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Price Asymmetry in the Korean Gasoline Market*

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Abstract

In this paper, I examine how retail gasoline prices in Korea adjust more quickly to increases than decreases in oil prices. By analyzing price transmission at different points in the distribution chain, I attempt to identify main causes and plausible explanations for the observed price asymmetry. Retail gasoline prices asymmetrically respond to changes in spot gasoline prices of the Singapore spot market, used for oil prices. However, the asymmetry seems to occur only at the price transmission from spot gasoline to retail gasoline, which may reflect costly search of consumers. Finally, the asymmetric pricing turns out to entail substantial loss to consumers in Korea.

Keywords: Gasoline price response; Price asymmetry; Cumulative response function

JEL Classification: C5, L11, Q4,

1. Introduction

Over the last two decades, oil prices have shown significant volatility. For instance, they increased from about US\$30 per barrel in 2004 to over US\$130 in 2008, followed by a sharp fall to about US\$40 in 2009. They rose again, meandering at the high range of US\$80~US\$110 over 2010~2014, and then started decreasing to as low as US\$50 at the end of 2019. More recently, because of the COVID-19 pandemic, oil prices have drastically plummeted to about US\$20 per barrel in April 2020.

Due to this oil price volatility, Korean consumers have seriously casted doubts on the price setting behavior of oil companies or gas stations. To the public, it appears that they adjust their gasoline prices faster to increases in oil prices than decreases. In the economic literature, the phenomenon that prices adjust differently in terms of both timing and magnitude depending on their direction is known as “price asymmetry”. The price asymmetry is also known as the “rockets and feathers” effect, a concept first introduced by Bacon (1991), because prices go up like a rocket but come down like a feather. Several empirical studies have been undertaken to find out the presence of asymmetry of gasoline prices and reported similar results (Borenstein et al., 1997; Bachmeier and Griffin, 2003; Galeotti et al., 2003; Chen et al., 2005; Grasso and Manera, 2007; Al-Gudhea et al., 2007; Blair and

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