EQUILIBRIUM STRATEGY FOR GASOLINE SUBSIDY POLICY REMOVAL

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Overview

Gasoline subsidy policy distorts the gasoline market with the resulting inefficiencies. The subsidy takes a great amount of the government's budget that arguably could be spent elsewhere with a greater impact on economic growth. These governments are aware of the cost of such a policy, yet face difficulties in removing the policy because of strong resistance from the public. This paper looks at the decision-making process from the government's perspective that has an objective of generating savings to fund other programs while maintaining political power, and the influence that the general population has over the decision.

The main contribution of this essay is to complement current studies that analyze the impacts of a subsidy reform on welfare and income of the general population by focusing on the difficulty faced by the government in implementing the reform. We believe that political power, or the ability to stay in office, is another significant factor that affects the government's decision. This paper extends the studies of selectorate theory by Bueno de Mesquita (2005) by applying a game theory model based on Harsanyi's (1960). Despite the enormous political science literature on political power, there has yet to be any studies that mathematically model the decision-making process of the government with influences from the general population.

Methods

The political power interaction is structured based on selectorate theory by De Mesquita (2005), while the general population's influence is modeled based on Harsanyi's reciprocal power problem (1960). The mathematical model is solved using Nash bargaining solution (1952), in which both the government and the people are better off. Two different policy removal schemes, phasing-out the policy with and without compensation, were simulated. The parameters are set based on the gasoline market in Indonesia.

Results

Under the benchmark scenario, the equilibrium strategy is to keep the subsidy intact. However, the results are found to be very sensitive to the magnitude of the shift in political power as well as the preferences of both the government and the people. With a relatively lower drop in political power, the government may find total subsidy removal to be the best policy. Based on our sensitivity analyses, the preferences of both the government and the general population have a significant impact on not only the optimal percentage cut of the subsidy, but also the magnitude of the change in utility level.

Conclusions

Removing the gasoline subsidy is no easy task and the government should be vigilant before proceeding. The model provides a structure on the problem faced by the government in trying to remove the gasoline subsidy, while still maintaining sufficient political power to stay in office. Furthermore, the simulations provide insights for the optimal government strategy. The leader should be conscious of the preference of the general population. In the case that the country is experiencing an economic downturn, continuing the policy reform might not be beneficial. The people are more aware of their daily expenditures because of the current economic situation and thus, a reform that could potentially lower their purchasing power is likely unacceptable. Another important takeaway is the drop in political power caused by the policy reform. The reform is subject to strong public rejection and also presents itself as an opportunity for the political opposition to garner some political power. During a period when the country is politically unstable, moving forward with the reform is risky.

References

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