

The impact on the South African economy of alternative regulatory arrangements in the petroleum sector

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Introduction

1. We use a MONASH-style dynamic **Computable General Equilibrium (CGE)** model
2. Conduct two types of policy simulations related to:
 - a) Import parity price (BFP)
 - b) Regulated margins (RAS components)
3. Results are % change deviations relative to the business as usual baseline unless otherwise stated – any conversion to Rm or number of jobs must be reported with an asterisk

Scenarios

Scenario 0: Business as usual baseline

Scenario 1: BFP advocated by the DoE (2018)

Scenario 2: Scenario 1 + 100 per cent supply from Arabian Gulf.

Scenario 3: Scenario 2 + errors in the RAS methodology are corrected

Scenario 4: Scenario 3 + reduced RAS operating costs + more realistic RAS WACC with 50% debt.

Scenario 5: Scenario 4 but 70% debt + staffing costs reduced by 30 cpl

The BFP scenarios and results

1. S1 cuts the BFP by 9cpl
2. S2 cuts the BFP by $9+9=18$ cpl (reduction of 1.15% in the pump price)
3. To model these scenarios we cut the RoR of refineries – this allows them to continue to meet the investment & capital growth requirements stemming from higher future demand by consumers as pump prices fall
4. Given the South African market structure, this is the most realistic way of implementing the BFP scenarios within the CGE model
5. We also account for the substantial foreign ownership in refineries – the cut in the RoR therefore helps raise the performance of GNP relative to GDP as GNP excludes foreign earning harmed by the policy intervention

The BFP scenarios and results (for S2 in long run)

1. Relatively small effects on a macro and aggregated industry level
2. At a macro level, GDP + 0.06%
3. At an industry level, winners and losers start to emerge:
 - a) Investment and output growth at refineries improves despite the fall in the BFP
 - b) Jobs lost, relative to the baseline, at refineries are made up elsewhere – the shock also pushes for a more capital-intensive approach

The RAS scenarios and results (for S5 in long run)

1. S5 reduces pump price by 103.82cpl (18 + 85.82) or 6.61% (1.15 + 5.46)
2. Macro results show more significant positive impacts, GDP + 0.67%
3. The RAS scenarios generate different industry level effects relative to the BFP scenarios due to the nature of the changes
4. Service station revenue is reduced by the RAS scenarios, leading to fewer service stations relative to the baseline
5. Refineries continue to produce sufficient fuel
6. Jobs move from service stations to other winning industries

Conclusions

1. The simulation results suggest a clear win to the South African economy if the proposed reforms were adopted
2. Lower petrol prices and a more competitive economy will generate significant benefits to consumers resulting in R30bn+ to GDP
3. Naturally, a key area of concern is the loss of jobs at service stations in the short run and potential skill mismatch in finding other jobs in the long run
4. Given that this result is now expected, government and industry can work to mitigate against these effects whilst retaining the significant gains to consumers and the economy in general
5. The paper discusses avenues for further research and refinement

Further Details

The RAS scenarios and results

1. scenarios (S3-S5) modelled as a reduction in the amount of trade and transport margins per unit of sale attributed to the final pump price of fuel – this is achieved via a technical change shock in the margin cost of delivering fuel to consumers
2. Shocks are weighted to account for aggregation in the database and calibrated to achieve the desired reductions in the final pump price as per Paper One