

COMPETITION IN ROAD FUEL

Contribution from Peru

Enforcement activities

In terms of enforcement activity, in the last few years five preliminary investigations regarding activities in the road fuel supply chain were conducted by the Technical Secretarial of the Defense of Free Competition Commission (TS-CLC) of Indecopi:

- In February 2009, the representative of a gas station located in Juliaca accused Petr6leos del Peru - Petroper6 S.A. (Petroper6)¹ and Peruvian Combustibles S.A. (Pecsa)² for allegedly refusing to sell fuel without justification since 2008. Nonetheless, the complainant failed to present evidence to support his accusations, even though the TS-CLC repeatedly required it. Therefore, the administrative sanctioning procedure was not initiated.³
- On September 14th 2010, a local newspaper published a piece of news in which it was stated that Mr. Carlos Puente de la Mata, President of AGESP⁴ (the Peruvian association of gas stations), said that since October 1st, 2010, date in which gas stations were supposed to start selling gasohol in Lima and Callao, fuel prices would rise in more than PEN 1,00. Nonetheless, in accordance with the provisions of Supreme Decree 024-2011-EM, the commercialization of gasohol in Lima and Callao did not start until July 15th, 2011. Considering the time elapsed since the declarations of Mr. Puente de la Mata and the actual beginning of the commercialization of gasohol in Lima and Callao (almost 10 months), the TS-CLC considered that the declarations would not have had the ability to affect the competition conditions in the market and should be interpreted as a reasoning about the operation of the market.⁵
- In July 2010, there was a shortage of liquefied petroleum gas (LPG) and, subsequently, a price increase was observed. As part of its monitoring activities, the TS-CLC initiated an investigation on alleged horizontal agreements (concerted limitation of production and price increase) by Petroper6, Pluspetrol

¹ Petroper6 is a state-owned firm whose purpose is to conduct hydrocarbon activities as established by Law N6 26221, Organic Law of Hydrocarbons. It participates in all phases of the production and commercialization of hydrocarbons, including its derivatives, the basic and intermediate petrochemicals, and other forms of energy. See:

<http://www.petroperu.com.pe/docs/MEMORIAS/MemoriaPetroperu2011.pdf>

² Pecsa is a private firm engaged in the distribution and marketing of fuels and hydrocarbon derivatives in Peru. See: <http://www.pecsa.com.pe/>

³ Resolution N6 010-2010/ST-CLC-INDECOPI, given on August 5th, 2010. Available in: http://www.indecopi.gob.pe/RepositorioAPS/0/2/par/RES_010_2010_ST_CLC/Res010-2010ST.pdf

⁴ Asociaci6n de Grifos y Estaciones de Servicios del Per6. See: <http://www.agesp.com/>

⁵ Resolution N6 011-2011/ST-CLC-INDECOPI, given on July 18th, 2011. Available in: http://www.indecopi.gob.pe/RepositorioAPS/0/2/par/RES_011_2011_ST_CLC/Res011-2011ST.pdf

Perú Corporation S.A.⁶, Refinería La Pampilla S.A.A.⁷, Lima Gas S.A.⁸, Llama Gas S.A.⁹, Repsol YPF Comercial del Perú S.A.¹⁰ and Zeta Gas Andino S.A.¹¹ The TS-CLC concluded that there was no evidence of the offense under investigation. In fact, according to its analysis, the shortage was explained by the fact that during the investigation period there was an anomalous situation in the Peruvian coastline (as reported by the Directorate of Hydrography and Navigation of the Peruvian Navy), which made it difficult for LPG tankers to download LPG in plants located on the coast of Lima, causing a shortage of that fuel. Additionally, the increase of prices observed in the road fuel companies would have been the result of an adjustment of the Price Band generated, in turn, by the variation in international prices.¹²

- In 2009, the TS-CLC noted an alleged unjustified refusal of the Consorcio Camisea¹³ to sell LPG to Consorcio Poliductos del Perú S.A.C.¹⁴ or its potential clients. The TS-CLC concluded that there was no evidence of the alleged practice since there was no formal communication for Consorcio Poliductos requesting the sale of LPG. Furthermore, potential clients of Consorcio Poliductos requested Pluspetrol (one of the members of Consorcio Camisea) information regarding quality and prices of the future production of LPG and these requests were answered by Pluspetrol. In consequence, no administrative sanctioning procedure was initiated.¹⁵

⁶ Private firm engaged in activities of exploration and production of hydrocarbons with operations in Latin America and Africa. See: <http://www.pluspetrol.net/index.html>

⁷ Peruvian refinery located in Callao, property of Repsol since 1996. See: http://www.repsol.com/pe_es/corporacion/complejos/refineria-la-pampilla/

⁸ Private firm which specializes in the packaging, distribution and marketing of LPG. See: <http://www.limagas.com/>

⁹ Peruvian private firm dedicated to dedicated to the packaging, sale and marketing of LPG. See: <http://www.limagas.com.pe/>

¹⁰ Private firm with participation in several stages of production and commercialization of hydrocarbons. See: http://www.repsol.com/pe_es/

¹¹ Private firm dedicated mainly to the wholesale commercialization of LPG. See: <http://www.grupozeta.com/>

¹² Resolution N° 012-2011/ST-CLC-INDECOPI, given on July 18th, 2011. Available in: http://www.indecopi.gob.pe/RepositorioAPS/0/2/par/RES_012_2011_ST_CLC/Res012-2011ST.pdf

¹³ Consorcio Camisea is a consortium which consists of the following hydrocarbons firms: Hunt Oil Company of Peru L.L.C. Sucursal del Perú, Pluspetrol Camisea S.A., Pluspetrol Perú Corporation S.A., Repsol Exploración Perú Sucursal del Perú, SK Innovation Sucursal Peruana, Sonatrach Perú Corporation S.A.C. and Tecpetrol del Perú S.A.C.

¹⁴ Consorcio Poliductos del Perú S.A.C. is a company formed by Graña y Montero Petrolera S.A. and Oiltanking Perú S.A.C., which had the concession for the transportation of LPG from the facilities of Consorcio Camisea in Pisco to Lima.

¹⁵ Resolution N° 024-2012/ST-CLC-INDECOPI, given on December 28th, 2012. Available in: http://www.indecopi.gob.pe/RepositorioAPS/0/2/par/RES_024_2012_ST_CLC/Res024-2012ST.pdf

Market studies

Market studies

In the last few years, four studies have been conducted in Indecopi regarding road fuels. The first one was conducted by José Távora and Aurelio Ochoa in 2007 and was the product of a consultancy financed by the COMPAL programme.¹⁶ The objective of this research was to analyze the structure, performance and competition conditions in the downstream stage of the hydrocarbon sector in Peru, in order to identify potential sources of restrictive behavior that harms competition in the market of fuels. Some of the most important conclusions of this study are:

- The Peruvian market structure of hydrocarbons is an oligopoly with a high degree of horizontal concentration in several stages.
- There are important sunk costs in almost the whole chain of production and distribution and markets are not contestable.
- The domestic prices of fuel depend mainly on the international oil price, public policies and the competition degree in the domestic market

The second study was conducted by José Távora and Arturo Vásquez in 2007 and was the product of a consultancy financed by the International Development Research Centre (IDRC).¹⁷ The research project aimed at determining the degree of adjustment in the final prices of hydrocarbons when there are changes in international prices and/or output prices in the wholesale distribution segment in Peru, as an indication of market power. The most important findings of this study were:

- There is a predominant asymmetric response in retail prices to changes in import parity prices: in 26 of 36 regional markets analyzed, the response to a price increase upstream is dominant.
- The behavior described above is persistent over time and takes several months to be corrected so, on average, increases and/or reductions in import parity prices are not transmitted fully to consumers. In particular, a rise of PEN 1,00 in upstream prices generate, in most regional markets, significant additional costs to consumers over the regular cost per gallon of fuel.
- The phenomena described above could be explained by the presence of anticompetitive behavior, by factors related to the industrial organization of the sector, by political factors and by the presence of smuggling.

¹⁶ TÁVARA, J. and A. OCHOA (2007). "Las condiciones de competencia en el mercado peruano de hidrocarburos". In: INDECOPI (2007). *Condiciones de competencia en sectores seleccionados: Entidades Prestadoras de Salud, Hidrocarburos y Servicios Financieros*.

¹⁷ TÁVARA, J. and A. VÁSQUEZ (2007). *La industria del petróleo en el Perú: Contexto regional, condiciones de competencia y asimetría en las variaciones de los precios de los combustibles*.

The third one is a brief study conducted in 2008 by the Economic Studies Division of Indecopi¹⁸ in its series *Observatorios de mercados*.¹⁹ In this study several changes in the fuels market in Peru are identified, mainly because of the evolution of international oil prices and the beginning of mining activities in the Camisea area, in which natural gas and natural gas liquids are extracted. Other findings of the study are a high level of integration in the downstream sector and a significant upward trend in fuel prices due to rising international prices.

Finally, the fourth study was conducted in 2013 by an independent consultant (Dante Cersso) at the request of the Economic Studies Division of Indecopi.²⁰ It aims at evaluating the industrial organization of the LNG, particularly in the aspects regarding its uses as a road fuel. The study was motivated by the continuous increases in LNG prices observed since the second trimester of 2012. Some of the main findings of this study are:

- Higher prices are charged in provinces with a lower number of LNG stations, while in areas with a higher number of such stations there are lower prices.
- The increase in prices observed since May 2012 would obey to increases in the trade margins of LNG stations and, since October 2012, to increases of prices charged by gas producers.
- Since the second semester of 2008, moderately concentration levels are observed in the commercialization of LNG (HHI of between 1000 and 1800).
- The existence of legal barriers to entry (administrative procedures which take a long time) may make it difficult for new competitors to initiate commercialization activities.

Price formation

Regarding price formation in Peru, it should be mentioned that all of the above mentioned studies describe the determination of pump prices of fuels. However, the only one that directly addresses the contribution of each factor into the final price is the fourth one. According to Cersso (2013), LNG pump prices are composed of five components (see Figure 1):

- The producer's price, which is subjected to a maximum that is updated annually (according to what is established in the license agreement between the Peruvian government and Pluspetrol²¹) accounts for 19,84% of the pump price.

¹⁸ GERENCIA DE ESTUDIOS ECONÓMICOS DEL INDECOPI (2008). *Mercado de Combustibles*. Observatorio de mercados, Año 2, N° 4, March 2008.

¹⁹ The series *Observatorio de mercados* aims at describing the main features of a market, including legal aspects; the main agents in the production chain; the evolution of production, imports, exports and domestic demand; concentration, and the evolution of international and domestic prices.

²⁰ CERSSO, D. (2013). *La Organización Industrial del Gas Natural Vehicular en el Perú*.

²¹ License agreement for the exploitation of hydrocarbons in Block 88. Available in: <http://www.minem.gob.pe/minem/archivos/contratogas.pdf>

- The tariff charged for the transportation of natural gas from Camisea (Cusco) to the city gate in Lurín (Lima), which is regulated by the sector regulator, Osinergmin²² (according to what is established in the BOOT²³ contract between the Peruvian State and Transportadora de Gas del Perú²⁴) accounts for 5,81% of the pump price.
- The tariff charged for the distribution of natural gas from the city gate to Lima and Callao, which is also regulated by Osinergmin (according to what is established in the BOOT contract between the Peruvian State and Cálidda²⁵) accounts for 6,39% of the pump price.
- The trade margins of gas stations accounts for 52,70% of the pump price.
- Finally, taxes account for the 15,25% of pump prices.

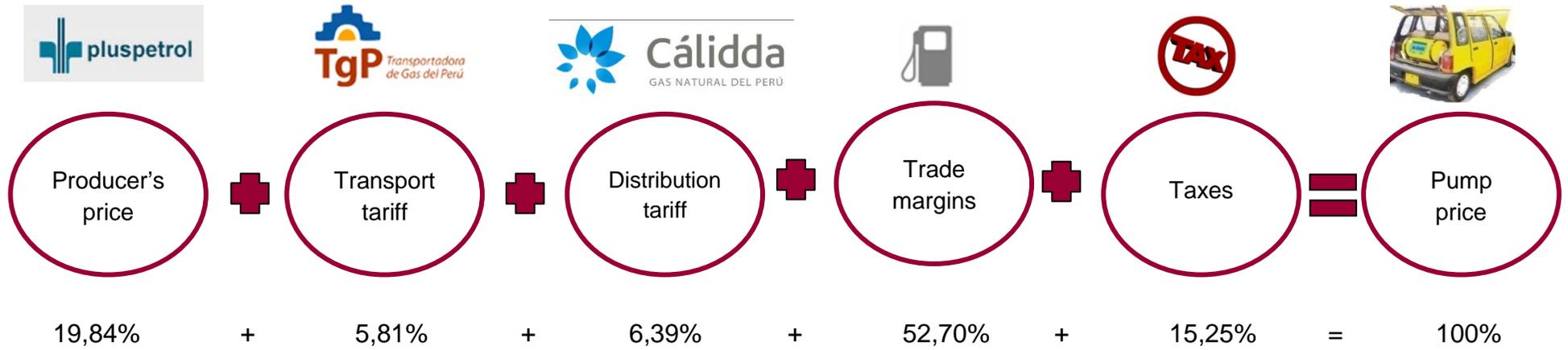
²² Organismo Supervisor de la Inversión en Energía y Minería. See: <http://www.osinergmin.gob.pe/>

²³ Build Own Operate and Transfer.

²⁴ BOOT Contract. Concession Natural Gas Transportation by pipeline from Camisea to the City Gate. Available in: [http://www.minem.gob.pe/minem/archivos/contragas\(1\).pdf](http://www.minem.gob.pe/minem/archivos/contragas(1).pdf)

²⁵ BOOT Contract. Concession Natural Gas Distribution by pipeline in Lima and Callao, initially between the Peruvian State and Tractebel. Available in: <http://intranet2.minem.gob.pe/web/archivos/camisea/data/contrato.htm>

Figure 1
LNG PUMP PRICE STRUCTURE
 (January, 2013)



Source: CERSSO, D. (2013).

Regulatory constraints

Távora and Ochoa (2007) identified significant structural barriers to entry in the downstream stages of the hydrocarbons market as a result of the presence of scale economies and the absence of potential competitors. Nonetheless, they did not identify any legal barrier which may impede the entrance of new firms into the market.

On the other hand, according to the study by Cersso (2013), there are legal barriers which may hinder the entrance of new LNG stations in Peru. In fact, the author identifies that the construction of a GNV station takes approximately one year due to the different entities that review the project. After the design of the station and before its construction, an authorization must be processed in the Municipality and both Osinergmin and the Ministry of Energy and Mines must approve the project. Furthermore, the station must be connected to the distributor through a pipeline network or using a virtual pipeline. Nonetheless, the author considers that these barriers could be overcome by firms that want to enter this market, since the investment requirements are similar to the ones necessary to enter in other road fuels markets.

Asymmetric price adjustments

The main objective of the study by Távora and Vásquez (2007) was to measure the degree of adjustment in domestic prices in response to changes in international prices change and to evaluate the existence of the rockets and feathers effect in 12 departments of Peru between the months of February 2003 and May 2007. Three road fuels were analyzed: diesel 2, 84-octane gasoline and 90-octane gasoline.

The results of this study are shown in Table 1. As can be seen, most of the departments analyzed present an asymmetric response of domestic prices when international prices change. There is positive asymmetry (the response to an increase in the upstream price of fuel is dominant) in 26 of the liquid fuels markets analyzed; while there is negative asymmetry (the response to a reduction in the upstream price of fuel is dominant) in only two cases (diesel 2 in Lima and Piura). Reversion in the price pattern is only present in four cases (mainly in diesel 2 markets) and symmetric response is also present in four cases.

Furthermore, according to the authors, the adjustment of retail prices to their long term equilibrium levels after upstream price changes is slow, which implies that the asymmetric response of retail prices is a persistent phenomenon over time and its correction takes several months after upstream price shocks. Also, their empirical results suggest that the transfer of these price shocks is not complete in the long term, therefore increases and/or reductions in import parity prices, on average, will not be fully transmitted toward final consumers.

The reasons for the existence of these asymmetric price adjustments were not identified in the study.

Table 1
ASYMMETRIC RETAIL PRICE ADJUSTMENTS, BY DEPARTMENT

| Departments | Diesel 2 | 84-octane gasoline | 90-octane gasoline |
|-------------|---------------|--------------------|--------------------|
| Lima | (-) Asymmetry | (+) Asymmetry | (+) Asymmetry |
| Arequipa | (+) Asymmetry | (+) Asymmetry | (+) Asymmetry |
| Ancash | Reversion | (+) Asymmetry | (+) Asymmetry |
| Cajamarca | Symmetry | (+) Asymmetry | (+) Asymmetry |
| Cusco | Reversion | (+) Asymmetry | (+) Asymmetry |
| Ica | (+) Asymmetry | (+) Asymmetry | (+) Asymmetry |
| Junín | Reversion | Symmetry | (+) Asymmetry |
| La Libertad | Reversion | (+) Asymmetry | (+) Asymmetry |
| Loreto | (+) Asymmetry | (+) Asymmetry | (+) Asymmetry |
| Piura | (-) Asymmetry | Symmetry | Symmetry |
| San Martín | (+) Asymmetry | (+) Asymmetry | (+) Asymmetry |
| Ucayali | (+) Asymmetry | (+) Asymmetry | (+) Asymmetry |

Note: (-) Asymmetry: negative asymmetry, favorable to consumers.
 (+) Asymmetry: positive asymmetry, unfavorable to consumers.
 Reversion: response functions revert their trajectory.
 Symmetry: an asymmetric response of retail prices does not exist.
 Source: Távora and Vásquez (2007).

Resources

All of the above mentioned market studies were conducted by teams of economists²⁶, who are either employees of Indecopi or independent consultants.

In the case of the independent consultants, international cooperation was particularly important in financing the investigations. In fact, the study by Távora and Ochoa was financed by the COMPAL programme, while the study by Távora and Vásquez was financed by a grant of IDRC²⁷. Therefore, international cooperation was vital for the conduction of these studies.

We should also mention that all of the independent consultants have specialized expertise in the petroleum industry:

- José Távora is an Industrial Engineer by Universidad Nacional de Ingeniería (Peru), with a Magister Degree in Economics by Pontificia Universidad Católica del Perú (Peru) and a Ph.D. in Economics by the University of Massachusetts (USA). He has also been the Director the Master's Degree in Public Utility Regulation in Pontificia Universidad Católica del Perú.

²⁶ The only exception is Aurelio Ochoa, who is a Geologist Engineer. Nonetheless, he has a Diploma in Energy Economics by the University of Paris II and the French Institute of Petroleum.

²⁷ The grant was awarded to Indecopi in the context of IDRC's contest "Research grants for developing country competition authorities to study competition issues in the distribution sector".

- Aurelio Ochoa is a Geologist Engineer by Universidad Nacional Mayor de San Marcos (Peru), with a Diploma in Energy Economics by the University of Paris II and the French Institute of Petroleum (France) and a Doctorate Degree in Geologic Sciences by the University of Lyon I (France). He is also the Director of Energie Consult and is a former Director of Petroperú.
- Arturo Vásquez is an Economist by Pontificia Universidad Católica del Perú (Peru) with a Ph.D. in Mineral and Energy Economics by the Colorado School of Mines (USA). Furthermore, he is currently Chief Economist and Manager in Osinergmin.
- Dante Cersso is an Economist by Universidad Nacional Mayor de San Marcos (Peru) with a Master in Economics and Regulation by Universitat de Barcelona (Spain) and a Post Graduate Degree in Hydrocarbon Management by Centrum (Peru). Furthermore, he has worked in Osinergmin and Petroperú.

Difficulties

The main difficulty faced by the different teams in charge of the studies described above was the access to adequate data bases of prices, quantities, etc. Public information comes mainly from the sector regulator, Osinergmin, and the Ministry of Energy and Mines, but it is usually insufficient for a more sophisticated analysis.

It should be mentioned that one exception to this issue is the case of data of prices and quantities sold by LNG station. In fact, this information was made available to Indecopi by Cofide²⁸, a mixed economy firm which administers the Load Control System of LNG.²⁹

Use of market studies

Market studies performed by the Economic Studies Division of Indecopi or by independent consultants are used by the Defense of Free Competition Commission of Indecopi as a first screen to identify indications of the existence of anticompetitive practices.

Advocacy

In the last few years, Indecopi has not issued any recommendation to improve competition or competitive conditions in the road fuel sector.

Market monitoring

Indecopi regularly monitors the behavior of different markets, including fuel markets. This is done using three mechanisms. The first one is the periodic publications

²⁸ Corporación Financiera de Desarrollo S.A. See: <http://www.cofide.com.pe/>

²⁹ The Load Control System of LNG manages the information generated by all participants in the commercial chain of LNG in Peru (vehicle users, suppliers of conversion kits and new cars, LNG stations and other agents involved).

Siguiendo Precios Minoristas and *Siguiendo Precios Mayoristas*, monthly bulletins prepared by the Economic Studies Division which monitor the behavior of the price series of a set of products selected by the Defense of the Free Competition Commission.³⁰ Among the price series monitored we have the retail prices of diesel 2 and wholesale prices of 84-octane gasoline. These bulletins are not publicly available.

The second one is the series *Observatorios de mercados*. These documents are small reports prepared by the Economic Studies Division. They describe the main features of a market, including legal aspects; the main agents in the production chain; the evolution of production, imports, exports and domestic demand; concentration, and the evolution of international and domestic prices. The markets studied are selected taking into account the volume of economic transactions and history of claims or allegations in the various decision-making bodies of Indecopi. Some of these reports are publicly available. As mentioned before, to date one of these studies has referred to road fuels.

Finally, the Defense of Free Competition Commission regularly conducts preliminary investigations in sectors with indications of the possible presence of anticompetitive practices. The resolutions that are issued at the end of these investigations are publicly available. The preliminary investigations referred to road fuels were briefly described in the first section of this document.

We should also mention that the work of other public agencies is vital for the preparation of the different market monitoring products prepared by Indecopi, especially in the case of the data gathering process. For instance, the *Siguiendo Precios Minoristas* and *Siguiendo Precios Mayoristas* bulletins are prepared on the bases of the average retail prices and wholesale prices series which are published monthly by INEI³¹, the Peruvian statistics and informatics institute. Furthermore, Osinergmin publishes daily information of pump prices of fuels, by station, since November 2005 in a portal known as *Facilito*³². This information was used by the documents prepared by all of the market studies described in the second section of this document.³³

³⁰ In these bulletins, retail price series and wholesale price series are expressed in real terms and are seasonally adjusted (in case they present seasonality). An alert is activated in case the adjusted price series differs from its historical mean in more than two standard deviations for three or more consecutive months.

³¹ See: <http://www.inei.gob.pe/>

³² See: <http://facilito.osinerg.gob.pe/portal/pages/scop/menuPrecios.jsp>

³³ The only exception is the study conducted by Cersso (2013), which used data of the Load Control System of LNG made available to Indecopi by Cofide.