line. We use a recently calculated poverty line that takes the costs-of-basic-needs of South Africans into account in order to link individual wages to household poverty, and derive a threshold definition for the "working poor" of R4 125 in current 2015 prices.

We also look at where a number of possible national minimum wages would bind for different sectors, and show that agriculture and domestic services would be the most affected, even for relatively low potential minimum wages.

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1. Introduction

Setting a national minimum wage in a society that is characterised by an extremely high level of inequality, and a large fraction of earners who live in households that are below the poverty line, is a task that requires a detailed account of the labour market in South Africa. Doing so will allow us to pinpoint which groups would be most affected by the introduction of a given minimum wage, and what this might mean for wages, poverty and inequality. This paper tackles these issues on the premise that a better understanding of the composition of South Africa's labour market is essential in the developing national minimum wage debate in the country.

Unsurprisingly, labour market remuneration is by far the largest component of total household income in South Africa; wages thus play a critical role in the livelihoods of South African households. Although average real wages have increased in the post-apartheid period, wage inequality and household income inequality have remained very high. Wage differentials thus remain the primary driver of inequality in South Africa, accounting for between 80% and 90% of overall inequality in the country (Leibbrandt et al., 2010). The level of wage inequality has remained stubbornly high over the last two decades, despite the presence of both an ongoing commitment to its reduction, and strong trade unions.

The aims of this paper are modest. They are to describe what the trends in the South African labour market have been, what the situation currently is, and how different minimum wages would affect different workers in different sectors. The paper does not explain the cause of these trends in wages, poverty and inequality, nor does it present a concrete proposal for what the minimum wage should be.

The paper proceeds as follows. Section 2 of this paper discusses the datasets used in the analysis of the South African labour market. Section 3 presents evidence of the role of wages in household income, inequality and poverty, while Section 4 presents trends of sectoral composition, earnings and hours worked over the last decade in the country. In Section 5 we turn our attention to understanding the contemporary South African labour market. We then consider, in Section 6, what a reasonable definition of "working-

poor" is, and which workers fall below this threshold. Section 7 looks at where potential national minimum wages would bind, and Section 8 provides some concluding remarks.

2. Datasets

Although there are a number of datasets that can be used to analyse the South African labour market, any presentation of trends longer than a decade is subject to some serious comparability concerns. Wittenberg (2014a, 2014b) offers a very clear and comprehensive discussion of the available datasets, along with what assumptions need to be made in order to make defensible comparisons over time. Indeed, much of Section 3 of this paper reflects what can be found in Wittenberg (2014a), though for a shorter time period.

The section of this paper that presents trends in the South African labour market uses data from the Post Apartheid Labour Market Series (PALMS) (Kerr et al., 2013). This dataset harmonises key labour market variables from the October Household Surveys (OHS) (1995-1999), the Labour Force Surveys (LFS) (2000-2007) and the Quarterly Labour Force Surveys (QLFS) (2008-2012).

The most recent nationally representative data of the labour market and labour market earnings is the Labour Market Dynamics in South Africa 2014 dataset (LMDSA) (Statistics South Africa, 2015). This combines the four waves of the QLFS for 2014 and includes earnings data. These earnings data are not released simultaneously with the QLFSs themselves, and the LMDSA for 2014 was published by Statistics South Africa (Stats SA) in 2015.

Finally, in the discussion of how to create a benchmark for "low-wage" work and household poverty, we make use of the third and most recent wave (2012) of the National Income Dynamics Study (NIDS) (National Income Dynamics Study, 2013).

The one major alternative labour market data series that was considered was the Quarterly Employment Statistics (QES) dataset, also published by StatsSA. As noted in Wittenberg (2014a) there are some large differences between the QLFS and the QES.

The latter does not include workers from the agricultural sector, and does not include firms with turnover of under R1 million.[1] We feel confident enough that the QLFS datasets provide us with enough representivity of the labour market in general, and the lower parts of the wage distribution in particular, to use it as the core dataset in this paper.

We restrict our analysis to those workers who reported earning wages from an employer, thereby excluding the self-employed. All earnings are adjusted to their real April 2015 equivalents, and are given as monthly amounts, except where noted otherwise. All observations are weighted so as to be nationally representative using the weights included by the data providers.

3. The role of wages in household income, inequality and poverty

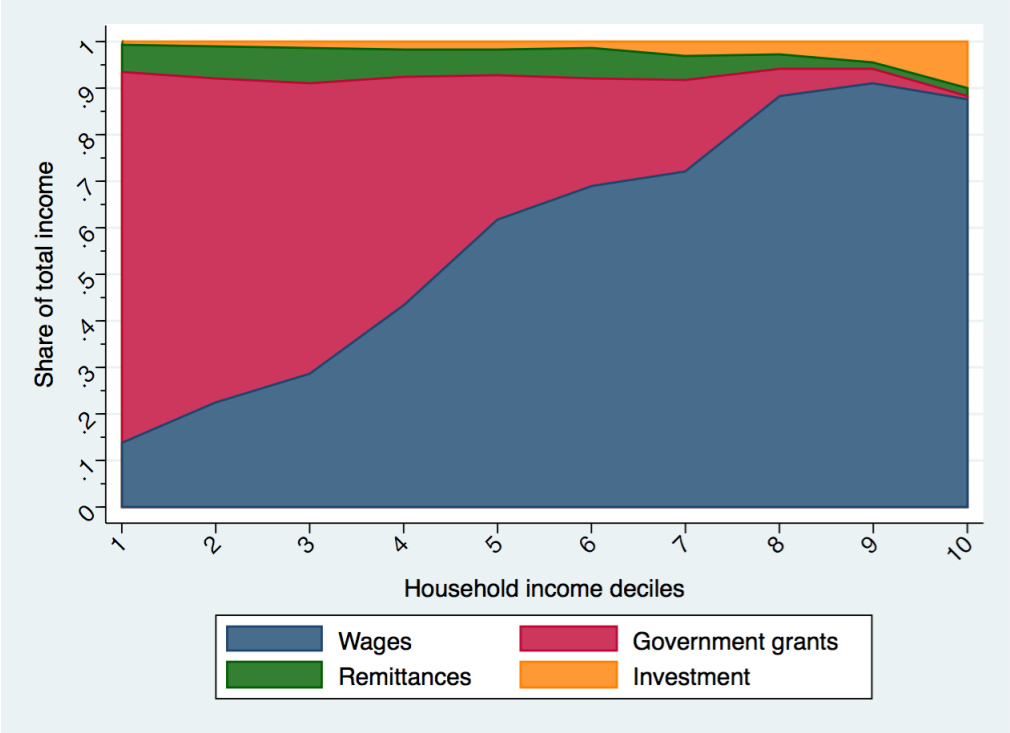
The importance of wage income as a contributor to total household income is evident in Figure 1, which is drawn from the third wave (2012) of the National Income Dynamics Study. In this figure, the horizontal axis presents the ten deciles of the distribution of household income. Creating deciles entails ordering the income distribution and then making ten equally-sized groups which each represent 10% of households. The range starts with the 10% with the lowest income (decile one) up to the top 10% (decile ten). The vertical axis ranges from 0 to 1, and is used to interpret the share of total income attributable to each source, by decile.

For the poorest households, wage income is a relatively small part of household income – ranging from 15% to 25%, on average. This is, of course, because many households at the bottom of the income distribution do not contain a wage earner, and therefore rely on other sources of income. Chief among these is government grants, and the share of income from government sources (mainly the state old age pension and the child support grant) stands between 70% and 85% for households in the lower part of the income distribution. As we move up the income distribution the share of income from government sources decreases as the share of wage income jumps for each successive

[1] Wittenberg (2014a citing Kerr et al., 2013) notes that "between 45 percent and 55 percent of the total number of formal, non-agricultural, private sector workers are directly captured by the firms included in the QES samples between 2005 and 2011".

decile except for the top 10% of households. Wages overtake government grants as the largest contributor to household income after the fourth decile, in which mean monthly household income per capita is approximately R580. The importance of remittance income diminishes as we move from poorer to richer households, and investment income is only substantial for those households in the top decile.

Figure 1 Composition of household income by income deciles



Source: Own calculations from NIDS Wave 3 dataset.

The figure, together with Table 1 and Table 2, demonstrates that wage dispersion is the main driver of inequality in the country. Quantifying the contribution of wages to overall inequality is the subject of an article by Lerman and Yitzhaki (1985), who show that the Gini coefficient[2] may be decomposed so that the relative contributions of each source of income may be extracted. The NIDS 2012 data reflect the contributions of wage income, government grant income, remittance income and investment income to the overall Gini coefficient of household income per capita.

[2] The Gini coefficient is perhaps the most commonly cited measure of inequality. It ranges from 0 (perfect equality) to 1 (perfect inequality). South Africa's Gini coefficient of 0.66 makes it one of the most unequal societies in the world.

The overall Gini coefficient for household income per capita in 2012 was 0.66. This is significantly higher than the Gini coefficient of earnings only (as will be shown later), mainly because the household measure includes households in which there are no wage earners. In fact, Leibbrandt et al. (2010) show that at least one-third of the contribution to the share of wage inequality in household income inequality from households in which there are no employed adults. Decomposing the Gini coefficient of 0.66, as is done in Table 1, shows that the relative contribution of wage income to overall inequality in South Africa stood at just over 90% in 2012.[3] Together, these facts illustrate the centrality of wages to overall levels of inequality.[4]

Table 1 Decomposition of household income inequality by income source

Income source	Absolute contribution	Relative contribution
Wages	0.60	90.65%
Government grants	-0.01	-1.04%
Remittances	0.06	8.53%
Investment	0.01	1.87%
Total	**0.66**	**100%**

Source: Own calculations from NIDS Wave 3 dataset.

Wages are, of course, also the central drivers of poverty dynamics in the country. Table 2 shows the percentage of people in each decile who live in a household in which there is at least one earner. 85% of people in the poorest decile were not co-resident with an earner. This proportion only falls below 50% from decile 4 onwards. By contrast, over 90% of people living in the top three deciles are co-resident with at least one wage earner.

[3] This compares to relative contributions of between 85% and 91% in 1993, 2000, and 2008 as reported in Leibbrandt et al. (2010) and Woolard et al. (2009).

[4] Throughout this paper we approach the question of inequality through the prisms of either wage income or household income. We show that both wages and household income are very unequally distributed. Another way of understanding inequality is through the relative distribution of gross value added between wages and profit. This macroeconomic concept uses different datasets to those that are used here, and hence these issues are not discussed in this paper. However, it is worth noting that the wage share in South Africa has declined substantially over the last two decades (Burger, 2015). The international literature suggests that the shift in gross value added from wages towards profits is an important driver of increasing inequality and economic instability (Piketty, 2014).

Table 2 Presence of earner in the household by income deciles

Decile	No earner in the HH	Earner in the HH
1	85.38	14.62
2	64.82	35.18
3	55.07	44.93
4	37.72	62.28
5	16.18	83.82
6	15.89	84.11
7	18.19	81.81
8	7.23	92.77
9	4.38	95.62
10	8.97	91.03

Source: Own calculations from NIDS Wave 3 dataset.

In Table 3 we compare poverty rates in households with at least one earner to households without any earners. The poverty line chosen is based on Budlender et al. (2015) and is R1 319 in April 2015 rands,[5] and the national poverty headcount rate for this poverty line in 2012 was 62%. The poverty rate in households without any wage earner was 88.13%, while the rate in households with at least one resident wage earner was 50.01%.[6]

These tables illustrate two of the roles that wages play in poverty. First, those living in households with the lowest income are least likely to live with a wage earner. This lack of access to wage income is therefore a key contributing factor to poverty. Second, as is evident from the table, half of people who co-reside with a wage earner live in households that are below the poverty line. Therefore, having access to wages does not guarantee household income per capita will rise above the poverty line.

Table 3 Poverty and wages

	No earner in HH	Earner in HH
Non-poor	11.87	49.99
Poor	88.13	50.01
	100	100

Source: Own calculations from NIDS Wave 3 dataset.

[5] More detailed information on the construction and use of this poverty line can be found in Section 6.
[6] "Poor households" here, and below, are defined as households in which monthly per capita income is less than the poverty line of R1 319.

The final table in this section tabulates race[7] against poverty status for the poverty line of R1 319. Almost 71% of Africans fall below this poverty line, with the corresponding poverty rates for Coloured, Asian/Indian and White respondents standing at 57%, 20.5% and 4%, respectively. This shows that race is still a key determining factor of poverty, as it is with wages (as shall be shown in the following sections).

Table 4 Poverty and race

Population group	Non-poor	Poor	
African	29.25	70.75	100
Coloured	43.22	56.78	100
Asian/Indian	79.53	20.47	100
White	95.94	4.06	100

Source: Own calculations from NIDS Wave 3 dataset.

It is important to appreciate the demands placed on wage earners vis-à-vis the distribution of these wages to dependents. Average household size in South Africa is 3.3, but this does not allow us to capture the average number of people dependent on each wage earner. In order to calculate how many people each wage earner in the household supports, we make use of the household, wage and remittance data in the NIDS wave 3 dataset. The full dependency ratio for each earner is calculated by dividing all dependents (co-resident non-earners plus those who are non-resident but receive remittances) by the number of earners in the household. A dependency ratio of 2 therefore implies that a wage earner supports herself plus two other non-earners (three people in total).

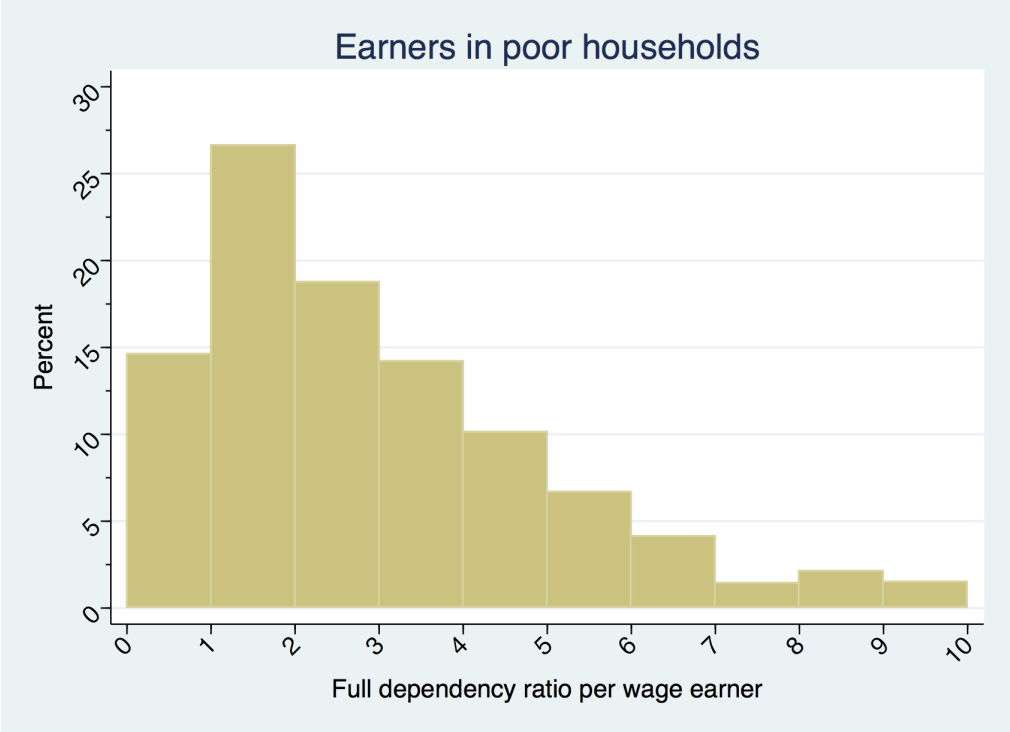
The average full dependency ratio for all earners is 1.55. For non-poor earners the ratio is 1, meaning that each earner in a non-poor household supports herself plus one other person. For earners living in poor households, the ratio is far higher, at 2.65.

As is shown in Figure 2, below, almost 10% of poor wage earners support themselves and four other people, 6% support five others, 4% support six others and some poor wage earners support up to ten dependents. Looking at dependency ratios across

[7] Population groups are reported with the labels provided in all Stats SA statistical releases.

income deciles (not shown here) reveals that the average number of dependents is larger in the lower parts of the income distribution than in the upper parts.

Figure 2 Dependency ratios for earners in poor households



Source: Own calculations from NIDS Wave 3 dataset.

4. Key Labour Market Trends Over Time

In this section we review some of the trends in the South African labour market between 2003 and 2012. Much of this is material that is also contained in Wittenberg 2014a, which offers a more comprehensive account of the trends in the labour market since the mid 1990s. The reason for presenting this material is to contextualise current labour market dynamics with reference to what occurred in the labour market in the country since the early 2000s.

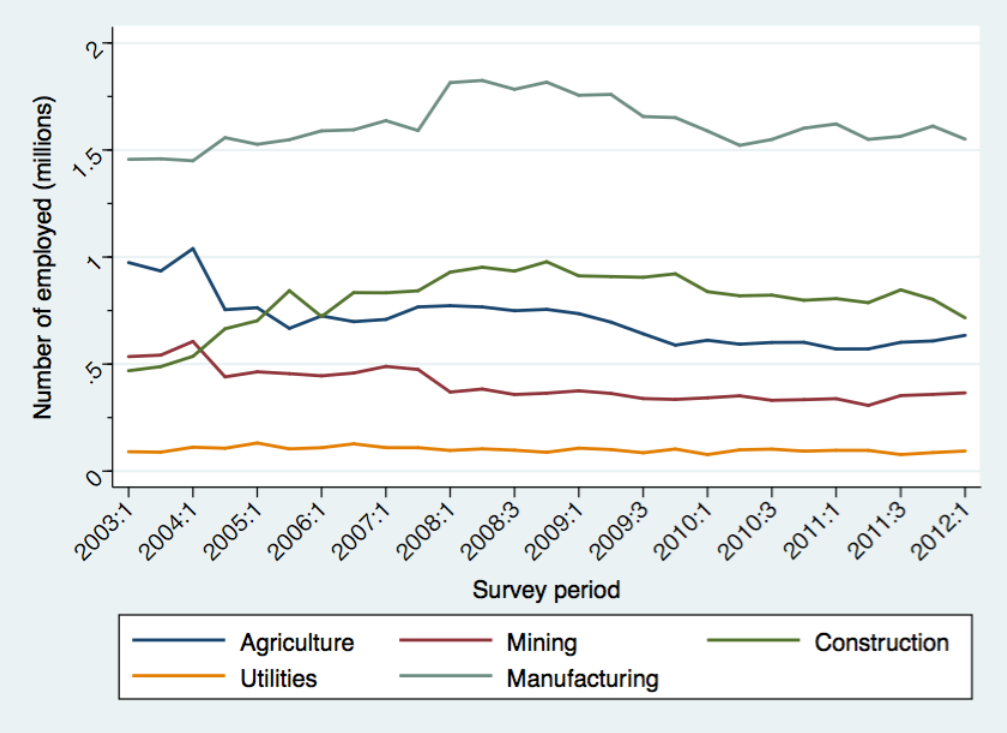
Trends in the composition of the labour force, monthly earnings, hours worked per week, and average hourly earnings are given by a number of categories including industry, private/public sector, population group, gender and province. The PALMS dataset allows for the most consistent portrayal of trends possible, given the available

data, though it must be noted that earnings data are not available for 2008, 2009, and 2012.

4.1 Industry composition

The PALMS data allow us to break down the composition of employment by ten different industries. These are split into two panels in order to ease interpretation of the figures. Figure 3 shows the number of workers in the agriculture, mining, construction, utilities and manufacturing industries. Employment levels in utilities was consistently around the 100 000 mark, while there were decreases in the number of workers employed in agriculture and mining. Manufacturing and construction showed increases over the period.

Figure 3 Trends in the composition of the labour force by sector (a)

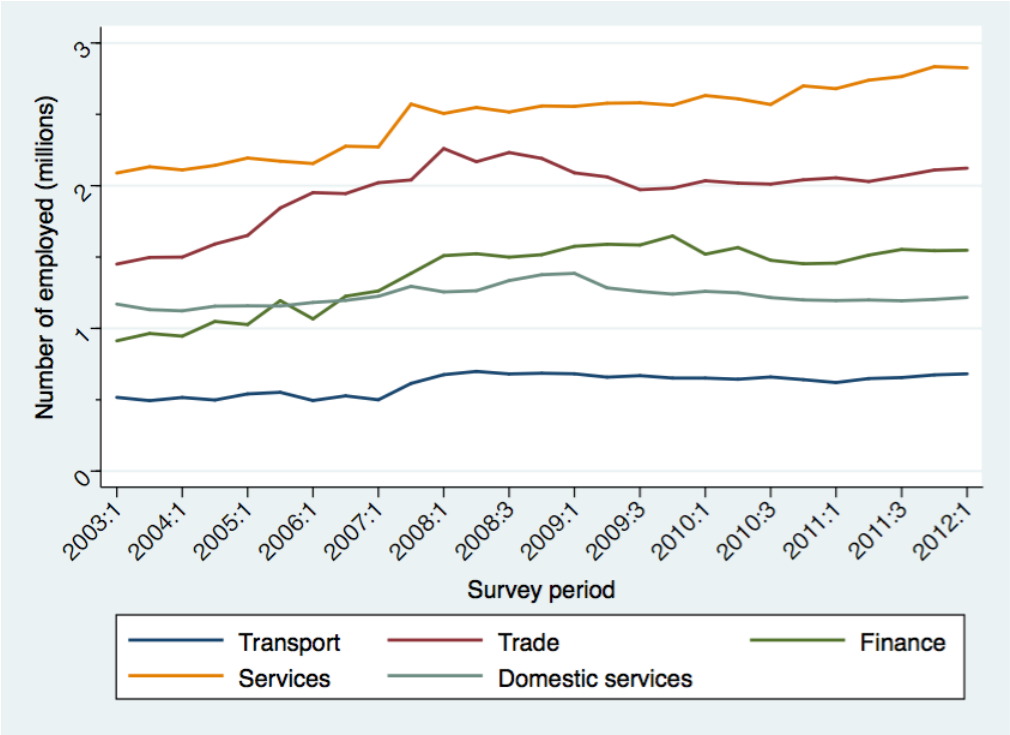


Source: Own calculations from PALMS dataset.

The trends in Figure 4, which also show the composition of the labour force by sector, are generally upwards. The number of workers employed in services rose by about 800 000 between 2003 and 2012. There were also substantial increases in the number of

workers in the trade and retail, and the financial sectors. Transport and domestic (private household) services were relatively flat over the period.

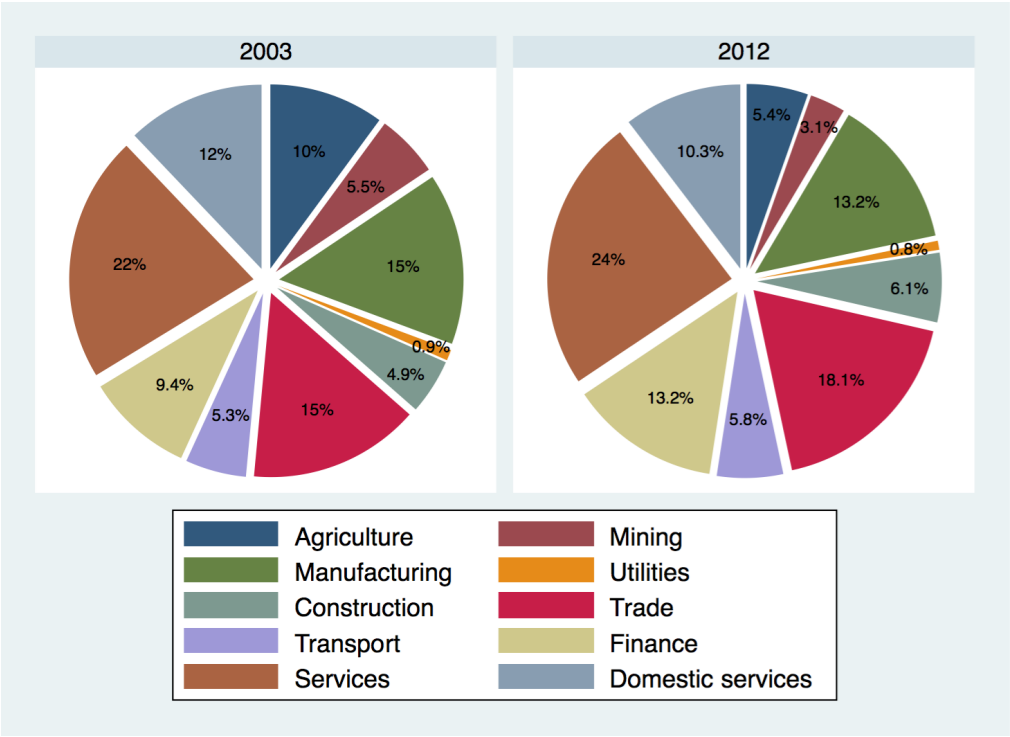
Figure 4 Trends in the composition of the labour force by sector (b)



Source: Own calculations from PALMS dataset.

Figure 5 complements the previous two figures by presenting the compositional shares of the labour force by sector for 2003 and 2012. The share of agricultural workers in the labour force dropped from 10% to 5.4%. There were also falls in the proportion of all employees employed in mining, manufacturing and domestic services. The shares of trade, finance and services increased, with the latter making up almost one quarter of the labour force in 2012.

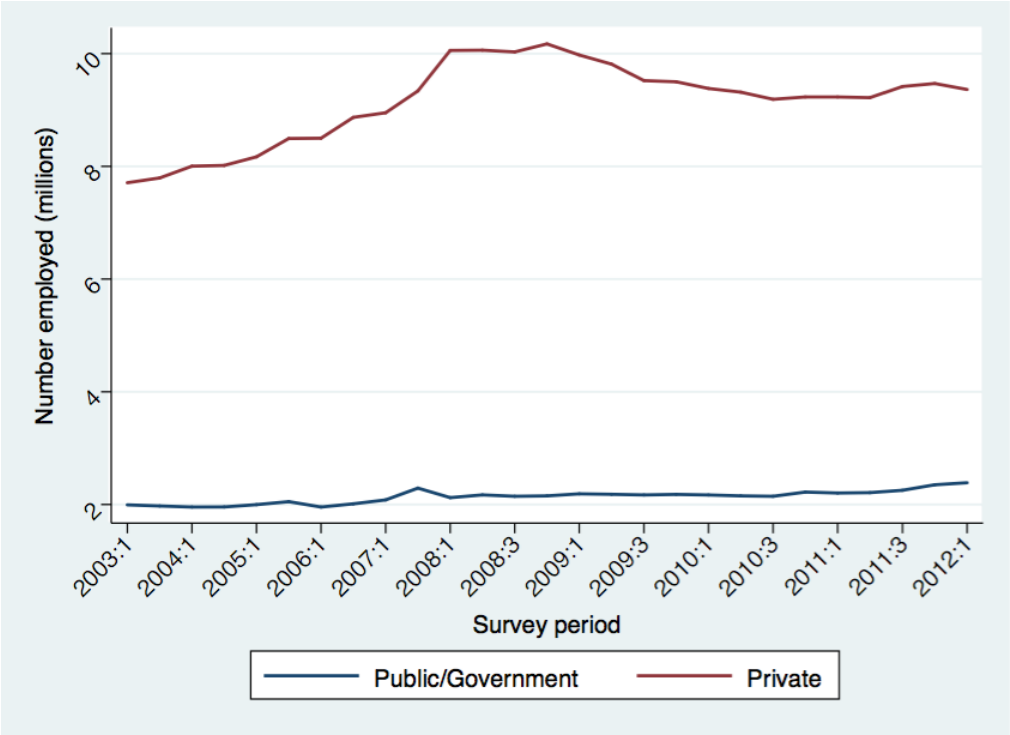
Figure 5 Shares of total composition by sector, 2003 and 2012



Source: Own calculations from PALMS dataset.

Both private and public sector employment, shown in Figure 6, rose over the period under study, though the increase was more notable in the private sector, as shown in Figure 6. Private sector employment increased from 7.7 million to 9.4 million, while the corresponding numbers for the public sector are 2 million and 2.4 million. The impact of the financial crisis of 2008/2009 on private sector employment is clearly seen in the figure.

Figure 6 Trends in the composition of the labour force by public/private sector

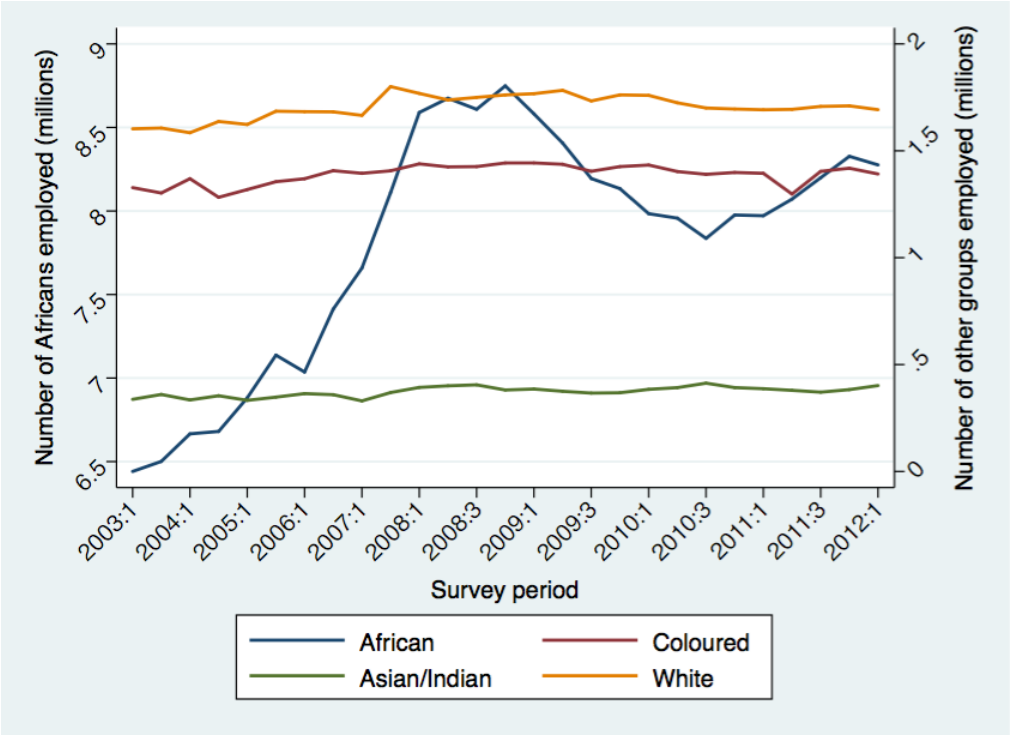


Source: Own calculations from PALMS dataset.

In Figure 7 the composition of the labour market is disaggregated by population group. Note that the left y-axis is for Africans, while the right y-axis pertains to the other population groups. The number of African workers grew sharply between 2003 and 2008, with about 2 million jobs being added to this group. There was then a sharp drop between 2009 and 2010, with about 750 000 jobs being shed. Most of these were low-wage jobs in the agriculture and manufacturing sectors. There was then something of a recovery to the end of the period. Trends for the other groups were relatively flat, and appear to have been relatively well shielded from the financial crisis of 2008/2009.

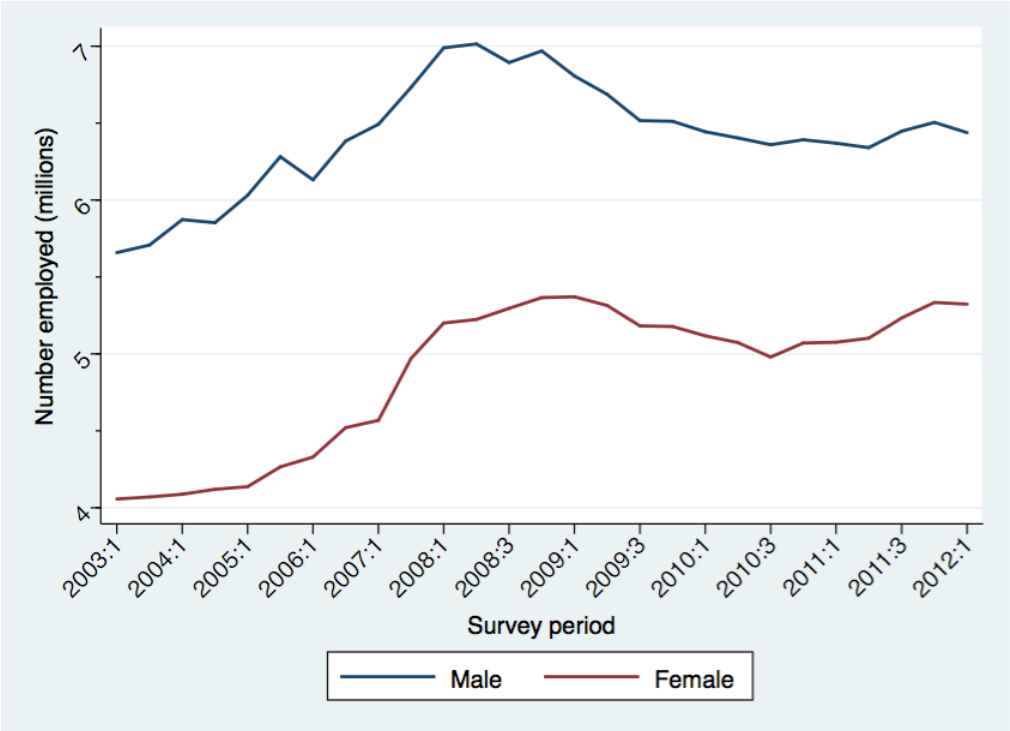
Male and female employment levels, shown in Figure 8, reflect the same patterns of the previous figures. In Figure 8 there is evidence of the consistent job growth between 2003 and 2008/2009, with a subsequent sharp drop off. The gap between the lines was greatest at the end of 2005, with a difference of about 2 million jobs, and smallest in 2012 where the gap had dropped to about 1.1 million.

Figure 7 Trends in the composition of the labour force by population group



Source: Own calculations from PALMS dataset.

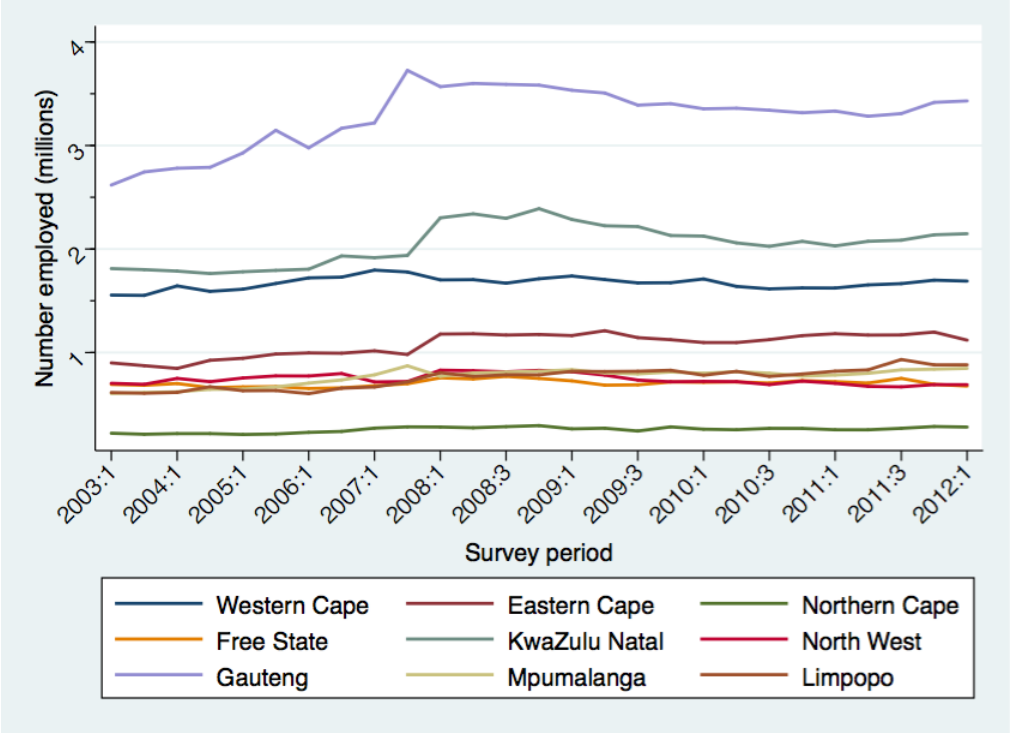
Figure 8 Trends in the composition of labour market by gender



Source: Own calculations from PALMS dataset.

In Figure 9 trends in employment levels are broken down by province. Unsurprisingly, Gauteng is the province with the highest number of workers. The gap between the number of workers in Gauteng and the number of workers in KwaZulu-Natal, the province with the next highest number of employees, changed from about 800 000 to about 1.3 million.

Figure 9 Trends in the composition of the labour market by province



Source: Own calculations from PALMS dataset.

4.2 Earnings

We now turn our attention to trends in the wages earned by workers in South Africa between 2003 and 2012. These are monthly earnings and are given in their April 2015 equivalents.

The first feature to note about the earnings data in Figure 10 is that there was an improvement in average real wages for all sectors. A discussion of whether this real wage growth was in line with growth in productivity is beyond the scope of this study,

and readers are referred to Wittenberg (2014a) and Burger (2015) for recent insights into the relationship between productivity and earnings in the post-apartheid period.[8]

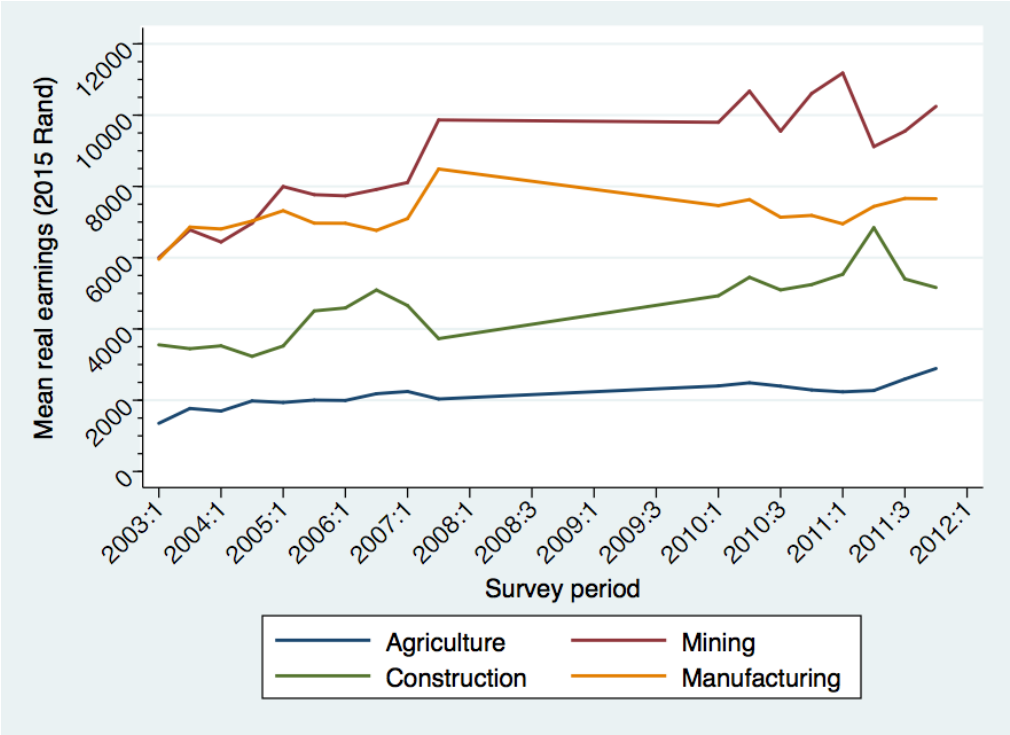
Real earnings in the mining sector were generally above earnings in manufacturing, construction and agriculture, on average, as shown in Figure 10. These began at about R6 000 per month in 2003 and reached about R10 000 in the last quarter of 2011. The whole mining wage distribution shifted significantly during the period, as can be seen in the kernel density[9] distributions for the mining sector in Figure 11.[10] The distribution shifted to the right between 2003 and 2007, but these changes were much smaller than the rightward shift between 2007 and 2011. The main period of job loss in the mining sector (see Figure 3) came between 2003 and 2008, while the main period of real wage growth came between 2007 and 2011.

[8] The authors use different datasets in their analysis of the relationship between productivity and wages. Wittenberg (2014a) (using survey data for the measure of labour) finds that there is no strong evidence for average wages growing faster than productivity, while Burger (2015) (using national accounts data) finds that productivity growth outstripped growth in the real wage because of a decline in labour's share in gross value added.

[9] A kernel density function is one way of plotting the distribution of income. It can be thought of as a type of smoothed histogram (with the log of wages rather than the level of wages on the x-axis). A shift to the right illustrates a general increase in earnings, while a less sharply peaked line illustrates a wider spread of earnings.

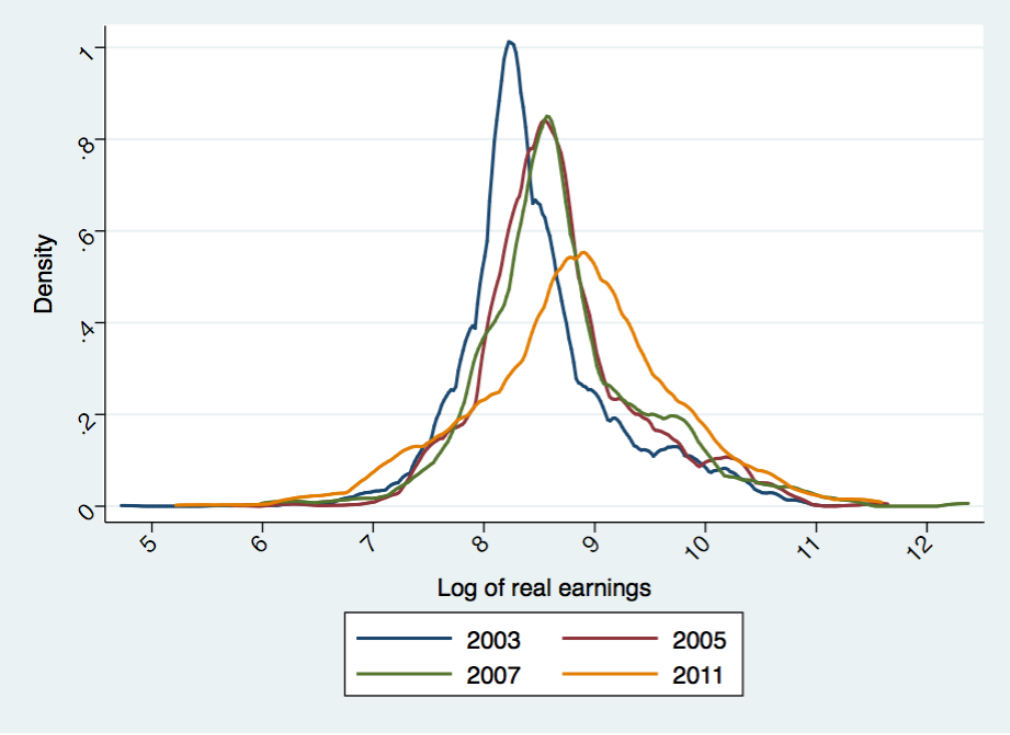
[10] Kernel density distributions for all sectors and all time periods are available from the author.

Figure 10 Trends in mean earnings by sector (a)



Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

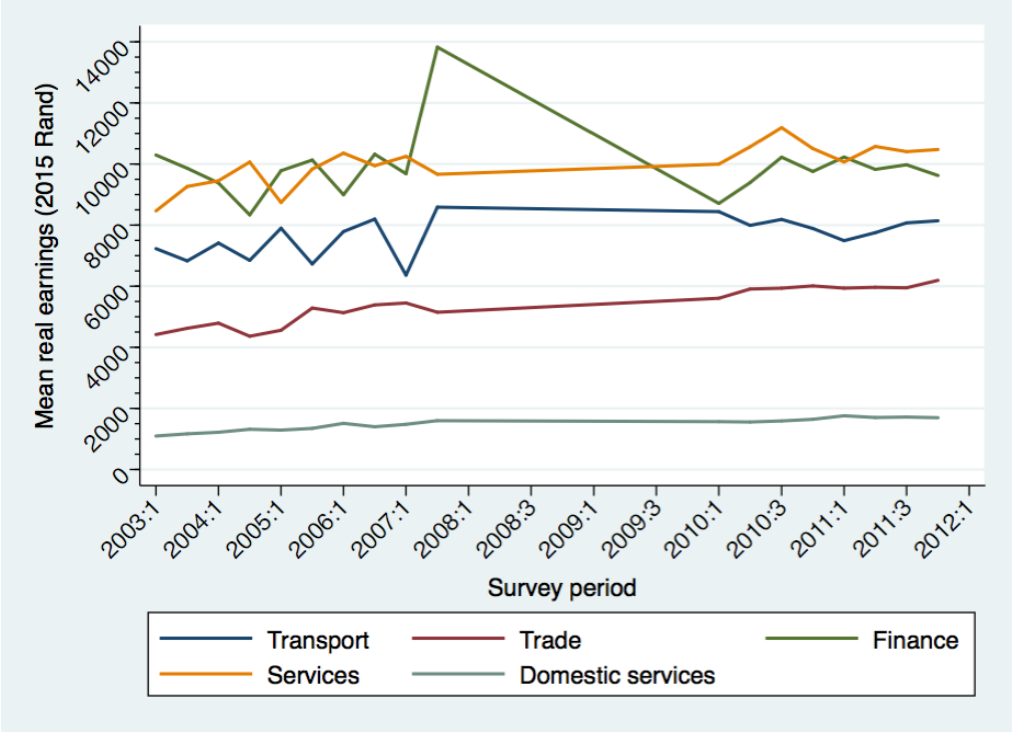
Figure 11 Kernel density distributions of earnings in the mining sector



Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

Wages in the remaining sectors (except for utilities) can be found in Figure 12. The financial and services sectors had the highest mean wages over the period, though the former experienced a significant drop between 2008 and 2010, and was generally more volatile. Domestic services in private households had the lowest mean of any industry over the period and showed real growth from about R1 000 to about R1 700.

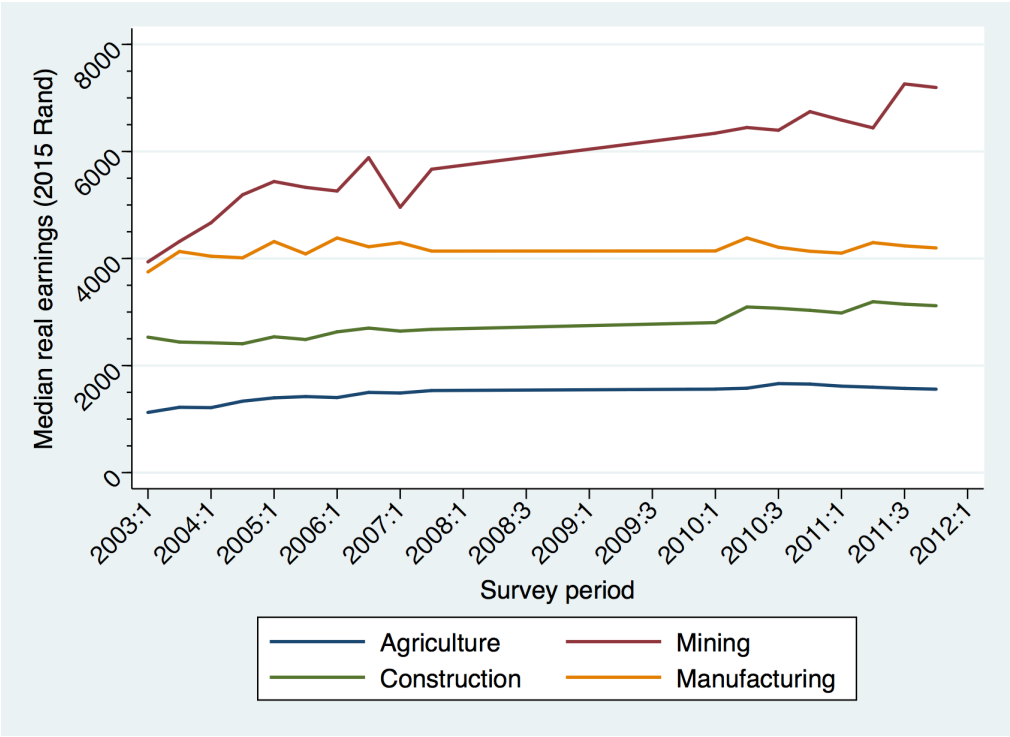
Figure 12 Trends in mean earnings by sector (b)



Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

In contrast to Figure 10 and Figure 12, which show trends in mean earnings, the following two figures present trends in the median, by sector. As shown above, the real mean wage in agriculture increased from R1 352 to R2 889. The real median, however, grew much more slowly – from R1 124 to R1 559. The real median in manufacturing grew from R3 750 to R4 197, and this was also far slower than the growth in the real mean. The one sector in this figure that displayed consistently strong growth in the median was mining. The real median in this sector rose by 83% (from R3 937 to R7 195), and this was the only sector in which median growth outstripped mean growth.

Figure 13 Trends in median earnings by sector (a)

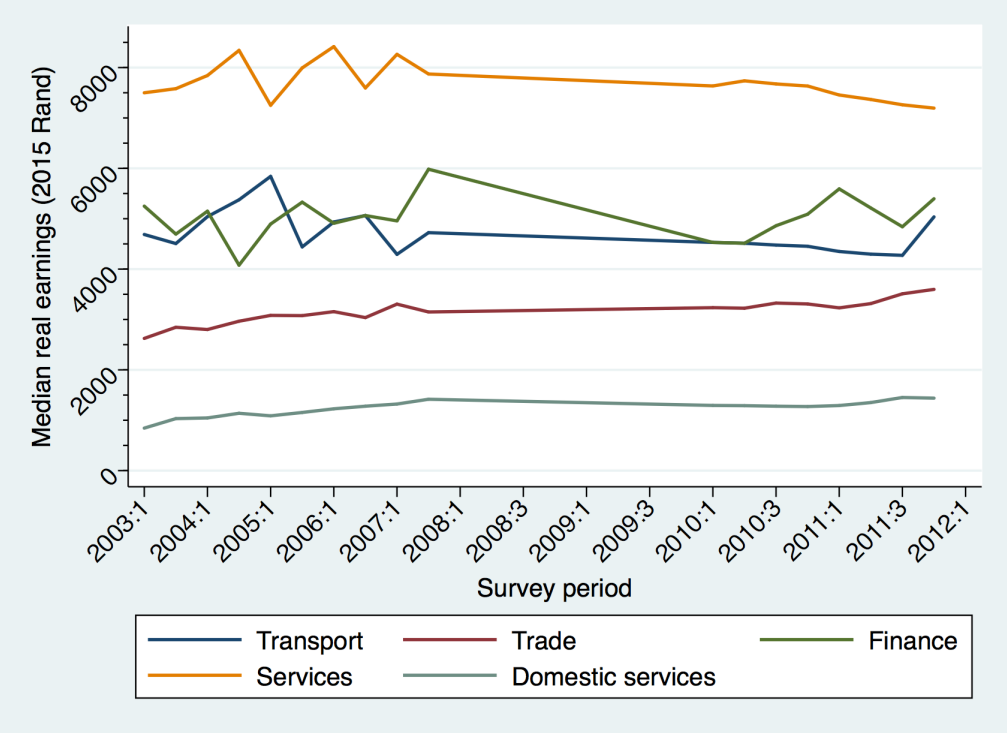


Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

Turning to the other five sectors, we see that the real median in services fell during the period under study. In fact, by 2011, the medians in services and mining were the same, despite the former having a higher mean. The median in the trade sector rose by 37% from R2 625 to R3 597, slightly below its 40% growth in the mean.

The fact that growth in the real mean outpaced growth in the real median for most sectors in the economy suggests that earnings inequality within most sectors increased in the period under study. This is an issue that we return to in more detail in Section 4.5.

Figure 14 Trends in median earnings by sector (b)

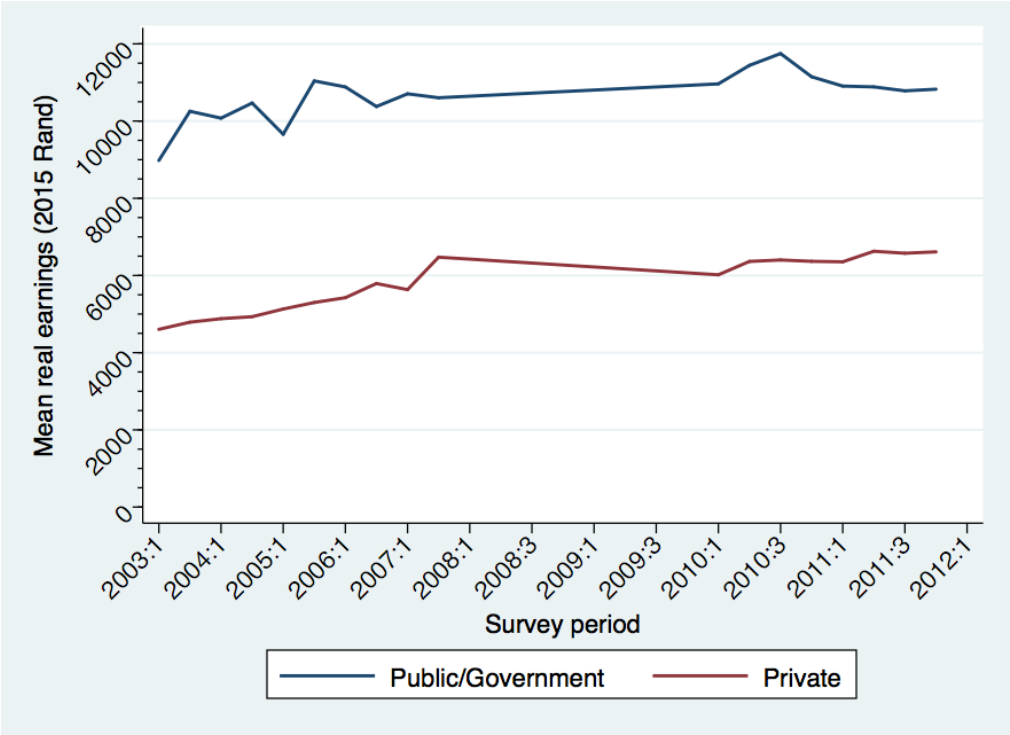


Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

Average real earnings in the public sector, shown in Figure 15, increased from R9 000 to R10 800, while earnings in the private sector grew from R4 600 to R6 600. The average gap between the two sectors was consistently between R4 200 and R5 500, as can be seen in Figure 15. The private sector real median grew from R2 435 to R3 358, while the public sector median growth was flatter (in percentage terms) growing from R7 499 to R8 394. Inequality within public sector earnings increased between 2003 and 2011, and fell slightly in the private sector, though inequality in the latter was always significantly higher than it was in the former.[11]

[11] Inequality and median trends for all sectors of the labour market are available on request.

Figure 15 Trends in mean earnings by private/public sector



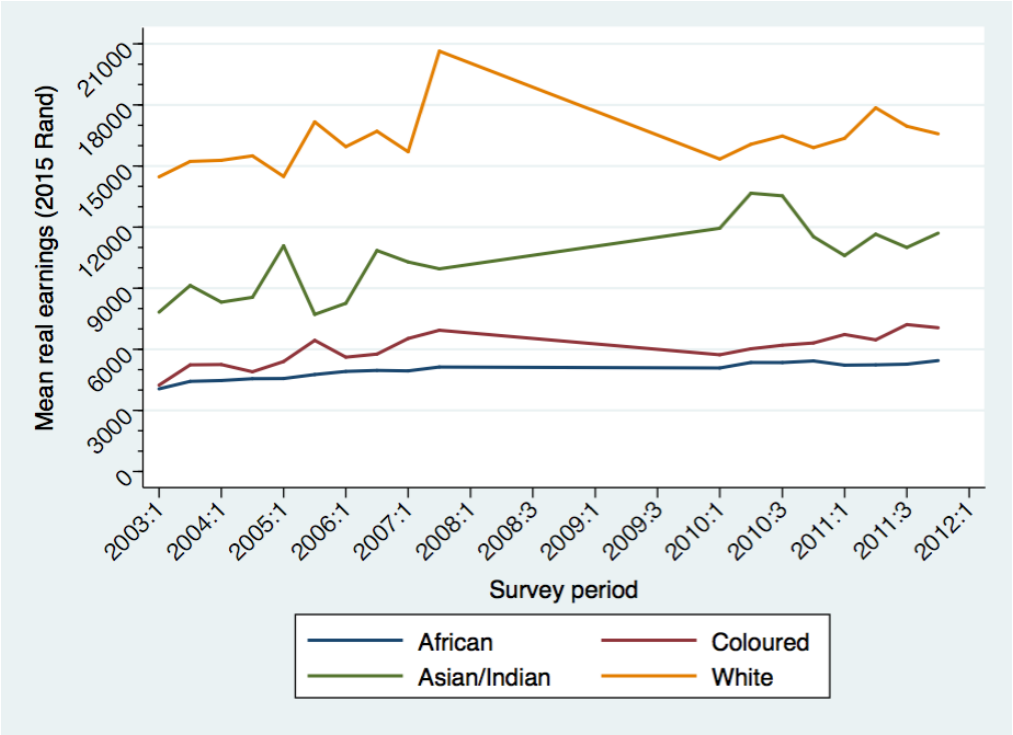
Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

Figure 16 presents earnings trends for each of the four population groups in the country. Unconditional[12] wages for white workers were, on average, 3.5 times higher than those of African workers in 2003 (R14 468 versus R4 059), and three times higher in 2011 (R16 580 versus R5 445). Mean wages for Coloured and African workers displayed a similar trajectory over the period, though wages in the former group were generally a few hundred rand higher.

Although the gender gap in employment levels decreased over the period (seen in Figure 8), the average unconditional earnings gap between men and women jumped from R1 113 to R1 900, as displayed in Figure 17.

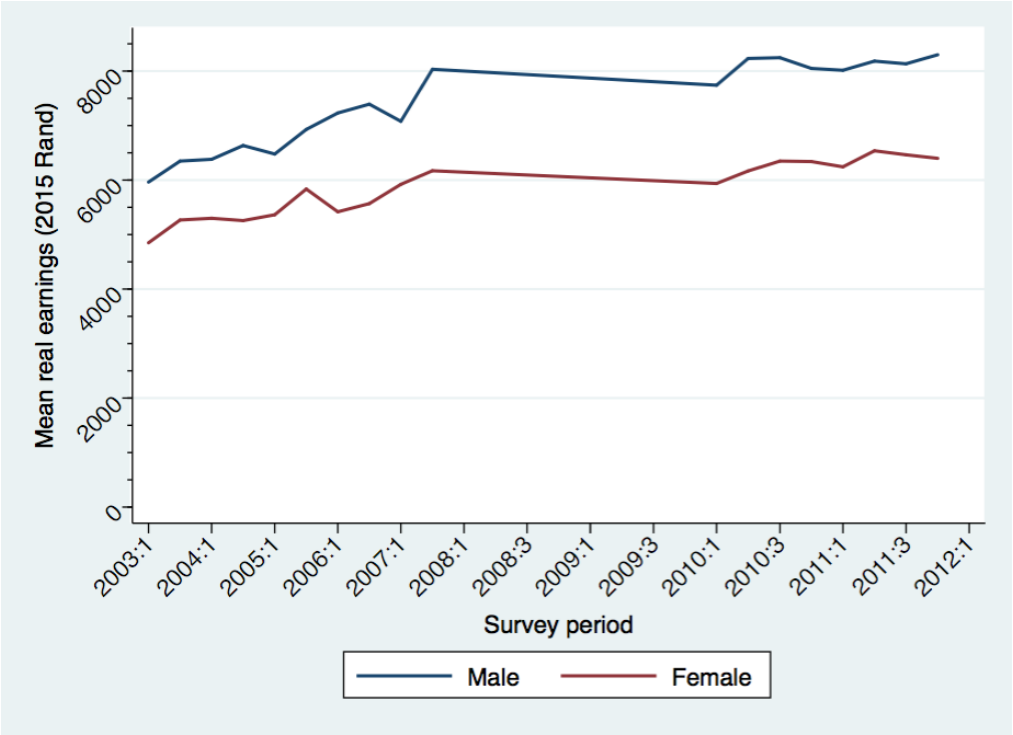
[12] By "unconditional" we mean that these are comparisons of raw means, unadjusted for age, skill, sector or any other factors that influence wages.

Figure 16 Trends in mean earnings by population group



Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

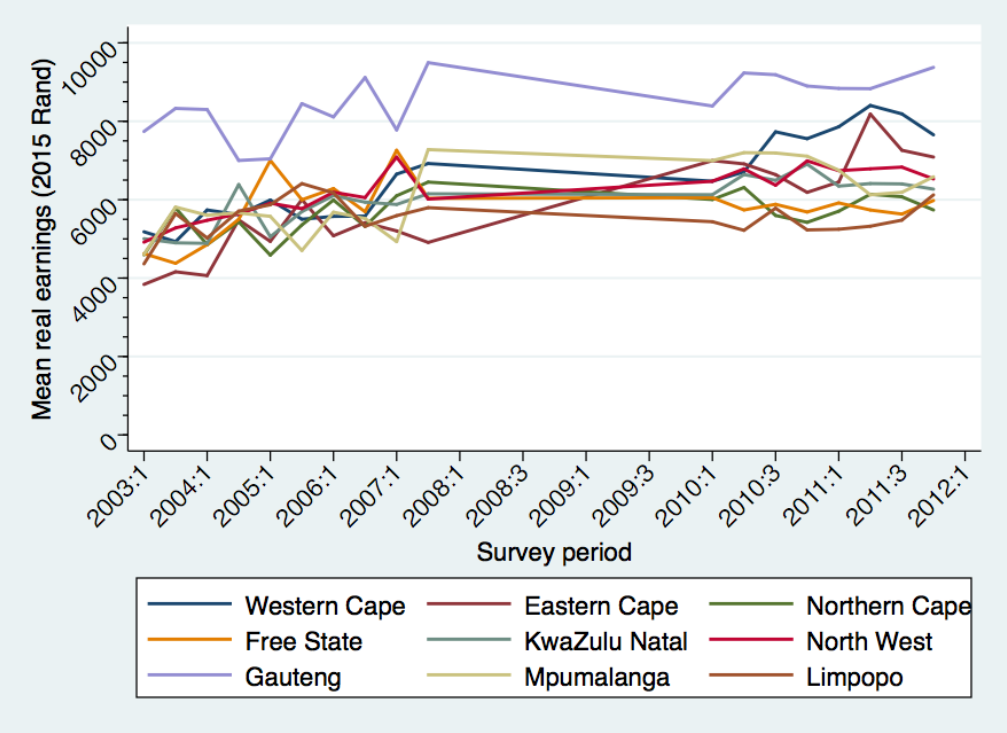
Figure 17 Trends in mean earnings by gender



Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

The trends in provincial earnings look something like a bowl of spaghetti. Mean earnings in Gauteng are always above those of the other provinces, which are more bunched together at the start of the period than at the end of it.

Figure 18 Trends in mean earnings by province



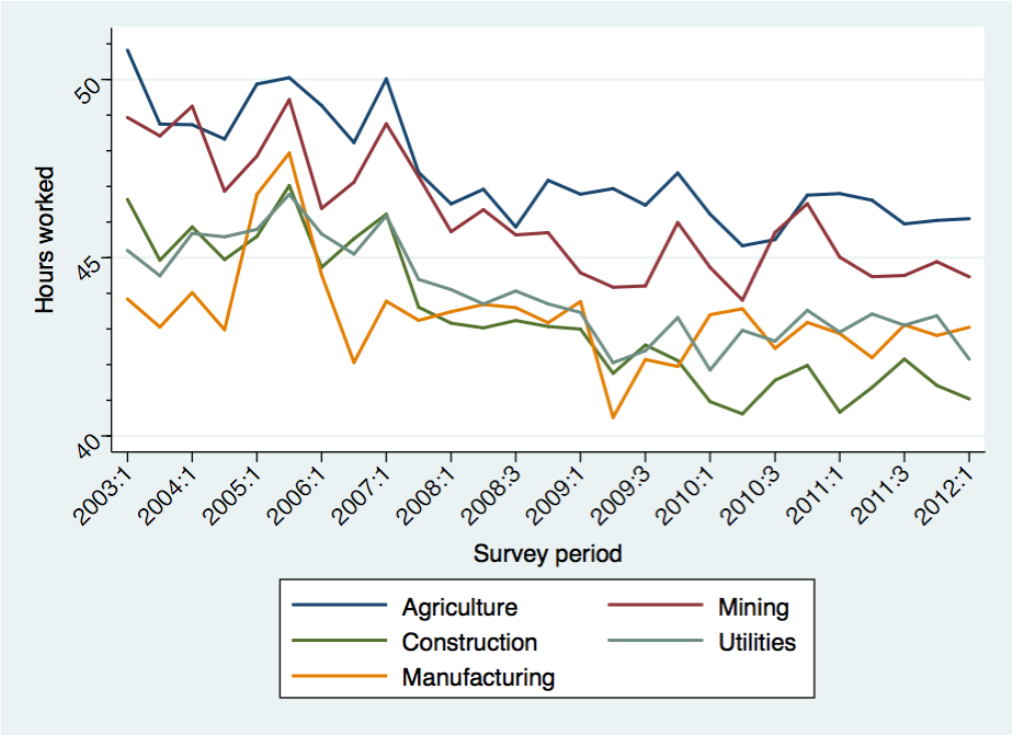
Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

4.3 Hours worked

We now turn our attention to the hours worked per week, broken down by the same variables as in the sections on labour force composition and earnings.[13] In Figure 19 and Figure 20 the average hours per week are shown by sector. A downward trend is noticeable in each of the sectors in the first figure. In the second figure the average number of hours worked in the transport, trade and finance sectors was fairly flat, while the hours worked in services and domestic services fell. Wittenberg (2014a) suggests that this may indicate a move towards more part-time forms of employment.

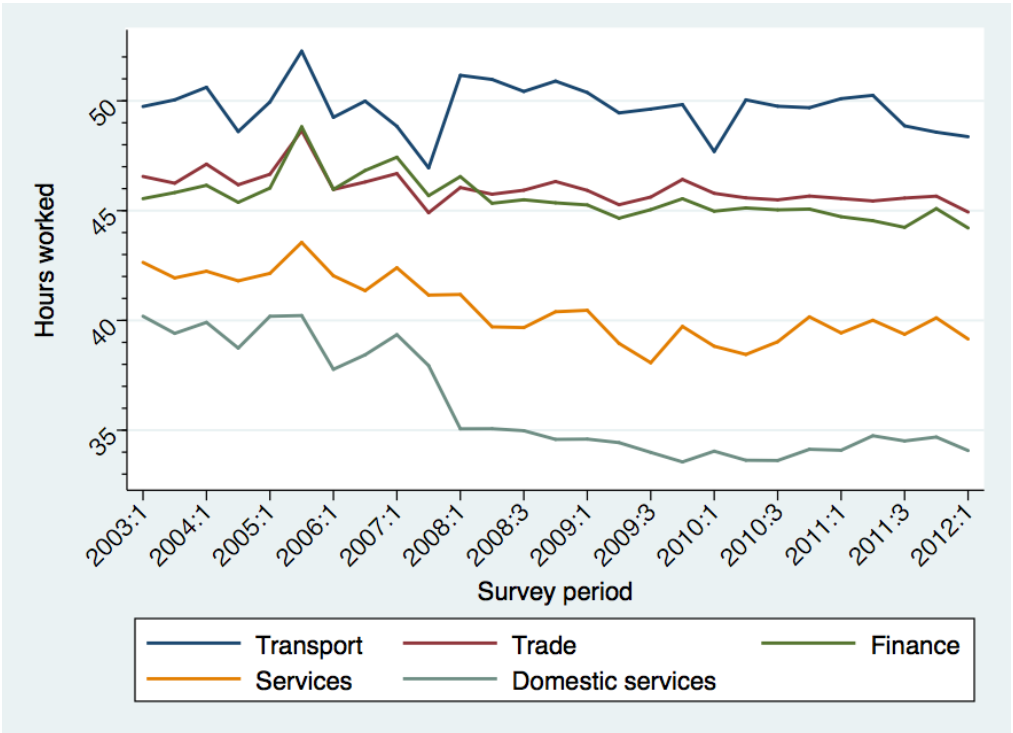
[13] The data come from a question asking workers how many hours they worked in the last week. Outliers in the weekly hours worked variable – those coded as working 98 hours or more per week – are excluded from this analysis. These made up only 0.2% of all employees.

Figure 19 Trends in hours worked by sector (a)



Source: Own calculations from PALMS dataset.

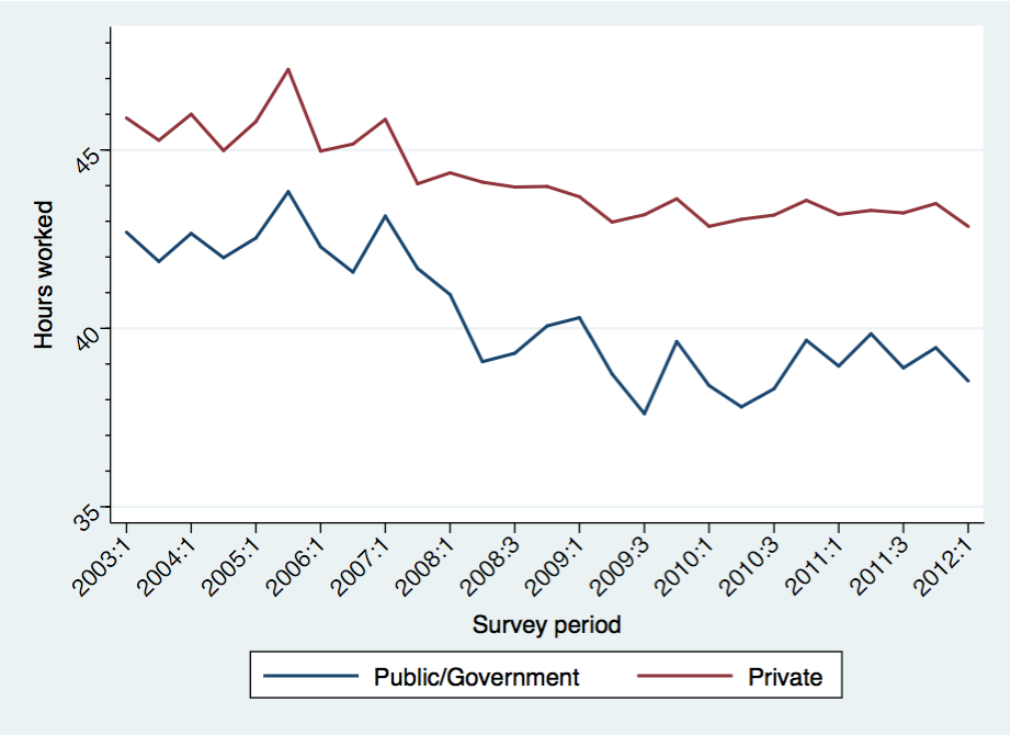
Figure 20 Trends in hours worked by sector (b)



Source: Own calculations from PALMS dataset.

Workers in the private sector tended to work between 3 and 4 hours more per week than their counterparts in the public sector, as shown in Figure 21.

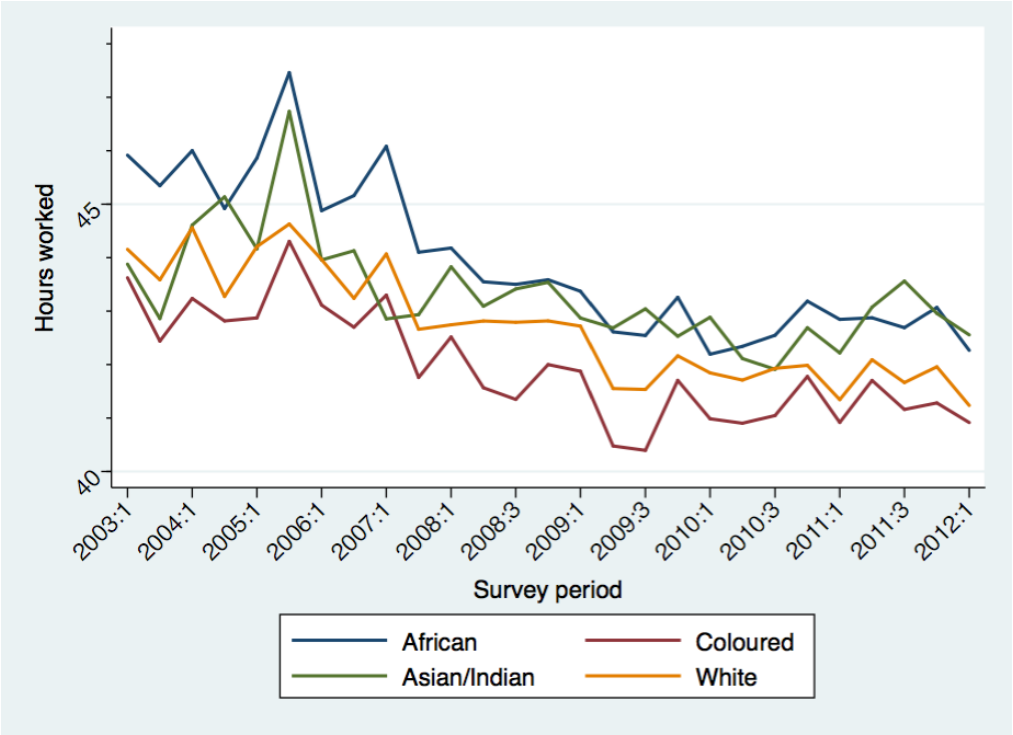
Figure 21 Trends in hours worked by public/private sector



Source: Own calculations from PALMS dataset.

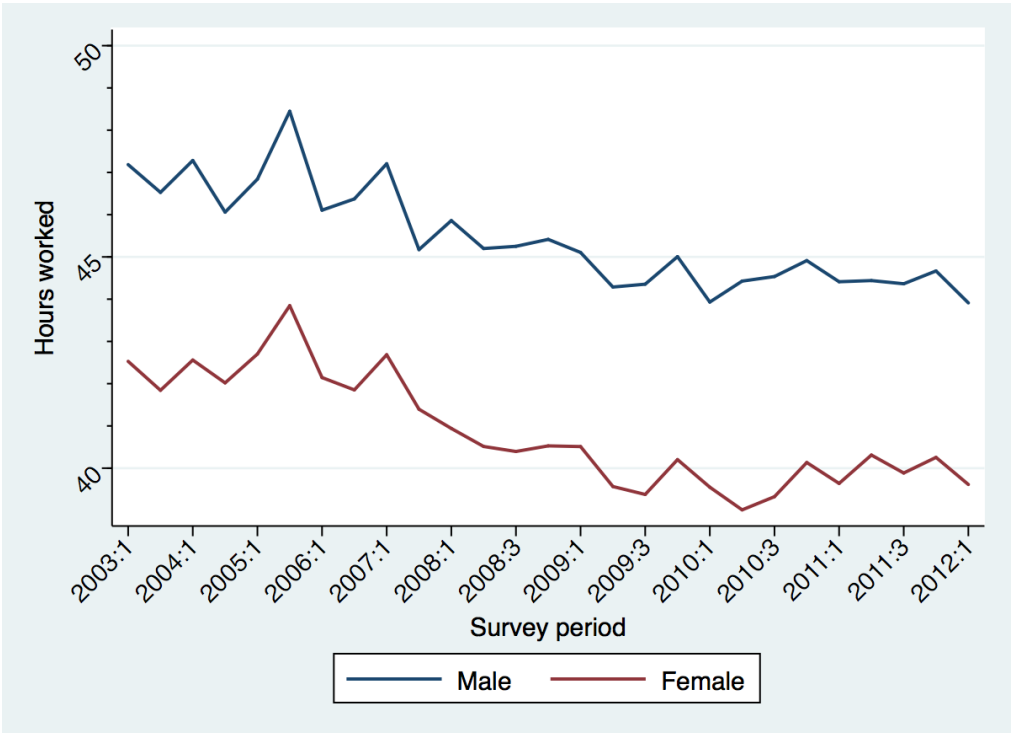
Differences in the average number of hours worked per week broken down by population group and gender are presented in Figure 22 and Figure 23. African and Asian/Indian workers tended to work longer hours per week than White and Coloured workers, though this difference decreased slightly over time. Turning to gender, men worked between 4 and 5 hours more per week than women, on average, and this may go a little way towards explaining the gender gap in earnings discussed earlier.

Figure 22 Trends in hours worked by population group



Source: Own calculations from PALMS dataset.

Figure 23 Trends in hours worked by gender

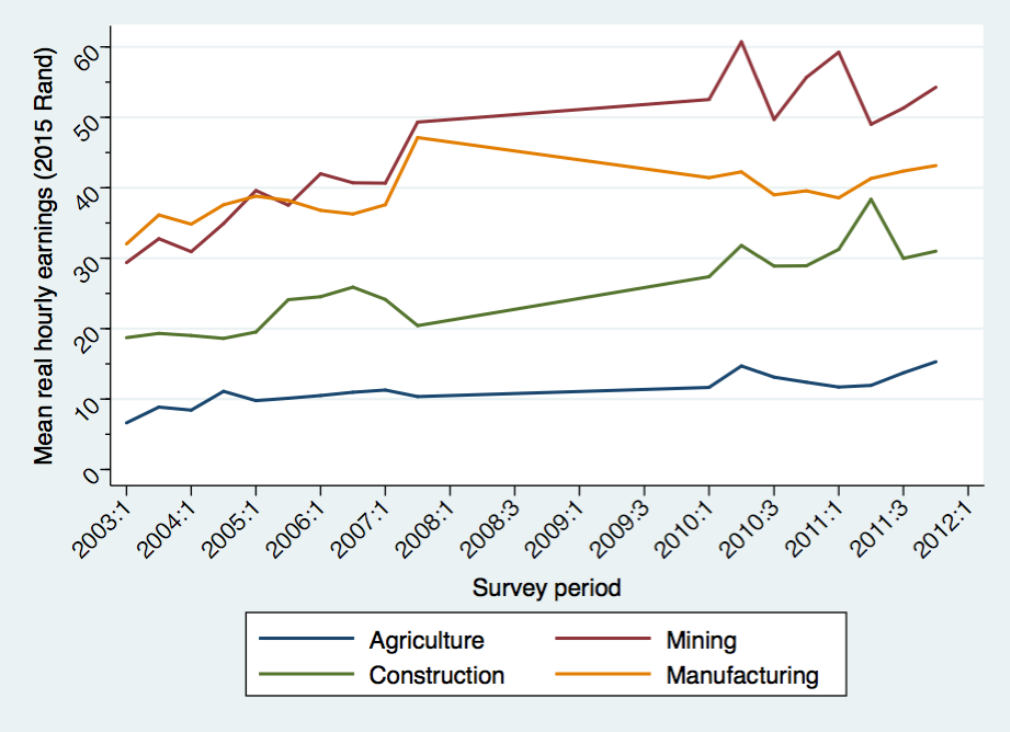


Source: Own calculations from PALMS dataset.

4.4 Hourly wages

We have seen that the trends in real earnings have generally been upward, and that the opposite is true when considering the trends in the number of hours worked per week. We now combine earnings series and hours worked series to investigate trends in earnings per hour. Overall mean hourly wages grew from R29.80 in 2003 to R42.73 in the last quarter of 2011. In the formal, non-agricultural sector[14] these stood at R38.10 and R52.24 over the same time period, respectively. Figure 24 and Figure 25 are very close reflections of their counterparts in Figure 10 and Figure 12, which are the mean real earnings trends. Hourly earnings in mining and manufacturing were almost identical at the beginning of the period, but the rapid growth in the mining real wage ensured that the difference was more substantial by the end. Real hourly wages in agriculture and domestic services were very close over the period, despite the monthly wages for agriculture being higher at each point. In general, the sector reporting the highest hourly earnings was services, with real earnings standing at just over R60 an hour in 2015 rands, for the final data point in the PALMS series.

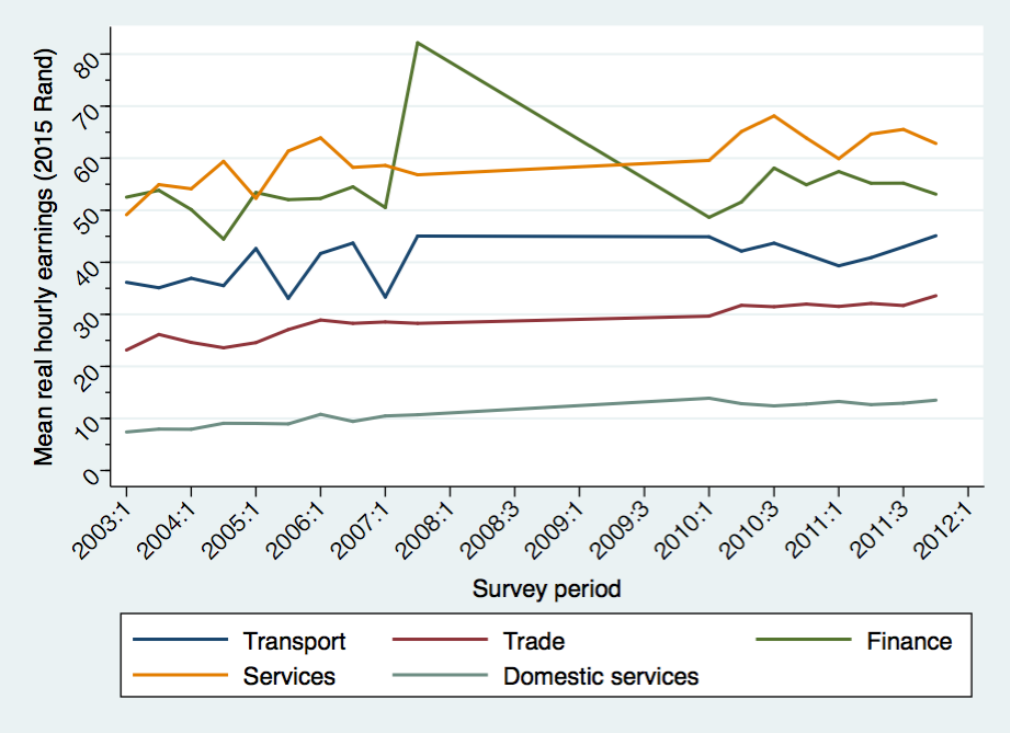
Figure 24 Trends in real hourly wages (a)



Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

[14] This restriction also excludes those employed in domestic services.

Figure 25 Trends in real hourly wages (b)



Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

4.5 Inequality and the distribution of wages

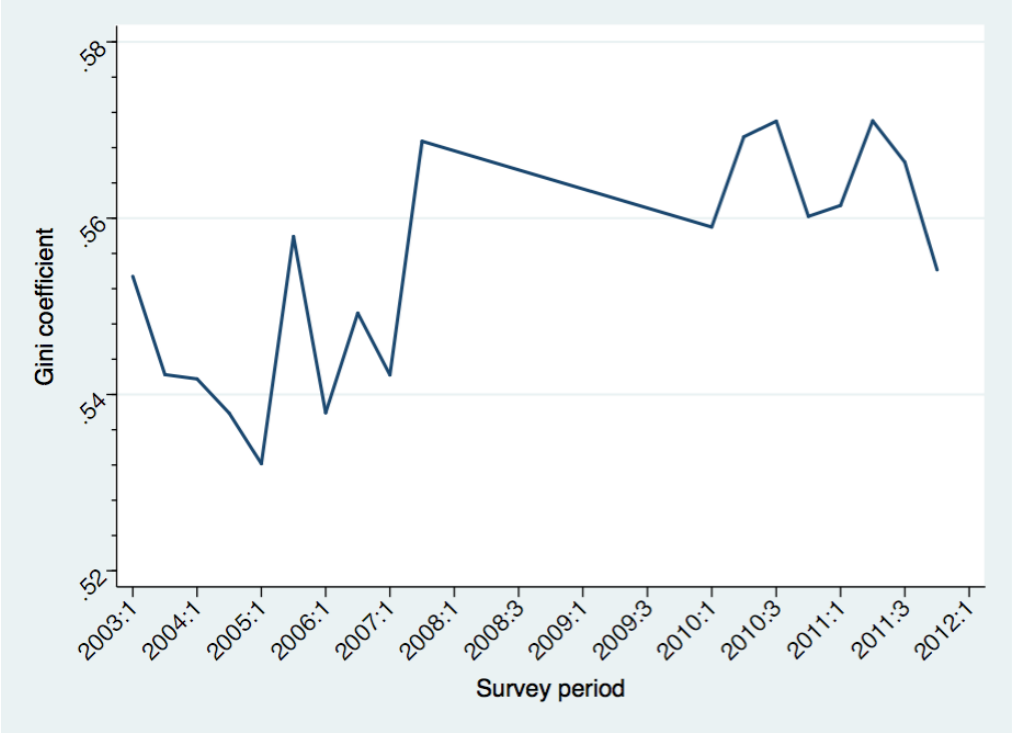
The earnings trends presented in the previous section suggest a high level of wage inequality in the country. In this section we look at the full distribution of earnings over time, before turning to the level of inequality in the labour market overall and by sector. This is different to the inequality that was central to the discussion in Section 3. In that section the focus was on overall household income inequality, and the critical role of wages in the determination of that inequality. Now, the focus is restricted to inequality in the distribution of wage earnings only. In this section we also decompose earnings inequality into contributions between and within sectors, and look at the changing shares accruing to each decile in the wage distribution over time.

Figure 26 shows the Gini coefficient of earnings[15] was almost identical at the start of the period (0.553) and at the end (0.554). This compares to a higher Gini coefficient of

[15] This is different to the Gini coefficients presented earlier. We are now focused on earnings inequality only, while before we focused on household income inequality.

household income per capita of between 0.65 and 0.70 over the period (Leibbrandt et al., 2012). Figures presented earlier showed that although the mean real wage rose over the period, the median lagged behind. This is indicative of real wages rising more rapidly for those at the higher end of the income distribution, a trend confirmed in Wittenberg (2014a).

Figure 26 Earnings inequality over time

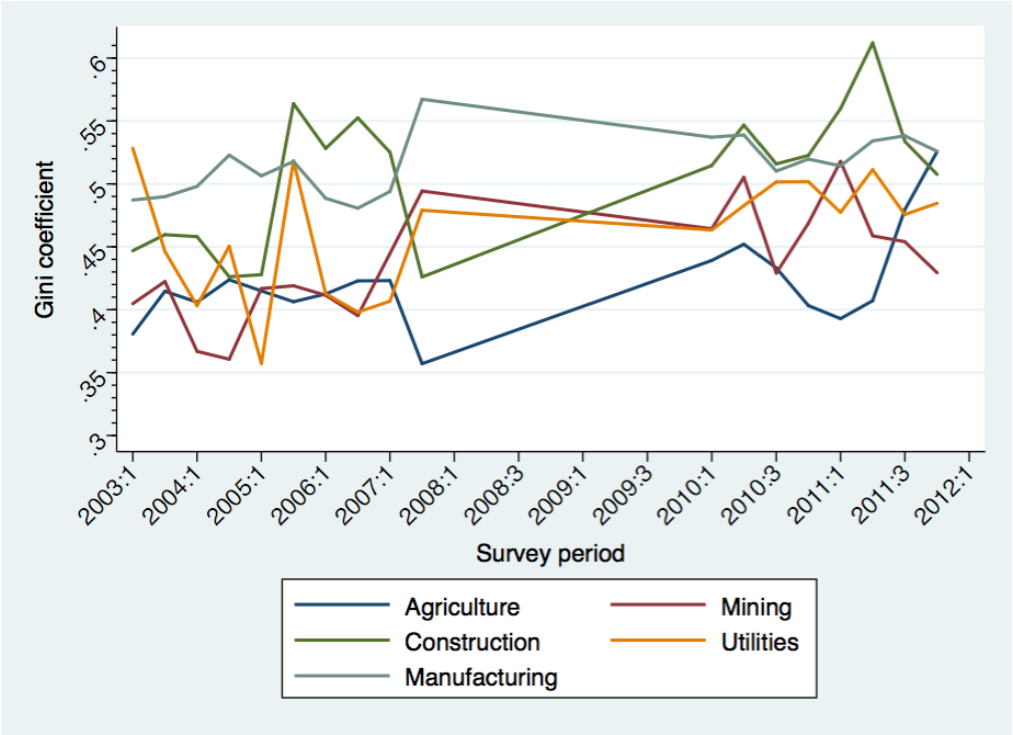


Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

Looking within each sector, earnings inequality at the start of the period ranged from 0.38 in agriculture to 0.57 in finance. The Gini coefficient for agriculture rose over time, as did the Gini for mining, construction and manufacturing. The rise in inequality is particularly pronounced within agriculture and construction, the sectors with the second and third lowest average wages, respectively. The agriculture Gini coefficient increased from 0.38 to 0.53, while the construction Gini increased from 0.45 to 0.51. This increase in inequality took place at the same time as significant increases in the real mean (114% in agriculture and 45% in construction). This suggests that the real increases in wages in these two sectors did not benefit all equally. Inequality in the utilities sector declined over time, but this will not have made a large impact on overall

earnings inequality, due to the relatively low proportion of workers employed in that sector.

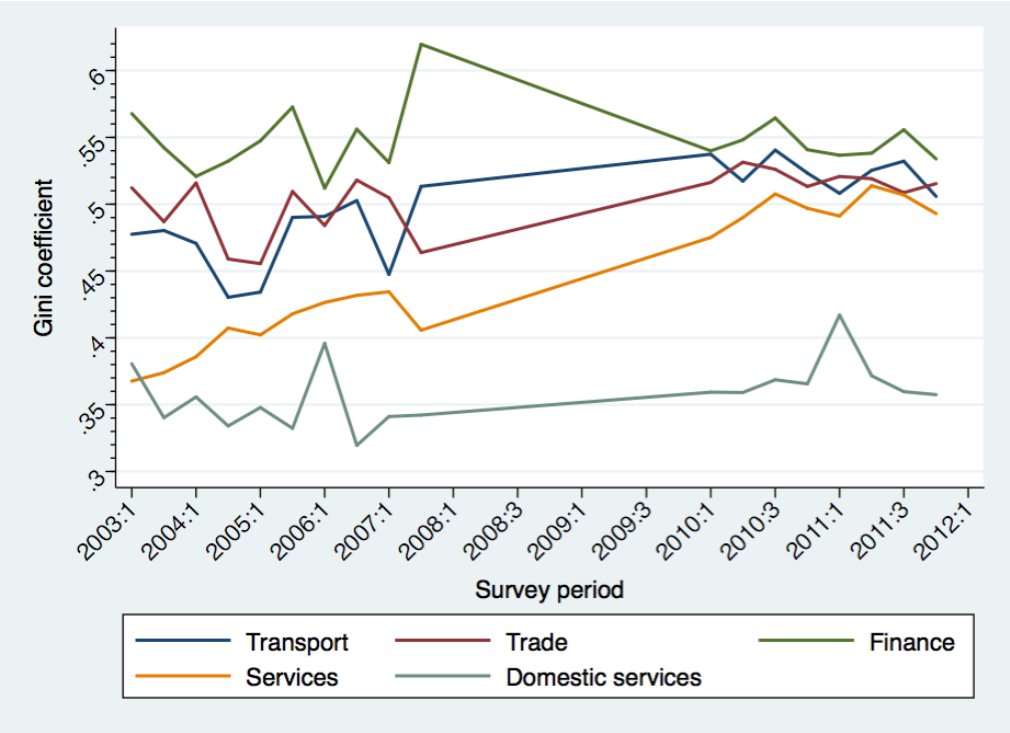
Figure 27 Trends in earnings inequality by sector (a)



Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

Trends in the Gini coefficients for the remaining sectors are shown in Figure 28. The spread of Gini coefficients was wider at the start of the period than at the end. This speaks to the patterns in Figure 29, which show that inequality within each sector became more pronounced over time, even as the inequality between sectors decreased. This explains why the overall Gini coefficient of wages remained almost constant, even though the dynamics within each sector tended towards greater inequality. The financial sector was always the most unequal, while the most equal was domestic services. The latter is the sector with the lowest average wages, as shown in the previous section. The key finding from these figures is that many of the sectors in the labour market began and ended the period with high levels of inequality. Wage inequality increased within six sectors, remained roughly constant in two, and declined in two.

Figure 28 Trends in earnings inequality by sector (b)



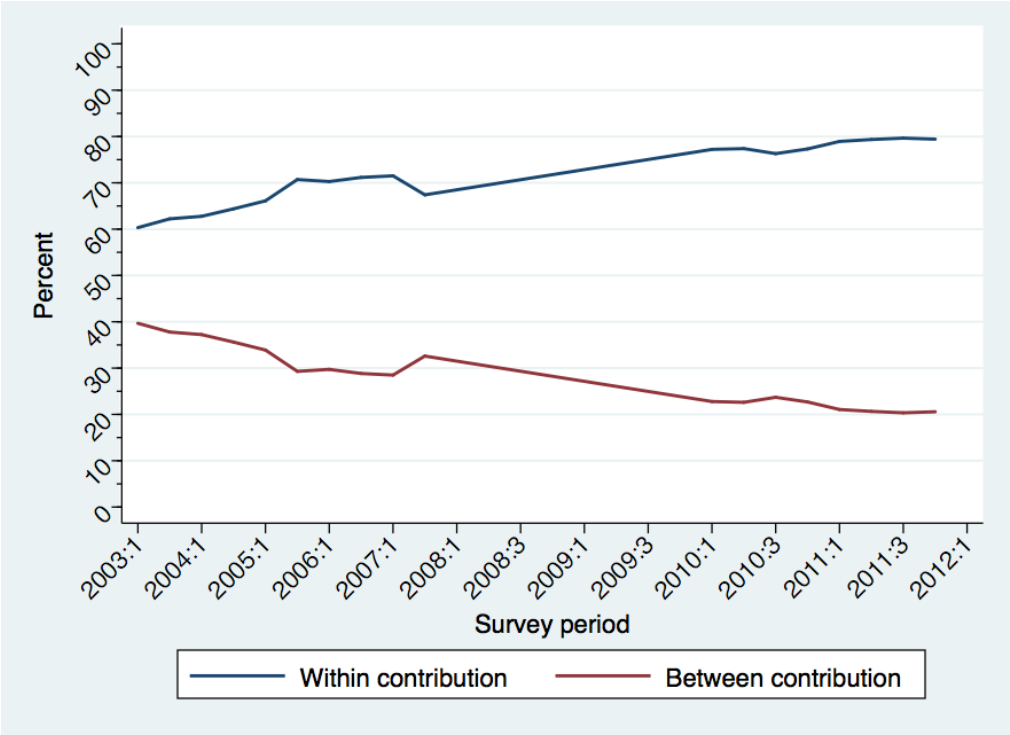
Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

4.6 Inequality decomposition

The previous two figures suggest that within-sector wage differentials became an increasingly important driver of total wage inequality over the period being studied. We now take a closer look at this by decomposing the relative contributions of within and between-sector inequality to total inequality over the 2003 to 2011 period.

The generalized entropy (or Theil) measures of inequality allow for a simple decomposition of total inequality into the contribution from between group inequality and the contribution from within group inequality. In Figure 29 we see that inequality within each of the sectors was responsible for 60% of overall earnings inequality at the beginning of the period. This increased to 80% at the end of the period. Of course, this implies that the relative contribution of between sector inequality halved from 40% to 20%. This pattern reflects the trends in the previous two figures, which showed how the sector-specific Gini coefficients rose over time.

Figure 29 Decomposition of inequality within and between sectors

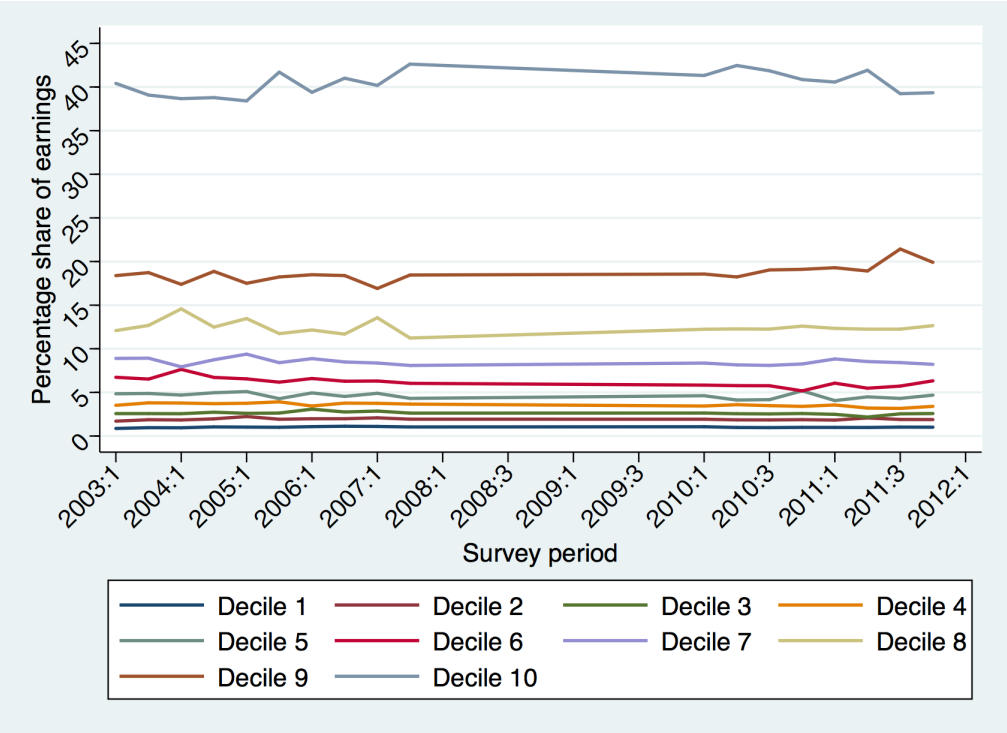


Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

We now consider the wage shares accruing to each decile in the earnings distribution over time. The compressed bottom half of the labour market is evident, as the total share going to the bottom 60% of the distribution (deciles one to six) is only 20%. The share of wages going to the highest paid decile alone is about 40%, and this is just over double the share going to the next highest 10% of the earnings distribution (the ninth decile).

Interestingly, the share of total income going to the top decile in the household income distribution (as distinct to the earnings distribution) is about 60% (Leibbrandt et al., 2010). This illustrates that overall household income is more heavily concentrated amongst the wealthy than wage income alone. A higher number of wage earners per household in the top decile, as well as this decile's relatively high share of investment income (see Figure 1) are possible explanations.

Figure 30 Shares of total wages going to each decile in the earnings distribution



Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

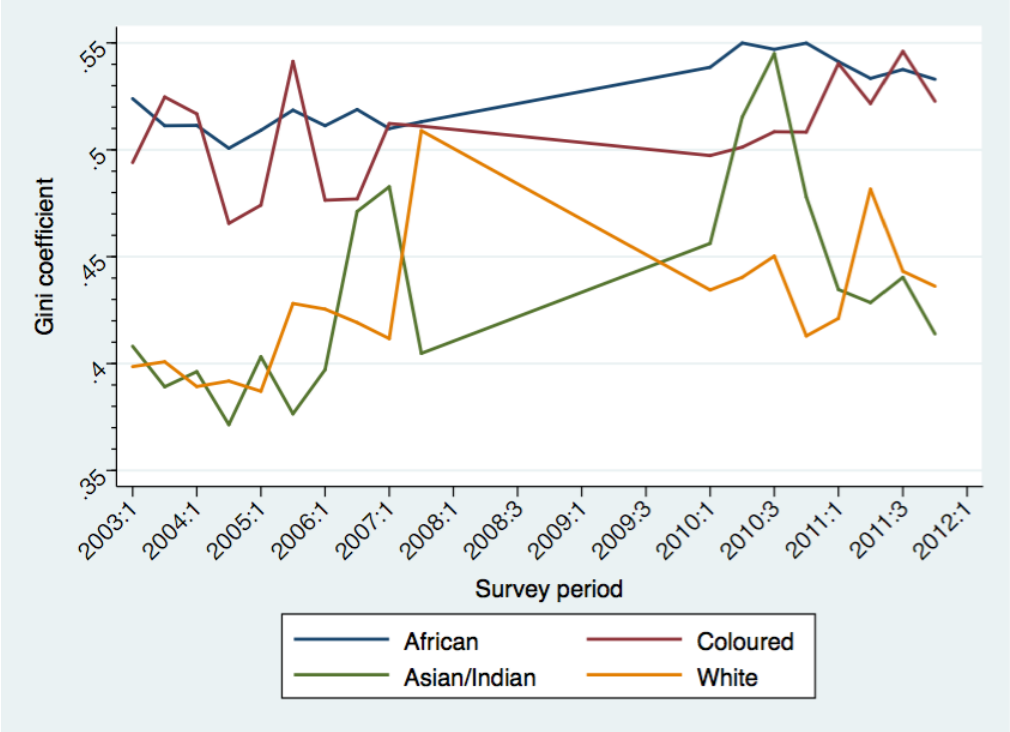
One commonly-used measure of inequality – the 90/10 ratio – stood at close to 15 at the end of the period, down from 17.3 at the start.[16] This should not, however, disguise the fact that the absolute difference between the 90th and the 10th percentiles rose by over R4 500 between 2003 and 2011. This ratio of 15 is high when compared to other developing countries. For example, in the mid 2000s the 90/10 earnings ratio for Brazil, another very unequal society, was approximately 7 (Arnal and Förster, 2010).

Finally, we consider the different levels of earnings inequality by racial group. Figure 31 plots the Gini coefficients for each of the four population groups in the country. Earnings inequality for African and Coloured workers was generally higher than inequality for the Asian/Indian and White groups. Although mean earnings for White workers were far higher than for African earners, the African-specific Gini coefficient was always higher than the White-specific coefficient. If we extend the x-axis leftward to the beginning of

[16] Another simple measure of wage dispersion, the 75/25 ratio, stood at 5.13 in 2011. StatsSA (2015a) reports that, more recently, the ratio between the top 5% and the bottom 5% grew from almost 30 in 2010 to almost 50 in 2014.

the post-apartheid period (not shown) we see that most of the growth in inequality took place between 1995 and 2000.

Figure 31 Gini coefficients by population group



Source: Own calculations from PALMS dataset. Observations weighted using the bracketweight variable. Outliers excluded.

These trends in earnings inequality reveal insights into a number of general facts. First, within-industry and within-race inequality are shown to be dominant. Second, inequality within agriculture, construction (both of which have low wages), services and mining has increased significantly. Third, earnings inequality within the African population group is very high, and wages for Africans are far below those of Whites, on average. These issues would need to be considered by any strategy focused on reducing inequality.

5. The contemporary labour market

There are a number of stylised facts that emerge from the trends in the South African labour market between 2003 and 2011. Most industries added substantial numbers of

jobs over the period, with agriculture and mining being notable exceptions. There were almost 2 million more Africans employed at the end of the period than at the beginning, while the trends for the other population groups were relatively flat. However, unemployment over the period also grew, and this is reflected in a decreasing labour absorption rate.[17] The financial crisis of 2008/2009 made an impact on the number of people employed, but the trend in mean earnings from 2008 to 2010 was upward. The number of hours worked per week tended downwards for almost all sectors, with domestic services experiencing the largest decrease of all, on average. A very high level of wage inequality persisted throughout the period, and the importance of within-sector inequality grew significantly, compared to the importance of between-sector inequality.

Having contextualised the movements in the labour market over a decade, we now turn our attention to the present. The data in this section come from the Labour Market Dynamics in South Africa dataset, which is the four quarters of the 2014 QLFS with earnings data included.

5.1 Composition

Table 5 presents the composition of the 13.1 million employees[18] in South Africa in 2014, broken down by different categories. Almost one quarter of employees, or just over 3 million workers, were employed in the services sector. This was followed by trade and manufacturing. 5% of employees were employed in agricultural activities, slightly down from the proportion employed in the sector in 2012. About one fifth of workers were employed in the public sector (government or government-owned businesses). Numbers and shares by population group, gender and province can also be seen in the table, and these do not display any great changes from the final year of the figures presented earlier in the study.

[17] The labour absorption rate is the percentage of the working age population who are employed. The labour absorption rate in South Africa fell sharply between 2008 and 2010 (see Figure 43 in the appendix).
[18] By employees we mean that the self-employed are excluded from the analysis.

Table 5 Composition of the labour market in 2014

Industry	Number	Percent
Agriculture	657 243	5.00
Mining	427 884	3.25
Manufacturing	1 565 689	11.91
Utilities	117 107	0.89
Construction	948 324	7.21
Trade	2 307 481	17.55
Transport	810 427	6.16
Finance	1 816 779	13.82
Services	3 261 925	24.81
Domestic services	1 235 722	9.40
Total		**100**
Private/Public		
Private	10 449 848	79.57
Public	2 683 658	20.43
Total		**100**
Race		
African	9 590 675	72.92
Coloured	1 525 419	11.60
Asian/Indian	413 510	3.14
White	1 622 909	12.34
Total		**100**
Gender		
Male	7 237 043	55.02
Female	5 915 470	44.98
Total		**100**
Province		
Western Cape	1 982 924	15.08
Eastern Cape	1 176 380	8.94
Northern Cape	284 072	2.16
Free State	645 557	4.91
KwaZulu-Natal	2 140 926	16.28
North West	812 182	6.18
Gauteng	4 193 324	31.87
Mpumalanga	957 618	7.28
Limpopo	959 530	7.30
		100
Geotype		
Urban formal	9 125 282	69.38
Urban informal	1 231 243	9.36
Tribal areas	2 149 120	16.34
Rural formal	646 868	4.92
Total	**13 152 513**	**100**

Source: Own calculations from LMDSA 2014 dataset.

5.2 Earnings

Before presenting findings based on the latest available earnings data, it is important to note how certain aspects of the data were dealt with. Any researcher studying earnings needs to make decisions about how to restrict the data, and these decisions will affect subsequent analysis. Table 6 shows how sensitive the mean and median of the distribution of earnings are to different assumptions that can be made about the data. This is important because some of these assumptions exert more influence on findings than others. The choice of cut-off for determining whether an observation is an outlier or not, for example, may influence the mean substantially (although the median is far less sensitive to this). Burger and Yu (2007) discuss how much leverage outliers in the upper tail of the distribution of earnings exert in driving overall trends, and it is clear that making a decision about outliers is an important step in constructing a clean distribution of wages with the 2014 LMDSA dataset.

The lowest mean and median come from a "naïve" approach of taking the data as they are without any adjustments. Note that even though we do not make any explicit decisions about which earners to include and which to exclude, if we accept this approach then we are implicitly asserting that the zero earners truly earn zero, and that the outliers truly earn implausibly high or low wages.[19] This approach returns a mean of R8 138 and a median of R3 193. The number of observations - 65 058 - is higher than in any of the other approaches because every possible earner is included. Excluding the 327 zero earners from the distribution raises the mean and the median to R8 173 and R3 224 respectively.

In order to maintain a defensible comparison between the LMDSA 2014 and the PALMS datasets, we follow Wittenberg (2014a) and flag outliers by regressing log wages on a range of controls including gender, education, race, age, age squared, and main occupation. Observations with a studentised residual with an absolute value greater than five are flagged as outliers, and are excluded from the earnings analysis. This

[19] Zero earners are those workers who are employed (in our case for at least 35 hours per week) but report an income of zero – it is implausible that there are employed workers who earn nothing. One example of a high outlier in the data is an individual who was coded as earning over R9 million a month. An example of a low outlier in the data is someone who reported working 48 hours a week in the formal sector, yet reported a monthly wage of R4.80.

method flagged 63 outliers out of the almost 65 000 observations with non-zero earnings. Rows 3 to 11 of Table 6 report means and medians with these outliers, as well as zero earners, excluded.[20] Removing the 63 outliers and 327 zero earners raises the mean slightly from R8 138 to R8 168, and the median is unchanged from what is was in row 2 of the table.

Although the Basic Conditions of Employment Act (Republic of South Africa, 1997) sets limits on the "maximum" number of hours in a working week before overtime pay takes effect,[21] there is no agreed upon distinction between part time and full time work. Rows 4 and 5 of the table explore how sensitive the mean and median of the earnings distribution are to whether we restrict the sample on the basis of hours worked. Limiting the earnings distribution to those workers who worked at least 35 hours in the last week (7 hours a day for 5 days a week) returns a mean of R8 669. Extending the cut-off to 40 hours raises this by R6. The median for both cut-offs is the same, and stands at R3 640. Given how little the choice between these two hourly cut-offs matters for the mean and median, we use the 35 hour cut-off as a definition of "full-time" work for the remainder of this paper because of its associated larger sample size.

We limit our analysis going forward to "full-time" work because a national minimum wage might be stipulated as a monthly amount and may be tied to a labour market indicator – for example, some percentage of mean wages. If this is to be the case, it would not make sense to tie a monthly national minimum wage, which by definition applies to full-time employees, to a mean wage that is calculated while including those who only work 4 or 5 hours a week, for example.

Another potentially interesting way of calculating wages for an equivalent of "full-time" work would be to calculate an average hourly wage for all workers (excluding outliers and zero-earners), which stands at of R46.45, and multiply this by 45 (the maximum work week before overtime takes effect) and then by 4.3 (the average number of weeks in a month). Row 6 of Table 6 shows that the mean, at R8 989, is higher than the mean in

[20] It is standard practice to remove the outliers and zero earners, and so we proceed with this approach from this point onwards.
[21] This limit is set at 45 hours per week, or nine hours per day for a five day week, or eight hours per day for more than a five day week.

row 5, though the median is lower, at R3 510.[22] From this point onwards we calculate means and medians for "full-time" workers using a 35-hour cutoff, unless otherwise stated.

Restricting the sample to reflect only the earnings of those in the formal sector[23] drops the sample size to under 45 000, and raises the mean and median to R9 809 and R4 368, respectively. Excluding workers from the two lowest paid sectors (agriculture and domestic work) returns a mean of R10 274, and a median of R4 680.

There are a number of South African studies which suggest that the QLFS earnings data are under-reported when benchmarked against other sources such as the QES, administrative data, and industry level data (Burger et al., forthcoming; Kreuser, 2015; Seekings, 2007; van der Berg et al., 2007; Wittenberg 2014a; Woolard, 2002). Applying a "correction" to the QLFS data is not something that is easily done, given that all of the earnings datasets differ by sampling frame, sectoral coverage and survey instrument. Applying a uniform adjustment to the entire distribution of earnings in the QLFS data is a simple way of scaling the data up to the QES, though it is almost certainly too simplistic because, for example, the extent of under-reporting may be related to the level of earnings. Applying a non-uniform adjustment to the QLFS data in order to reconcile with the QES is beyond the scope of this paper. Wittenberg (2014a) notes that the average QLFS wage for the mining sector is approximately 40% below mining wages in the QES. This proportion is reflected in a comparison between the earnings reported by teachers in household survey data, and the earnings recorded in administrative education data from the early 2000s (Seekings and Nattrass, citing personal communication with Van der Berg, 2015). We follow one of the attempts in Wittenberg (2014a) to "close the gap" between the wage figures in the QLFS and the QES, by inflating QLFS wage figures by 40%, while recognising the "doubt that the error could be of this magnitude". This is done so that an upper bound for the true mean and median of monthly earnings for full-time workers may be derived.

Row 11 of the table shows what mean and median earnings for all full-time workers (excluding zero earners and outliers) would be, if the true numbers were 40% higher

[22] The hourly wage for those working less than 35 hours a week is R47.16.
[23] This is for the sample of workers who work at least 35 hours a week.

than what is reported in the QLFS. This crude adjustment raises the mean to R12 136, which is almost R2 000 higher than the next highest level in the table, while the median of R5 097 is also the highest in the table. The appendix contains means and medians for more assumptions, and these are reported so that policy makers have the full range at their disposal.

Table 6 Mean and median under different assumptions

Assumptions	Mean	Median	Number[24]
1. Naïve	8 138	3 193	65 058
2. Zero earners removed	8 173	3 224	64 731
3. Outliers and zero earners removed	8 168	3 224	64 668
4. 35 hours plus	8 669	3 640	54 757
5. 40 hours plus	8 675	3 640	51 401
6. Hourly average *45*4.3	8 989	3 510	62 927
7. Formal only (full-time)	9 809	4 368	44 284
8. Formal ex. domestic (full-time)	9 965	4 507	43 115
9. Formal ex. agriculture (full-time)	10 102	4 680	41 739
10. Formal ex. agriculture and domestic (full-time)	10 274	4 680	40 570
11. Inflated by 40% for under-reporting (full-time)	12 136	5 097	54 757

Source: Own calculations from LMDSA 2014 dataset.

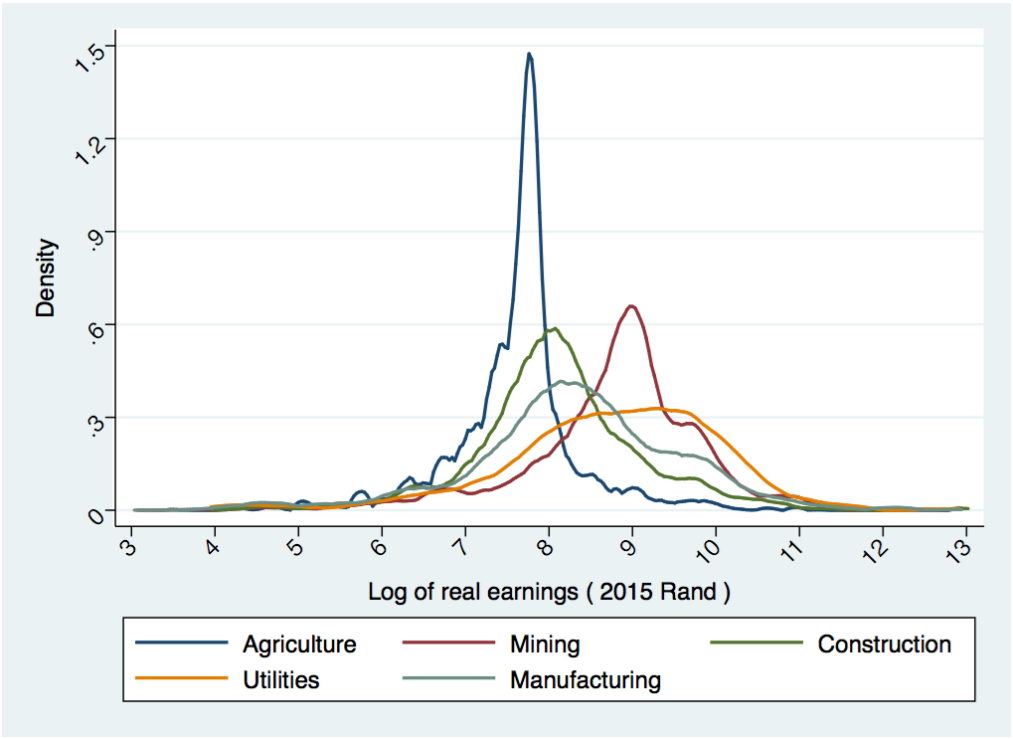
Note: Full-time workers are those who work at least 35 hours per week.

Kernel density distributions for each of the ten industries are shown in Figure 32 and Figure 33. Manufacturing and construction have distributions that look relatively similar, while the mining and utilities sectors are the furthest to the right, reflecting the higher average wage in those sectors. The distribution of earnings in the agricultural sector is far to the left of the other distributions. In the second figure, the domestic services distribution is also far to the left of the others, and the mode of earnings in the services sector is higher than the others.

In the next table we discuss these distributions in more detail by presenting the means, medians and different percentiles of these by different sectors. Recall that we are now using all "full-time" earners (those working at least 35 hours per week) excluding outliers and zero earners.

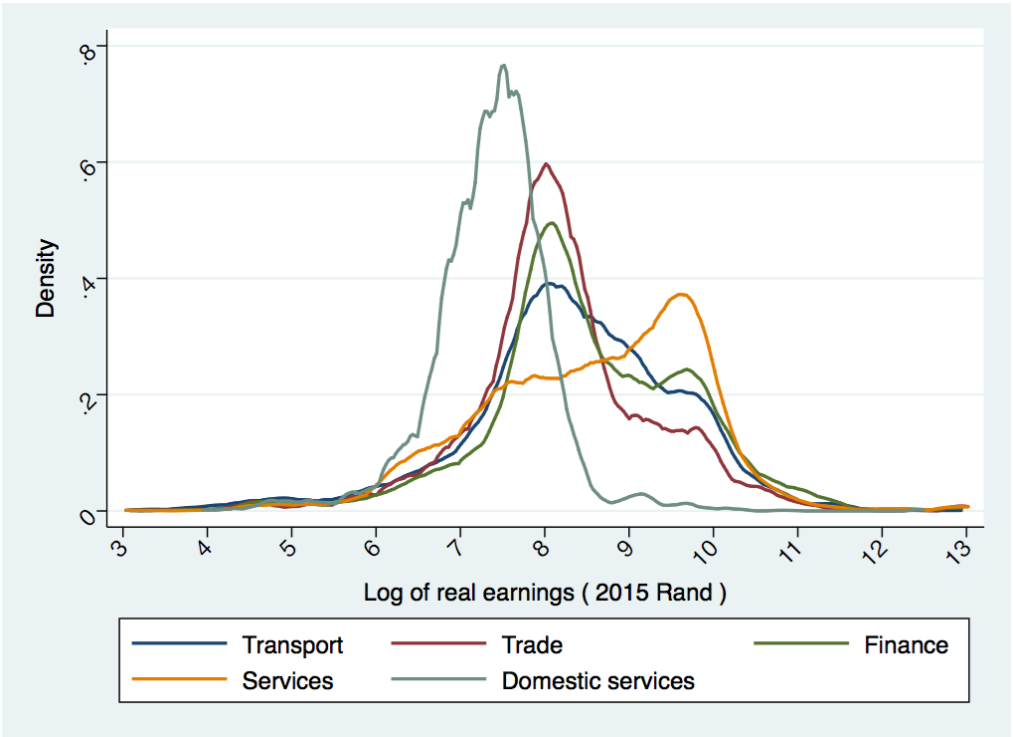
[24] "Number" refers to the number of observations in the LMDSA 2014 dataset used to calculate the means and medians under different assumptions.

Figure 32 Distributions by industry in 2014 (a)



Source: Own calculations from LMDSA 2014 dataset.

Figure 33 Distributions by industry in 2014 (b)



Source: Own calculations from LMDSA 2014 dataset.

The means of each industry range from a low of R2 210 per month in domestic services to highs of between R10 000 and R13 000 in finance, services and utilities. The very large mean to median ratios in many industries is testament to the high level of wage inequality, and reflects the high contribution of within-industry wage inequality to total inequality that was presented in Figure 29. Inequality between industries is also significant, as evidenced by the fact that the 90th percentile of wages in the agricultural sector is the same as the 25th percentile in mining, and is five times less than the 90th percentile in the finance sector. Medians range from R1 577 in domestic services to R7 281 in utilities. This compares to the national median of R3 640.

The mean of public sector wages was almost R5 000 higher than the mean in the private sector, and this difference was slightly lower at the median. Earnings by race show that the mean for African earners is R2 209 lower than the corresponding mean for Coloured workers, and R4 671 and R12 441 lower than the Asian/Indian and White means, respectively. This reflects the trends that we saw in Figure 16, where the unconditional gap in mean wages by population group remained very large and did not narrow over time.

Table 7 Summary statistics of earnings by different categories

Industry	**Mean**	**p10**	**p25**	**Median**	**p75**	**p90**
Agriculture	3 381	832	1 560	2 253	2 600	4 160
Mining	10 279	1 768	4 160	7 281	11 441	19 762
Manufacturing	9 053	901	2 184	4 160	8 338	18 930
Utilities	13 071	1 248	3 120	7 281	15 602	26 003
Construction	6 670	1 126	2 028	3 155	5 409	11 441
Trade	7 549	1 040	2 080	3 328	6 241	15 602
Transport	8 360	936	2 253	4 160	9 361	19 242
Finance	10 716	1 352	2 600	4 160	11 441	20 802
Services	11 435	936	2 080	6 241	14 562	20 802
Domestic services	2 210	728	1 040	1 577	2 288	3 120
Total	**8 669**	**988**	**2 080**	**3 640**	**9 014**	**18 722**
Private/Public						
Private	7 696	1 040	1 976	3 155	7 281	16 642
Public	12 582	926	2 600	7 385	15 602	22 102

Race						
African	6 761	936	1 803	3 120	7 073	15 602
Coloured	8 970	728	2 141	3 536	7 801	16 642
Asian/Indian	11 432	1 421	2 912	6 241	15 602	21 842
White	19 209	1 577	4 160	11 441	20 802	36 404
Gender						
Male	9 429	1 040	2 229	4 056	9 361	19 762
Female	7 651	884	1 768	3 120	8 321	16 642
Province						
Western Cape	12 049	728	2 253	3 640	8 841	18 306
Eastern Cape	6 727	728	1 560	2 912	6 761	15 602
Northern Cape	6 711	1 248	2 028	2 600	6 033	14 874
Free State	6 698	832	1 664	3 120	7 801	16 642
KwaZulu-Natal	5 376	884	1 577	2 912	6 241	13 521
North West	6 649	1 248	2 080	3 605	8 321	15 602
Gauteng	10 711	1 248	2 600	4 680	12 620	21 842
Mpumalanga	7 142	1 144	2 080	3 640	8 321	16 642
Limpopo	5 391	832	1 404	2 496	6 241	14 125
Geotype						
Urban formal	10 441	1 040	2 288	4 507	11 441	20 802
Urban informal	4 811	1 040	1 872	3 016	4 889	9 014
Tribal areas	4 469	728	1 248	2 288	4 699	10 401
Rural formal	4 269	1 144	1 768	2 366	3 380	8 113

Source: Own calculations from LMDSA 2014 dataset.

5.3 Inequality

Table 8 contrasts the share of total earners in each industry against the share of total wages earned by all workers in that industry. It also presents Gini coefficients for each of the ten industries in the LMDSA dataset. The share of agricultural workers in the labour market is 5.76%, while their share of total wages is far less, at 2.25%. The compositional and wage shares for those employed in domestic services are 6.73% and 1.72%, respectively. The wage share of workers in the services and finance sectors outstripped the compositional share, and these two were among the most unequal sectors. The two sectors with the highest levels of inequality were manufacturing and finance, with Gini coefficients of 0.625 and 0.622, respectively. The industries with the lowest levels of earnings inequality were domestic services (0.412), mining (0.472) and agriculture (0.506). The first and third of these also reported by far the lowest mean earnings, as presented in an earlier table.

Table 8 Inequality and wage share by industry

Industry	Gini coefficient	Share of earners	Wage share
Agriculture	0.506	5.76%	2.25%
Mining	0.472	3.12%	3.70%
Manufacturing	0.625	13.02%	13.60%
Utilities	0.582	0.91%	1.37%
Construction	0.608	7.08%	5.45%
Trade	0.623	18.24%	15.88%
Transport	0.580	6.48%	6.25%
Finance	0.622	14.62%	18.07%
Services	0.599	24.05%	31.72%
Domestic services	0.412	6.73%	1.72%

Source: Own calculations from LMDSA 2014 dataset.

6. Low-wage workers or the "working poor"

Section 3 of this study provided some context for the importance of wages in overall household welfare and income inequality in South Africa. We now turn to the question of how to define low-wage workers, for whom a national minimum wage would be most pertinent.

There is no agreed-upon method for defining which workers constitute "low-wage" workers or the "working poor". Furthermore, the two notions are not synonymous. However, given the importance of labour market income in the dynamics of poverty and inequality in South Africa, we think it is useful to conceptualise low-wage work in relation to a definition of household poverty, hence our focus on the "working-poor".

In some international literature, and in usage by statistical agencies in the EU, the term "working poor" is used to refer to workers who live in households in which income is less than 60% of the national median (Peña-Casas and Latta, 2004). Given how low the median is relative to the mean in South Africa (both in absolute terms and compared to other countries), we avoid defining "working poor" in relative terms and choose instead to focus on workers who live in households in which monthly household income per capita falls below the poverty line. This is the approach taken by the US Bureau of Labor Statistics, which considers wage earners living in households that fall below the poverty

line as "working poor" (US Bureau of Labor Statistics, 2012).[25] In adopting this approach we need to be clear about a number of moving parts in the construction of a "working-poor" line.

First, there are many households in which a small number of earners support a large number of dependents. These dependents may be co-resident with the wage earner, or may live elsewhere but receive regular remittance income from the wage earner. Therefore, a worker may be paid a wage that is above the mean or median, for example, but the income may be divided among enough people so that the household falls below a reasonable poverty line. A sensible definition of "working poor" may therefore want to embed the fact that wage earners in poor households face higher dependency ratios than wage earners in non-poor households.

Second, the definition of poverty itself is a potentially contentious issue. StatsSA (2015) proposes an upper poverty line of R960 per capita per month in 2015 prices.[26] This compares with a lower poverty line, also in 2015 prices, of R741 that has been used in a number of publications on poverty in the country (Özler, 2007; Leibbrandt et al., 2010; and Leibbrandt et al., 2012). The equivalent upper bound poverty line used in much of the academic research to date stands at R1 365 per capita per month in 2015 rands.[27] In this study we use the most recent cost-of-basic-needs poverty line available for the country, the upper line of which is R1 319 per capita per month in April 2015 rands (Budlender et al., 2015).[28] The authors follow a long-established method of deriving this poverty line by calculating a nutrition poverty line that is the minimum cost of a daily intake of 2 100 kilocalories. To this they add the average non-food expenditure of

[25] The US Bureau of Labor Statistics restricts this definition to workers who spent at least 27 weeks of the year either working or looking for work.
[26] In the StatsSA (2015b) document the amount given was R779 in 2011 rands for a rebased upper poverty line. We convert it to 2015 here for the sake of consistency.
[27] The three poverty lines (food, lower and upper) are usually defined in the following way. The food poverty line is derived by working out the cost of meeting a basic daily energy requirement of approximately 2 100 kilocalories. The lower poverty line is the food poverty line plus the average amount spent on non-food items (essentials) by households whose total expenditure equals the food poverty line. The upper poverty line is the food poverty line plus the average amount spent on non-food items by households whose food expenditure equals the poverty line.
[28] The line presented in the Budlender et al. paper is R1 307 in March 2015 rands. In order to convert this to its real April 2015 equivalent we follow the methodology suggested by the authors and adjust the food and non-food components of the line separately for food and non-food inflation respectively.

households with food expenditure at this "nutrition" poverty line, in order to reach their figure of R 1 319 per capita per month.

It is worth reiterating that the poverty line chosen in this paper represents little more than a subsistence level of living and is not a normative level of what is required for a "decent" standard of living. The line also enforces a strict cut-off – a household that has a per capita income of R1 over the poverty line is considered non-poor. There may be very little difference between this household and a poor household in which per capita income is R1 below the poverty line. These considerations are discussed in another paper in the National Minimum Wage Research Working Paper Series (Ngidi, forthcoming).

Third, while the proportion of workers who live in households that are below the poverty line is important, it is also desirable to take into account how far below the poverty line they are. Sensitivity to the depth of poverty will then also be a feature of our definition of low-wage, or "working-poor", earners.

The question at the centre of our definition of a working-poor line is the following: "What wage level would it take, on average, to bring a household living below the poverty line which has at least one worker, up to the poverty line?"

In calculating our "working-poor" threshold we first identify wage earners who work at least 35 hours a week, and live in poor households, taking household size and a cost-of-basic-needs poverty line into account. We then calculate the household poverty gap[29] and average poverty gap per earner in each "working-poor" household. This provides us with the depth of poverty in each of these households. Next, we compute the mean wages of earners in these households. This mean is then added to the average poverty gap per earner for each household – the sum is sufficient to bring household income per capita in each of these households up to the poverty line. In order to calculate this

[29] The household poverty gap, in this case, is the total amount of money required to lift a poor household up to the poverty line. For example, consider a household with two people and total household income of R1 500, or household income per capita of R750. If the poverty line is R1 000 per capita (so R2 000 for this household of two), then the household poverty gap is R500 (R2 000 minus R1 500, or the individual poverty gaps of R250 multiplied by household size).

threshold we use the NIDS wave 3 (2012) data, and arrive at a working-poor line of R4 125 per month in April 2015 prices.[30]

Table 9 shows what the working-poor earnings lines are for different poverty rates. The lowest line of R3 042 is associated with the Stats SA upper poverty line of R960. The highest is R4 189, and is based on the Özler (2007) line. The working-poor line that we use for the remainder of this study is the R4 125 discussed above. This is based on the Budlender et al. (2015) poverty line that we feel is the most up-to-date poverty line available in South Africa.

Table 9 Working poor lines for different poverty lines

Poverty line	Poverty line (2015)	Working poor line
Budlender et al.	1 319	4 125
Özler upper	1 365	4 189
StatsSA upper	960	3 042

Source: Own calculations from NIDS Wave 3 dataset.

There are, of course, some reservations that should be held in mind when thinking about this line. It is calculated in a static sense – the general equilibrium effects of raising low wages by this amount are not considered in this paper, though they are an important part of other research in this project, and have been the focus of some other studies (for example see Pauw and Leibbrandt, 2012). The *ceteris paribus* assumption here is important, because we do not consider how changing the amount of wage income a household would potentially affect behavior and household welfare. We also do not consider the relationship between additional wage income and household eligibility for government grants such as the state old age pension and the child support grant, which are very important at the bottom of the income distribution, as shown in Figure 1.

[30] Combining individual-level measures (wages) and household-level measures (poverty) into a single index can lead to some perverse outcomes because we focus only on workers and wages in poor households. For example, if a large, poor household had a single worker in period one, but that worker moved out and lived alone in period two, then our overall measure of welfare would increase because the first household would be excluded from the analysis, while the wage earner would now be in a non-poor household of size one. This could potentially undermine the approach taken if we are trying to construct a measure of deprivation that is consistent with generally accepted transfer principles, but it is nevertheless a useful snapshot summary of the average shortfall facing workers and those living with workers in poor households in a particular point in time.

We are also not saying that headcount poverty would be reduced by x% if a fully-enforced national minimum wage were set at level y. The poverty impact depends on the wage elasticity of labour demand, the effects of a wage increase on household formation and dissolution, the within-house sharing rules, and the impact of increased domestic demand arising from raised incomes. We remain agnostic in this paper as to the overall long-run impact of a national minimum wage on employment levels, and refer the reader to other research in this project that deals exclusively with this question. The working-poor line of R4 125 is a way of combining information about individual earnings, household size and poverty into a single number in order to estimate the wage needed for an average poor household with at least one earner up to the poverty line. It does not necessarily serve as a recommendation vis-à-vis the level of the national minimum wage.

Table 10 presents the composition of earners that fall below the "working-poor" line of R4 125 per month. Of all earners below this line, over 20% are in the trade sector and 12% are in domestic services. These are over-representations relative to the sectoral shares of total employment, as outlined in Table 8. 88% of workers earning below the line are in the private sector and 46% are women, a figure that is close to their 45% share of overall wage earners. Gauteng, KwaZulu-Natal and the Western Cape have the highest shares of low-wage workers, at 27%, 17.5% and 16%, respectively.

Table 10 Composition of poor workers across different categories

Industry	Percent	Number
Agriculture	9.59	522 500
Mining	1.33	72 459
Manufacturing	11.93	649 746
Utilities	0.53	28 719
Construction	8.32	453 004
Trade	20.43	1 113 021
Transport	5.73	312 192
Finance	12.87	701 174
Services	17.36	945 417
Domestic services	11.91	648 657
Total	**100**	

Private/Public	Percent	Number
Private	87.80	4 778 188
Public	12.20	664 162
Total	**100**	

Race	Percent	Number
African	80.51	4 386 905
Coloured	12.56	684 292
Asian/Indian	1.84	100 007
White	5.09	277 059
Total	**100**	

Gender	Percent	Number
Male	53.82	2 932 174
Female	46.18	2 516 089
Total	**100**	

Province	Percent	Number
Western Cape	16.05	874 306
Eastern Cape	10.13	552 179
Northern Cape	1.87	101 921
Free State	5.37	292 744
KwaZulu-Natal	17.53	955 028
North West	6.07	330 637
Gauteng	27.2	1 482 181
Mpumalanga	7.53	410 368
Limpopo	8.24	448 899
Total	**100**	

Geotype	Percent	Number
Urban formal	59.84	3 260 019
Urban informal	12.06	657 156
Tribal areas	19.89	1 083 533
Rural formal	8.21	447 555
Total	**100**	**5 448 263**

Source: Own calculations from LMDSA 2014 dataset.

Another way of presenting the composition of low-wage workers is to consider the proportion in each category that earn above or below the low-wage line, and this is done in Table 11.[31] 95% of those employed in domestic services earn less than R4 125 per month, while the corresponding figure for those employed in agriculture is 89.6%.

[31] Table 10 looked at where low-wage workers are, while this table presents the share of low-wage workers for each sector and demographic group.

About half of those employed in manufacturing and transport earn below the low-wage line. The industries with the lowest proportion of low-wage workers are mining and utilities, with 23% and 31%, respectively.

Around 60% of African workers and 56% of Coloured workers earn below R4 125, while the same is true for 37% of Asian/Indian workers and 22% of White workers. 50.6% of men are considered to be low-wage workers, according to our definition, while the proportion of women is about 7.5% higher than this. Viewing these statistics in light of the previous decomposition we see that while only 46% of low-wage workers are women, 58% of women fall below the "low-wage" line. Similarly, while 22% of white workers fall below the "low-wage" line, they make up only 5% of low-wage workers – less than half their share of overall earners. This confirms that the relative distribution of low-wage workers is in line with the skewed nature of wage earnings and poverty in South Africa.

Table 11 Proportions above and below working-poor line by different categories

Industry	**Above line**	**Below line**	
Agriculture	10.40	89.60	100
Mining	77.06	22.94	100
Manufacturing	50.75	49.25	100
Utilities	68.87	31.13	100
Construction	36.86	63.14	100
Trade	39.77	60.23	100
Transport	52.46	47.54	100
Finance	52.65	47.35	100
Services	61.19	38.81	100
Domestic services	4.82	95.18	100
Private/Public	**Above line**	**Below line**	
Private	41.19	58.81	100
Public	66.79	33.21	100
Race	**Above line**	**Below line**	
African	40.77	59.23	100
Coloured	44.01	55.99	100
Asian/Indian	63.03	36.97	100
White	77.56	22.44	100

Gender	Above line	Below line	
Male	49.43	50.57	100
Female	41.96	58.04	100
Province	**Above line**	**Below line**	
Western Cape	46.01	53.99	100
Eastern Cape	38.02	61.98	100
Northern Cape	34.14	65.86	100
Free State	42.16	57.84	100
KwaZulu-Natal	35.62	64.38	100
North West	45.57	54.43	100
Gauteng	56.95	43.05	100
Mpumalanga	45.48	54.52	100
Limpopo	33.68	66.32	100
Geotype	**Above line**	**Below line**	
Urban formal	54.02	45.98	100
Urban informal	32.02	67.98	100
Tribal areas	28.76	71.24	100
Rural formal	19.63	80.37	100

Source: Own calculations from LMDSA 2014 dataset.

The "working-poor" line we offer here does not serve as a recommendation, but it is useful to consider that R4 125 is the average monthly wage that would bring poor workers and their dependents up to the poverty line.

7. Where would potential national minimum wages bind?

The final figures in this study present a graphical description of where a possible national minimum wage would bind.[32] Before decomposing this by sector we depict, in Figure 34, the overall earnings distribution along with the proportion of workers covered at each wage using a cumulative distribution function of earnings. The vertical axis represents the cumulative proportion of wage earners that earn below a given wage, which is shown on the horizontal axis. The figure shows that about one third of workers would be covered by a minimum wage of R2 500. 40% of workers earn below

[32] By "bind" we mean that the enforcement of a national minimum wage at a particular level would raise the current wages facing workers. Of course, a given national minimum wage would only bind for workers who earn below that given line.

R3 000, and that the median is approximately R3 500. A wage of R5 000 covers close to 60% of earners, 70% were below R7 000, while almost 80% earn less than R10 000, which is the upper limit in the figure.[33] We remind the reader again that we are using our definition of "full-time" workers.

Figure 34 Cumulative distribution function of earnings

Source: Own calculations from LMDSA 2014 dataset.

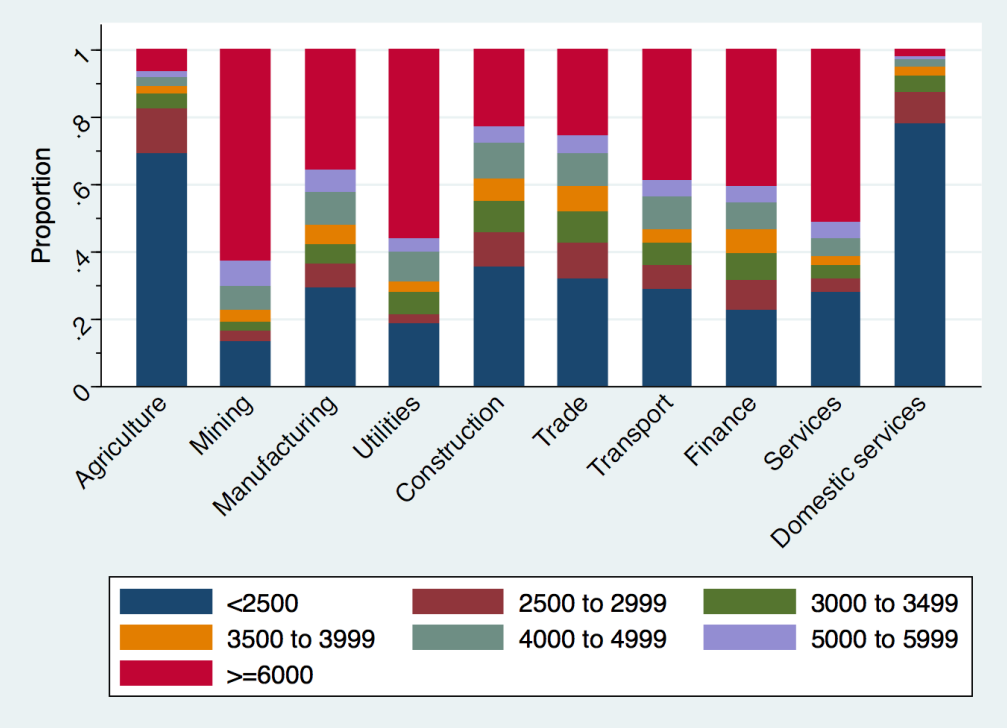
We now decompose this for various subsections of the labour force, beginning with a sectoral decomposition, dividing the wage distribution into a number of groups of earners: those earning less than R2 500, R2 500 to R2 999, R3 000 to R3 499, R3500 to R3 999, R4 000 to R4 999, R5 000 to R5 999, and R6 000 and above. The size of each differently coloured block in the figures that follow represents the proportion of workers in each subsection in each earnings category.[34]

[33] A cumulative distribution function that adjusts for possible under-reporting of earnings is provided in the Appendix as Figure 44. This serves as a lower bound for the potential extent of coverage, as the figure above serves as the upper bound.

[34] Table versions listing the percentages of all figures are available in the Appendix of this paper, or from the author.

In Figure 35 we see that a national minimum wage of R3 000, for example, would cover 82% of workers in the agriculture sector, and 87% of those working in domestic services. Increasing this to R5 000 would raise those proportions to 92% and 97%, respectively. Indeed, these are the only sectors in which more than half of workers earn below R3 000. Compare this to the mining sector in which a minimum wage of R5 000 per month would only bind for 35% of workers. Wages in the construction and trade sectors look very similar to each other, with about 60% of workers earning below R4 000 in both. 46% of workers in the financial sector earn more than R5 000 per month, and the corresponding proportion for those employed in construction is 28%. These percentages do not indicate the extent of depth to which workers are below each line. For example, while the percentages impacted at various levels in agriculture and domestic services are similar, the extent to which they impact will vary, as 50% of workers in agriculture earn below R2 253, compared to 50% earning below R1 577 in domestic services.

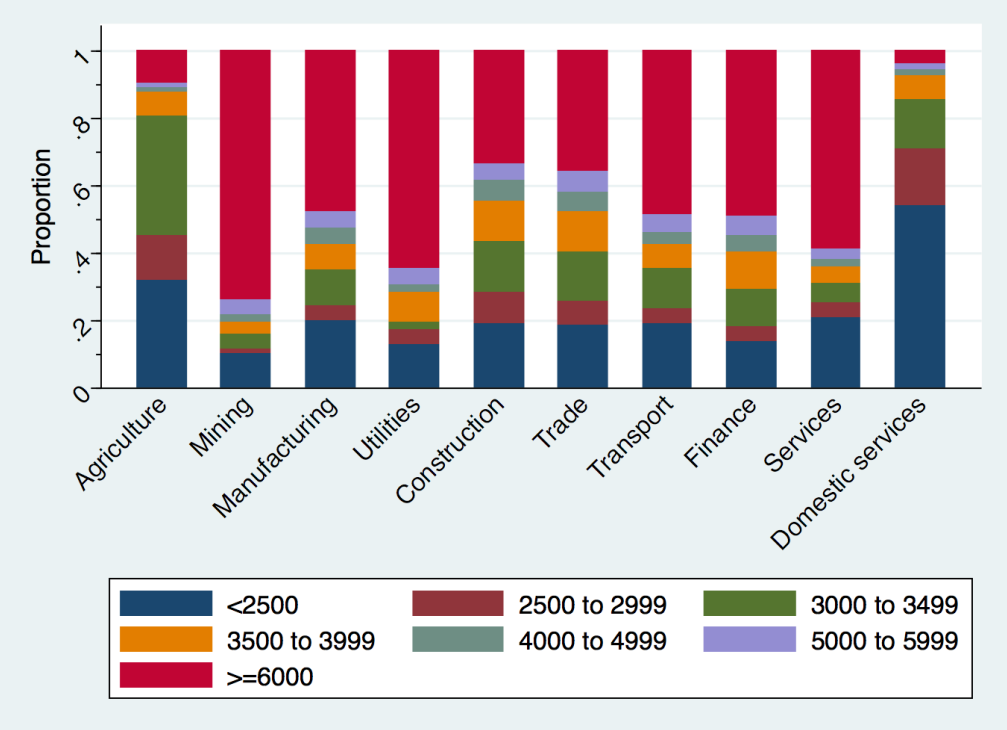
Figure 35 Exploring where a minimum wage would bind, by sector



Source: Own calculations from LMDSA 2014 dataset.

Figure 36 shows the same disaggregation but adjusted for 40% under-reporting (as discussed above). Presenting the disaggregation in this way allows us to create plausible bounds for the number and proportion of workers who would be covered by a given national minimum wage. The upper coverage bound is given in the previous figure, while the lower coverage bound appears in the next figure. As can be expected the percentage of earners affected by each potential minimum wage level is significantly reduced. Figure 45 and Figure 46 in the appendix provide a similar breakdown across earnings groups for more finely disaggregated sectors for the economy and manufacturing, respectively.

Figure 36 Exploring where a national minimum wage would bind, by sector, adjusting for under-reporting



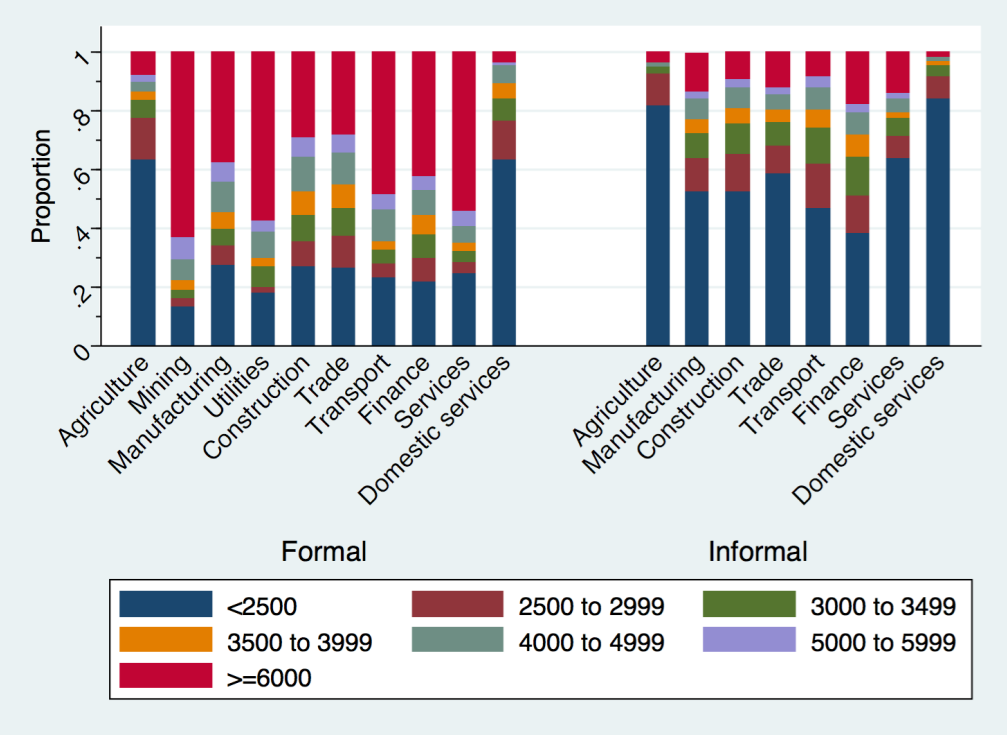
Note: The under-reporting adjustment assumes the reported earnings need to be inflated by 40% to reflect true earnings. Source: Own calculations from LMDSA 2014 dataset.

Clearly then, any reasonable national minimum wage would affect each of the sectors in different ways. Those most sensitive to the introduction of a wage floor are agriculture and domestic service, while mining, utilities and to a lesser extent services, would not see as high a percentage of workers being affected by the introduction of a national minimum wage of less than R5 000. These figures would, of course, be lower if wage earnings were indeed under-reported in the dataset used (as discussed above). Figures

accounting for different possible rates of under-reporting are given in the appendix and are available from the author.

Figure 37 splits the labour market into the formal and informal sector, and then breaks down industries as before. The formal sector bars look very similar to the previous figure, and this is not surprising given that over 80% of workers in our restricted sample are employed in the formal sector. Mining and utilities are excluded from the informal sector side of the figure because there are almost no informal workers in these two industries. Lower wages in the informal sector are shown by the fact that the more than half of workers earn less than R2 500 in all the industries shown except for finance. This is very different to the formal sector, in which only agriculture and domestic services report more than 50% of workers earning under R3 000 per month.

Figure 37 Exploring where a minimum wage would bind, by formal/informal

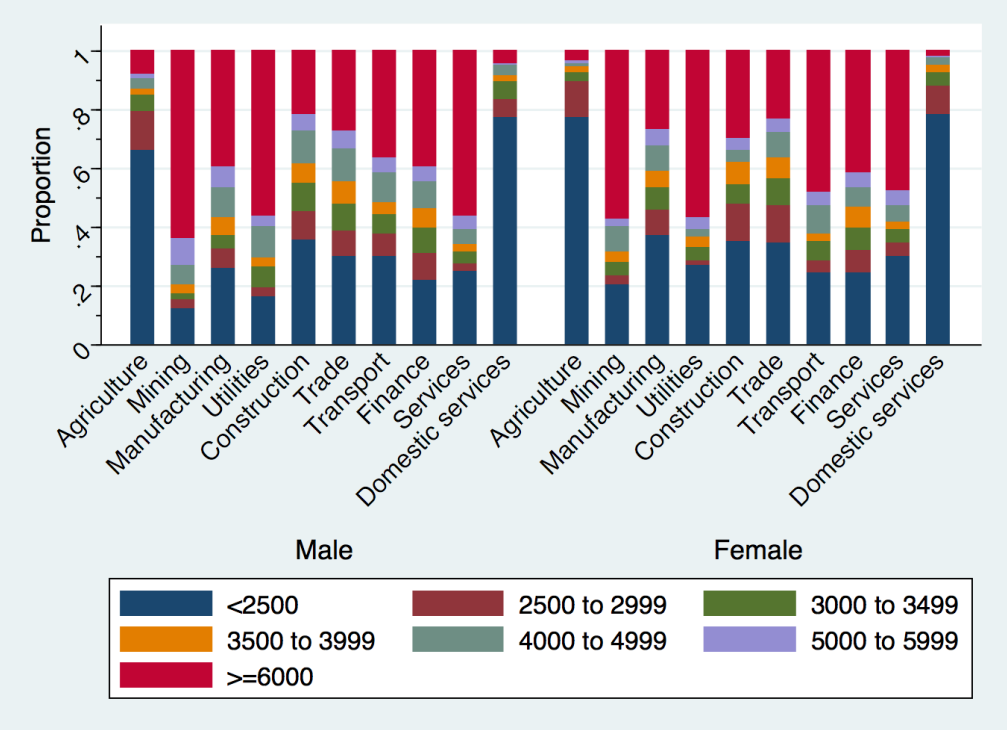


Source: Own calculations from LMDSA 2014 dataset.

Splitting sectoral wages into male and female shows that almost any minimum wage between R2 500 and R6 000 would bind more for women than it would for men. For example, in manufacturing 45% of men earn below R4 000 per month, while the

corresponding proportion for women is 59%. A minimum wage of R5 000 would bind for at least 90% of men and women in agriculture and manufacturing. The corresponding proportions for the services industry, for example, would be 39% and 47% for men and women, respectively.

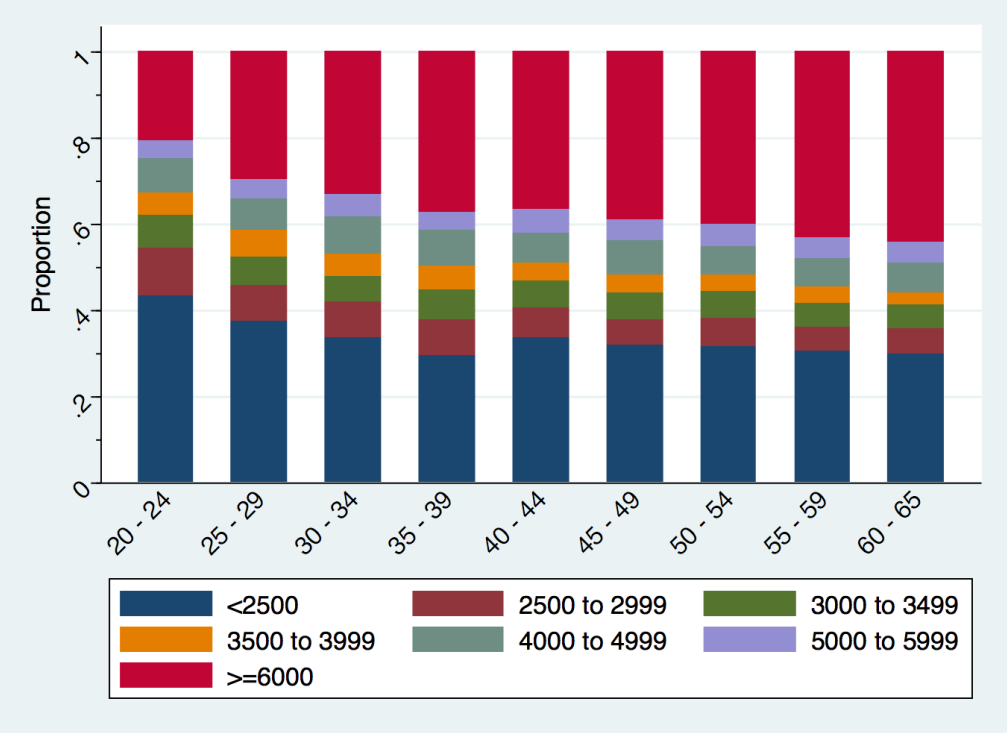
Figure 38 Exploring where a minimum wage would bind, by sector and gender



Source: Own calculations from LMDSA 2014 dataset.

We present the coverage of different minimum wages in Figure 39, below. Mean and median earnings rise across the age profile in this data, with the 60 to 64 year old category reporting the highest figures on both counts. 80% of 20-24 year olds would be covered by a minimum wage of R6 000. This proportion falls to about 60% for 35 to 39 year olds, and again to 55% for the oldest age group. The proportion earning between R3 000 and R5 999 per month is relatively stable across the age groups, with differences between groups mainly being driven by changing shares in the lowest and highest wage categories.

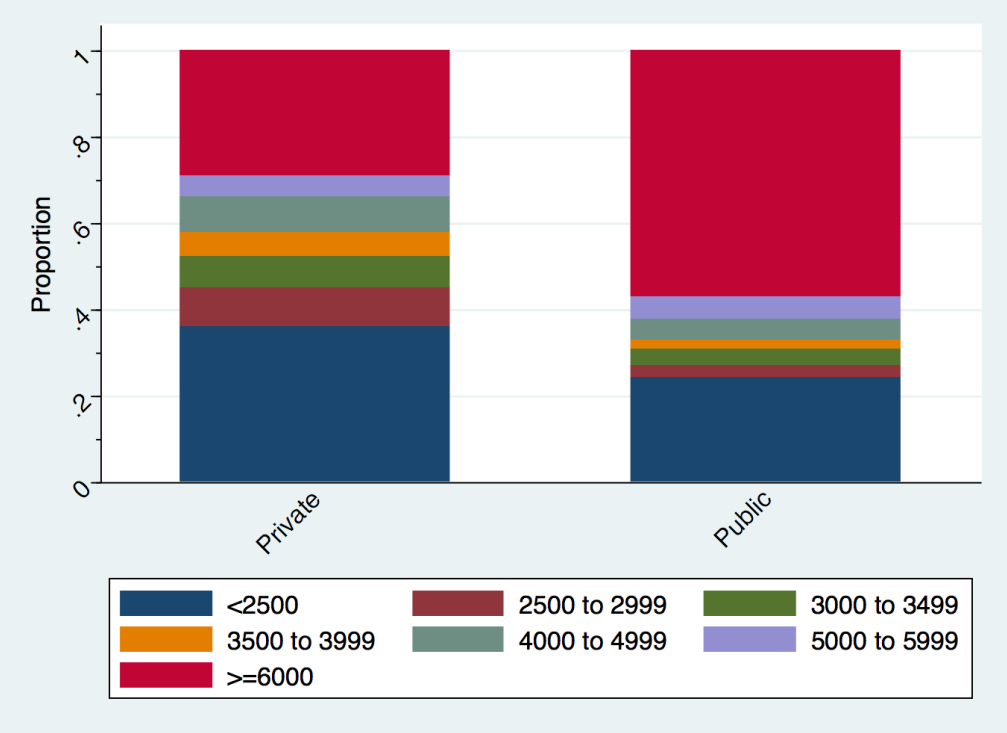
Figure 39 Exploring where a minimum wage would bind by age groups



Source: Own calculations from LMDSA 2014 dataset.

In the figure below, we break down earnings groups by whether wage earners were employed in the private or public sectors. Two-thirds of workers in the private sector earn less than R5 000 per month. The corresponding figure for the public sector is 38%. The highest earnings category (R6 000 and above) covers 29% of private sector workers and 57% of public sector workers.

Figure 40 Exploring where a national minimum wage would bind by private/public employment

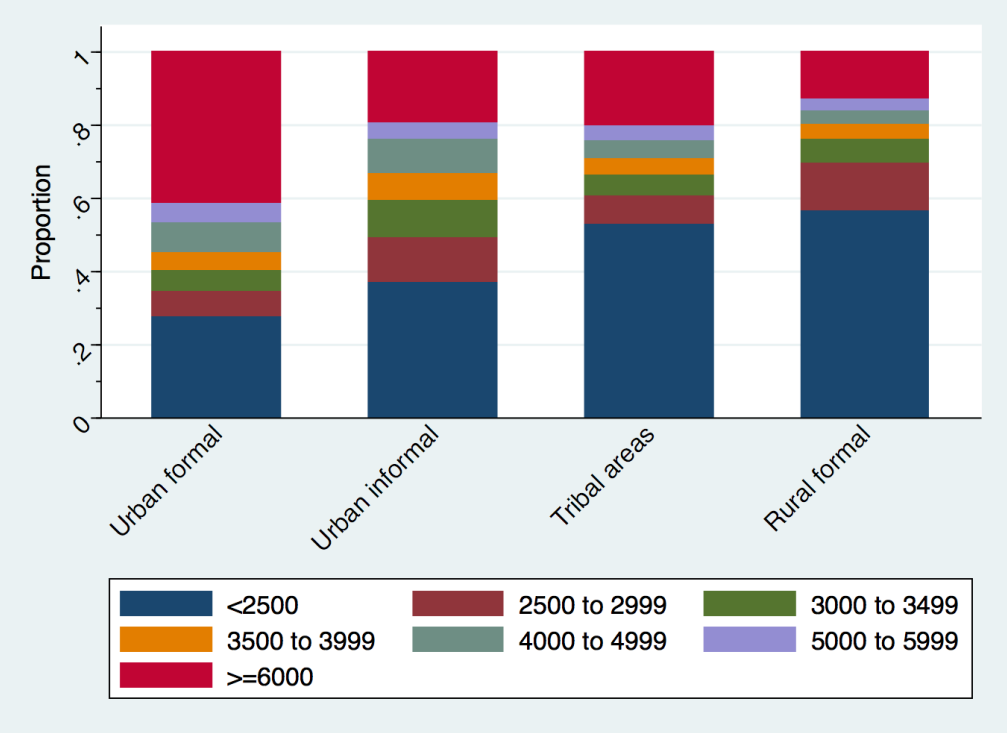


Source: Own calculations from LMDSA 2014 dataset.

The final two figures consider where possible minimum wages would bind along the lines of geotype and province. Table 7 shows that of the four geotypes,[35] wages are highest in formal urban areas. In Figure 41 we see that 34% of workers earn less than R3 000 in urban formal areas, 49% in urban informal areas, 61% in tribal authority areas, and 70% in rural formal areas. A wage of R5 000 would bind for 57% of urban formal workers, and 79% of workers in tribal authority areas. Finally, Figure 42 shows that the Northern Cape and Limpopo have the highest proportion of workers earning under R3 000 a month. They are followed by the Eastern Cape and KwaZulu-Natal. Most provinces have similar proportions of earners earning between R3 000 and R6 000 per month.

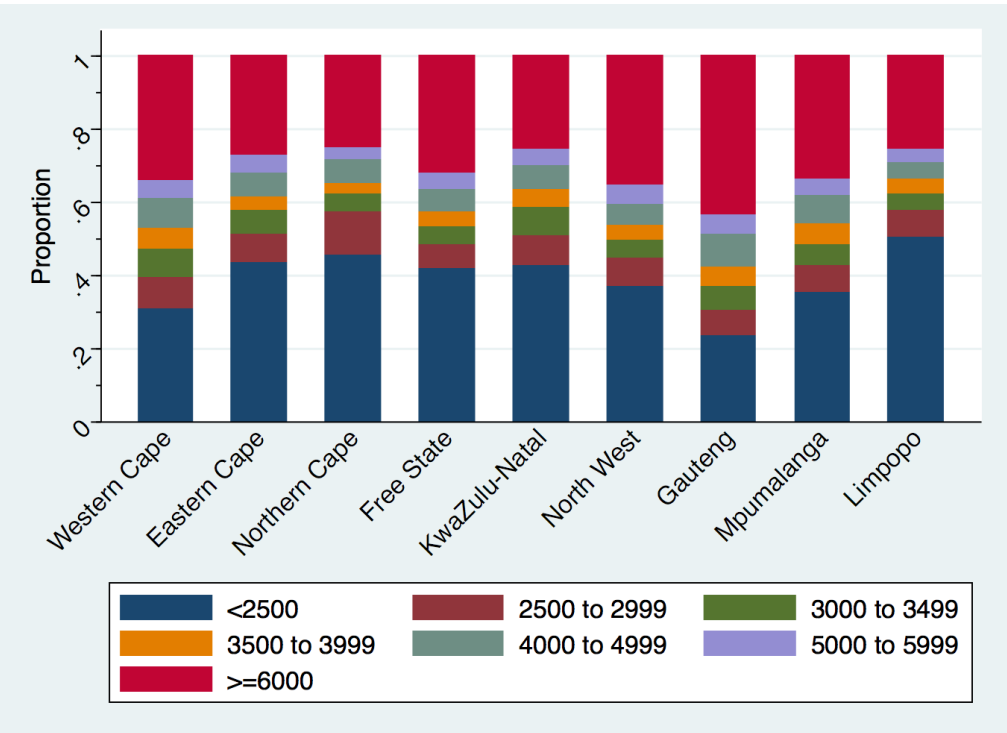
[35] These geotypes are reported with the labels provided by StatsSA in the LMDSA 2014 dataset.

Figure 41 Exploring where a minimum wage would bind, by geotype



Source: Own calculations from LMDSA 2014 dataset.

Figure 42 Exploring where a minimum wage would bind, by province



Source: Own calculations from LMDSA 2014 dataset.

8. Conclusion

The main aim of this paper was to present a detailed account of the labour market that would provide a context to discussions about: the relationship between a potential minimum wage and trends in wages, poverty and inequality; the definition and scope of low-paid work; and the potential impact of a national minimum wage, set at various levels, on different workers, sectors and groups. The state of the contemporary South African labour market was contextualised by providing an overview of trends in the composition of workers, their earnings, and hours worked. The relationship between wages, poverty and inequality was then touched upon, before considering what a reasonable definition of low-wage work would encompass.

The study showed that there were clear patterns in the changing composition of the labour market over the 2003 to 2012 period. Job growth was curtailed severely by the financial crisis of 2008/2009, and this was felt particularly strongly in the private sector, and by African workers. There were gains in real earnings over the period, with some industries showing a significant rightward distributional shift between 2007 and 2011; this is particularly true for mining. There was an overall downward trend in the average number of hours worked per week, and this was true for almost all groups that were analysed.

Earnings inequality is very high in the labour market, and this is significant as it feeds directly into inequality at the household income level. The importance of within sector earnings inequality in driving overall earnings inequality increased relative to between sector inequality, from about 60% to about 85%.

A high proportion of wage earners in the country live in households that fall below the poverty line. We use a recently calculated poverty line that takes the costs-of-basic-needs of South Africans into account in order to link individual wages to household poverty. We derive a threshold definition for the "working poor" of R4 125 in current 2015 prices.

Finally, we looked at where a number of possible national minimum wages would bind for different sectors, and show that agriculture and domestic services would be the most affected, even for relatively low potential minimum wages.

These descriptive statistics and findings feed into a larger body of research that models, among other things, how a given national minimum wage would affect aggregate labour demand in the economy. Given how important the labour market is in driving poverty and inequality dynamics in South Africa, understanding its composition and its wage structure is crucial to the progressing national minimum wage debate in the country.

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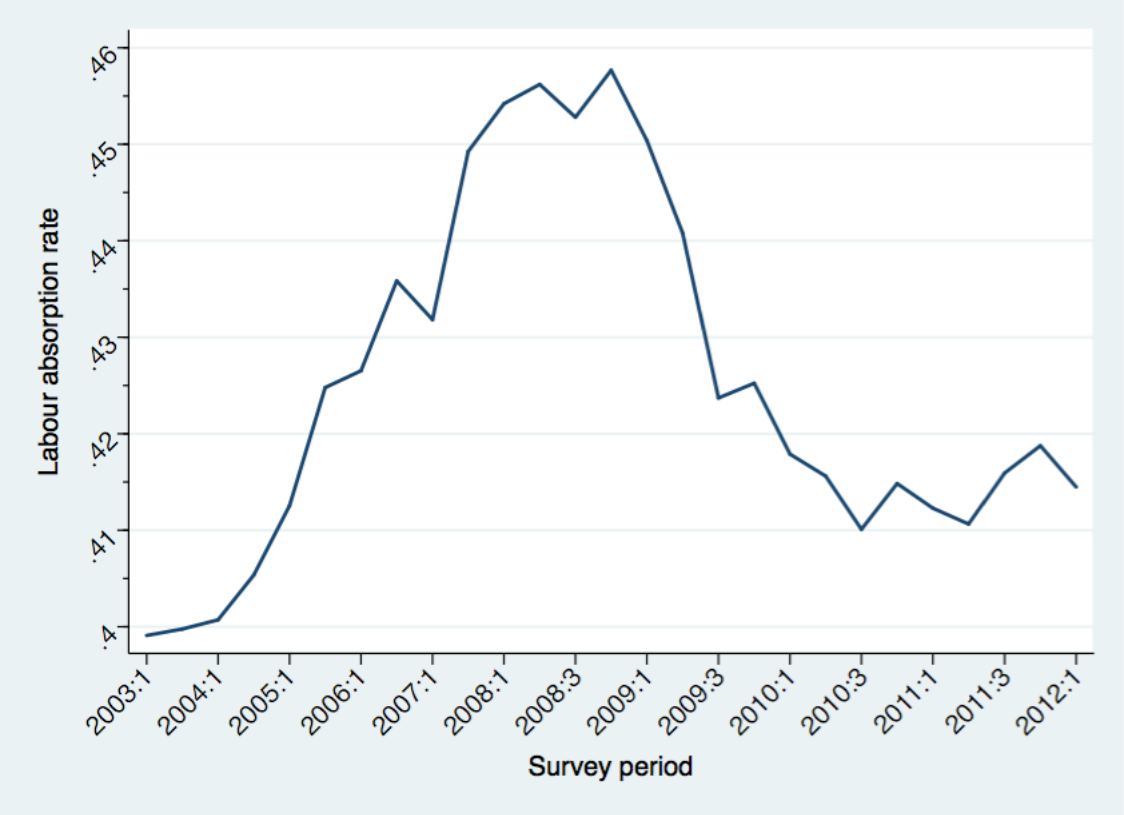
Appendix

Figure 43 Trends in the labour absorption rate



Source: Own calculations from PALMS dataset.

Table 12 Mean and median for different groups

	Earnings as they stand							
	All workers		35 hours +		Hourly average		Hourly avg. *45*4.3	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
All	8168	3224	8669	3640	46	18	8989	3510
Formal	9515	4160	9809	4368	53	22	10337	4346
Formal ex. agri.	9788	4368	10102	4680	55	24	10656	4680
Formal ex. agri. & domestic	10000	4680	10274	4680	56	24	10873	4680

	Earnings assuming 40% under-capture							
	All workers		35 hours +		Hourly average		Hourly avg. *45*4.3	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
All	11435	4514	12136	5097	65	25	12584	4915
Formal	13321	5825	13732	6116	75	31	14472	6085
Formal ex. agri.	13703	6116	14143	6553	77	34	14918	6553
Formal ex. agri. & domestic	14000	6553	14383	6553	79	34	15222	6553

Source: Own calculations from LMDSA 2014 dataset.

Note: Zero earners and outliers omitted from all calculations.

Figure 44 Cumulative distribution function of earnings, adjusted for under-reporting

Note: The under-reporting adjustment assumes that the reported earnings need to be inflated by 40% to reflect true earnings.

Source: Own calculations from LMDSA 2014 dataset.

Table 13 Earnings categories for all earners working at least 35 hours per week

		OVERALL	
Earnings	**Number**	**Percent**	**Cumulative**
< 2 500	3 438 228	33.93	33.93
2 500 to 2 999	783 140	7.73	41.65
3 000 to 3 499	650 028	6.41	48.07
3 500 to 3 999	497 924	4.91	52.98
4 000 to 4 999	770 757	7.61	60.59
5 000 to 5 999	491 180	4.85	65.43
> 6 000	3 503 079	34.57	100

		OVERALL, ADJUSTING FOR UNDER-REPORTING	
Earnings	**Number**	**Percent**	**Cumulative**
< 2 500	2 182 467	21.54	21.54
2 500 to 2 999	663 462	6.55	28.08
3 000 to 3 499	1 224 621	12.08	40.17
3 500 to 3 999	843 363	8.32	48.49
4 000 to 4 999	392 724	3.88	52.36
5 000 to 5 999	444 081	4.38	56.74
> 6 000	4 383 618	43.26	100

Note: The under-reporting adjustment assumes that the reported earnings need to be inflated by 40% to reflect true earnings.

Source: Own calculations from LMDSA 2014 dataset.

Table 14 Earnings categories for all earners working at least 35 hours per week, by sector

		AGRICULTURE				MINING	
Earnings	**Number**	**Percent**	**Cumulative**	**Earnings**	**Number**	**Percent**	**Cumulative**
< 2 500	403 961	69.27	69.27	**< 2 500**	42 707	13.52	13.52
2 500 to 2 999	76 205	13.07	82.34	**2 500 to 2 999**	9 746	3.09	16.60
3 000 to 3 499	27 425	4.70	87.04	**3 000 to 3 499**	8 460	2.68	19.28
3 500 to 3 999	13 104	2.25	89.29	**3 500 to 3 999**	10 456	3.31	22.59
4 000 to 4 999	15 191	2.60	91.89	**4 000 to 4 999**	21 855	6.92	29.51
5 000 to 5 999	9 580	1.64	93.53	**5 000 to 5 999**	24 202	7.66	37.17
> 6 000	37 704	6.47	100	**> 6 000**	198 462	62.83	100

MANUFACTURING				UTILITIES			
Earnings	**Number**	**Percent**	**Cumulative**	**Earnings**	**Number**	**Percent**	**Cumulative**
< 2 500	385 919	29.25	29.25	**< 2 500**	17 076	18.51	18.51
2 500 to 2 999	94 202	7.14	36.39	**2 500 to 2 999**	2 601	2.82	21.33
3 000 to 3 499	76 648	5.81	42.20	**3 000 to 3 499**	6 150	6.67	27.99
3 500 to 3 999	75 145	5.70	47.89	**3 500 to 3 999**	2 753	2.98	30.98
4 000 to 4 999	130 349	9.88	57.77	**4 000 to 4 999**	8 413	9.12	40.09
5 000 to 5 999	87 823	6.66	64.43	**5 000 to 5 999**	3 386	3.67	43.76
> 6 000	469 315	35.57	100	**> 6 000**	51 886	56.24	100

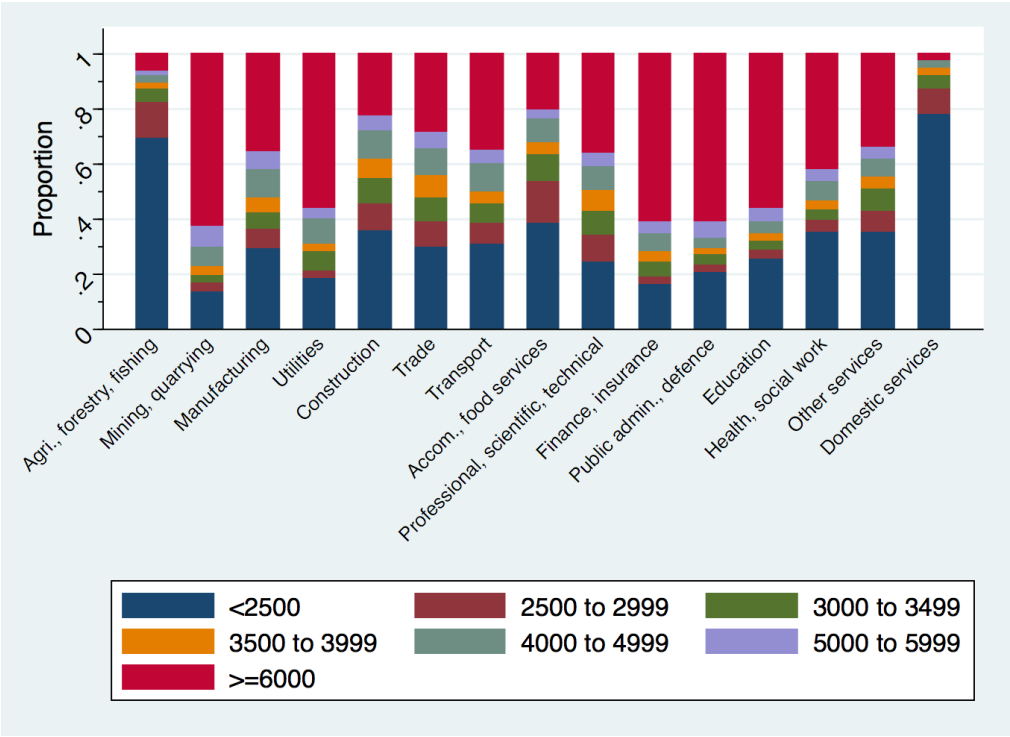
CONSTRUCTION				TRADE			
Earnings	**Number**	**Percent**	**Cumulative**	**Earnings**	**Number**	**Percent**	**Cumulative**
< 2 500	254 698	35.50	35.50	**< 2 500**	593 948	32.14	32.14
2 500 to 2 999	72 224	10.07	45.57	**2 500 to 2 999**	193 974	10.50	42.64
3 000 to 3 499	66 106	9.21	54.78	**3 000 to 3 499**	169 138	9.15	51.79
3 500 to 3 999	49 918	6.96	61.74	**3 500 to 3 999**	136 981	7.41	59.21
4 000 to 4 999	75 744	10.56	72.30	**4 000 to 4 999**	184 871	10.00	69.21
5 000 to 5 999	36 027	5.02	77.32	**5 000 to 5 999**	100 854	5.46	74.67
> 6 000	162 694	22.68	100	**> 6 000**	468 106	25.33	100

TRANSPORT				FINANCE			
Earnings	**Number**	**Percent**	**Cumulative**	**Earnings**	**Number**	**Percent**	**Cumulative**
< 2 500	189 160	28.80	28.80	**< 2 500**	338 199	22.84	22.84
2 500 to 2 999	47 129	7.18	35.98	**2 500 to 2 999**	127 849	8.63	31.47
3 000 to 3 499	43 075	6.56	42.54	**3 000 to 3 499**	121 253	8.19	39.66
3 500 to 3 999	25 664	3.91	46.45	**3 500 to 3 999**	102 068	6.89	46.55
4 000 to 4 999	64 728	9.86	56.30	**4 000 to 4 999**	119 779	8.09	54.64
5 000 to 5 999	32 929	5.01	61.32	**5 000 to 5 999**	72 201	4.88	59.52
> 6 000	254 024	38.68	100	**> 6 000**	599 484	40.48	100

SERVICES				DOMESTIC SERVICES			
Earnings	**Number**	**Percent**	**Cumulative**	**Earnings**	**Number**	**Percent**	**Cumulative**
< 2 500	679 149	27.88	27.88	**< 2 500**	532 095	78.07	78.07
2 500 to 2 999	97 319	3.99	31.87	**2 500 to 2 999**	61 833	9.07	87.15
3 000 to 3 499	97 092	3.99	35.86	**3 000 to 3 499**	34 681	5.09	92.23
3 500 to 3 999	65 111	2.67	38.53	**3 500 to 3 999**	16 724	2.45	94.69
4 000 to 4 999	132 189	5.43	43.96	**4 000 to 4 999**	17 638	2.59	97.28
5 000 to 5 999	121 087	4.97	48.93	**5 000 to 5 999**	3 091	0.45	97.73
> 6 000	1 244 296	51.07	100	**> 6 000**	15 477	2.27	100

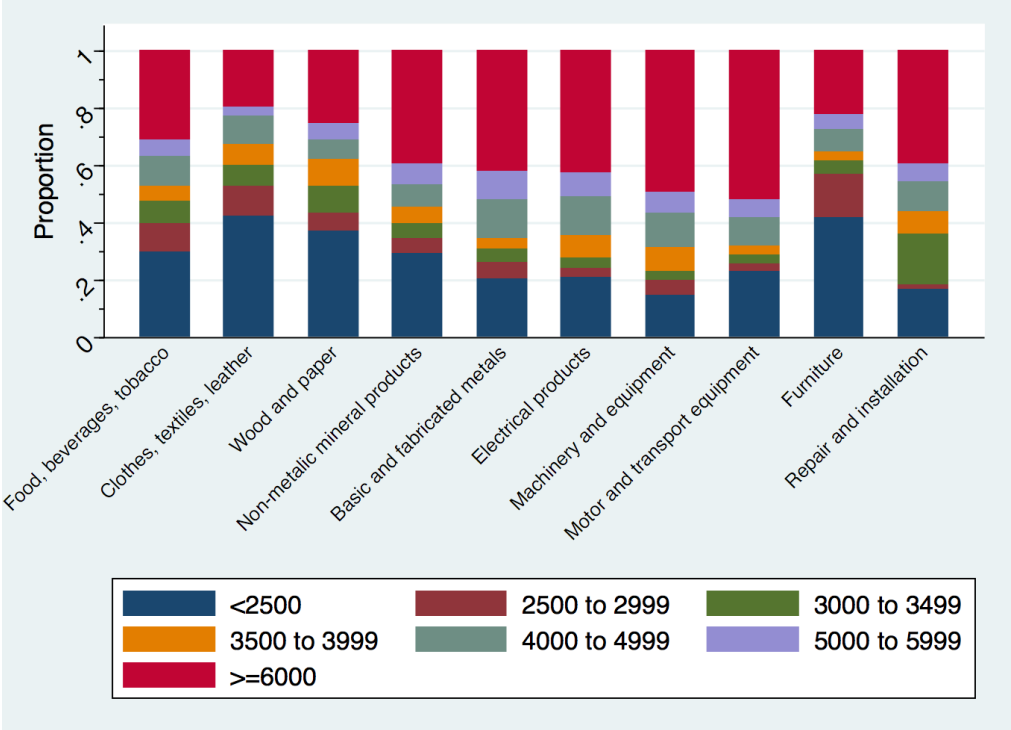
Source: Own calculations from LMDSA 2014 dataset.

Figure 45 Exploring where a minimum wage would bind, by smaller SIC sector



Source: Own calculations from LMDSA 2014 dataset.

Figure 46 Exploring where a minimum wage would bind, by disaggregated manufacturing sector



Source: Own calculations from LMDSA 2014 dataset.