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High levels of loadshedding are costly for SA's labour market – report finds

Small firms tend to favour reducing working hours rather than introducing layoffs

Recent research conducted under the [South Africa Towards Inclusive Development](#) (SA-TIED) programme found that loadshedding in South Africa has negative labour market effects on both the extensive margin – employment – as well as the intensive margin – working hours and monthly earnings.

"Effects on employment are, however, larger than effects on working hours or earnings on average, highlighting the threat that loadshedding poses to job preservation and creation efforts," said Tim Köhler, junior research fellow and PhD candidate in the University of Cape Town's (UCT) [Development Policy Research Unit \(DPRU\)](#), who co-authored the work with Haroon Borat, professor of Economics and director of the DPRU.

Due to the large-scale rural electrification and infrastructure development programmes, access to electricity in lower-income countries has improved significantly in recent decades, reaching 90% of the population in these countries by 2021. However, while expanding access is necessary to achieve meaningful gains in several development outcomes, access alone is insufficient. In many of these countries, factors such as inadequate generating capacity, lack of infrastructure investment, and high energy prices mean that electricity supply is often highly unreliable. Frequent and long-lasting outages serve as the consequence. By forcing households and firms to maintain a stock of alternatives, such as diesel generators and backup batteries, these outages raise both the private and social costs of energy services and, hence, hinder the benefits of improved access.

Electricity outages have long been identified as a major constraint to economic development in lower income countries. Many studies have documented negative effects on various outcomes, such as economic growth, firm productivity, and sales.

"It is unsurprising then that the estimated demand for electricity reliability, as measured by the willingness to pay to avoid outages, in such contexts is relatively large. Given the effects on economic output, and the relationship between output and employment, outages are expected to also significantly affect labour market outcomes. However, evidence on these effects is scarce.

“Labour market effects are of particular interest given the labour market’s central role in determining socio-economic wellbeing globally. This is especially the case in high-unemployment contexts, like South Africa, where decent employment generation is key to achieving meaningful poverty alleviation. We considered this very question and analysed the labour market effects of loadshedding in South Africa in a recently released paper supported by the United Nations University World Institute for Development Economics Research,” said Köhler.

While boasting almost universal access, South Africa has been subjected to loadshedding since the end of 2007. Loadshedding has become significantly more frequent and severe in recent years, with 2023 serving as the worst year on record.

Several studies have found that loadshedding has reduced economic growth in South Africa; however, there has been no empirical evidence of their labour market effects until now.

Köhler and Bhorat modelled the labour market impacts of loadshedding using over 15 years’ worth of nationally representative labour force survey data, covering nearly three million individuals, merged with macroeconomic data and high-frequency electricity data from 2008 to 2023. They focused on effects on employment, working hours, hourly wages, and monthly earnings. They also considered how these effects vary across firms of different sizes and in different industries. They adjusted all their models to ensure that the measured impacts are not driven by a series of other factors, such as dynamics during the COVID-19 pandemic period, seasonality, or changes in macroeconomic conditions relating to gross domestic product, the interest rate, exchange rates, and investment.

The findings showed that loadshedding was significantly and negatively associated with employment, working hours, and monthly earnings. On average, loadshedding periods were associated with a 2.6% lower chance of being employed, 1.3% fewer working hours per week (equal to about half an hour), and 1.7% lower real monthly earnings.

“These are large, non-negligible effects,” said Köhler. “Interestingly, we did not find evidence of a relationship with hourly wages, which suggested that the monthly earning reductions were driven by fewer working hours.

Köhler noted that the labour market appears to be largely insensitive to relatively low levels of load shedding; however, high levels were particularly costly. “We did not find any evidence of negative associations for stages 1 and 2, but from stage 3 upwards, we found that the average negative association became significant and stronger. For employment, for instance, stage 3 was associated with 1.9% lower employment, compared to 3.6% for stages 4 and 5 and almost 6% for stage 6 – more than double the average association.”

“Importantly, this lack of effects for low levels neither implies that they should be tolerated nor that they do not cause negative effects elsewhere, as is evident from other studies which reveal significant negative effects on other, non-labour market outcomes.”

These effects did not, however, affect all firms equally. Manufacturing – a relatively energy-intensive sector – appeared particularly vulnerable. On average, loadshedding was associated with nearly 17% lower manufacturing employment, which is about 6.5 times larger than the average. “Reductions in working hours for workers in most industries are also evident,” said Köhler.

“By firm size, while workers in large firms are vulnerable with respect to all outcomes, we only found negative (but larger) adjustments to working hours for workers in small firms. This latter finding suggests that small firms tend to favour reducing working hours rather than introducing layoffs, a finding which is not unique to South Africa. The former finding may seem counter-intuitive given that one might expect larger firms to be less vulnerable as they would have more resources to pay for alternative energy sources. That's probably true, however, the vulnerability of large firms likely steams from the fact that they are more likely to operate in energy-intensive sectors.”

These results highlight the negative effects of loadshedding on the real economy. “From a policymaking perspective, while support to firms and households ought to continue to be considered, the primary goal must be to rapidly reduce both the frequency and intensity of these outages and, ultimately, eliminate them,” Köhler said. “Recent events are encouraging, resulting in fewer breakdowns, improved generation capacity, and increased demand for alternative energy sources like solar.” Consequently, electricity supply has been uninterrupted for nearly two months.

“However, a lot of instability in the system remains and [supply is expected to remain constrained in the medium-term](#),” he added. “Longer-term policy decisions revolve around further diversifying the energy mix beyond coal, accelerating the transition towards renewable energy sources, incentivising private investment and, overall, building a more resilient and sustainable energy system.”

ENDS

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