

DO LPG PRICES REACT TO THE ENTRY OF NATURAL GAS? IMPLICATIONS FOR COMPETITION POLICY

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Overview

In developing countries, the penetration of Liquefied Petroleum Gas (LPG) is still high, and hence the entry of Natural Gas networks coexists with the use of LPG by an important fraction of households. Thus, a relevant question is whether the number and degree of horizontal integration among NG and LPG providers influences the level of retail prices. If the answer is yes, then there would be room for regulatory intervention aimed at evaluating the impact of horizontal integration on prices, and at proposing remedies in order to mitigate any potential anticompetitive effect. Using self-reported LPG retail prices for an important number of municipalities in Chile during the years 2013-2014, we estimate that NG entry generates an average decrease of LPG prices within the range 0-6%, depending on the identity of the LPG provider. Interestingly, the LPG provider that had the corporate control over the largest NG network in the country is the only one that did not seem to react to entry.

It is important to have in mind that these results need to be interpreted with caution. The reason is that the negative sign of the NG entry coefficient seems to be mainly driven by the presence of the country largest NG provider in a given municipality. Thus, provided that during the time period studied in the paper, this provider only operated in one of the regions of Chile, we cannot a priori discard the presence of other confounding factors explaining why prices in this region may be lower than prices in other regions of the country.

The paper is organized as follows. Section 1 describes the motivation and contributions of the paper. Section 2 contains a description of the gas industry in Chile. Section 3 briefly describes the data used in the paper. Section 4 contains the empirical approach, and Section 5 summarizes our main findings. Finally, Section 6 presents the main conclusions of the paper.

Methods

Ordinary Least Squares (OLS) and Instrumental Variables (IV) estimations.

Results

The presence of an NG provider in a given municipality generates a significant reduction of LPG prices within the range 0-6% depending on the identity of the LPG provider.

Interestingly, the LPG provider that used to had the corporate control over the largest NG network of the country is the only one that does not seem to react to entry.

Conclusions

First, our results show a significant impact of the entry of an NG provider on LPG retail prices. Thus, these results evidence the existence of imperfect substitution between NG and LPG by households, and suggest that the degree of horizontal integration among different providers indeed matters.

Second, our results shed light on the potential negative implications of horizontal integration among LPG and NG providers, and suggest that there is indeed room for regulatory intervention aimed at evaluating the impact of horizontal integration on prices, and at proposing remedies in order to mitigate any potential anticompetitive effect.

However, these results need to be interpreted with caution. The reason is that the negative sign of the NG entry coefficient seems to be mainly driven by the presence of the country largest NG provider in a given municipality. Thus, we cannot a priori discard the presence of other confounding factors explaining why prices in this region may be lower than prices in other regions of the country.

References

1. Bresnahan, Timothy F., and Peter C. Reiss (1991), "Entry and Competition in Concentrated Markets", *Journal of Political Economy*, Vol. 99, No. 5 (Oct., 1991), pp. 977-1009
2. Heckman J., (1979), "Sample Selection Bias as Specification Error", *Econometrica*, 47, 153-161
3. Kojima, Masami, Robert Bacon, and Xin Zhou (2011), "Who Uses Bottled Gas? Evidence from Households in Developing Countries", Policy Research Working Paper 5731, The World Bank, Sustainable Energy Department
4. Manuszak, M., and C. Moul (2008), "Price and Endogenous Market Structure in Office Supply Superstores", *Journal of Industrial Economics*, 41(1), 94-112.
5. Nardotto, Mattia, Tommaso Valletti and Frank Verboven (2015), "Unbundling the Incumbent: Evidence from UK Broadband", *Journal of the European Economic Association*, 2015 (May 2012), 13(2), 330-362