MONITORING THE PERFORMANCE OF THE SOUTH AFRICAN LABOUR MARKET

Employment in the Mining and Quarrying Industry in South Africa

Factsheet 10

May 2013

Development Policy Research Unit

Employment Promotion Programme

Mining sector overview

The discovery of diamonds and gold in the latter half of the 19th century laid the foundations for the transformation of the South African economy – until then dominated by agriculture – into a modern industrial economy. On the back of some of the richest mineral deposits in the world, South Africa has become the world's largest producer of chrome, platinum group metals, vanadium and vermiculite. The country is also the fourth and fifth largest producer of diamonds and coal respectively, while accounting for over 10 percent of global gold production and 40 percent of the world's total gold reserves (Chamber of Mines, 2013; Mining IQ, 2013).

Despite this, South Africa's mining sector has declined significantly in its contribution to the Gross Domestic Product (GDP) over the past 20 years, as other sectors grew more rapidly. Nevertheless, South Africa's mining and quarrying sector remains one of the largest mining sectors in terms of GDP value in the world (Chamber of Mines, 2012). The local mining sector is primarily made up of gold, platinum, diamond and coal mines and, apart from its direct contribution to the economy, is the source of various upstream and downstream activities (Segal, 2000). These include energy, financial services, water and engineering services, and specialist seismic geological and metallurgical services.

In 2011, the mining and quarrying sector accounted for around 8.8 percent of GDP, and including all upstream and downstream activities raises the overall contribution to GDP closer to 18 percent (Chamber of Mines, 2013). The mining and quarrying sector was particularly hard hit by the global recession. It is estimated that, by the first quarter of 2012, real mining GDP at 2005 prices of R22.6 billion remains significantly lower than the pre-recession estimate of R24.9 billion. The mining sector's real fixed investment grew by only 8.1 percent in 2011, far below the 31.3 percent and 27.5 percent seen in 2007 and 2008. Estimates from the Department of Mineral Resources (DMR) (2013) suggest that the mining and quarrying sector is yet to recover from the global recession with overall mining production in 2011 remaining unchanged. In 2011, platinum production was the only major commodity to experience an increase in production (1.6 percent), with coal, diamond and gold lower by 0.2 percent, 21.0 percent and 4.2 percent respectively.

In trying to quantify employment within the mining and quarrying sector, the main challenge facing academics and policymakers is identifying the most accurate employment estimate from the various available sources. Three publicly available data sources can be used to estimate sectoral employment levels: the Quarterly Labour Force Survey (QLFS) and its predecessor the Labour Force Survey (LFS), both household surveys; the Quarterly Employment Statistics (QES), a firm survey; and the DMR data. It is important to note here that the source of the QES data for mining and quarrying is the DMR itself and, therefore, it would be unexpected if the two sources provided significantly different estimates of employment and/or earnings (Statistics South Africa, 2013a: p.32).

Depending on the data source used, it is estimated that the mining and quarrying sector employed between 340 000 to 523 000 workers in 2012. The variation in employment estimates is due to the different methodologies and natures of the data sources. While the QLFS, which measures employment from the supply side, shows employment of 340 000, the two demand side sources – the QES and the DMR data – estimate mining and quarrying employment to be more than 50 percent higher, at around 520 000.

This factsheet has, as its main objective, the triangulation of these three data sources to accurately describe recent employment trends in the sector. Secondly, the factsheet will analyse the characteristics of the employed and of employment in the sector.

Employment overview

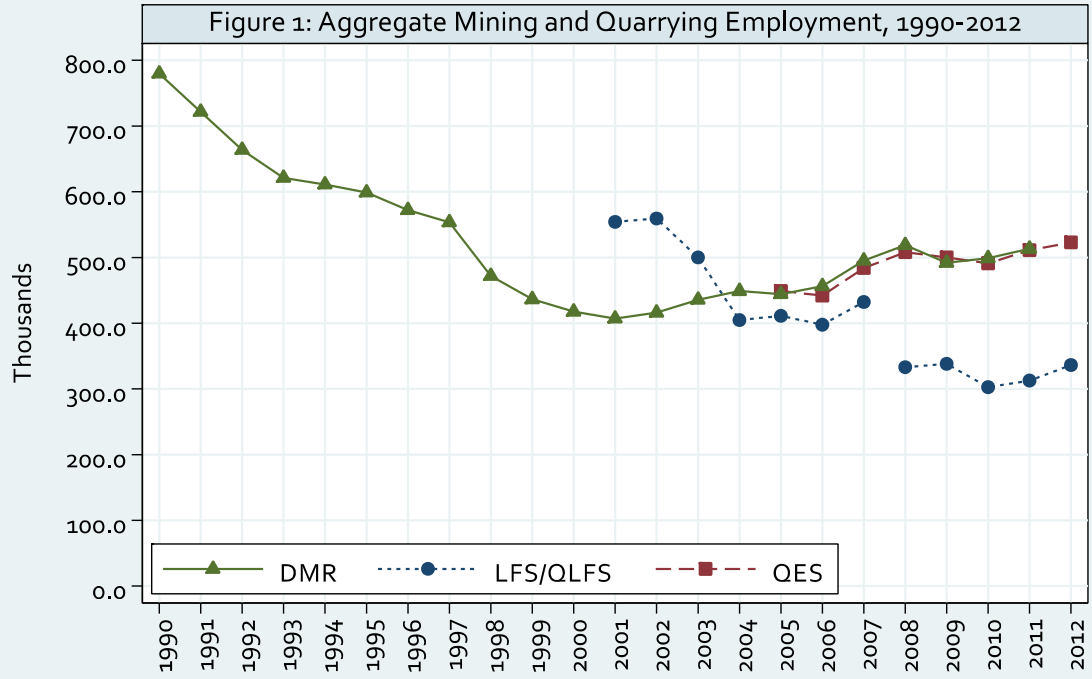
Employment in the mining sector has declined significantly since 1990, falling by one-third over the period from 780 000 (Figure 1; see appendix for quarterly and six-monthly estimates from 2001 onwards). However, the DMR data reveals that mining employment in 2012 had actually recovered by 26.1 percent since 2001, when just 407 000 individuals were employed in the sector. According to the QES, 523 000 individuals were employed in the sector in 2012, around or slightly above – depending on the data source – pre-recession levels.

The LFS and QLFS estimates are, for the most part, significantly different from the QES and DMR estimates. In the early 2000s, the LFS mining employment estimates are more than one-third (or more than 140 000) higher than the DMR figures, while the QLFSs appear to underestimate employment in the sector relative to the QES data by 30 percent to 40 percent. While the aggregate figures in mining and quarrying employment differ across datasets, the general trends are remarkably alike. The DMR, QES and QLFS all show a decrease in mining and quarrying employment at the time of the 2009 recession, followed by a gradual

employment recovery. Further, the patterns of employment change in the LFS, DMR and QES data are very similar between 2004 and 2007.

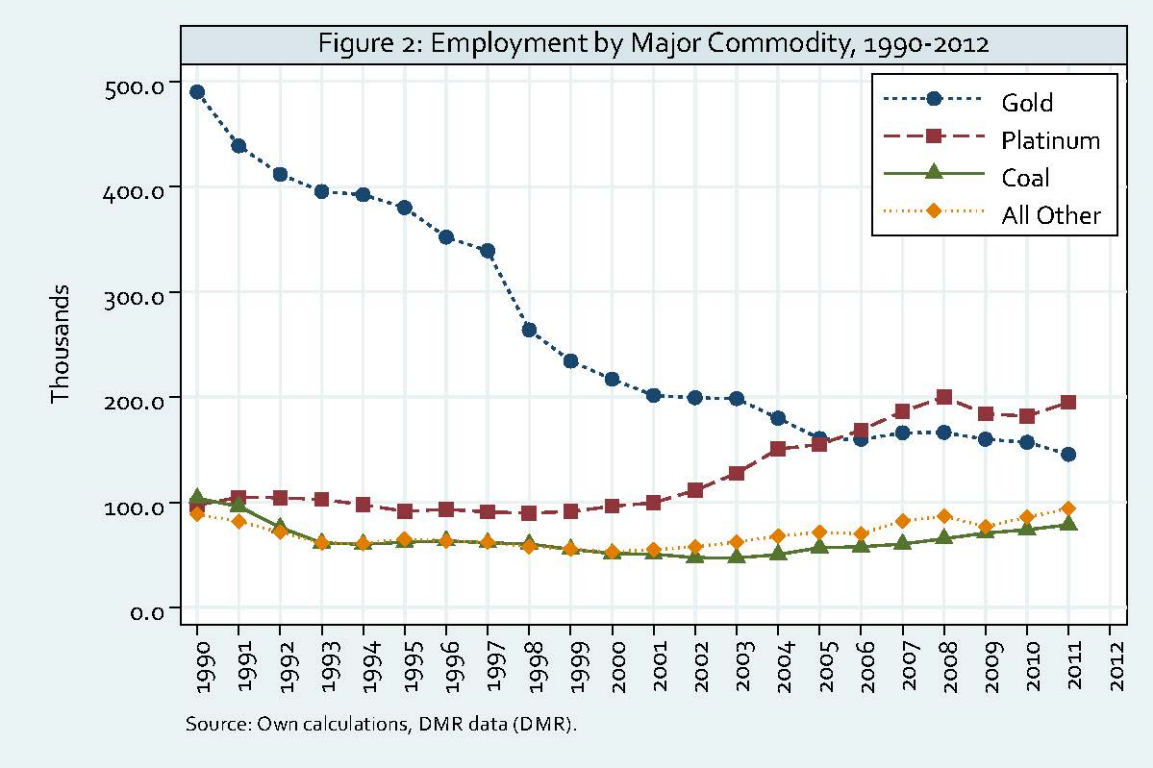
Figure 1 therefore indicates that, post-2004, the four datasets show very similar trends, although the levels can differ quite significantly. However, what is very clear is that trend analysis on the basis of the household surveys may be significantly compromised by data issues. There are, in effect, two breaks in the series if the LFS/QLFS data is compared with the DMR/QES data: the first break between 2003 and 2004, during which there is a dramatic decline in the level of mining and quarrying employment as measured by the LFS; and the second between 2007 and 2008, where there is another large decline in the level of employment in the sector between the LFS and QLFS. Comparisons across these breaks will, therefore, overestimate declines in employment in the sector or show declines that are not corroborated in the DMR/QES data. At least part of the problem with the household surveys relates to the explicit exclusion of the mining hostels from the sample in certain iterations of the surveys, while Statistics South Africa ascribes the underestimate in the QLFSs to the geographically clustered nature of the mining industry that may have caused the sample to inadequately capture it (Statistics South Africa 2013b: vii).

Figure 1: Aggregate Mining and Quarrying Employment, 1990-2012



Source: Own calculations; QLFS, QES, LFS (Statistics South Africa); DMR data (DMR).

Within mining and quarrying, the gold sector has historically been the largest employer (Figure 2). The gold, platinum and coal sectors – the three largest sectors within mining and quarrying in employment terms – account for almost 90 percent of aggregate mine employment. The significant decline in aggregate mining and quarrying employment from 1990 until the early 2000s is primarily the result of reduced employment in the gold sector, which shed nearly 350 000 jobs over the 1990s and early 2000s, decreasing from 490 000 employees in 1990 to 145 000 in 2011 (Department of Mineral Resources, 2013). Lacklustre employment in gold in the 2000s was, though, countered by a steady rise in employment in platinum from just over 91 000 in 1999 to 195 000 in 2011. These two trends mean that platinum overtook gold in 2006 as the largest employer within the mining sector. Employment in the coal sector has decreased marginally since 1990, but has been on an upward trend since 2003. Employment in all other mining commodities has recovered to 1990 levels and, in 2011, was 77.7 percent higher than in 2000.



Earnings overview

Mean monthly earnings per employee across eight different industries between 2005Q1 and 2012Q1, as estimated by the QES, are presented in Table 1. By 2012Q1, the average employee within the mining and quarrying industry is estimated to earn R14 175 per month. This is roughly R1 000 higher than the estimate for the non-agricultural formal sector as a whole and places it fourth – tied with financial and business services – behind utilities, transport and CSP services. Between 2005 and 2012 the mining and quarrying industry experienced the second highest growth rate in mean monthly earnings of 12.4 percent. Considering that CPI inflation averaged 6.3 percent over the period, the data suggests that the average worker in this sector has experienced an average annual increase in monthly earnings of 6.1 percent per annum since 2005.

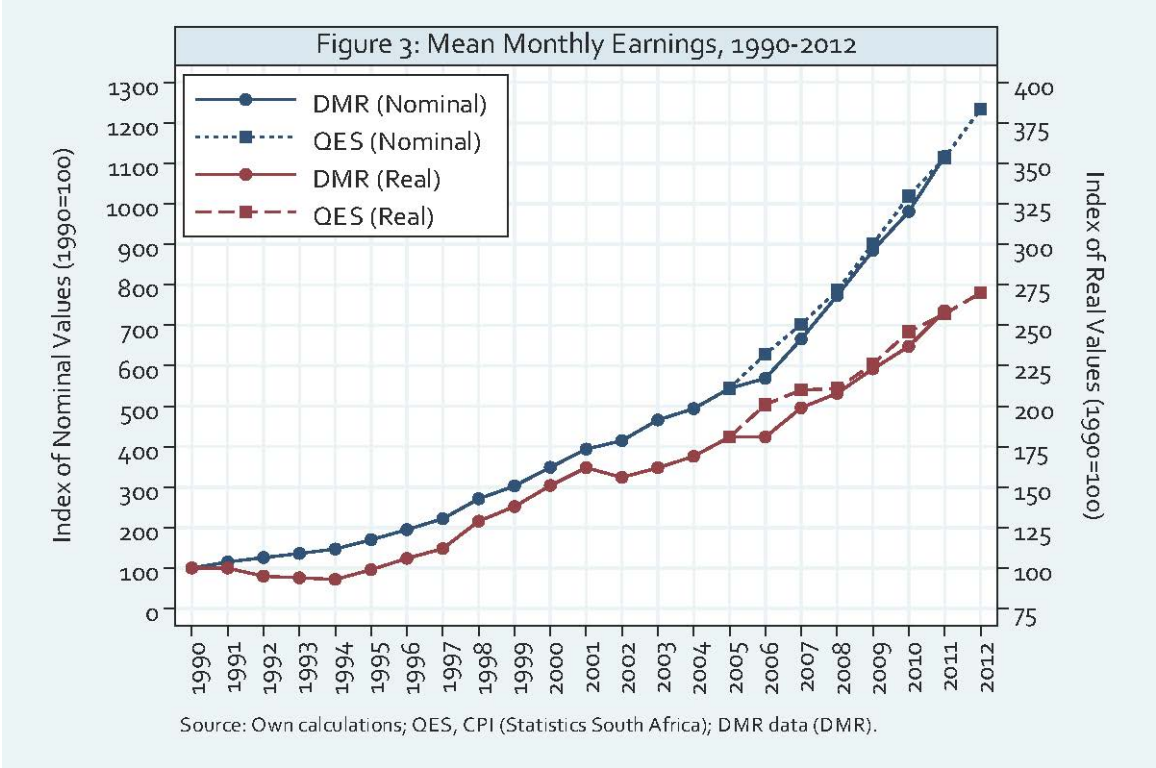
Table 1: Nominal Employment Earnings by Industry, 2005Q1 to 2012Q1

Year		2005Q1	2006Q1	2007Q1	2008Q1	2009Q1	2010Q1	2011Q1	2012Q1	Ave. Ann. Growth
Total	Rands	6 742	7 095	7 870	8 750	9 614	11 207	12 262	13 143	
	% Change		5.2	10.9	11.2	9.9	16.6	9.4	7.2	10.1
Mining and Quarrying	Rands	6 250	7 228	8 071	9 028	10 348	11 713	12 794	14 175	
	% Change		15.6	11.7	11.9	14.6	13.2	9.2	10.8	12.4
Manufacturing	Rands	6 380	6 599	7 029	7 863	8 547	9 828	10 931	12 030	
	% Change		3.4	6.5	11.9	8.7	15.0	11.2	10.1	9.5
Utilities	Rands	13 127	14 473	15 081	15 889	19 481	23 018	23 987	25 880	
	% Change		10.3	4.2	5.4	22.6	18.2	4.2	7.9	10.4
Construction	Rands	4 128	4 948	5 208	5 978	6 672	8 179	9 174	9 894	
	% Change		19.9	5.3	14.8	11.6	22.6	12.2	7.8	13.4
Wholesale and Retail Trade	Rands	4 660	4 881	5 456	6 132	6 570	7 359	8 107	8 573	
	% Change		4.7	11.8	12.4	7.1	12.0	10.2	5.7	9.1
Transport	Rands	10 118	10 750	10 790	11 606	12 368	14 035	15 839	16 343	
	% Change		6.2	0.4	7.6	6.6	13.5	12.9	3.2	7.2
Financial and Business Serv.	Rands	7 182	7 440	9 318	10 082	10 937	12 469	14 289	14 181	
	% Change		3.6	25.2	8.2	8.5	14.0	14.6	-0.8	10.5
CSP Services	Rands	8 117	8 561	9 195	10 189	11 132	13 484	13 843	15 683	
	% Change		5.5	7.4	10.8	9.3	21.1	2.7	13.3	10.0
CPI	% Change	3.0	3.9	6.0	9.2	8.8	6.1	3.7	6.3	6.3

Source: Statistics South Africa (QES) 2004-2013, Own Calculations

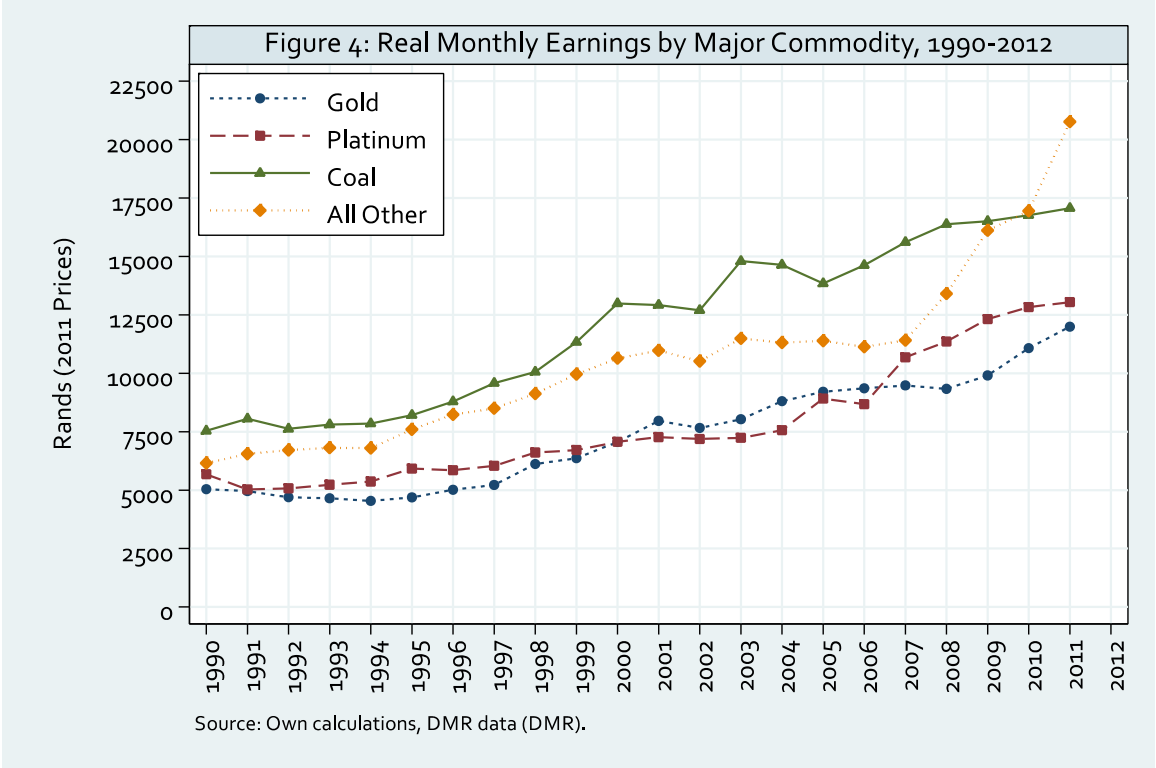
Figure 3 illustrates the trends in nominal and real average monthly earnings for the mining and quarrying industry since 1990. Using data from the DMR and QES, mean monthly income is plotted from 1990 to 2012. DMR earnings data is converted into indices with 1990=100, with the QES linked to the DMR series in 2005. Monthly income from the QES is taken from the first quarter of each year.

The figure yields three key results. Firstly, while nominal earnings for workers in the sector have been increasing consistently since 1990, the same cannot be said about real earnings. The DMR data shows that the early 1990s saw real monthly earnings for workers in mining and quarrying decrease for three consecutive years. It was only in 1996 that real monthly earnings returned to 1990 levels. Secondly, a comparison between the DMR and QES indices reveals very similar trends in nominal and real monthly earnings, although actual earnings estimates are generally slightly higher in the DMR data. Thirdly, there are three years of particularly high growth in real earnings: an increase of 15 percent was experienced between 1997 and 1998, while a 10 percent increase was seen between 1999 and 2000, and between 2006 and 2007. Assessment of the data indicates that these high growth rates are attributable to unusually high nominal earnings growth rates, rather than being due to low levels of inflation.



Real mean earnings, though, differ somewhat across different sectors within the mining and quarrying industry (Figure 4). In 2011, mean monthly earnings in the gold sector (R11 993 per month) were lower than those in the platinum and coal sectors (R13 045 per month and R17 068 per month respectively).

Interestingly, mean earnings are significantly higher in the rest of the mining and quarrying sector, driven primarily by earnings in the iron ore sector (R24 260 per month). There are two distinct time periods of high earnings growth as shown in Figure 4. First, between 1995 and 2000, real earnings growth averaged 8.5 percent and 9.6 percent per annum in the gold and coal sectors respectively. Earnings growth in the platinum sector lagged, but still averaged 3.6 percent in real terms, while earnings in all other commodities averaged 7.0 percent per annum. The second period, between 2006 and 2009, saw real earnings grow by 12.4 percent per annum in the platinum sector and by 13.1 percent in the 'all other' commodities category. Earnings growth was much lower, but still positive, in the gold and coal sectors (1.9 percent and 4.1 percent per annum respectively).



For the 1990-2011 period as a whole, real wage growth was quite similar across the three largest sectors within mining and quarrying. Mean earnings grew by 4.2 percent per annum in real terms in the gold sector, compared to 4.0 percent per annum in platinum and just under 4.0 percent per annum in coal. However, earnings grew significantly more rapidly in the remainder of the mining and quarrying sector, averaging 6.0 percent per annum over the 21-year period, although this was clearly driven by very rapid real increases (13.3 percent per annum) experienced in these commodities from 2006 to 2011.

CHARACTERISTICS OF THE MINING AND QUARRYING WORKFORCE

The DMR and QES data is useful in terms of quantifying employment and earnings levels and analysing their trends over time. However, in order to form a picture of the nature of employment within the mining and quarrying sector, household surveys are the only publicly available option. This section investigates some of the characteristics of employment within the mining and quarrying sector using QLFS data from 2008 to 2012. Given the discrepancies in estimated employment in mining and quarrying between the firm and household survey data highlighted earlier, the analysis below rests on an important assumption; namely that, although the QLFS is unable to accurately capture all employment in the sector, this problem is randomly distributed across different types of workers and does not impact on the composition of the workforce. In other words, it is assumed that we are not missing only particular kinds of workers in the QLFS data.

Table 2 disaggregates employment within mining and quarrying according to the standard demographic covariates of race, gender, age and education. Since the QLFS has been shown to substantially underestimate employment within this sector, the focus here is not on absolute numbers but rather on proportions. Employment in mining and quarrying is dominated by Africans, who account for more than four-fifths of the employees in the sector. Whites represent 15.5 percent of the sector's workforce, with the remaining three to five percent of employment accounted for by Coloureds and Asians. These proportions are in line with expectations, given the sector's strong demand for less skilled labour and the geographical location of activities in this sector.

Roughly nine out of ten individuals employed in the sector are male, according to the QLFS data. This proportion is similar to that revealed by the DMR data: in 2011, men were estimated to have accounted for 91.4 percent of employment in the sector. This proportion – a male-to-female ratio of 10:1 – is, though, significantly lower than the 44:1 ratio in 1990. This change has been brought about by a substantial decline in male employment from 762 000 in 1990 to 470 000 in 2011, and a near 160 percent rise in

female employment from 17 000 to 44 000 over the same period. Neither gender nor any of the race groups has seen a statistically significant change in employment levels within the sector over the period.

Table 2: Demographic Characteristics of those Employed in Mining and Quarrying, 2008Q1 and 2012Q1

	2008Q1 Share (%)	2012Q1 Share (%)	Change in Employment Ave. Ann. Gr. (%)	
By Race				
African	81.2	81.1	0.2	
Coloured	3.9	2.7	-8.6	
Asian	0.5	0.8	13.5	
White	14.4	15.5	2.0	
By Gender				
Male	89.4	87.1	-0.4	
Female	10.6	12.9	5.3	
By Age				
15-24 years	11.0	5.7	-14.9	
25-34 years	33.5	37.6	3.2	
35-44 years	28.7	30.7	1.9	
45-54 years	20.0	19.5	-0.4	
55-65 years	6.8	6.5	-0.9	
By Education				
None	3.1	1.3	-20.1	
Primary	20.0	13.8	-8.6	
Some secondary	36.2	31.1	-3.5	
Secondary/Matric	30.9	35.8	4.0	
Diploma/Certificate	5.5	13.3	25.1	*
Degree	2.9	3.4	4.1	

Source: Statistics South Africa (2008, 2012), Own Calculations.

Note: Statistically significant changes at the 95 percent level between employment levels in 2008Q1 and 2012Q1 are indicated with an asterisk (*). The average annual growth rate is calculated as the rate of change in the number of individuals employed within the mining and quarrying sector.

The majority of employment in the sector is concentrated between the ages of 25 and 54 years: in 2012Q1, this group represented 87.9 percent of sectoral employment. Although there appears to have been a decline in the proportion of workers in the sector who are under the age of 25 years and an increase in the proportion aged between 25 and 44 years, no changes were found to be statistically significant. The mean age of workers in the sector is estimated to have risen slightly over the period – rising from 37.3 years in 2008Q1 to 38.1 years in 2012Q1 – although this change is not statistically significant, nor is it statistically different from the mean age of workers in the rest of the economy. The median age of workers is 37 years (i.e. half of the workforce is older than 37 years).

Employment in mining and quarrying is dominated by those with incomplete secondary and matric qualifications. In 2008, 59.2 percent of the sector's workforce had not completed matric; by 2012, this has decreased to 46.2 percent (although the change is not statistically significant). Over the same period, the proportion of mine and quarry workers with a matric qualification or higher has increased by 13.2 percentage points to 52.5 percent. This change is the result of a statistically significant increase in the number of workers with diplomas and/or certificates, from 18 000 to 45 000, and apparent declines in the number of workers with lower levels of education. The data suggests, therefore, that the 2008-2012 period has seen improvements in the profile of educational attainment amongst workers in the sector, which aligns with trends seen in the rest of the economy over the post-apartheid period.

CHARACTERISTICS OF EMPLOYMENT IN MINING AND QUARRYING

There exists a significant variation in the characteristics of employment in the mining and quarrying sector relative to that in the rest of the economy (Table 3). QLFS data allows the disaggregation of employment according to a number of variables that together begin to capture the notion of employment 'quality'. These variables include contract type and duration, various employment benefits, hours worked and union membership.

Permanent employment is the norm in the mining and quarrying sector, with 87.9 percent of employees in the sector having contracts of a permanent nature in 2012Q1. This proportion is 24.0 percentage points higher than in the rest of the economy. While permanent contracts became more prevalent in mining and quarrying and in the rest of the economy over the period, only the latter change was statistically significant. Employment contracts for mining

and quarrying employees are significantly less likely to be of limited (6.5 percent vs. 13.1 percent) or unspecified duration (5.6 percent vs. 23.0 percent) than their counterparts in the rest of the economy. The results suggest employment in mining and quarrying is more secure from the perspective of contract duration than in the rest of the economy. Between 2008 and 2012 the change in the prevalence of the different contract durations was statistically significant, with limited duration and permanent contracts becoming slightly more common, while contracts of unspecified duration became less common.

Table 3: Characteristics of Employment in Mining and Quarrying, 2008Q1 to 2012Q1

	Mining and Quarrying			Rest of Economy			Mining & Quarrying vs. Rest of Economy		
	2008Q1	2012Q1		2008Q1	2012Q1		2008Q1	2012Q1	
Contract Duration									
Limited duration	8.4	6.5		11.6	13.1	*		*	
Permanent nature	84.2	87.9		61.4	63.9	*	*	*	
Unspecified duration	7.4	5.6		27.0	23.0	*	*	*	
Contract Type									
Written contract	95.9	98.7		73.3	79.8	*	*	*	
Verbal contract	4.1	1.3		26.7	20.2	*	*	*	
Benefits									
Medical aid	58.5	74.9	*	27.3	31.0	*	*	*	
UIF contributions	84.9	90.7		54.3	56.3		*	*	
Pension contributions	77.7	88.7	*	44.0	47.1	*	*	*	
Paid annual leave	83.6	94.3	*	56.1	65.9	*	*	*	
Paid sick leave	-	94.2		-	68.6		-	*	
Paid maternity leave	-	85.5		-	54.7		-	*	
Hours of Work									
1-19	0.2	-		3.5	3.0		*		
20-39	1.3	1.3		10.8	10.7		*	*	
40-44	32.6	40.5		34.3	40.3	*			
45-49	37.6	39.7		25.1	27.1		*	*	
50+	28.3	18.6		26.3	18.9	*			
Mean hours worked	47.7	46.0		45.0	43.5	*	*	*	
Median hours worked	46.0	45.0		45.0	40.0				
Other									
Trade union membership	-	76.6		-	27.7	-	-	*	

Source: Statistics South Africa (2008, 2012), Own Calculations.

Notes: Estimates here are for employees only (i.e. no self-employed or employers are included). Statistically significant differences – between periods in a given sector, or between mining and quarrying and the rest of the economy in a given period – at the 95 percent level of confidence are denoted by an asterisk (*).

The QLFS data indicates that employment relationships within the mining and quarrying sector are more formalised than in the rest of the economy in terms of there being written contracts. Indeed, written contracts are almost universal amongst employees in the mining and quarrying sector, compared to eight out of ten employees in the rest of the economy. Over the period, written contracts have become more common, although the extent of the change in mining and quarrying is limited (and, hence, not statistically significant) due to the near-universality of written contracts in the sector. Employment outside the mining and quarrying sector can be regarded as somewhat more precarious in the sense that verbal contracts are not as easily enforceable as written contracts.

In terms of the six benefits for which the QLFS collects data, employees in mining and quarrying are better off than those in the rest of the economy. In 2012Q1, 74.9 percent of employees in mining and quarrying report having deductions made for medical aid, compared to only 31.0 percent for employees in the rest of the economy. Employees in mining and quarrying are also more likely to be making UIF and pension contributions: 90.7 percent and 88.7 percent compared to 56.3 percent and 47.1 percent in the rest of the economy. A similar trend is seen for employees with access to paid leave, which are almost universal in mining and quarrying but which are not enjoyed by around one-third of employees in the rest of the economy. For women, 85.5 percent in mining and quarrying are entitled to paid maternity leave, a proportion that is more than 30 percentage points higher than in the rest of the economy. All differences between the two sectors are statistically significant. Access to medical aid, pension contributions and paid annual leave has increased statistically significantly over the four year period in both sectors.

Over the period, though, the gap in access to these benefits between the two sectors has increased significantly. The data suggests that employees in mining and quarrying have a substantial advantage in access to these workplace benefits relative to those in the rest of the economy. While this advantage may be related to the nature of the mining sector – the dominance of large employers, significant emphasis on health and safety issues given the inherent danger associated with mining – an important factor to

consider is the trade union membership differential between the two sectors. In 2012, more than three-quarters (76.6 percent) of employees in mining and quarrying belong to trade unions, compared to just 27.7 percent in the rest of the economy.

The final category of employment characteristics presented relates to hours of work. The majority of employees report usually working between 40 and 49 hours per week. Amongst the employees working in mining and quarrying, the proportion reporting working between 40 and 49 hours is 80.2 percent, compared to 67.4 percent in the rest of the economy. This difference – almost 13 percentage points – is explained by the statistically significant difference between mining and quarrying employees (39.7 percent) and those in the rest of the economy (27.1 percent) working 45 to 49 hours per week. In 2012Q1, both groups of employees were equally likely to usually work more than 50 hours per week, while employees in mining and quarrying were considerably less likely to usually work fewer than 40 hours per week. Mining and quarrying employees are estimated to work longer hours on average than employees in the rest of the economy – 45.0 hours vs. 43.5 hours respectively – and, although mean hours worked per week appear to have declined, the gap between the two sectors has not. Median hours worked are, though, substantially higher in the mining and quarrying sector.

CONCLUSION

This factsheet provides insight into employment and earnings within the mining and quarrying sector, while also comparing employment characteristics with those in the rest of the economy. While the mining and quarrying sector continues to be a major employer within the South African economy, its importance has declined over the past quarter century. In 2012Q1, the mining and quarrying sector is estimated to account for only 2.5 percent of total employment and 6.2 percent of aggregate formal employment, based on QLFS and QES data respectively. Underlying the sector's falling share of total employment is the weakness experienced in the gold mining sector between 1990 and 2005 in particular, while employment in the platinum sector countered the decline to some extent between 2000 and 2008.

The comparison of the four data sources reveals significant discrepancies in estimated employment levels between the two household surveys (the LFS and the QLFS) and the firm-based data (the DMR data and the QES data into which it feeds). Importantly, the underestimation of mining and quarrying employment provided by the QLFS relative to the DMR/QES data is substantially larger than that provided by the LFS from 2004 to 2007. In other words, the QLFS seems less able to capture employment in this sector than the LFS. This has important implications for trend analysis using household survey data. Comparisons of estimates of mining and quarrying employment between the LFS and the QLFS are not advised, while even comparisons within the series of LFS estimates are problematic. Nevertheless, analyses using only LFS data between 2004 and 2007 or only QLFS data seem to be more reliable and broadly reflect movements in the DMR/QES series.

Growth in nominal monthly wages for workers in mining and quarrying between 2005 and 2012 is second only to construction, with the sector having the fourth-highest mean wage in the non-agricultural formal economy. The growth in real employment earnings is attributed to particularly high nominal wage growth, rather than periods of low inflation. Within the sector, iron ore workers are found to earn the highest nominal monthly salary on average, followed by workers in the coal, platinum and gold sectors.

Evidence from the DMR and QLFS confirm that employment in the mining and quarrying sector is overwhelmingly male, and is dominated by Africans. Employment in the sector is primarily concentrated amongst those aged 25 to 44 years. The average worker in mining and quarrying is 38.1 years old, with half of those employed in the sector aged at least 37 years. Educationally, two-thirds of workers in the sector have either complete or incomplete secondary education, although a substantial proportion have not completed matric. The evidence does, though, suggest that the profile of educational attainment in the sector is improving over time: the proportion of those who have not completed matric declined from 59.3 percent in 2008Q1 to 46.2 percent in 2012Q1.

Overall, employees within the mining and quarrying sector are found to have an advantage over their counterparts in the rest of the economy in terms of contract type, contract duration, access to benefits and hours worked. Employees in mining and quarrying are significantly more likely to be employed permanently and to have written contracts. Access to the six workplace benefits as measured by the QLFS is significantly higher within the mining and quarrying sector compared to the rest of the economy. While both groups of employees experienced increases in access to these benefits, the gaps between the two have either remained constant or have increased. In 2012, the only area investigated in which employees in the mining and quarrying sector are found to be worse off than those in the rest of the economy, is average hours usually worked per week. Employees in the mining and quarrying sector report usually working on average of 2.5 hours per week more than their counterparts

in the rest of the economy; a statistically significant difference. Employees in the sector are also more likely to belong to trade unions. The high rate of union membership amongst those in mining and quarrying provides one – although certainly not the only – explanation for the better access to workplace benefits, as well as high growth in monthly wages.

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APPENDIX