The Effects of the Energy Price Reform on Households Consumption in Iran

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1. Overview

Energy consumption in Iran has been increasing rapidly in recent years mainly due to heavy subsidies that have kept the energy prices low. The substantial subsidizing of energy prices over years has also led to high energy intensity (twice the world), deterioration of environment, and a huge burden on the government budget leading to macroeconomic disturbances. In response to the rising energy consumption and increasing budget deficit, government implanted an energy price reform through which energy prices were more than tripled in 2010. However, the extent to which the reform would reduce energy consumption depends on the demand elasticities for different energy types in different income groups.

2. Methodology

In this paper we estimate energy demand elasticities for electricity, natural gas, and gasoline for households in different income groups. We use a two-stage optimization demand model to derive the energy demand for households and estimate the system of equations using the household budget survey data for the period 2000-2008. The large micro data set on household budget over 8 years allows us to gauge the impacts of energy price reform on demand for different energy types by households in different income groups.

3. Results

The results show heterogeneous responses among different income groups in rural and urban areas to rising different energy prices. Specifically, the rural households will cut their energy consumption in relative term more than the urban households. Among the rural families, the response to energy price changes will be stronger in higher income groups. Furthermore, the low
income groups in urban areas would also respond to energy price changes stronger than higher income groups.

4. Conclusion

The results have important implications for the energy policy reform to avoid or to mitigate the negative effects of the higher energy prices on economic performance in both short-term and long-term. Our study indicates that the impact of the energy price reform will not be homogeneous across the households calling for a more careful policy packages according to different income groups and regions. Moreover, our study shows that the overall price elasticities of demand for energy are low implying that the energy price reform would not have a dramatic impact on the energy consumption. Therefore, if the objective of the energy price reform is to reduce the energy consumption, the current policy of the price increases would not solely be able to deliver that. To achieve the lower energy consumption target, the policy should be directed towards increasing energy efficiency through subsidizing energy efficiency activities by households and industry. The higher prices of energy can be charged to families with high energy consumption and those producing or using inefficient appliances and cars.

References


. IEA (2010), Analysis of the Scope of Energy Subsidies and Suggestions for G20 Initiatives.

Iran Energy Balance, different years, Ministry of Energy.

Keshavarz Hadad, Gh., M. Mirbagheri Jam (2007), Demand for Natural Gas in Iran, Faslname Pajouheshhae Eghtesadi Iran, 32, 137-160.

Moshiri, S,. A. Shahmoradi (2005), Residential Demand for Natural Gas and Electricity in Iran, A Micro Level Study, Tahghighat Eghtesadi, 72, 305-335.