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How do we explain the persistently high rate of unemployment in South Africa? Exploring Preference Shifts in Capital and Labour Demand[1]

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Our research attempted to quantify the magnitude of shifts in industry preferences between capital and labour in the South African economy over the period 2007 to 2013. This research also aimed to help explain the country's persistently high rate of unemployment. Over this period real GDP growth averaged 3.5% with average employment growth of only around 1.6% per annum. With only moderate productivity growth over the period, growth in capital stock was found to be much higher than employment growth.

In an attempt to better understand and quantify the underlying factors that may have been responsible for lagging employment growth, we analysed South African factor markets within a general equilibrium framework of the economy. We used the dynamic UPGEM3 to conduct our analysis and applied a year-on-year historical decomposition closure. This allowed us to feed historical price and quantity information exogenously into the model and ask the model to produce the necessary shifts in curves or preferences that would make the given information compatible with the theoretical specification and estimated parameters of the model. Over the historical period under investigation, capital formation prices increased at a faster rate than real wages. All other things equal, a slight shift towards labour away from capital in the primary factor composite for industries may have been expected. However, as already pointed out, the reality was that the capital-labour ratio actually increased over this period.

Our simulation results show strong primary-factor technical change in favour of capital and against labour between 2007 and 2013. This result suggests that industry technology on average changed to the extent that for any given ratio of the real wage to real rental price of capital, industries would choose a K/L ratio 30 per cent higher in 2013 than in 2007. This change may also be interpreted as a change in 'preferences' by industry for their primary-factor bundle composite. More capital is now preferred relative to labour in the production process, all other things equal. The result also shows to what extent capital-labour substitution is possible.

The policy impact of this research points to the problems policymakers face in attempting to deal with the country's massive unemployment problem. Despite putting 'creating jobs' on top of their to-do list, the problem has actually become worse due to employers shunning labour in favour of capital. To find the exact reasons for the change in industry technology or preferences towards the use of capital requires further research.4 This period was characterised by a number of events which may have led to such preference shifts, most notably the global financial crises and a number of

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[3] University of Pretoria General Equilibrium Model is a dynamic CGE model of the South African economy built in collaboration with the Centre of Policy Studies in Melbourne, Australia.

[4] Current work-in-progress includes the use of a one-period long-run historical decomposition simulation to better understand some of the movements observed in the South African economy since 2006.

damaging labour strikes in which workers demanded significant real wage increases. It is no secret that rigid labour market conditions and labour unrest has had an impact on South African firms' attitudes to hiring labour. The productivity or technical change associated with labour have also been a concern, exacerbated by the country's poor educational outcomes and subsequent skill shortages.

If policymakers wish to turn this situation around, employers must be given the necessary incentives to increase the share of labour in their primary factor composite. For such incentives and policies to be sustainable over the long-term, workers must be equipped with the necessary skills and training to increase their productivity and make hiring them at current wage levels more attractive. This way, demands for higher real wages over time would also be justified. Solving the country's unemployment puzzle is crucial for socio-economic stability and growth. Our research suggests that a lot of hard work and careful thinking will be required to achieve this.