

HIGHER ADMINISTERED ENERGY PRICES IN SAUDI ARABIA AND THEIR POSITIVE IMPACT ON THE DOMESTIC WELFARE

Frédéric Gonand, University Paris-Dauphine - PSL Research University and King Abdullah Petroleum Study And Research Center, Phone +33 6 82 45 09 52, E-mail: frederic.gonand@dauphine.fr

Fakhri Hasanov, King Abdullah Petroleum Study And Research Center, E-mail: fakhri.hasanov@kapsarc.org

Lester Hunt, King Abdullah Petroleum Study And Research Center, E-mail: lester.hunt@kapsarc.org

Overview

This paper investigates the intergenerational welfare impact of raising retail energy prices in Saudi Arabia, an oil-exporting country with a fast growing population. To achieve this we develop a dynamic energy model with overlapping generations (called MEGIR-SA), which we believe is the first empirical of its type to be developed for a Gulf region country. The model is used to analyze the effects of the administered increase in Saudi energy prices that were decided in December 2015. In particular, the model analyses how these price increases might impact the welfare of Saudis through a direct increase in energy expenditures; an indirect rise in Saudi public income stemming from a lower domestic demand for oil which fosters oil exports at a given level of domestic oil production; and a direct increase of the turnover of the public energy sector. The two latter effects can be redistributed by public authorities to the Saudi private agents through either higher current public spending or public investments. The model suggests that the December 2015 permanent increase in end-user energy prices results in a net overall favorable effect on the intertemporal welfare of all households. This mirrors the impact on the income of private agents of the surplus in public oil income associated with lower domestic consumption of oil products and recycled to private agents. Moreover, it is shown that the additional oil income associated with the increase in domestic energy prices tends to be relatively more beneficial to future generations if it is recycled through public investments. This holds all the more as the future price of oil is relatively low. In a possible future situation of declining oil prices and domestic production, a desirable policy may consist in gradually increasing the fraction of the additional oil income that is recycled through public capital spending.

Methods

We develop a dynamic energy model with overlapping generations (called MEGIR-SA, *Model with Energy, Growth and Intergenerational Redistribution – Saudi Arabia*), which we believe is the first model of this type to be developed for a Gulf region country. MEGIR-SA draws on Gonand and Juvet (2015) as concerns its OLG setting but fits with the characteristics of the Saudi economy: its oil exports; a population rapidly growing with a relatively high proportion of expatriates who work but do not invest their saving in KSA; electricity produced almost exclusively out of fossil fuels with retail energy prices heavily regulated; public infrastructures still needing to be developed. Our model compares the costs of the policy (higher end-use price of energy) with its economic gains (lower oil domestic consumption thus higher oil exports and public income recycled in the economy) and computes the net effect on Saudi's intertemporal welfare. This paper always deals with simulations, and not forecasts. It does not aim at figuring out the most probable economic path for KSA in the long run given current information, but to analyze the main aggregate mechanisms involved in KSA in the long run by rises in retail energy prices.

Results

We show that in KSA, the permanent increase in end-user energy prices decided in December 2015 triggers in the model a net overall favorable effect on the intertemporal welfare of all households. We also show that the additional oil income associated with the increase in energy domestic prices tends to be more beneficial to future generations if recycled through public investments and more beneficial to currently living cohorts if recycled through current spending. We suggest that in case of declining future oil prices and domestic production of oil, it is more desirable to increase over time the fraction of the additional oil income that is recycled through public capital spending.

Conclusions

Recycling additional oil income either through public investments or public current spending may trigger important intergenerational redistributive effect in Saudi Arabia. It is all the more relevant for policymakers to consider this intergenerational dimension of energy policy choices as Saudi Arabia has today more than 75 percent of the population under 40. Another policy implication of our results is to show that, in this context, the anticipations about future oil prices significantly influence the definition on current recycling policies. More precisely, focusing exclusively on higher public investments never appears to be an accurate policy idea in our model. Progressively raising public capital expenditures may well function as a desirable mechanism, however, if the future oil income in the Kingdom of Saudi Arabia happens to diminish over time, whether because of lower prices on world markets and/or lower domestic production mirroring lower world demand.

References

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