

Price Subsidies Reform and Child Poverty in Arab Countries: A Comparative CGE-Microsimulation Analysis of Egypt and Jordan

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Paper Abstract: Consumption subsidies represent a heavy fiscal burden in most Arab countries. Over the last few years, in response to different national and international pressures, many have started to reform their price subsidy policy, especially for energy products. While food subsidies are distributed relatively equally, this is not the case for energy subsidies, which tend to benefit the wealthy more than the poor. Specifically, gasoline, diesel and electricity are the most regressive, while kerosene is less so. The question is thus how to reconcile subsidy reform and poverty alleviation efforts, given that the resulting price increases (both direct and indirect) will still impact the poor to some degree.

The objective of this study is to simulate the potential impacts on poverty of progressive energy subsidy removal and the partial use of the resulting budget savings to finance new child benefits. In order to do this, we developed a dynamic CGE-micro modelling approach that was able to reconcile the large and complex general equilibrium effects of energy subsidy cuts – where energy is a major household consumption good, production input and direct source of employment – and the individual- and household-specific poverty and inequality effects of the resulting changes in wage rates, employment, self-employment income and consumer prices. The model was then used to compare the results obtained in a baseline scenario without energy subsidy reform and a series of policy scenarios where the reform was implemented according to discussions with local authorities.

This was done with the most recent available data from Egypt and Jordan. For the CGE model of Egypt we updated the Social Accounting Matrix (SAM) to 2009/2010 and disaggregated refined petroleum into several fuels to better capture the details of the subsidy structure; for the microeconomic model we used the 2010/11 Household Income, Expenditure and Consumption Survey (HIECS). For Jordan, the macro model used a newly constructed SAM for the year 2006, while the micro model used the 2010 national Household Expenditure and Income Survey (HEIS).

While a reform of energy subsidies is expected, in the medium and long run, to produce important efficiency gains in the economy, the direct and indirect impacts of subsidy removal on the prices of goods and services can exacerbate poverty, especially among the most vulnerable population categories. Among these, children, who are overrepresented in the population living in poverty, deserve particular attention.

The study explores a number of important aspects surrounding the debate and, crucially, the decision to reform energy subsidies. First, a reform is necessary. The reform of the energy subsidies clearly reduces the fiscal deficit, while boosting investments and helping the overall growth. Second, the reform of energy subsidies without a 'safety net' is bound to further exacerbate child poverty, especially in the short term. While the fiscal health of the country would improve and generate more growth, this is insufficient to offset the direct and indirect consequences of the elimination of subsidies (price increases). In fact, it takes a few years for the impact of cumulative fiscal savings and investments to outweigh the price increase. Finally, the study demonstrates that it is possible to reconcile the progressive diminution and elimination of energy subsidies with the commitment to reduce child poverty.

Some interesting differences between the two countries emerge. In Egypt, the reform has strong impacts on prices: by the end of the simulation period in 2018, the price of energy products in the reform scenarios is on average 50% higher than in the no-reform scenario, while the consumer price index is 8.5% higher. In Jordan, while the increase in electricity prices directly raises intermediate input costs, falling demand more than offsets this so that most price indices fall (the consumer price index decreases by 0.45% by the end of the period with the exception of services). In Egypt, the real wage rates and the unemployment rates do not differ significantly from the baseline scenario, while they both deteriorate in Jordan as a consequence of the subsidy reform. In the latter, rising electricity prices translate into higher input costs, especially in the services and manufacturing sectors, which depresses labour demand. This increases unemployment rates by up to one percentage point while reducing real wage rates by over one percentage point.

In terms of the driving forces of poverty changes, there are also some important differences. In Egypt, the substantial improvement in factor productivity (reflected by higher wages and profits) that follows fuel subsidy reform is not enough to offset the increase in consumer prices. In Jordan, the poverty increase resulting from the subsidy cut is primarily driven by unskilled wage reductions and an increase in the cost of living.