

COVID-19's Impact on the Labour Markets of Middle-income Countries: The Case of South Africa

By Sher Verick¹

Abstract

Like most middle-income countries, the COVID-19 crisis has had a greater impact on South Africa than witnessed during the global financial crisis of 2009. Employment in South Africa was down by 2.16 million in the second quarter of 2020, resulting in a sharp decline in the employment-to-population ratio across all groups. In the third quarter of 2020, employment levels in the country recovered slightly but it was still down by 1.68 million on the level of employment in the same quarter of the previous year. The empirical analysis of the labour force survey reveals that the likelihood of employment has fallen for all groups during the COVID-19 crisis, even more so for coloured South Africans. In 2020Q3, the probabilities of unemployment increased again for all population groups, though most strongly for black/Africans, coloured and Indian/Asian population groups. The probability of inactivity followed the reverse trend of first increasing before decreasing in the third quarter of 2020. Overall, similar trends in the predicted probabilities are evident in the case of South African women and men. Education is one of the most important factors explaining better labour market outcomes in South Africa. However, during the COVID-19 crisis, differences in the marginal effects of education on outcomes have weakened, reflecting the broader impact of the crisis on all groups. These findings reveal how important broad based policy support, along with targeted measures, is to put South Africa on the road to a job-rich and inclusive recovery.

JEL: G01, J21, J64

Keywords: South Africa, global financial crisis, COVID-19 crisis, employment, unemployment

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1. Introduction

More than three decades after the end of Apartheid, South Africa remains a highly unequal country with strong differences in economic and labour market outcomes among different population groups. Due to its strong linkages to global markets and trade, South Africa was hard hit by the global financial crisis in 2009. With a GDP decline of 1.5 per cent², employment fell by around 1 million in 2009. As identified in Verick (2012), this employment loss translated into a much larger increase in the number of discouraged individuals rather than those defined as ‘narrowly’ unemployed. The unemployment rate and the broader unemployment rate, which includes discouraged workers, is much higher among young people, black Africans and those with low levels of education.

The global financial crisis had a long-lasting effect on the South African labour market, which was further weakened by sluggish economic growth witnessed in recent years. GDP growth trended downwards and hovered around 1 per cent per annum since 2015 and the South African economy actually entered a recession prior to the COVID-19 crisis (in the fourth quarter of 2019) (figure 1).

Figure 1. Real GDP growth rate (%) in South Africa, 2008Q1 – 2020Q3



Source: Economist Intelligence Unit.

The COVID-19 pandemic has been a far more global than witnessed in 2009, despite the moniker given to that downturn. World output fell in 2009 by 0.9 per cent, while in 2020, the global economy shrunk by 3.3 per cent. Developing countries and emerging economies have been hit much harder this time because of the effects of lockdown and other containments on domestic economic activity. The latest IMF estimates indicate that output declined in 2020 by 4.8 per cent in advanced economies and 2.2 per cent in emerging market and developing countries.

Against a backdrop of weak economic growth and persistent inequalities and labour market deficits, the COVID-19 crisis has resulted in a more severe downturn in South Africa than

² IMF World Economic Outlook October 2020.

experienced during the global financial crisis.³ Following its first coronavirus case in March 2020, the Government of South African enacted a strict lockdown, which constrained economic activity. The transmission of these restrictions to economic activity is clearly reflected in Google Mobility Trends data, which shows the precipitous decline in mobility to retail and recreation locations in South Africa, especially during the second quarter of 2020. Mobility in these places had recovered somewhat over 2020 but even as of May 2021, the levels remain far below the pre-crisis level. In South Africa, mobility has returned to a level 7 per cent below the mobility witnessed in February last year. However, COVID-19 pandemic has gone through a number of waves and phases in countries reflecting changes in lockdown measures, along with the impact of mutations that have resulted faster growth in the number of cases. South Africa experienced two waves in 2020 with the situation seemingly under control until recently (at the time of writing). Every time a country has to reinstate lockdown measures, economic activity is curtailed, leading to further losses in the labour market.

To mitigate the economic impact of the crisis, the Government announced a R500 billion stimulus package on 21 April 2020 (Strauss et al. 2020), which included health and related spending, wage subsidies, extension and expansion of social security payments, liquidity support to businesses (loans and tax deferments). The rescue package amounted to around 5.3 per cent of GDP in terms of additional spending and foregone revenue (i.e. tax cuts, etc.) (also known as “above-the-line items” as used in table 1 above) and 4.2 per cent of GDP in the form of equity, loans, and guarantees (or “below-the-line items”) (IMF 2021). However, analysis of the stimulus package have suggested that the size of the package has been inadequate and poorly implemented (Strauss et al. 2020).

Thus, despite the policy measures, the South African economy is estimated to have shrunk by 8 per cent in 2020, compared with 1.5 per cent in 2009 (figure 6).⁴ This massive economic shock has translated into a rapid and severe impact on the labour market, though, in some unexpected ways. Compared with the 1 million decline in 2009-10, employment in South Africa was down by 2.16 million in the second quarter of 2020 on the previous year (from 16.313 million to 14.148 million), resulting in a sharp decline in the employment-to-population ratio across all groups (figure 2). Due to the impact of lockdown measures on labour force participation, inactivity rose substantially in the second quarter of 2020, while the unemployment rate fell. This started correcting in the third quarter, leading to a rise in the unemployment rate later in 2020.

The remainder of the paper is structured as follows. Section 2 provides an overview of the labour market trends in South Africa from the prior to the global financial crisis in 2008, through the GFC and the years beyond, until the COVID-19 crisis of 2020. Section 3 delves into an analysis of the determinants of labour market outcomes during the GFC and the current crisis, while section 4 concludes.

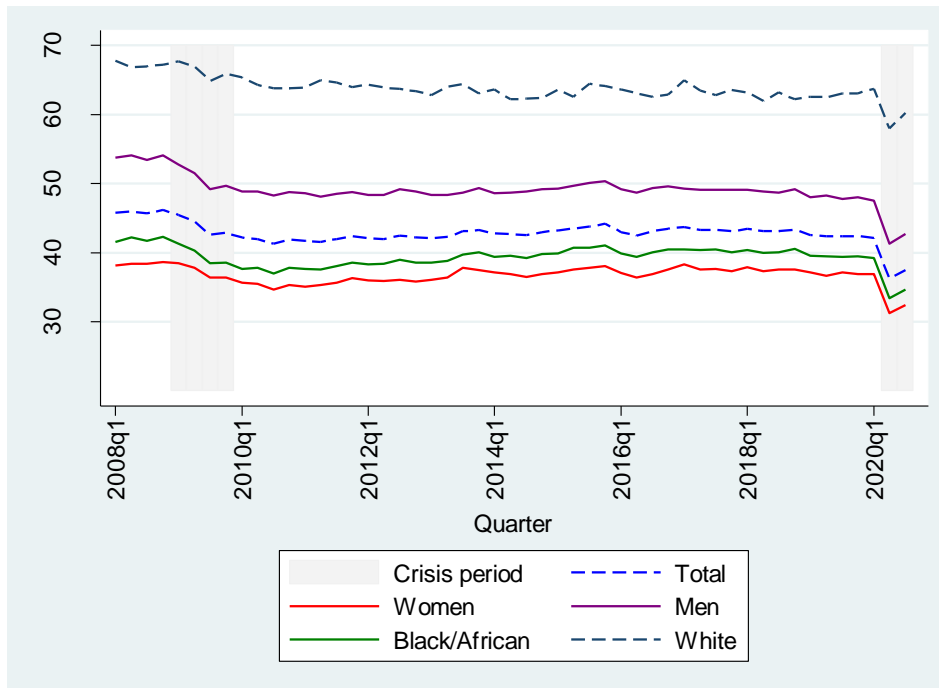
2. Labour market trends in South Africa, 2008 to 2020

Due to the weak economic situation, employment levels in South Africa had not recovered to pre-GFC levels before the onset of the pandemic, revealing a persistent jobs deficit (figure 2). As evident in figures 3-4, the unemployment rates, especially the broad unemployment rate, which includes discouraged workers, increased from 2018, reflecting the poor state of the economy. Youth and black/Africans experienced a stronger increase in unemployment during these pre-COVID-19 years.

³ For more details on the impact of the COVID-19 crisis, see Strauss, I. et al. (2020) “Rapid Country Assessment: South Africa - The impacts from a COVID-19 shock to South Africa’s economy and labour market”, ILO, Geneva.

⁴ IMF World Economic Outlook, October 2020.

Figure 2. Trends in the employment-to-population ratio in South Africa, total and specific groups, 2008Q1-2020Q3



Source: Statistics South Africa’s Quarterly Labour Force Survey, 2008Q1-2020Q3.

Compared with the 1 million decline in 2009-10, employment in South Africa was declined by 2.16 million in the second quarter of 2020 on the previous year (from 16.313 million to 14.148 million), resulting in a sharp decline in the employment-to-population ratio across all groups (figure 2). In the third quarter of 2020, employment levels in the country recovered slightly with an increase of 543,000 from the previous quarter but it was still down by 1.68 million on the level of employment in the third quarter of 2019.

In line with the trends witnessed in other countries (ILO 2021), the sharp decline in employment in the South African labour market resulted not in a commensurate increase in the unemployment rate in the second quarter of 2020 but an actual decline, which was driven by the constraints placed on the jobless, as discussed above. As measures were eased in the third quarter, the unemployment rate increased again as jobseekers were able to undertake job search and be available for work (and hence, be classified as “narrowly unemployed”).

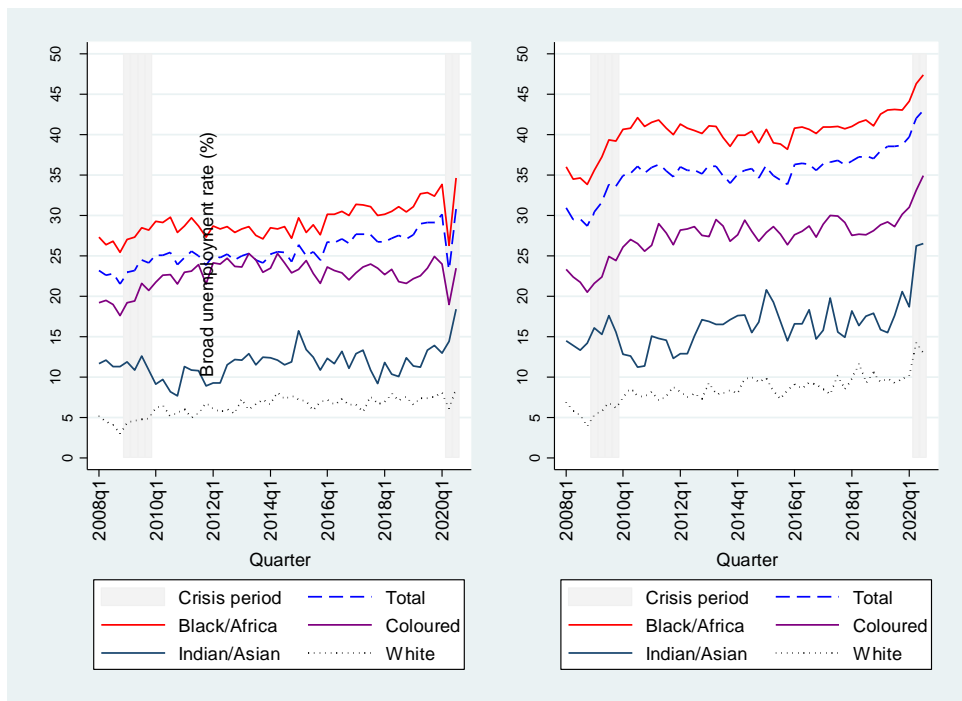
In the South African context, the broader unemployment rate captures the job deficit much better as it includes discouraged South Africans who were not able to undertake job search in the second quarter due to the limitations imposed by the lockdown measures. The increase in the broad unemployment rate in South Africa during the COVID-19 crisis is similar to what was witnessed in 2009 and 2010 during the global financial crisis as noted by Verick (2012). However, in contrast to the stronger increases in the broader unemployment rate for certain population groups during the GFC, such as youth and black/Africans, the rate has increased across the board (in terms of demographic and population groups) (figures 3 and 4). This suggests that the COVID-19 crisis, through the widespread lockdown and containment measures, has been far more reaching for the South African economy and the labour market as a whole. However, due to the pre-COVID-19 inequalities and labour market deficits, the longer-term impact of the crisis is likely to be uneven.

Figure 3. Trends in the unemployment and broad unemployment rate in South Africa by demographic group, 2008Q1-2020Q3



Source: Statistics South Africa’s Quarterly Labour Force Survey, 2008Q1-2020Q3.

Figure 4. Trends in the unemployment and broad unemployment rate in South Africa by population group, 2008Q1-2020Q3



Source: Statistics South Africa’s Quarterly Labour Force Survey, 2008Q1-2020Q3.

3. Has the probability of labour market outcomes changed during the COVID-19 crisis? The marginal effects of key explanatory variables

In order to test the hypothesis that the COVID-19 crisis has been more far reaching in its impact on the South African labour market than the global financial crisis, this section turns to the estimates of a model of labour market status separately for before and after the onset of both the global financial and COVID-19 crises using the micro-data files of the Quarterly Labour Force Survey of Statistics South Africa⁵. This approach results in five periods of data: pre-GFC – 2008Q1-Q4; GFC – 2009Q1-Q4; pre-COVID-19 crisis – 2019Q1-Q4; and COVID-19 crisis – 2020Q2 and 2020Q3, where the latter are not pooled due to the different effects in the two quarters.

The following model of labour market status is estimated using a multinomial logit specification, which has the following response probabilities:

$$P(y = j|x) = \frac{\exp(x\beta_j)}{1 + \sum_{h=1}^J \exp(x\beta_h)}, j = 1, \dots, J \quad (1)$$

where y is the outcome variable (labour market status), x is a $1 \times K$ vector of explanatory variables, β_j is $K \times 1$ vector of coefficients. In the context of this paper, the dependent variable consists of four labour market states ($J=4$): employment; unemployment; discouraged workers; and other forms of inactivity. Inactivity is used as the normalized outcome. The model is estimated conditional on age (log value), and dummies for education attainment, population group and province. Due to differences in labour force participation, the model is estimated separately for women and men.

The marginal effects based on the estimates of equation 1 for the five periods (pre-GFC – 2008Q1-Q4; GFC – 2009Q1-Q4; pre-COVID-19 crisis – 2019Q1-Q4; and COVID-19 crisis – 2020Q2 and 2020Q3) are presented in tables A1 and A2 in the Appendix. The marginal effects for the four labour market outcomes reveal that most explanatory variables are statistically significant. In comparison to black/Africans, coloured, Indian/Asian and white South Africans are more likely to be employed and less likely, in general, to be unemployed and discouraged (i.e. not undertaking job search but available for work). However, the marginal effects for coloured South African weakened during the COVID-19 crisis period, which indicates that the differences between the groups changed during the downturn in 2020 (though not so in 2009).

As also found in Verick (2012), educational attainment has the largest marginal effect on the probability of being employed in South Africa (and most countries). Tertiary educated male are 25.5 percentage points more likely to be employed compared with those with no education, while the difference is 38.4 points for women. Prior to the COVID-19 crisis, the higher the educational attainment the less likely are South Africans to be found discouraged. Similar to the marginal effects by population groups, the effects by education change during the COVID-19 crisis. In particular, the differences between marginal effects have weakened in terms of the impact of these variables on the probability of being unemployed and discouraged.

To further emphasize the changes over the different periods, especially during the COVID-19 crisis, the results from the multinomial logit model can also be presented as predicted probabilities (holding other variables at their means). Figure 5 graphs the probability of employment before and after the GFC/COVID-19 crisis by population group.

The estimated predicted probabilities for South African men reveal that the likelihood of employment (figure 5 (a)) has fallen for all groups during the COVID-19 crisis, even more so for coloured men, while in 2009, white South African males did not experience any decline (though the latter have experience an increase in the third quarter of 2020). In addition, the probability of unemployment decreased in 2020Q2, in line with the trends shown above, for all population groups

⁵ See http://www.statssa.gov.za/?page_id=1854&PPN=P0211

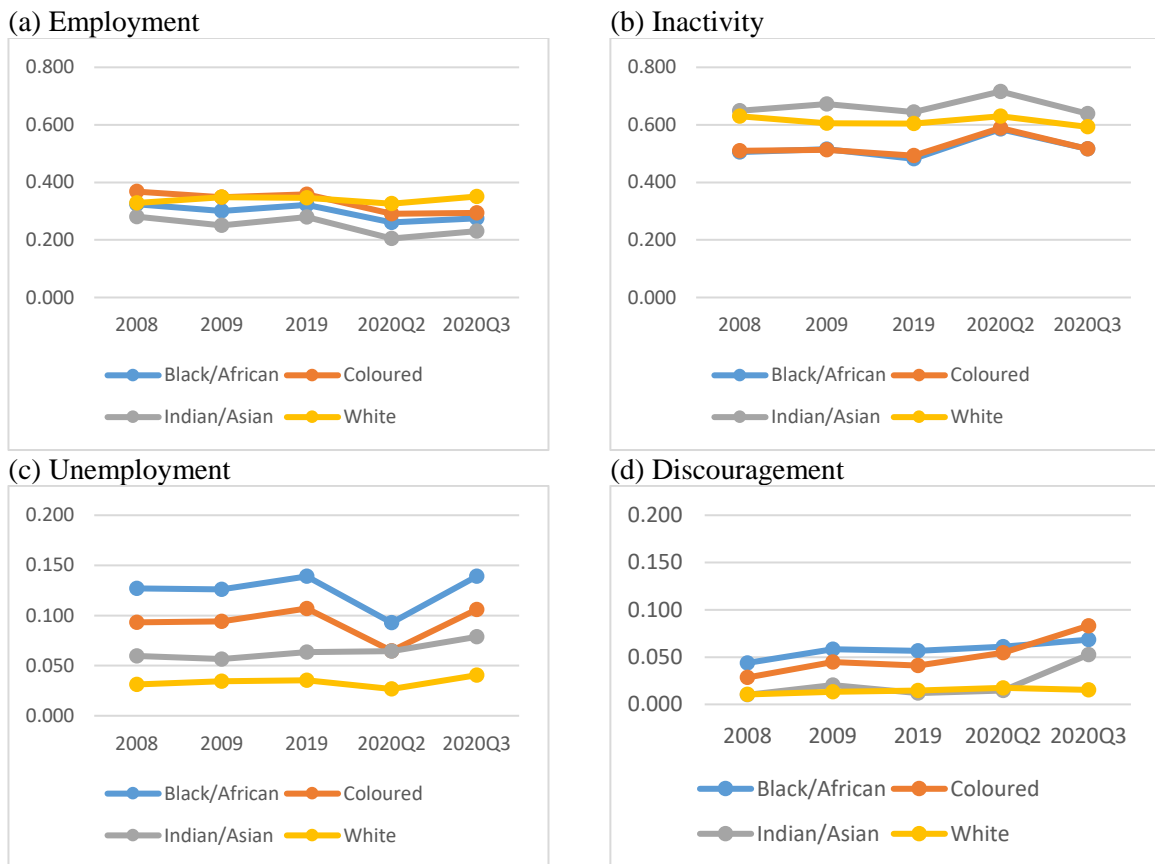
apart from white males (figure 5 (c)). In 2020Q3, the predicted probabilities of unemployment increased again for all population groups, though most strongly for black/Africans, coloured and Indian/Asian. The probability of inactivity followed the reverse trend of first increasing before decreasing in the third quarter (figure 5 (b)). Finally, the probability of discouragement increased in 2020Q2, especially for black/African men and even more so for coloured men (the change in relative positions is also reflected in the weakening of the marginal effects mentioned above). Overall, similar trends in the predicted probabilities are evident in the case of South African women (figure 6).

Figure 5. Predicted probabilities of men’s labour market status (employment, inactivity, unemployment, discouragement), 2008, 2009, 2019, 2020Q2 and 2020Q3 by population group



Source: The predicted probabilities derived from the multinomial logit estimates are graphed by population group. All other variables are held at their means.

Figure 6. Predicted probabilities of women’s labour market status (employment, inactivity, unemployment, discouragement), 2008, 2009, 2019, 2020Q2 and 2020Q3 by population group



Source: The predicted probabilities derived from the multinomial logit estimates are graphed by population group. All other variables are held at their means.

4. Conclusion: overcoming risks to recovery by tackling headwinds and continuing uncertainty

The analysis presented above reveals similarities and differences between the impact of the global financial crisis and the COVID-19 crisis on the South African labour market. Overall, the COVID-19 crisis has been far more widespread as it has impacted larger parts of the economy and labour market through lockdown and other containment measures, which have generated larger shocks to both demand and supply.

South Africa was badly damaged by the global financial crisis, which impacted black and poorly education South Africans more. The labour market never recovered and was further affected by stagnant economic growth in recent years. The COVID-19 crisis has been ever more damaging resulting in the loss of more than 2 million jobs and while it has affected the labour market more broadly than witnessed in the GFC, there is a potential to further exacerbate the inequalities that were present prior to 2020.

The challenge for South African policymakers is to maintain the necessary macroeconomic policy support, along with other measures targeting the ongoing effects of the crisis. The pre-condition to embark on a road to a sustainable, job-rich recovery is rolling out the vaccination campaign to ensure a significant proportion of the population is covered. Once this condition is reached, the policy stance will need to shift its focus to measures that encourage economic growth and

job creation, including through public investment in priority growth sectors. A comprehensive employment policy approach is needed to underpin these efforts, addressing both the demand and supply side of the labour market. Interventions supporting labour market transitions, including active labour market programmes and employment services, need to be more effective to increase job search and entry in the labour market for the most vulnerable groups. Given the structural factors driving inequalities in the labour market, continuing efforts are needed to address the specific challenges for black Africans, particularly for those with low levels of education and residing in rural areas. These dimensions need to be also addressed within a COVID-19 recovery strategy.

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Appendix

Table A1. Average marginal effects – labour market outcomes in 2008 and 2009

	2008				2009			
Male	E	U	D	I	E	U	D	I
Age (log)	0.126*** (64.30)	0.00815*** (6.70)	0.00171** (2.88)	-0.136*** (-70.53)	0.0900*** (54.62)	-0.00438*** (-4.51)	0.00281*** (4.84)	-0.0885*** (-56.24)
<i>Base: Black/ Africans</i>								
Coloured	0.0599*** (12.25)	-0.0132*** (-3.41)	-0.0171*** (-10.33)	-0.0295*** (-6.90)	0.0482*** (11.44)	-0.0146*** (-4.44)	-0.0112*** (-4.82)	-0.0225*** (-6.05)
Indian/ Asian	0.103*** (14.22)	-0.0507*** (-9.50)	-0.0230*** (-10.50)	-0.0294*** (-4.57)	0.114*** (17.44)	-0.0500*** (-9.71)	-0.0321*** (-15.21)	-0.0318*** (-5.57)
White	0.101*** (20.90)	-0.102*** (-42.69)	-0.0276*** (-22.19)	0.0287*** (6.14)	0.146*** (35.75)	-0.102*** (-43.87)	-0.0368*** (-23.23)	-0.00693 (-1.82)
<i>Base: no education</i>								
Basic education	0.0435*** (12.66)	0.0115*** (4.14)	-0.0184*** (-10.82)	-0.0365*** (-11.38)	0.0354*** (11.41)	0.0161*** (6.16)	-0.0145*** (-7.89)	-0.0370*** (-12.80)
Matric	0.123*** (30.40)	0.0151*** (4.75)	-0.0230*** (-12.34)	-0.115*** (-30.38)	0.107*** (30.37)	0.0149*** (5.20)	-0.0221*** (-11.27)	-0.0998*** (-30.32)
Tertiary	0.255*** (43.79)	-0.0436*** (-10.06)	-0.0375*** (-17.28)	-0.174*** (-31.44)	0.228*** (48.68)	-0.0397*** (-10.96)	-0.0460*** (-21.19)	-0.142*** (-32.29)
Province	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	113040	113040	113040	113040	158016	158016	158016	158016
Female								
Age (log)	0.0498*** (25.56)	-0.0299*** (-27.33)	-0.0130*** (-18.38)	-0.00692*** (-3.67)	0.0186*** (11.35)	-0.0401*** (-45.39)	-0.0168*** (-25.01)	0.0383*** (24.17)
<i>Base: Black/ Africans</i>								
Coloured	0.0439*** (9.86)	-0.0334*** (-11.06)	-0.0154*** (-8.02)	0.00488 (1.11)	0.0473*** (12.53)	-0.0315*** (-12.49)	-0.0135*** (-5.98)	-0.00222 (-0.59)
Indian/ Asian	-0.0432*** (-6.57)	-0.0673*** (-15.32)	-0.0336*** (-15.05)	0.144*** (20.33)	-0.0506*** (-8.77)	-0.0689*** (-17.19)	-0.0377*** (-15.77)	0.157*** (24.80)
White	0.00385 (0.86)	-0.0955*** (-44.95)	-0.0333*** (-22.07)	0.125*** (26.82)	0.0467*** (12.10)	-0.0912*** (-48.32)	-0.0450*** (-30.10)	0.0895*** (22.28)
<i>Base: no education</i>								
Basic education	0.0366*** (12.49)	0.0257*** (10.79)	-0.00846*** (-4.85)	-0.0538*** (-16.52)	0.0274*** (10.57)	0.0290*** (13.38)	-0.00122 (-0.70)	-0.0552*** (-19.00)
Matric	0.187*** (49.27)	0.0500*** (17.83)	-0.0187*** (-9.84)	-0.219*** (-55.31)	0.145*** (45.50)	0.0474*** (19.43)	-0.0140*** (-7.47)	-0.178*** (-52.54)
Tertiary	0.384*** (73.75)	-0.0173*** (-4.81)	-0.0452*** (-24.30)	-0.322*** (-61.86)	0.322*** (78.96)	0.00292 (0.97)	-0.0438*** (-22.38)	-0.281*** (-67.73)
Province	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	139574	139574	139574	139574	195512	195512	195512	195512

Source: Estimates from equation (1) based on quarterly labour force survey data from STATS South Africa.

Note: t statistics in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table A2. Average marginal effects – labour market outcomes in 2019, 2020Q2 and 2020Q3

	2019				2020Q2				2020Q3			
Male	E	U	D	I	E	U	D	I	E	U	D	I
Age (log)	0.0885***	-0.00909***	0.00237***	-0.0818***	0.0664***	-0.0171***	-0.00450*	-0.0448***	0.0541***	-0.0276***	-0.00192	-0.0245***
	(60.55)	(-9.73)	(4.43)	(-58.36)	(11.35)	(-5.91)	(-2.08)	(-7.65)	(9.44)	(-7.99)	(-0.81)	(-4.32)
<i>Base: Black/Africans</i>												
Coloured	0.0511***	-0.0138***	-0.0139***	-0.0234***	-0.0172	-0.00968	0.000572	0.0263	0.00335	-0.0258*	0.0105	0.0119
	(13.43)	(-4.47)	(-7.40)	(-7.40)	(-1.18)	(-0.98)	(0.06)	(1.76)	(0.23)	(-2.22)	(0.90)	(0.88)
Indian/Asian	0.120***	-0.0708***	-0.0333***	-0.0157***	0.135***	-0.0573***	-0.0329***	-0.0445*	0.0963***	-0.0660***	-0.0377***	0.00734
	(21.79)	(-17.66)	(-19.58)	(-3.29)	(6.13)	(-4.27)	(-3.68)	(-2.12)	(4.37)	(-3.71)	(-4.58)	(0.37)
White	0.132***	-0.112***	-0.0365***	0.0158***	0.142***	-0.0585***	-0.0359***	-0.0475***	0.159***	-0.0977***	-0.0382***	-0.0234
	(36.02)	(-54.55)	(-28.01)	(4.62)	(9.78)	(-6.95)	(-5.24)	(-3.42)	(11.11)	(-9.86)	(-5.25)	(-1.84)
<i>Base: no education</i>												
Basic education	0.0337***	0.0189***	-0.00763***	-0.0450***	0.0456***	-0.00261	-0.00346	-0.0395**	0.0368**	0.0235*	-0.00652	-0.0538***
	(12.10)	(8.11)	(-5.11)	(-18.14)	(3.84)	(-0.27)	(-0.45)	(-3.20)	(3.03)	(2.14)	(-0.82)	(-4.64)
Matric	0.104***	0.0184***	-0.0137***	-0.109***	0.116***	-0.0118	-0.0122	-0.0918***	0.105***	0.00819	-0.00868	-0.105***
	(32.83)	(7.12)	(-8.42)	(-38.24)	(8.91)	(-1.14)	(-1.52)	(-6.84)	(7.99)	(0.71)	(-1.04)	(-8.34)
Tertiary	0.217***	-0.0331***	-0.0319***	-0.152***	0.227***	-0.0420***	-0.0368***	-0.148***	0.205***	-0.0140	-0.0455***	-0.146***
	(51.62)	(-9.94)	(-16.36)	(-39.97)	(14.77)	(-3.69)	(-4.29)	(-9.54)	(13.02)	(-1.02)	(-5.27)	(-9.89)
Province	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	198528	198528	198528	198528	14503	14503	14503	14503	14533	14533	14533	14533
Female												
Age (log)	0.0234***	-0.0452***	-0.0158***	0.0377***	-0.00347	-0.0378***	-0.0268***	0.0680***	-0.0110	-0.0709***	-0.0281***	0.110***
	(15.88)	(-53.88)	(-26.65)	(26.69)	(-0.62)	(-15.24)	(-11.42)	(11.81)	(-1.93)	(-22.91)	(-11.05)	(19.37)
<i>Base: Black/Africans</i>												
Coloured	0.0370***	-0.0324***	-0.0158***	0.0111***	0.0299*	-0.0281***	-0.00639	0.00457	0.0187	-0.0331***	0.0147	-0.000280

	(10.80)	(-13.10)	(-8.35)	(3.36)	(2.32)	(-3.75)	(-0.71)	(0.33)	(1.43)	(-3.39)	(1.30)	(-0.02)
Indian/ Asian	- 0.0424***	-0.0759***	-0.0446***	0.163***	-0.0561**	-0.0282	-0.0464***	0.131***	-0.0452*	-0.0604***	-0.0159	0.122***
	(-8.11)	(-21.10)	(-26.71)	(29.28)	(-2.86)	(-1.84)	(-6.17)	(5.76)	(-2.22)	(-3.58)	(-1.19)	(5.17)
White	0.0240***	-0.104***	-0.0419***	0.122***	0.0644***	-0.0662***	-0.0436***	0.0453**	0.0758***	-0.0986***	-0.0532***	0.0761***
	(6.87)	(-59.41)	(-30.17)	(33.62)	(4.84)	(-11.05)	(-7.18)	(3.24)	(5.55)	(-13.03)	(-8.91)	(5.39)
<i>Base: no education</i>												
Basic education	0.0308***	0.0361***	0.000738	-0.0676***	0.0247*	0.0272***	-0.0238**	-0.0281*	0.0290**	0.0130	-0.0105	-0.0315**
	(12.93)	(17.90)	(0.49)	(-26.18)	(2.49)	(3.40)	(-2.73)	(-2.34)	(2.88)	(1.24)	(-1.24)	(-2.72)
Matric	0.156***	0.0494***	-0.0121***	-0.193***	0.0945***	0.0348***	-0.0283**	-0.101***	0.110***	0.0126	-0.0166	-0.106***
	(53.32)	(21.83)	(-7.43)	(-64.01)	(8.36)	(4.06)	(-3.11)	(-7.61)	(9.63)	(1.14)	(-1.87)	(-8.28)
Tertiary	0.328***	0.00190	-0.0395***	-0.290***	0.278***	0.0135	-0.0602***	-0.231***	0.291***	-0.00267	-0.0620***	-0.226***
	(88.37)	(0.68)	(-23.11)	(-79.09)	(21.20)	(1.44)	(-6.60)	(-15.86)	(21.74)	(-0.22)	(-7.11)	(-16.03)
Province	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	239921	239921	239921	239921	17822	17822	17822	17822	17872	17872	17872	17872

Source: Estimates from equation (1) based on quarterly labour force survey data from STATS South Africa.

Note: t statistics in parentheses; * p<0.05, ** p<0.01, *** p<0.001.