



# POLICY BRIEF

## Occupational Shifts and Skills Challenges Facing the South African Economy

*Haroon Borhat, Morné Oosthuizen and Aalia Cassim, Development Policy Research Unit, University of Cape Town*

### Introduction

Despite robust economic growth over much of the past 20 years, South Africa still faces significant challenges in terms of high unemployment, poverty and inequality. One view of what underlies persistently high unemployment rates is that the economy has demanded high-skilled workers despite the labour force having an abundance of low-skilled, less educated workers. A mismatch in the types of labour demanded by firms and supplied by workers has therefore contributed to high unemployment for less-skilled workers. Borhat et al. (2013)<sup>1</sup> examined this notion through the changing nature of occupational labour market trends in South Africa and the resulting impact on wages. The skills bias of South African economic growth had already been established pre-1994. The result has been an increasing wage premium for high-skilled workers – and the opposite for low-skilled workers – in jobs impacted by technological change and global competition. Skills-biased labour demand therefore underpins wage inequality, the main determinant of income inequality, one of the central challenges facing post-apartheid policy-making.

### The changing nature of employment

In terms of production and exports, South Africa remains a resource-based economy with no significant globally competitive light manufacturing sector to absorb low- and medium-skilled workers. There are several markers of the changing nature of employment growth in the decade between 2001 and 2012.

<sup>1</sup> Borhat H, Goga S and Stanwix B (2013) *Occupational Shifts and Shortages: Skills Challenges Facing the South African Economy* LMIP Report 2013.

Firstly, employment within the primary sectors collapsed, with agriculture and mining together losing over 700 000 jobs, concentrated primarily amongst the less skilled. Secondly, the employment performance of manufacturing was lacklustre: the sector added barely 100 000 jobs (equalling an annual employment growth rate of 0.6%). Thirdly, jobs have mainly been created within tertiary sectors such as financial services (5.3%) and community services (2.9%), with those sectors creating 782 000 and 1 million jobs respectively. The increase in financial services employment has largely been within the 'business activities not elsewhere classified' sub-sector, which may reflect labour broking employment. Growth of the tertiary sector reflects the increased demand for skilled labour over the past decade.

Within the tertiary sector, public sector employment has grown faster than private sector employment, with the public sector accounting for 15% of total employment in 2012. However, growing employment within the public sector has its limits, since increasing public sector employment is not seen to be an efficient or effective way to increase employment in the South African economy (IMF 2012).

Overall, employment growth over the 2001–2012 period was mostly as a result of employment growth between 2001 and 2007. Employment gains made during the mid-2000s were decimated by the recession, with employment at the end of 2010 returning to levels last seen in 2006. Whilst employment has begun to recover somewhat, the impact on employment across all sectors of the economy is notable.

## The nature of skills demand

The changing nature of employment growth had a definite impact on the skills demanded by the South African economy. First, the relative decline of the primary sectors and manufacturing implies significant declines in the demand for less-skilled workers, since these sectors make up the least skills-intensive sectors of the South African economy (Rodrik 2006). Second, skills upgrading throughout the economy has resulted in a decline in the demand for less-skilled workers. Put differently, there has been substitution away from less-skilled towards more-skilled labour. Third, production techniques in the tradable sectors have become increasingly capital-intensive, requiring more highly-skilled labour (Rodrik 2006). Fourth, employment growth has been driven by the tertiary sectors in the period and high- and medium-skilled occupations, such as managers, professionals and service and sales workers, have seen significant employment gains.

Upgrading the skills demanded by the South African job market has, however, excluded a large number of labour force entrants from employment opportunities given their poor skill sets, resulting in high levels of unemployment. Two particular reasons stand out for the observed skills mismatch. First, the quality of education of many school-leavers has prevented them from accessing a substantial proportion of existing employment opportunities. Second, labour demand has favoured more qualified workers, and particularly those with tertiary education, as opposed to those with FET (further education and training) qualifications. FET institutions also lack the institutional capacity and infrastructure to address the technological change that has become a key feature of labour demand.

## The impact on wages and labour market inequality

Increasing demand for skilled labour has also fed into and changed the structure of wages, impacting on wage inequality. There are various ways of looking at inequality and wage structure, and previous analyses have tended to focus on education, work experience and institutions. Whilst these are important determinants of wage inequality, there are other factors that influence wage structure. In particular, technological change

and the impact of international trade may also be affecting wages and impacting returns to different occupations based on the tasks involved in those occupations (Edwards 2003). For example, jobs which require cognitive skill and creative problem-solving or face-to-face interaction are unlikely to be automated or threatened by international competition, while routine tasks on an assembly line face higher risks as technology is upgraded.

Five major and overlapping task categories are considered in this research:

1. *Information and communication technology (ICT)*. ICT work has a high information component and is likely to be affected by technological change. Occupations using these tasks include computer programmers, typists and data analysts.
2. *Automated or routinised*. These are jobs that are routine in nature and have the potential to be automated, often involving repeated tasks, structured work environments, and where the pace of the job is often determined by mechanical or technical equipment. Occupations involving these tasks include machine operator and assembler jobs.
3. *On-site*. These are jobs that require a worker to be at a place of work, usually doing manual labour, including construction workers, mechanics and drivers.
4. *Face-to-face*. These jobs have an element of relationship-building, personal care and managing people, such as labour supervisors and teachers.
5. *Decision-making/analytic*. This is work that requires non-routine decision-making abilities, usually tasks that involve creative thought, problem-solving, developing strategies and taking responsibility for outcomes and results. Jobs include most professionals and managers as well as artists.

One of the results of the analysis suggests that jobs which involve automated or routine tasks and those without any face-to-face component (largely lower- to medium-skilled jobs) have experienced a drop in wage levels over time across most of the income distribution. The reason for this is that the demand for workers performing these tasks is influenced by technological changes and international competition, and as work methods become outdated with changes in production technology, wage premia are affected. Analytic jobs, on the other hand, are not easily automated and replaced, and have experienced increasing wage premia over time. The differential wage premia reinforce the high levels of income inequality observed in the South African economy.

## Lessons learnt and going forward

### Disaggregated analysis of industry data

The bulk of labour market research has been undertaken at a sectoral level, leaving a number of information gaps regarding industry- and firm-level processes and decisions. The reason for this is that the available data is largely sector-level data, but there is certainly value in prioritising the collection and, following that, the evaluation of firm-level data at an industry level. This will assist in identifying scarce skills, whether subsidies are used productively, and the level of innovation and policy coordination within the industry, for example.

### Policy dialogue and coordination

There needs to be greater conversation between education departments and institutions, possible job-creating bodies such as the DTI and IDC, as well as key employers, including both private and public sector actors. This includes: contractual arrangements; facilitating training lecturers on new technologies being

used in industry; artisan development programmes; work-place experience for FET graduates; facilitating learnerships and close cooperation with SETAs. The automobile industry in the Eastern Cape, for example, has used an industry-driven approach to understand the particular demands facing this industry, and has accordingly coordinated with FET colleges and SETAs to obtain labour that meets their particular demand. This reinforces the requirement for firm-level and industry-level data.

## Improve the quality of post-schooling education institutions

FET colleges in South Africa do not produce graduates with high-quality vocational and technical skills that are readily absorbed by the labour market. A review of curriculum and skills demanded by the labour market is necessary to produce graduates with relevant qualifications that can assist in improving personal welfare as well as contribute to economic growth.

## Revisit industrial policy

Industrial policy in capital-intensive production will not create large scale employment. Government subsidies should instead be directed to employment-creating industries. For example, a subsidy directed at a light manufacturing sector growth could very well provide a much-needed growth engine.

## Informed job creation strategies

Job creation strategies going forward should take into account the skill-biased labour demand of the past 20 years. Given continued technological change and globalisation, jobs that have been under pressure over the past decade may remain vulnerable into the future. These include jobs where routinised tasks are performed. Employment growth policy should take this into account and attempt to secure jobs suited for these workers, while also upskilling workers so that they can keep up with technological change.



LABOUR MARKET  
INTELLIGENCE PARTNERSHIP

Published by the Labour Market Intelligence Partnership (LMIP),  
a research consortium led by the Human Sciences Research Council (HSRC)  
[www.lmip.org.za](http://www.lmip.org.za)

Designed, typesetting and proofread by COMPRESS.dsl  
[www.compressdsl.com](http://www.compressdsl.com)

### Disclaimer

The ideas, opinions, conclusions or policy recommendations expressed in these policy briefs are strictly those of the author(s) and do not necessarily represent, and should not be reported as, those of the HSRC-led consortium or DHET. The HSRC-led consortium and its funders take no responsibility for any content or syntax errors, omissions in, or for the accuracy of, the information contained in these policy briefs.

