PCC Discussion Paper
No. 01 Series of 2022

PCC DISCUSSION PAPER

Pharmaceutical Competition in the Philippines

Cielo Magno, PhD

Pharmaceutical Competition in the Philippines

Cielo Magno, PhD (PCC Consultant)

Published by:

Philippine Competition Commission
25/F Vertis North Corporate Center 1
North Avenue, Quezon City 1105

Table of Contents

List of Tables

List of Figures

1. Introduction

Existing cross-country evidence suggests that the prices of medicines in the Philippines are higher relative to countries in Southeast Asia and to countries with comparable income levels (Batangan et al., 2005; Batangan and Juban, 2009; Balasubramaniam, 1996; Pabico, 2006; Kanavos, Lim, and Pascual, 2002). For instance, originator drugs sold in private retail outlets were 17 times more expensive than international reference prices while the lowest priced generics were more than five times more expensive relative to reference prices. Similarly, originator and lowest priced generics procured by public procurement facilities such as tertiary hospitals were 15 and six times more expensive, respectively, than the international reference prices (Batangan et al., 2005).[1]

Because most households pay out-of-pocket for medicines, pharmaceutical prices are a major determinant of health care costs and have implications on access to healthcare and health outcomes, especially for poor households (Bredenkamp and Buisman, 2016). In 2012, the average Filipino household spent Php 5,158 on drugs and medicines which accounted for 61.7 percent of total out-of-pocket health spending (Ulep and Cruz, 2013). Among households incurring catastrophic spending, spending on medicines was the largest expenditure item equivalent to 55 percent of total spending. Across all income groups, drugs and medicines accounted for the highest share among components of health spending. While average expenditure on drugs and medicines was higher among households belonging to the richest quintile, the share of medicine spending in total expenditures was higher among poorer households. Households belonging to the poorest quintile allocated 76 percent of out-of-pocket payments to drugs and medicines, around 18 percentage points higher than the richest group of households.

It is unclear, however, whether relatively high pharmaceutical prices in the Philippines can largely be attributed to supply-side issues involving public procurement inefficiencies (Clarete and Llanto, 2017; Cheng et al., 2020), consolidation among drug retailers (Reyes and Tabuga, 2018), prohibitive importing/distribution costs, or whether prices are the result of demand-side issues such as prescribing and dispensing practices (Picazo, 2011). While the evidence demonstrates that pharmaceuticals in the Philippines are more expensive relative to other countries, the reasons why domestic prices are high have not been thoroughly investigated.

This study examines the relationship between the entry of generic drugs, branded generic drugs and branded non-originator drugs, and whether their entry significantly reduced the price of prescription drugs in the market. Quarterly panel data from IQVIA for the anti-diabetes, anti-infectives, cholesterol, and hypertension therapeutic classes from 2000 to 2020 were used to conduct a panel data analysis. The outcomes of this research may inform regulatory policies in the pharmaceutical sector to ensure that prescription drugs are available and accessible to the public.

[1] *Comparisons are calculated as medicine price ratios, the ratio of the median local unit price to the international reference unit price.*

2. An Overview of the Philippines Pharmaceutical Industry

2.1 The Philippine Pharmaceutical Market

Reyes and Tabuga (2018) provided an overview of the Philippine pharmaceutical market. Citing data from IQVIA, the pharmaceutical market of the Philippines is valued at Php 176 billion as of December 2017 (IQVIA, 2018 as cited by Reyes and Tabuga, 2018). The Philippines is one of the biggest emerging pharmaceutical markets in the ASEAN region, next only to Indonesia and Thailand (Reyes et al., 2011; IMS Health, 2013).

Ethical products account for about 70 percent of the total pharmaceutical market while the remaining share is attributed to over-the-counter (OTC) or proprietary products. About 60 percent of total sales in the pharmaceutical market were sales coming from multinational companies. The national companies have higher share in terms of counting units (IMS Health, 2013). Multinational companies still dominate the market in terms of total sales but the share has been decreasing over the years. Generic drugs have a bigger share of the market than originator drugs in terms of license type. Branded generic drugs dominate the market with unbranded generics making up only 5 percent of the total market sales while branded generics account for about 90 percent of total sales. Similarly, branded generics have bigger share in total sales than originator drugs in the case of multinational companies but that difference is not as significant as the local companies. With respect to branded generics, local companies account for 53 percent of the total market as of 2016 with Unilab accounting for 31 percent of that share (Reyes and Tabuga, 2018).

2.2 Consumer Demand for Prescription Drugs

General trend in the Philippines shows an increase in generic prescribing by physicians by 7 percentage points from 2011 to 2014 (IMS Health, 2013). This is supported by the nationwide increase in the number of generics-only drugstore chains (IMS Health, 2013). Some physicians are more likely to prescribe branded drugs than generic drugs. Physicians with more years of experience are more likely to prescribe the originator and branded drugs than generic drugs. Physicians who practice exclusively in government hospitals are more likely to prescribe generics than their counterparts in private settings. They are also sensitive to the price of drugs. This highlights the important role of physicians in selecting the final type of medication for their patients (Magno and Guzman, 2019). A 2013 Shopper Study of Prescription Drugs by IMS Health Philippines showed that in the case of hypertension, 7 in 10 shoppers have bought branded products. Of the shoppers that bought hypertension medication, 22 percent have prescriptions. About 80 percent of the shoppers with prescriptions were prescribed with branded drugs and all of them purchased the brand prescribed (IMS Health, 2013). This emphasizes the importance of physicians in improving the uptake of generic drugs in the country. It also highlights the weakness of our regulatory policies to promote the use of generic drugs.

It is also widely believed that generic products are lower in quality than branded drugs in the Philippines. Around 67 percent of respondents in a Philippine pharmaceutical price

survey agreed that generics were of lower quality than branded medicines (Batangan and Juban, 2009).[2]

Hospitals also play an important role in the demand for prescription drugs. Private hospitals through their Pharmaceutical Therapeutic Committee (PTC) identify the medicines that will be included in their formulary. Members of the PTC usually rely on the information provided by companies in making procurement decisions. There is an increasing presence of multinational products in the government's medicine purchases. Multinationals supplied 79 percent of government procured medicines in 2016. Government hospitals largely use branded generics (78 percent). The remaining 22 percent are originator products (Reyes and Tabuga, 2018).

Due to the lack of comprehensive health insurance coverage, prescription drugs account for a significant portion of out-of-pocket health spending in the Philippines. Expenses on prescription drugs account for 55 percent of total spending among households incurring catastrophic spending (Ulep and Cruz, 2013). The poor households allotted 76 percent of out-of-pocket payments to drugs and medicines which was 18 percentage points higher than the richest households (Ulep and Cruz, 2013).

Low generic utilization because of consumer preference for branded drugs and prescribing/dispensing practices that favor branded drugs contribute to the disproportionate share of medicines in health spending (Lavado and Ulep, 2011; Picazo, 2011; Batangan and Juban, 2009; Lavado, 2011). Despite that, the Philippines has a higher utilization rate of lower-cost generics than other Asia-Pacific countries with comparable GDPs (IMS Health, 2013).

2.3 Regulatory Framework

The key regulatory measures in the Philippines with respect to the pharmaceutical industry are the Food, Drug and Cosmetic Act (Republic Act (RA) No. 3720), the Generics Act of 1988 (RA No. 6675), the Special Law on Counterfeit Drugs (RA No. 8203), the Consumer Act of the Philippines (RA No. 7394), the Cheaper Medicines Act (RA No. 9502), the National Health Insurance Act (RA No. 7875) and the Universal Health Care Act (RA No. 11223).

The Food, Drug and Cosmetic Act (RA No. 3720) created the Food and Drug Administration (FDA) under the Department of Health. It is the primary agency that is responsible for implementing the government standards and quality measures for food, drug, and cosmetics. The FDA requires generic drugs to be registered with the FDA and undergo a bioequivalence (BE) test. This means that they are at least 90 percent similar to the originator drug. Generic products sold by innovators after patent expiration are also required to undergo BE testing.

[2] *In the same survey, 71 percent of the respondents expressed trust that the government is ensuring quality medicines in the market.*

The Generics Act of 1988 (RA No. 6675) requires government health agencies and personnel to use generic names in purchasing, prescribing, dispensing, and administering medications. The law also requires all medical practitioners (public and private) to prescribe generic medication but can exercise discretion in indicating brand names. Drug stores, hospital and non-hospital pharmacies, and supermarkets are required to inform the buyer of all products with the same generic name and their corresponding prices to inform the buyer of his/her options.

Some researchers note that the Generics Act failed to encourage the extensive use of generic prescribing by health care providers (Lecciones, 2004 as cited in Aldaba, 2008). The perception by doctors and patients that generic drugs are inferior in safety and efficacy was a major factor in the limited penetration of generic drugs in the market. Around 67 percent of respondents in a Philippine pharmaceutical price survey perceived that generics were of lower quality than branded medicines (Batangan and Juban, 2009).[3] Consumers have to distinguish between originator brands that meet safety and efficacy requirements and generics with either established reputations or others of unknown quality (Danzon et al., 2015). Price is used as a signal of quality because of the uncertainty with the quality of generic products.[4] A study by Bearden and Mason (1980) suggests that confidence in regulation, potential savings, and impact on drug research may encourage physician and pharmacists to support generic drugs.

The Special Law on Counterfeit Drugs (RA No. 8203) protects the public from counterfeit medications by providing penalties and sanctions for prohibited acts listed in the law. These include the manufacture, sale, or offering for sale, donation, distribution, trafficking brokering, exportation or importation or possession of counterfeit drugs.

The Consumer Act of the Philippines (RA No. 7394) set some rules on the labeling and packaging requirements of prescription drugs, regulation on dangerous and banned or restricted drugs, and certification of drugs containing antibiotics. The law also prohibits medical prescriptions in sales promotion campaigns and regulates the advertising of drugs. The prohibition on the promotion in any mass media of prescription or ethical drug is contained in Administrative Order No. 65 s. 1989 of the Department of Health (DOH). Only non-prescription drugs or over-the-counter drugs are allowed to be advertised or promoted to the public.

The Cheaper Medicines Act (RA No. 9502) prescribes the regulation of prices of drugs and medicines when full competition in the pharmaceutical market is ineffective. The law authorizes the President of the Philippines to impose maximum retail prices over any or all drugs and medicines enumerated in Section 23 of the law with much leeway to determine the effectivity of the regulation. The law also provides penalty for drug price manipulation

[3] *In the same survey, 71 percent of the respondents expressed trust that the government is ensuring quality medicines in the market.*

[4] *Conversely, firms make use of other strategies: Multinational generic producers that adhere to WHO standards may invest in reputation to establish themselves as high-quality and high-price generic brands or may choose a lower-price/high-volume strategy. Domestic generics can establish reputation through a long tradition or through advertising. Domestic generics may invest in reputation for brand quality and charge high prices. Others may charge lowest prices to attract most price-sensitive customers.*

and mechanisms to monitor the implementation of the pricing policies. The law became the basis for the issuance of Executive Order (EO) No. 821 and EO No. 104 by the President prescribing the maximum drug retail prices for selected drugs and medicines. Under EO No. 104, 87 drug molecules were placed under the maximum retail price (MRP) and maximum wholesale price (MWP).

National Health Insurance Act (RA No. 7875) indicates prescription drugs as part of the benefit package of inpatient and outpatient care. For inpatient care, Drugs listed in the Philippine National Drug Formulary (PNDF) are covered up to specific ceilings. For outpatient care, Philhealth Circular No. 20 s. 2009 provides for extra pack(s) of medications worth Php 100.00 beyond confinement period subject to certain limitations.

The Universal Health Care Act (RA No. 11223) also requires DOH-owned health care providers to use the price reference indices, following centrally negotiated prices, in procuring drugs and devices. They also need to sell them following prescribed maximum mark-ups and to submit to the DOH a price list of all drugs and devices procured and sold by the health care provider. Drug outlets are also mandated to have the generic equivalent of all drugs in the Primary Care Formulary and to inform the customers of the therapeutic equivalents and the corresponding prices of the medication.

Despite the existing regulations, prices of some medicines in the Philippines remain to be relatively higher compared to other countries in the region (Reyes and Tabuga, 2018; Batangan and Juban, 2009; Cameron et al., 2011). Reyes and Tabuga (2018) observed the following in terms of prescription drug pricing in the Philippines:

- Branded generics have a wider price range compared to unbranded generics.
- The prices of certain brands vary depending on who is selling the drug. Prescription drugs from China and India are among the cheapest.
- The average prices of medicines also seem to vary according to the profile of its maker with smaller and medium sized firms producing cheaper versions of the medication than bigger firms.
- Drug advertising may be contributing to the difference in price of the same drug.

Sarol (2014) and Clarete (2017) concluded that the government-mediated access prices (GMAP) and the maximum drug retail pricing (MDRP) were effective in reducing the prices of targeted drugs. Sarol (2014) found that there was reduction in the mean prices of competitor drugs albeit on a relatively small scale; mean prices in 2011 of competitor drugs tended to settle near the GMAP reference levels, mean prices of the cheapest generic drugs all went down significantly. Despite the decrease in prices of medicines, drugs remained unaffordable (Clarete and Llanto 2017). Clarete and Llanto (2017) recommend deepening the local medicine market by expanding the pooled procurement of medicines to attract more suppliers to improve access for the poor and lower the prices of medicine. They also recommend the explicit allocation for medicines in case of the extension of Philhealth coverage to outpatient medicine prescriptions, pooling of financial assistance from state-owned corporations and agencies for catastrophic illnesses, provision of incentive to local

government units to invest more in primary health care with medicines as an integral part of the program and tiered pricing of medicines.

3. Competition in the Pharmaceutical Industry: Literature Review

Generic substitution can significantly affect price competition. Entry of generic drugs in the market results in lower short-run prices (Aalto-Setälä, 2008; Berndt et al., 2007; Pavcnik, 2002). An increase in the number of competitors can reduce the price of substitutable drugs. The entry of more branded drugs with similar function reduces the price of brand name drugs (Kong, 2004). The effect of competition is greater for generic drugs than branded drugs and that competition may be confined in the generic sector only (Aalto-Setälä, 2008; Regan, 2008). Generic drug prices fall as the number of competitors increases but the price remains above marginal cost until there are eight or more competitors (Reiffen and Ward, 2005).

However, the effect of "inertia" or the slow and limited adoption of generic drugs despite their lower process is substantial in terms of consumer preference, as observed in Japan (Ito, Hara, and Kobayashi, 2020). The number of generic products, and the length of time the generic product has been in the market contribute to the decrease in price ratio between generic and branded drugs (Kong, 2004). Kong (2004) also notes that the market share of the brand-name product also plays an important role in the price differential of generic and brand name products. The size of generic revenues, rents and number of firms are also influenced by the market size and the pre-expiration brand revenue (Reiffen and Ward, 2005; Scott Morton, 2000). Pricing of pharmaceutical products was also observed to be sensitive to patient out-of-pocket expenses with branded products being more sensitive than generic counterparts (Pavcnik, 2002).

Generics easily gain a large share of the market (Cook, 1998). Average market share ranges from 38 percent to 50 percent in the first year after generic entry (Grabowski and Vernon, 1996). In the case of the antibiotic market, the demand for brand-name drug is more sensitive to changes in the price of the generic substitute than to changes in the price of the competing brand-name drug (Ellison et al., 1997). It is important to note that because of the perception that generic prescription drugs are riskier than their brand name counterparts, significantly larger cost savings are required for consumers to switch to generic prescription drugs (Ganther and Kreling, 2000).

Authorized generic entry in the market has the same effect of lowering the short-run prices of prescription drugs (Berndt et al., 2007). However, they also discourage and slow the entry of smaller generic companies in the market, reducing potential competition in the sector (Hollis, 2003). The introduction of authorized generics even prior to patent expiration may result in higher equilibrium prices when anticipated by independent generic producers. They are also effective in maintaining the profit of the incumbent firm (Reiffen and Ward, 2007).

Another study shows that the entry of the generic counterpart results in the reduction of the quantity market share of the molecule losing exclusivity despite the drop in the price of the

molecule. This happens when horizontal product differentiation is limited, the price elasticity of demand is low, or the firm facing generic competition stops promoting its product (Castanheira, Ornaghi, and Siotis, 2019).

Generic entry paradox was also observed. This is when the price of the originator drug goes up when the chemically equivalent generic enters the market (Caves et al., 1991; Regan, 2008; Vandoros and Kanavos, 2013; Grabowski and Vernon, 1992). The price of the innovator drug eventually declines as more generic manufacturers enter the market (Grabowski and Vernon, 1992). Demand for the innovator drug declines as price sensitive consumers switch to generic version resulting in the increase in the price of the innovator drug faster than it would have without generic competition (Cook, 1998; Frank and Salkever, 1992). It was also noted that while brand-name prices may increase with the entry of generic competitors, discounts on brand-name drugs tend to increase after generic entry. In effect, some brand-name drug prices do increase faster than inflation after generic entry, but there are some purchasers who pay less after generic entry due to increased discounts (Cook, 1998). Ferrara and Kong (2008) explained that generic entry paradox is more likely to occur when "the market share of consumers with better insurance is relatively small, the marginal cost of production is high, the number of producers of generics is low, the two products are not considered close substitutes, the price-elasticity of the demand for brand-name drugs is high, and the willingness to pay for the brand-name drug is high." Kong (2004) explained that "while a small number of generic firms tend to increase the price of brand-name drugs, at some point, this process reaches a limit, and any additional number of firms will bring the price of the brand-name drug down."

With respect to policies, Hasan et al. (2019) observed considerable price reduction of various pharmaceuticals in New Zealand through a government monopsony pharmaceutical purchaser that is able to maximize the limited public budget while improving access to subsidized medicines. The agency undertakes competitive tendering to obtain lower drug prices instead of price regulation.

Generic substitution policies including alerting patients to switch to generic drugs may help in enabling patients to switch to cheaper generic counterparts (Ito, Hara, and Kobayashi, 2020). Awareness of consumers to the existence of substitutes help facilitate the switch in demand from brand-name drugs to generics (Kong, 2004).

Reference pricing proves to be an effective cost containment tool. A study in Denmark shows that a shift from external reference pricing[5] to internal reference pricing[6] led to substantial reductions in retail prices, reference prices, and patient co-payments (Kaiser et al., 2014). In addition, it also led to a substantial reduction in overall producer revenues and health care expenditures and has induced consumers to move towards cheaper generic drugs (Kaiser et al., 2014). When brand name pharmaceuticals dominate the market, even internal reference pricing cannot encourage price competitiveness and price reductions. A study in Turkey showed that the prices of the original and generic drugs remained the same

[5] *Reference price as a function (average or minimum) of prices of substitute products in other countries.*
[6] *Reference price as a function of prices of domestic substitutes.*

over time despite regulation like internal reference pricing by authorities (Kumru and Top, 2018). Meanwhile, a study of the statin market in Spain showed that the decline in the consumer price of brand-name and generic products was not associated with competition from lower-priced new entrants but with the reference pricing of the government. Reference pricing was effective in reducing the price of brand-name and generic medications that are priced higher than the reference price but it was ineffective in reducing the price of products that are already below the reference level. Even with reference pricing, the entry of more generic players can result in further reduction of price of prescription drugs (Puig-Junoy, 2007).

4. Data and Variables

For this study, an IQVIA dataset that contains drug sales data for four therapeutic classes, namely anti-diabetes, anti-infectives, cholesterol, and hypertension was utilized. Data spans quarterly from 2000 to 2020. Relevant information included in the data are presented in **Table 1**. PSA's consumer price index for health commodities from 2000 to 2020 with 2018 as the base year was also obtained to convert nominal variables, such as prices of drugs, to real variables.

Table 1. Relevant Information from the IQVIA Sales Dataset

Variable	Definition
Channel	Sales data is segmented into 2 main audits: retail/drugstore or hospital
Region	Sales data is segmented into 4 Philippine main island groups: Metro Manila, Luzon, Visayas, Mindanao
Political Region	Sales data is segmented into 17 Philippine geo-political regions
Category	Sales data is segmented into 4 therapeutic classes
Product	Sales data is segmented into specific products
Pack	Product data is segmented into the stock keeping unit (SKU) levels of a product
License Type	Sales data is segmented into 3 license types: originator, branded non-originator, or unbranded non-originator
Pack Launch Date	Official launch date of a product in the market
Measures	Sales data segmented into 3 types of measures: counting units (sales of a pack in terms of volume), total units (measure of per stock keeping unit or per pack), or values (total sales)

From this information, various variables were generated, shown in **Table 2**, which are utilized in the empirical analysis.

Table 2. Variables Utilized in the Empirical Estimations

Variable	Definition
rp	Real price of a drug (nominal price was obtained by dividing total sales by total units)
brandx	Number of unique branded non-originator entrants in the market per quarter
unbrandx	Number of unique unbranded non-originator entrants in the market per quarter
origx	Number of unique originator entrants in the market per quarter
xpresentation	Number of presentations of a product
lot	Length of time in the market of product (measured in terms of number of quarters)
licmarketsharepertc	Market share of a license type in a therapeutic class per quarter.
hosp	Dummy variable indicating that drug channel is hospital
retail	Dummy variable indicating that drug channel is retail/drugstore
ncr	Dummy variable indicating that drug is sold in NCR
armm	Dummy variable indicating that drug is sold in ARMM
car	Dummy variable indicating that drug is sold in CAR
reg1	Dummy variable indicating that drug is sold in Region 1
reg2	Dummy variable indicating that drug is sold in Region 2
reg3	Dummy variable indicating that drug is sold in Region 3
reg4a	Dummy variable indicating that drug is sold in Region 4a
reg4b	Dummy variable indicating that drug is sold in Region 4b
reg5	Dummy variable indicating that drug is sold in Region 5
reg6	Dummy variable indicating that drug is sold in Region 6
reg7	Dummy variable indicating that drug is sold in Region 7
reg8	Dummy variable indicating that drug is sold in Region 8
reg9	Dummy variable indicating that drug is sold in Region 9
reg10	Dummy variable indicating that drug is sold in Region 10
reg11	Dummy variable indicating that drug is sold in Region 11
reg12	Dummy variable indicating that drug is sold in Region 12
reg13	Dummy variable indicating that drug is sold in Region 13
antidiab	Dummy variable indicating the therapeutic class anti-diabetes
antiinf	Dummy variable indicating the therapeutic class anti-infectives
cholest	Dummy variable indicating the therapeutic class cholesterol
hypertens	Dummy variable indicating the therapeutic class hypertension
originat	Dummy variable indicating the license type originator
branded	Dummy variable indicating the license type branded non-originator
xunbranded	Dummy variable indicating the license type unbranded non-originator

Table 3 presents some descriptive statistics of the variables to better understand the nature of the data.

Table 3. Descriptive Statistics

Variable	Originator (n=1,504,320)	Branded Non-Originator (n=4,342,480)	Unbranded Non-Originator (n=756,880)
Price (Php) M(SD)	798.873 (119.21)	296.17 (38.91)	272.63 (179.63)
Drug presentation M(SD)	6.05 (4.91)	3.58 (2.74)	2.97 (1.73)
Length of time (quarter) M(SD)	86.75 (189.09)	109.43 (266.77)	118.31 (281.45)
Market share M %	55.06%	51.05%	17.38%
Hospital n(%)	715760 (47.4)	1723600 (38.5)	286960 (37.2)
Retail n (%)	794000 (52.6)	2754960 (61.5)	484880 (62.8)
Therapeutic class (base: hypertension)			
Anti-diabetes n (%)	299920 (33.5)	542080 (60.6)	52080 (5.8)
Anti-infectives n	576800 (15.8)	2580160 (70.8)	486800(13.4)
Cholesterol n	105920 (20.3)	346800 (66.6)	67920 (13.0)
Hypertension n	527120 (31.0)	1009520 (59.3)	165040 (9.7)

The dataset has 6,603,680 observations of quarterly sales data of prescription drugs from the anti-diabetes, anti-infectives, cholesterol, and hypertension therapeutic classes. The data shows that the price of originators is much higher than the prices of branded and unbranded non-originators.

As illustrated in **Figure 1**, when all four therapeutic classes are considered, originator drugs tend to have higher prices on average, followed by branded non-originators and unbranded non-originators, respectively. The average price of originator drugs is more than twice the average price of branded and unbranded non-originator drugs. The average price of branded non-originators and unbranded non-originator are closer to each other with the branded non-originator being slightly more expensive than unbranded non-originators.

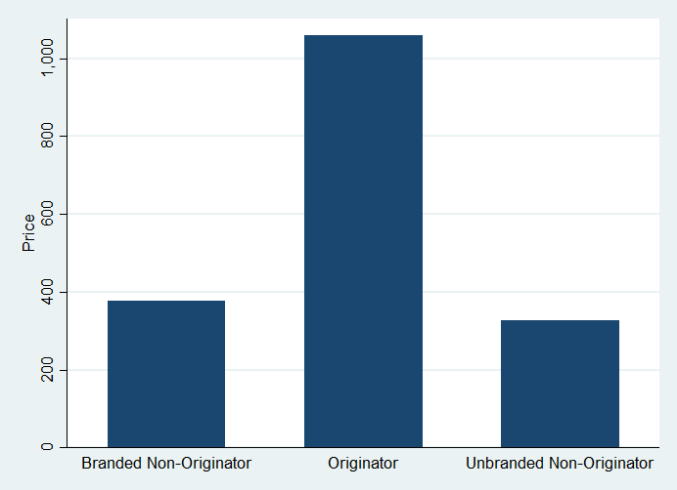

Figure 1. Average Real Price of Drugs per License Type

When considered per therapeutic class (**Figure 2**), the relationship among the average prices of originators, branded non-originators, and unbranded non-originators remains the same. The originator is at least twice as expensive as the branded and unbranded non-originators. The price difference between branded and unbranded non-originators is more obvious in anti-diabetes and hypertension medications.

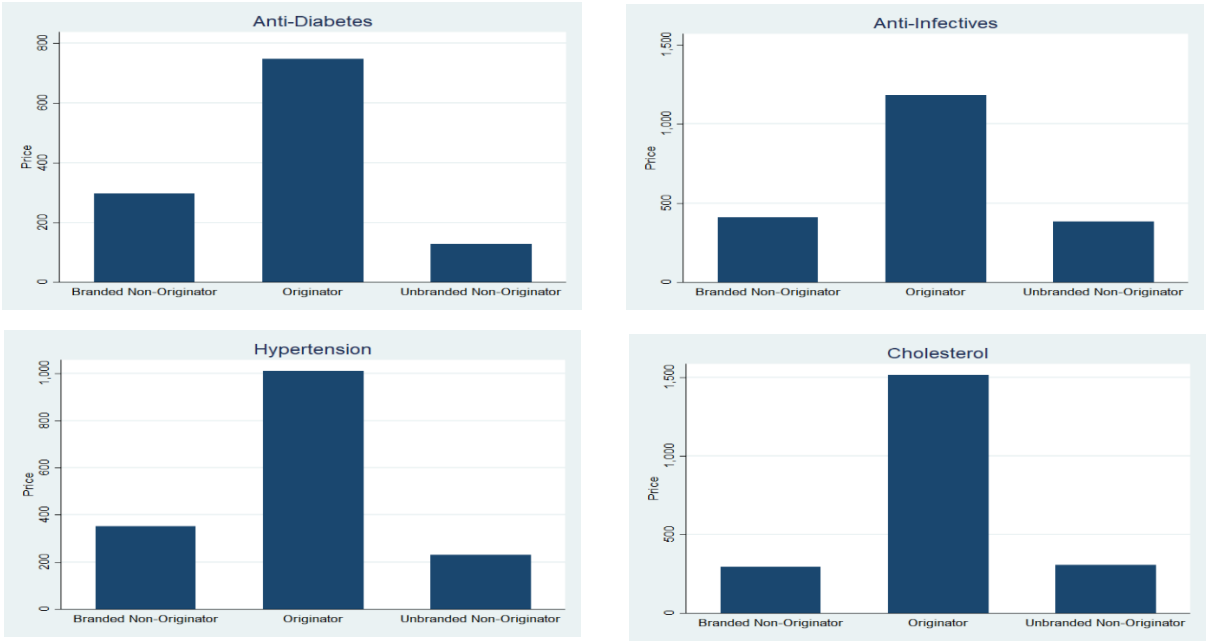

Figure 2. Average Real Price of Drugs per License Type per Therapeutic Class

Comparing the price of drugs across major island clusters, **Figure 3** shows that the prices of drugs are higher in Metro Manila, on average, as compared to other places in the country. On average, drugs are cheapest in Mindanao, followed by Luzon and then Visayas.

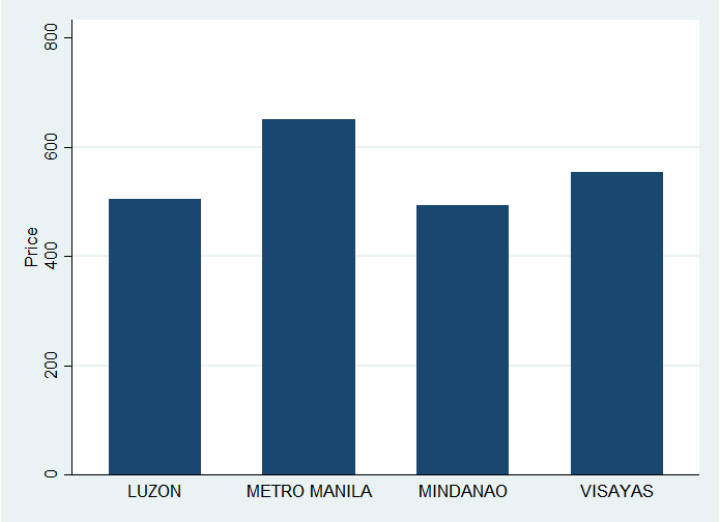

Figure 3. Average Real Price of Drugs per Major Island Group

With respect to sales channels (**Figure 4**), on average, retail/drugstores sell drugs at a higher price than hospitals. This may be explained by the capacity of hospitals to bargain with pharmaceutical companies for discounted prices given the volume of procurement.

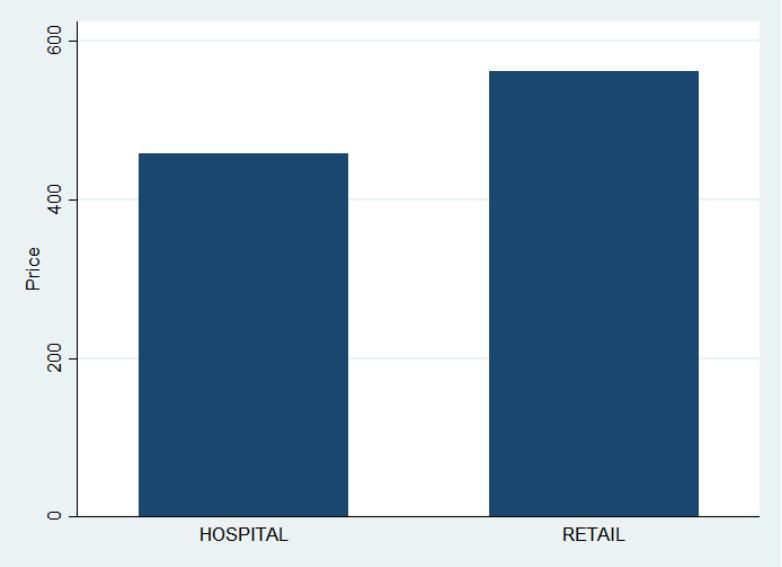

Figure 4. Average Real Price of Drugs per Channel

In **Table 3**, the average drug presentation of originator drugs is 6.05 while branded and unbranded non-originators are 3.58 and 2.97, respectively. Data shows that unbranded non-originators stay in the market longer than originator and branded non-originator. The average market share of originators is 55.06 percent, while branded non-originators have an average market share of 51.05 percent. The unbranded non-originators have the smallest average market share of 17.38 percent.

Figure 5 presents the number of entrants per license type for each therapeutic class in consideration. The number of entrants seem to increase over time and branded non-originators tend to have a higher number of entrants than originators and unbranded non-originators.

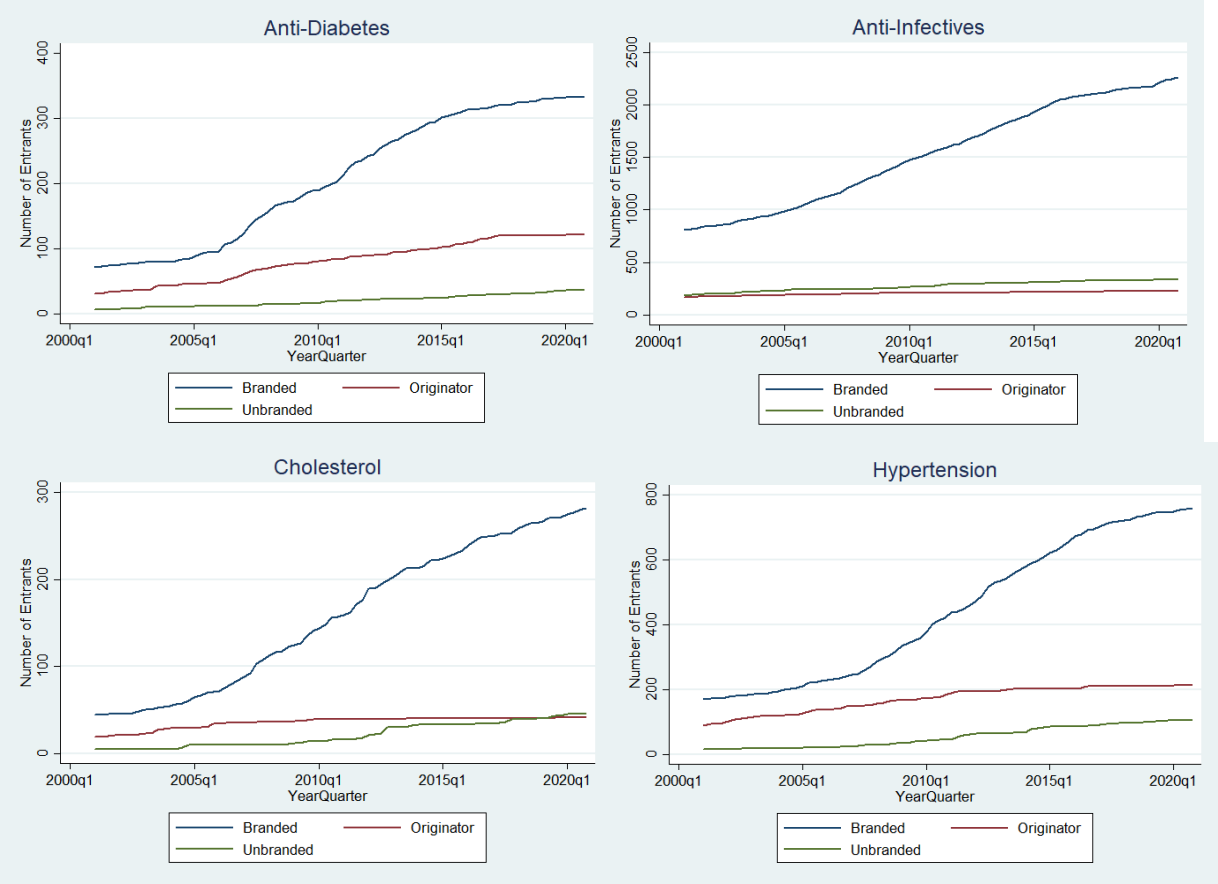

Figure 5. Number of Entrants per Quarter per License Type

5. Methodology

To examine the effect of competition on prices of prescription drugs, the study looks at the effect of drug entry and other relevant variables on price. The following regression model using a panel data estimation technique was used. A random effects model was also used to allow for time-invariant variables to play a role as explanatory variables.

$$y_{it} = \beta_0 + \boldsymbol{\gamma X_{it}} + \boldsymbol{\phi Z_{it}} + \mu_{it} \quad (1)$$

where y_{it} is the real price of drug *i* at time *t*, β_0 is the intercept of the regression equation, $\boldsymbol{X_{it}}$ is a vector containing the number of drug entrants variables (i.e. origx, brandx, unbrandx), $\boldsymbol{Z_{it}}$ is a vector that contains variables describing drug *i* at time *t* (xpresentation, lot, licmarketsharepertc, hosp, retail, armm, ncr, reg1-reg13, antidiab, antiinf, cholest, hypertens), $\boldsymbol{\gamma}$ is the vector containing the coefficients of variables included in vector $\boldsymbol{X_{it}}$, $\boldsymbol{\phi}$ is a vector containing the coefficients of the variables included in vector $\boldsymbol{Z_{it}}$, and μ_{it} is the error term of the equation.

The natural log of the continuous variables (price, number of drugs, market share, length of time in the market, number of presentation) was used to normalize the distribution of the said variables. The regression equation is estimated separately for each license type to

properly delineate the effect of drug entry and other relevant variables on the price of a specific drug license type.

6. Results and Discussion

Table 4 presents the estimates of the regression equation per license type. The first column lists the independent and control variables used in the regression model. The other columns show the results for the three regression models with the real prices of originators, branded non-originators and unbranded non-originators as dependent variables.

Table 4. Regression Estimates per License Type

Variables	Originator b/rob. se	Branded Non-Originator b/rob. se	Unbranded Non-Originator b/rob. se
Number of branded non originators	-0.472***	-0.433***	-0.497***
	0.003	-0.002	-0.004
Number of unbranded non-originators	0.099***	0.132***	0.030***
	0.002	-0.001	-0.004
Number of originators	0.372***	0.206***	0.197***
	0.004	-0.003	-0.008
Drug presentation	-0.299***	-0.145***	-0.284***
	0.001	-0.008	-0.024
Length of time	-.028***	-0.0194***	-0.006***
	0.001	-0.000	-0.001
Market share	0.204***	-0.135***	-0.005***
	0.002	-0.002	-0.001
Hospital (base: retail)	-0.052***	0.127***	0.272***
	0.014	-0.010	-0.029
Location (based: NCR)			
armm	-0.108***	0.0219	0.159**
	0.042	-0.029	-0.079
car	-0.082**	0.023	0.209***
	0.041	-0.028	-0.075
reg1	-0.069*	0.012	0.213***
	0.040	-0.027	-0.074
reg2	-0.080**	0.011	0.223***
	0.040	-0.028	-0.075
reg3	-0.055	0.015	0.007
	0.040	-0.026	-0.072
reg4a	-0.056	0.012	0.069
	0.040	-0.025	-0.070
reg4b	-0.121***	0.011	0.224***
	0.042	-0.029	-0.078
reg5	-0.098**	0.030	0.250***
	0.041	-0.028	-0.076
reg6	-0.052	0.061**	0.187**
	0.040	-0.027	-0.073
reg7	-0.054	0.070***	0.218***
	0.040	-0.027	-0.073
reg8	-0.088**	0.053*	0.277***

Variables	Originator b/rob. se	Branded Non-Originator b/rob. se	Unbranded Non-Originator b/rob. se
	0.040	-0.028	-0.077
reg9	-0.096**	-0.041	0.168**
	0.040	-0.027	-0.075
reg10	-0.059	0.0493*	0.257***
	0.040	-0.027	-0.074
reg11	-0.047	0.076***	0.273***
	0.040	-0.027	-0.0735
reg12	-0.080**	0.056**	0.269***
	0.040	-0.028	-0.075
reg13	-0.108***	0.037	0.193**
	0.041	-0.028	-0.078
Therapeutic class (base: hypertension)			
Anti-diabetes	-0.135***	-0.354***	-0.728***
	0.020	-0.018	-0.059
Anti-infection	0.261***	0.072***	0.328***
	0.017	-0.013	-0.034
cholesterol	0.663***	0.035*	0.166***
	0.030	-0.021	-0.056
constant	8.680	7.872***	8.372***
	0.035	-0.002	-0.066
R-squared overall	0.137	0.034	0.040
R-squared within	0.361	0.279	0.370
R-squared between	0.104	0.036	0.030
Observations	633,367	1,115,970	190,934
Groups	18,184	52,974	8,950
Average group size	34.8	21.1	21.3

* $p<0.10$, ** $p<0.05$, *** $p<0.01$

Entry of Drugs

For all types of drugs, an increase in the number of branded non-originators in the market decreases the price of originators, branded non-originators and unbranded non-originators. Branded non-originators compete with originators and unbranded non-originators. The effects of the number of branded non-originators are statistically significant ($p<0.001$). One explanation is that in a sector where there is asymmetry in information on the quality of prescription drugs and significant distrust on the quality of generic drugs, branded generics present a cheaper alternative to originators.

The results also show that the increase in the number of unbranded non-originators and originators result in an increase in the price of originators, branded non-originators, and unbranded non-originators. The increase in the number of these type of drugs may signal an expansion of the market share of the therapeutic class which resulted in the entry of other players.

Presentation of Drugs

With respect to drug presentation, the increase in the number of a prescription drug presentation results in the decrease in the price of originators, branded non-originators and unbranded non-originators.

Length of Time in the Market, Market Share, Channel, and Location

For all license types, the price of drugs tends to fall the longer it is in the market. Originators tend to be cheaper if sold in hospitals. However, branded and unbranded non-originators tend to be more expensive when sold in hospitals.

Originators tend to be cheaper in some provinces outside Metro Manila. These are in ARMM, CAR, Regions 1, 2, 4b, 5, 8, 9, 12, and 13. On the other hand, branded and unbranded non-originators tend to be more expensive (statistically significant) outside Metro Manila. For branded non-originators, they are more expensive (statistically significant) in Regions 6, 7, 8, 10, 11 and 12. For unbranded generics, they are more expensive (statistically significant) in ARMM, CAR, Regions 1, 2, 4b, 5, 6, 7, 8, 9, 10, 11, 12, and 13. The price difference is statistically insignificant in Regions 3 and 4A for the three types of drugs probably because of the proximity to Metro Manila.

Lastly, when the market share of drugs increases, the price of originators tends to increase ($p<0.001$). On the other hand, an increase in the market share of prescription drugs is related to a decrease in the prices of branded and unbranded non-originators.

Therapeutic Class

These variables were included to control for the unique characteristics of each therapeutic class.

Interaction Between Number of Prescription Drugs and Market Shares

To see whether market share and the number of players in the market reinforce each other, the study included interaction variables between the number of the three types of drugs and market share. See **Table 5** for the results.

While the interaction variables are statistically significant, the independent effects of the number of drugs and market share on price remain statistically significant. As the number of branded non-originators increase, the prices of originators, branded non-originators and unbranded non-originators decrease. The increase in the number of unbranded non-originators and originators are associated with the increase in price of originators, branded and unbranded non-originators. In fact, the effects of the number of originators, branded and unbranded non-originators on the prices of the various types of prescription drugs became stronger with the inclusion of interaction variables.

The effect of the market share for the price of branded and unbranded prescription drugs changes with the inclusion of interaction variables between market share and the number of the drugs. The results are similar with the effect of market share on the price of originators. An increase in market share results in the increase in the price of branded and unbranded non originators as well. The direction of effects of the other statistically significant variables remains the same.

Table 5. Regression Estimates with Interactions, per License Type

Variable	Originator b/rob. se	Branded Non-Originator b/rob. se	Unbranded Non-Originator b/rob. se
Number of branded non originators	-0.350***	-0.413***	-0.783***
	-0.006	0.007	0.019
Market share	0.338***	0.511***	0.151***
	-0.022	(0.014	0.013
Number of branded non originators*Market share	0.147***	-0.098***	-0.130***
	-0.011	0.007	0.007
Number of unbranded non-originators	0.045***	0.117***	0.170***
	-0.005	0.006	0.015
Number of branded non originators*Market share	0.008	0.0563***	0.056***
	-0.009	0.006	0.005
Number of originators	0.208***	0.064***	0.279***
	-0.004	0.004	0.011
Number of originators*Market share	-0.242***	-0.065***	0.080***
	-0.004	0.003	0.003
Drug presentation	-0.300***	-0.147***	-0.286***
	-0.010	0.008	0.024
Length of time	-0.024***	-0.017***	-0.008***
	-0.001	0.0003	0.001
Hospital (base: retail)	-0.052***	0.127***	0.271***
	-0.014	0.010	0.029
Location (based: NCR)			
armm	-0.107**	0.021	0.159**
	-0.042	0.030	0.079
car	-0.082**	0.022	0.208***
	-0.041	0.028	0.075
reg1	-0.069*	0.011	0.212***
	-0.040	0.027	0.074
reg2	-0.080**	0.011	0.223***
	-0.040	0.028	0.075
reg3	-0.055	0.014	0.007
	-0.040	0.026	0.071
reg4a	-0.056	0.011	0.070
	-0.040	0.025	0.070
reg4b	-0.120***	0.011	0.224***
	-0.042	0.029	0.078
reg5	-0.098**	0.029	0.250***
	-0.041	0.028	0.075

Variable	Originator b/rob. se	Branded Non-Originator b/rob. se	Unbranded Non-Originator b/rob. se
reg6	-0.052	0.060**	0.186**
	-0.040	0.027	0.073
reg7	-0.054	0.070***	0.218***
	-0.040	0.027	0.073
reg8	-0.088**	0.052*	0.276***
	-0.040	0.028	0.076
reg9	-0.096**	-0.041	0.168**
	-0.040	0.027	0.075
reg10	-0.059	0.049*	0.257***
	-0.040	0.027	0.074
reg11	-0.047	0.075***	0.272***
	-0.040	0.027	0.073
reg12	-0.080**	0.055**	0.268***
	-0.040	0.028	0.075
reg13	-0.107***	0.037	0.193**
	-0.041	0.028	0.078
Therapeutic class (base: hypertension)			
Anti-diabetes	-0.159***	-0.405***	-0.811***
	-0.02	0.018	0.059
Anti-infection	0.312***	0.095***	0.295***
	-0.017	0.013	0.034
cholesterol	0.612***	-0.046**	0.032
	-0.030	0.021	0.056
constant	8.879***	8.484***	9.156***
	-0.037	0.026	0.082
R-squared overall	0.136	0.034	0.040
R-squared within	0.366	0.284	0.373
R-squared between	0.102	0.035	0.031
Observations	633,367	1,115,970	190,934
Groups	18,184	52,974	8,950
Average group size	34.8	21.1	21.3

* $p<0.10$, ** $p<0.05$, *** $p<0.01$

From the results, only the entry of branded non-originator drugs leads to the decrease in price of the various types of drugs. This is after controlling for market share and other relevant variables. It suggests that branded non-originators introduce competition to both originators, branded and unbranded non-originators. Branded generics tend to practice pharmaceutical marketing which may increase physicians' and patients' preference for these drugs. Physicians and consumers may also perceive these drugs as better in quality than unbranded non-originators. On the other hand, the increase in the number of originators and unbranded non-originators lead to an increase in the price of the various types of drugs. This may imply that competition is not enhanced when new originators enter the market. Instead of creating competition, the entry of originators may instead lead to the expansion of the therapeutic class instead of competing with the currently existing drugs in the same therapeutic class. For unbranded non-originators, their entry also leads to the increase in the price of various types of drugs. The preference of consumers for branded medication due to various quality concerns on unbranded generics and the effects of

pharmaceutical marketing practiced by branded medications make them ineffective in terms of introducing competition in the market. The findings are consistent with the literature on competition between branded and generic drugs.

Price regulation set by the government with respect to originators may explain the lower prices for originator drugs in hospitals. The stronger bargaining power of these institutions compared to drugstores may also explain the lower price for originator drugs in hospitals. However, generic drugs are more expensive in hospitals. Consistent with the literature, price regulation or reference pricing may be effective in reducing the price of brand-name medications that are priced higher than the reference price but are ineffective in reducing the price of products that are already below the reference level (Puig-Junoy, 2007). This observation is also consistent with the findings of Batangan et al. (2005) showing that generic medications are more expensive in public hospitals than in retail stores.

A reassuring result is that the price of drugs tends to fall over time. The results showing lower price for originators but higher prices for generics in some regions outside Metro Manila warrant further studies. An interview with a sub-distributor of originators explained that distribution in the provinces allow for greater consolidation of orders from various hospitals and pharmacies compared to the NCR that is highly segmented based on the various types of hospitals and pharmacies. The volume of consolidated orders allows for the lower pricing of these prescription drugs. On the other hand, the higher price of generics in the regions outside Metro Manila may be explained by higher cost of logistics to bring these drugs to the area.

7. Conclusion

The findings are consistent with the literature that the increase in the number of generic drugs in the market reduces the price of all types of prescription drugs. This is true for branded generics. Consumers will benefit from the increase in the number of generic players in the market. The study also illustrates the effectiveness of price regulation and bulk purchasing with respect to hospital pricing for originators. Generic substitution policies should be enforced to introduce consumers to generic drugs. Unbranded generics are currently not a force of competition in the pharmaceutical market. This is due to the lack of confidence of consumers in the quality of unbranded generics. Pharmaceutical marketing may explain the ability of branded generics to compete with originators. ■

8. References

Aalto-Setälä, Ville. 2008. "The Impact of Generic Substitution on Price Competition in Finland." *The European Journal of Health Economics* 9 (2):185-191.

Aldaba, Rafaelita M. 2008. Assessing Competition in Philippine Markets. In *Discussion paper Series*, edited by Philippine Institute for Development Studies.

Balasubramaniam, K. 1996. Health and pharmaceuticals in developing countries: towards social justice and equity. Penang, Malaysia: Consumers International-Regional Office for Asia and the Pacific.

Batangan, Dennis B., C Echavez, AA Santiago, AC de la Cruz, and E. Santos. 2005. The prices people have to pay for medicines in the Philippines. Quezon City, Philippines: Ateneo de Manila University Institute of Philippine Culture.

Batangan, Dennis B., and Noel Juban. 2009. Philippines Pharmaceutical Situation: 2009 WHO Health Facility Survey on Medicines. WHO, DFID, and MeTA Philippines.

Bearden, William O., and J. Barry Mason. 1980. "Determinants of Physician and Pharmacist Support of Generic Drugs." *The Journal of Consumer Research* 7 (2):121-130.

Berndt, Ernst R., Richard Mortimer, Ashoke Bhattacharjya, Andrew Parece, and Edward Tuttle. 2007. "Authorized Generic Drugs, Price Competition, And Consumers' Welfare." *Health Affairs* 26 (3):790-799.

Bredenkamp, Caryn, and Leander R Buisman. 2016. "Financial protection from health spending in the Philippines: policies and progress." *Health Policy and Planning* 31 (7):919-927. doi: 10.1093/heapol/czw011.

Cameron, Alexandra, Margaret Ewen, Martin Auton, and Dele Abegunde. 2011. The World Medicines Situation 2011. Wold Health Organization.

Castanheira, Micael, Carmine Ornaghi, and Georges Siotis. 2019. "The unexpected consequences of generic entry." *Journal of Health Economics* 68:102243. doi: https://doi.org/10.1016/j.jhealeco.2019.102243.

Caves, Richard E., Michael D. Whinston, Mark A. Hurwitz, Ariel Pakes, and Peter Temin. 1991. "Patent Expiration, Entry, and Competition in the U.S. Pharmaceutical Industry." *Brookings Papers on Economic Activity. Microeconomics* 1991:1-66.

Cheng, Kent Jason, Adovich Rivera, Jojana Christine General, Amelyn Asence-Mamporte, Allan Ulitin, Red Thaddeus Miguel, Anna Melissa Guerrero, Irene Florentino-Fariñas, Karina Sison, and Hilton Lam. 2020. "Do Local Government Units in the Philippines Procure Medicines According to a Set Benchmark Price?" *World Medical & Health Policy* 12 (1):9-23. doi: https://doi.org/10.1002/wmh3.327.

Clarete, Ramon L. 2017. "Price capping and medicines access in the Philippines." Unpublished manuscript.

Clarete, Ramon L., and Gilberto M. Llanto. 2017. Access to medicines in the Philippines: Overcoming the barriers. In *Policy Notes*: Philippine Institute for Development Studies.

Cook, A. 1998. How Increase Competition from Generic Drugs Has Affected Prices and Returns in the Pharmaceutical Industry. In *Congressional Budget Office Study*. Washington, D.C.: Congressional Budget Office.

Danzon, Patricia M., Andrew W. Mulcahy, and Adrian K. Towse. 2015. "Pharmaceutical Pricing in Emerging Markets: Effects of Income, Competition, and Procurement." *Health Economics* 24 (2):238-252. doi: 10.1002/hec.3013.

Ellison, Sara Fisher, Iain Cockburn, Zvi Griliches, and Jerry Hausman. 1997. "Characteristics of Demand for Pharmaceutical Products: An Examination of Four Cephalosporins." *The RAND Journal of Economics* 28 (3):426-446.

Ferrara, Ida, and Ying Kong. 2008. "Can health insurance coverage explain the generic competition paradox?" *Economics Letters* 101 (1):48-52. doi: https://doi.org/10.1016/j.econlet.2008.04.011.

Frank, Richard G., and David S. Salkever. 1992. "Pricing, Patent Loss and the Market for Pharmaceuticals." *Southern Economic Journal* 59 (2):165-179.

Ganther, Julie M., and David H. Kreling. 2000. "Consumer Perceptions of Risk and Required Cost Savings for Generic Prescription Drugs." *Journal of the American Pharmaceutical Association* 40 (3):378-383.

Grabowski, Henry G., and John M. Vernon. 1992. "Brand Loyalty, Entry, and Price Competition in Pharmaceuticals after the 1984 Drug Act." *Journal of Law and Economics* 35 (2):331-350.

Grabowski, Henry, and John Vernon. 1996. "Longer Patents for Increased Generic Competition in the U.S.: The Hatch-Waxman Act After One Decade." *PharmacoEconomics* 10:110-23.

Hasan, Syed Shahzad, Chia Siang Kow, Dalia Dawoud, Omneya Mohamed, Darrin Baines, and Zaheer-Ud-Din Babar. 2019. "Pharmaceutical Policy Reforms to Regulate Drug Prices in the Asia Pacific Region: The Case of Australia, China, India, Malaysia, New Zealand, and South Korea." *Value in Health Regional Issues* 18:18-23. doi: https://doi.org/10.1016/j.vhri.2018.08.007.

Hollis, Aidan. 2003. "The Anti-Competitive Effects of Brand-Controlled "Pseudo-Generics" in the Canadian Pharmaceutical Market." *Canadian Public Policy / Analyse de Politiques* 29 (1):21-32.

IMS Health. 2013. IMS Shopper Study for Prescription Drugs. Manila, Philippines: IMS Health.

Ito, Yuki, Konan Hara, and Yasuki Kobayashi. 2020. "The effect of inertia on brand-name versus generic drug choices." *Journal of Economic Behavior & Organization* 172:364-379. doi: https://doi.org/10.1016/j.jebo.2019.12.022.

Kaiser, Ulrich, Susan J. Mendez, Thomas Rønde, and Hannes Ullrich. 2014. "Regulation of pharmaceutical prices: Evidence from a reference price reform in Denmark." *Journal of Health Economics* 36:174-187. doi: https://doi.org/10.1016/j.jhealeco.2014.04.003.

Kanavos, P , JY Lim, and CS Pascual. 2002. On improving the poor's access to affordable medicines. In *Philippines Health Policy Note*: World Bank.

Kong, Y. 2004. "The price premium of generic to brand-names and pharmaceutical price index." *Applied Economics* 36 (7):731-737. doi: 10.1080/0003684042000222106.

Kumru, Seda, and Mehmet Top. 2018. "Pricing and reimbursement of generic pharmaceuticals in Turkey: Evaluation of hypertension drugs from 2007 to 2013." *Health Policy and Technology* 7 (2):182-193. doi: https://doi.org/10.1016/j.hlpt.2018.03.004.

Lavado, R., and V. Ulep. 2011. Financial health burden in the Philippines. World Health Organization.

Lavado, Rouselle F. 2011. Improving Access to Affordable Medicines: An Examination of Prevailing Prices and Distribution of Village Drugstores in the Philippines. Philippine Institute of Development Studies.

Magno, Cielo, and Ricardo Rafael S. Guzman. 2019. "Drug price sensitivity among physicians in a developing healthcare system: Evidence from the Philippine market for statins and beta blockers." *Economic Analysis and Policy* 62:268-279. doi: https://doi.org/10.1016/j.eap.2019.04.005.

Pabico, Alex P. 2006. New Rx needed for generics movement. Quezon City, Philippines: Philippines Center for Investigative Journalism.

Pavcnik, Nina. 2002. "Do Pharmaceutical Prices Respond to Potential Patient Out-of-Pocket Expenses?" *The RAND Journal of Economics* 33 (3):469-487.

Picazo, Oscar. 2011. Review of the Cheaper Medicines Program of the Philippines: Botikang Barangay, Botikang Bayan, P100 Treatment Pack, and the Role of PITC Pharma, Inc. in Government Drug Procurement.: Philippine Institute of Development Studies.

Puig-Junoy, Jaume. 2007. "The impact of generic reference pricing interventions in the statin market." *Health Policy* 84 (1):14-29. doi: https://doi.org/10.1016/j.healthpol.2007.02.010.

Regan, Tracy L. 2008. "Generic entry, price competition, and market segmentation in the prescription drug market." *International Journal of Industrial Organization* 26 (4):930-948. doi: http://dx.doi.org/10.1016/j.ijindorg.2007.08.004.

Reiffen, David, and Michael R. Ward. 2005. "Generic Drug Industry Dynamics." *Review of Economics & Statistics* 87 (1):37-49.

Reiffen, David, and Michael R. Ward. 2007. "'Branded Generics' as a Strategy to Limit Cannibalization of Pharmaceutical Markets." *Managerial and Decision Economics* 28 (4/5):251-265.

Reyes, Celia M., Rouselle F. Lavado, Aubrey D. Tabuga, Ronina D. Asis, and Maria Blesila G. Datu. 2011. A Profile of the Philippine Pharmaceutical Sector. Philippine Institute of Development Studies.

Reyes, Celia M., and Aubrey D. Tabuga. 2018. Profiling the Philippine Pharmaceutical Industry. Philippine Competition Commission.

Sarol Jr, JN. 2014. "Effect of government-mediated access pricing on price of targeted drugs in the Philippines." *Journal of Asian Scientific Research* 48:9-17.

Scott Morton, Fiona M. 2000. "Barriers to entry, brand advertising, and generic entry in the US pharmaceutical industry." *International Journal of Industrial Organization* 18 (7):1085-1104. doi: https://doi.org/10.1016/S0167-7187(98)00057-5.

Ulep, Valerie Gilbert T., and Nina Ashley O. dela Cruz. 2013. "Analysis of Out-of-Pocket Expenditures in the Philippines." *Philippine Journal of Development* 40 (1 & 2):93-123.

Vandoros, Sotiris, and Panos Kanavos. 2013. "The generics paradox revisited: empirical evidence from regulated markets." *Applied Economics* 45 (22):3230-3239. doi: 10.1080/00036846.2012.703313.

PHILIPPINE COMPETITION COMMISSION

Ensuring businesses compete and consumers benefit

Contact Us

The Philippine Competition Commission is open Mondays through Fridays, from 8:00 a.m. to 5:00 p.m. Submissions of notifications and complaints are accepted during these hours.

25/F Vertis North Corporate Center 1, North Avenue, Quezon City 1105 Philippines

www.phcc.gov.ph

+632.8771.9722

queries@phcc.gov.ph