

Pharmaceutical Price Regulation and Competition in Japan

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Abstract

[Objectives] This study investigates Japanese pharmaceutical price regulation and competition. The Japanese government specifies the listed “official price” for each product for the purpose of transaction of the National Health Insurance Plan while leaving its wholesale price to market competition. Because the wholesale price tends to decline over time due to market competition, the government updates the official price every two years in manner of equating the official price to wholesale price. This unique price dynamics based on regulation and competition would provide lessons for countries adopting similar drug price regulation.

[Methods] This study investigates two empirical questions. First is how the listed “official price,” market “wholesale price” and “price difference ratio” defined as the ratio of the official price to wholesale price, “*Yakkasa Hiritsu*” in Japanese) of an individual product are determined. Second, we estimate elasticity of demand with respect to the official price, wholesale price, and the price difference ratio using a theoretical framework of Hausman et.al.(1994) and Ellison et.al.(1997). We analyze anti-infective products and cardio-vascular products available in Japan. Product family is classified into a group of “branded products” and “generic products”. We classify branded products into segments depending on generations of innovation. We estimate the demand elasticity and investigate price dynamics and its relations with corporate profiles, product profiles, and market competition.

[Data] Using detailed transaction data of individual products in the period of 1990-2013 provided by wholesalers and IMS in two popular therapeutic areas, anti-infective and cardio-vascular products, we pool data and estimate equations accounting for the “price variables” and “demand.”

[Results] The price difference ratio is found to play a significant role compared with the official price and wholesale price separately. We find reasonable demand elasticity with respect to the “price ratio” along with the official price and wholesale price. Product characteristics such as “co-promoted products,” “higher strength products,” and “volume package” affect demand. The price difference ratio, which was once about 20 percent of the official prices in the 1980s, had declined over time due to the “success” of price regulation. In order to contain drug prices, Japanese government needs a new price control system.

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