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Public infrastructure investments in South Africa: a rational growth strategy ?

By Vandudzai Mbanda, Sinqobile Chumi and Margaret Chitiga

South Africa's economic growth has been inadequate to generate enough jobs to reduce unemployment. The government believes infrastructure investment is one of the key factors to achieve a more "labour-absorbing" growth path as outline in the 2010 New Growth Path, 2011 National Development Plan and the 2012/2013 National Budget. As a result, public infrastructure expenditure, which was scaled up from around 2005, continues to be a priority in government policies.

With support from PEP, a South Africa-based research team set out to **analyze the short and long term impacts of public infrastructure investments on growth and employment in the country.**

Key findings

Overall, the simulations' outcomes show that an increase in public infrastructure investment results in:

- Increase of output for all sectors of production
 - relatively more for the public sectors and those that supply them with intermediate goods
- Increase of GDP in both short and longer term
- Increase of aggregate demand for labour and a decline in the level of unemployment for all types of workers (low, medium and highly skilled)

The positive impacts on both unemployment and GDP growth are relatively higher when the increase in infrastructure investment is financed by a combination of higher tax rates on firm income and an increase in government budget deficit (third scenario, see table below).

In comparison, the first option alone would yield less favorable outcomes in the short run, while the second would be less favorable in the long run.

Changes in unemployment rate & GDP from policy simulations

Simulation	Time	Unemployment rate			GDP
		High skilled labour	Medium skilled labour	Low skilled labour	
Increase in deficit	Short run	-1.74	-0.72	-0.37	0.13
	Long run	-1.99	-0.78	-0.64	0.15
Tax on firm income	Short run	-1.82	-0.75	-0.41	0.17
	Long run	-1.89	-0.74	-0.60	0.18
Increase in deficit & tax on firm income	Short run	-2.98	-1.19	-0.97	0.20
	Long run	-3.16	-1.22	-1.22	0.23

The researchers used dynamic Computable General Equilibrium (CGE) modeling techniques and tools – as fostered through PEP-supported research – to simulate an increase in public infrastructure investment*, based on 3 different scenarios of financing mechanisms:

- In the first scenario, the expense would be financed by an increase in government budget deficit,
- in the second, by an increase in the tax rate on firm income
- in the third, by a combination of the two.

* The simulated increase is of 10% in 2012, 0.8% in 2013 and 8% in 2014, based on data from the National Treasury.



Policy recommendations

The results from this particular study show that further investment in public infrastructure in South Africa is likely to yield both short and long term benefits in terms of improving economic growth and reducing unemployment, and is thus generally beneficial for the national economy.

However, the choice of an appropriate financing mechanism to sustain the increase in public expenditures is important, as it significantly influences the level and extent of the potential positive effects.

The researchers thus recommend, on the one hand, that the government continues to prioritize its policy of public infrastructure investments but, on the other hand, that further increases in such investments shall be financed by a combination of taxation and budget deficit.