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A Study on the Influence of Channel Structure on Consumer Price

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Abstract

Purpose: The purpose of the research is to empirically examine the economic effect of channel structure on retail pricing. The channel structure observed under this study includes exclusive dealing, common retailing, straight buying (wholesale pricing), and consignment. **Research design, data, and methodology:** The empirical data was collected using secondary data mainly the annual consumer price index spanning a period of 20years i.e., 1995 to 2016. A field observation was undertaken by enquiring from retail outlets to indicate how their stock of products are acquired either through consignment or straight buying. Based on the field observation the data collected were categorized according to the channel forms for further analysis. **Results:** The analysis of the results revealed that the rates of price increase for consumer products are high for exclusive dealing than common retailing. It was also identified that consignment increases price level more than straight buying. In terms of the combine distribution structure, exclusive dealing, and consignment as one channel form has a higher case of increasing retail prices. **Conclusion:** Through this research the mechanisms of channel structure on retail price and social welfare are found out. Also, theoretical, and practical contribution as well as future research are strongly suggested.

Keywords: Price competition, Exclusive Dealing, Common Retailing, Consignment, Straight Buying, Consumer Price Level.

JEL Classification Code: E44, F31, F37, G15

1. Introduction

A channel structure according Alderson (1950) is described as the result of an interaction between the risk of owning a product and the physical functions used to move the product through time. Thus, a channel structure is made up of a network of intermediaries which are formed based on theories such as transaction cost analysis (assist companies in their make or buy decisions and used to determine direct and indirect channel structure) and theory of functional spin-off (non-economic of scale activities needs to be transferred to a more capable external agency) (Aithal & Vaswani, 2005) that ensure the flow of physical goods, ownership, payments, information, and negotiations to consumers to achieve a firm's distribution goals and objectives. The channel structure includes direct channel (firms interact directly with customers), indirect channel (firms use intermediaries to interact with customers), and a hybrid channel (firms use multiple channels to interact with customers) (Park & Keh, 2003).

In a channel structure, channel coordination and supply chain coordination contract are used to define the relationship in a channel network. There are many channels coordination but the once relevant to this study are exclusive dealer (McGuire & Staelin, 1983) and common retailer (Choi, 1991). Similarly, these channels are defined by a supply chain coordination contraction which are agreement on the flow of products, information and finance between the firm

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and the intermediaries (Höhn, 2010). The contract types make include wholesale pricing (straight buying), buy-back , revenue-sharing, quantity flexibility, sales-rebate, and quality discount contract(Höhn, 2010). The contracts identified for the study include consignment contract which is related to the buy-back and revenue sharing contract, and straight buying which is related to the wholesale pricing contract.

Numerous research has elaborated on the impact of the abovementioned retail channel structure on market share, profit, and promotions. For instance, based on the efficiency theory on exclusive dealing (Bork, 1967; Marvel, 1982). Chen and Shieh (2016) depicted in their study that in the beer industry, brands sold through exclusive retailers increased the market share by (6%). However, the results showed an insignificant impact of exclusive dealing on price (Chen & Shieh, 2016). Also, the anti-competitive theory of exclusive dealing has argued that this form of channel structure would lead market foreclosure and raise in rival cost and subsequently lead to an increase in price. Further, (Calzolari & Denicolò, 2013) found exclusive dealing to be associated with lower retail price and higher quantity. The major problem of the mentioned literature is that they dealt with products in few industries or just one industry (bear), as a result the effect of the channel structure on consumer price were not accurately capture. More so, other forms of channel structure such as consignment and straight buying which when combined with exclusive dealing or common retailing will have a significant effect on consumer price where not considered in the previous literatures. Therefore, this research seeks to empirically examine the individual impact of exclusive dealing, common retailing, consignment, and straight buying effect on consumer price. The channel structure will additionally be categorized into four combined kinds thus common and straight, common and consignment, exclusive dealing and straight buying, and exclusive dealing and consignment. These four kinds of distribution structure's effect on consumer price level increase will be examined.

The purpose of this study is to identify the impact of channel structure on price level (price index) and to suggest policies to help the government improve the consumer welfare by expediting price competition. The study will further contribute to empirical literature on exclusive, common retailing, consignment, and straight buying. Finally, the research will give insight to retail managers and manufacturers on how their choice of a channel structure will affect consumer price and welfare.

The paper is organized as follows. First, we reviewed existing literature on price competition, exclusive dealing, common retailing, consignment, and straight buying. Second, we built on previous literature and derived an elaborative hypothesis about the effect of channel structure on consumer price level. Thirdly, the methodology used for data collection and analysis is described. Finally, the results of our study and a discussion of their implication is presented.

2. Literature Review

2.1. Price Competition

Consumer price levels are significantly impacted by price competition between rival firms or retailers. Price competition according to Stigler (1972) is an economic competition where firms can influence price but the strength of the depends on the number of competing firms, similarity of the firms and the smaller the share of industry output possessed by the largest firm. Price competition is viewed to be effective in reducing consumer prices, eliminating profit, and increasing output.

In a distribution channel structure, price competition among economic agents is divided into two main forms namely intra-brand and inter-brand price competition. Intra-brand price competition is a competition among retailers which occurs when the retailer has a delegated authority from the manufacturer to set retail prices due to the presence of asymmetry information (Lal, 1986). The literature on intra-brand competition has indicated that price competition decreases retail prices and increases optimal order quantity for retailers especially when there is strong price elasticity (Aithal & Vaswani, 2005; Hansen, 1986; Yang et al., 2014) and products are supplied on consignment basis. However, in an intra-brand price competitive channel structure where the mode of product supply is through straight buying, resale price maintenance is regarded as per se illegal since manufacturers in relation with their distributors can use their position to acquire unfair competitive advantage not related to efficiency over its competitors

On the other hand, price competition among manufactures is referred to us inter-brand competition. According to (Wu) price competition between manufacturers is increased when consumers are insensitive to innovation hence resulting in par level innovation among manufacturers, low product differentiation, strong competition, and opportunity to earn higher profit from using retailers when they compete in both price and advertising (Chan et al., 2017). In an exclusive channel structure, intense inter-brand competition will lead to great amount of profit (Choi, 1991) and in exclusive channel structure and exclusive territory situation, inter-brand competition will lead to increase profit, increase retail, and wholesale prices (Rey & Stiglitz, 1994). The downside of inter-brand competition is that it has the likely of resulting in collusion between manufacturers to influence prices (referred to as the cartel) via maximum trade discount, retail price maintenance, and exchange of information on individual prices or price changes (Eigruber

& Wirl, 2020).

2.2. Channel Coordination: Exclusive Dealing and Common Retailing

Exclusive dealing is a channel form whereby the intermediary is not allowed to carry the products of other supplier's whose products are in direct competition with the focal supplier (Besanko & Perry, 1994). In an exclusive dealing arrangement, the retailer seeds power to the producer, giving the producer the ability to exert influence over the channel activities Exclusive dealing is dominant in the automobile industry, soft drink production and distribution (e.g., the exclusive distribution by Coca-Cola bottlers), and oil and gas industry.

Common retailing which is also known as non-exclusive dealing is a channel form where the retailer sells the products of multiple manufactures. A typical common retail stores include department stores, superstores, convenience stores, and category killers. The literature on common retailing has indicated that it leads to an increasing demand and variable profits due to the increased spatial availability (decrease in exclusivity) and may also lead to reduced prices and variable profit because of increased competition (Nurski &Verboven, 2016). Also, Li, and Dant (1997) within the context of industrial product channels used the reciprocal action theory which maintains that the actions taken by one party will be reciprocated in kind in an exchange relationship to opine that the level of relationship between a manufacturer and retailer under common retailing is low as compared to exclusive dealing, hence, the supplier does not enjoy greater power over the retailer. This leads to opportunistic behaviors whereby the retailer is likely to free ride on the manufacturer's investment. Thus, the retailer uses the manufacturer's investments such as promotional and technical support to promote and sell competing manufacture's products (Besanko & Perry, 1993; Marvel, 1982). The economic benefit of common retailing when the manufacturer has less power over the retailer was that it promotes competitiveness of small and medium sized enterprises (SMEs) (Cho, 2014). An improved competitiveness would lead to fall in retail prices. Therefore, this study propose that common retailing will impact channel structure by decreasing consumer price levels.

2.3. Channel Coordination Contracts: Consignment and Straight Buying

Consignment is defined as the process whereby goods are supplied to a retail for sale with no payment made to the manufacturer until the items are sold to the consumers. In consignment arrangement, the manufacturer retains ownership title of the inventory, while the retailer takes possession of the goods, promotes the sale of the goods, and receives a share of the sales revenue (Hackett, 1993; Zhang et al., 2010). Large retailers such as Home Depot, Emart traders have relied on consignment to reduce risk of seasonal product supplies and to support new suppliers (Adida & Ratisoontorn, 2011). There are varying forms of consignment but the two main forms of consignment contract are consignment price contract: the supplier sets the consignment price corresponding to the amount of payment to be received from the retailer on the number of units sold, and the retailer sets the retail price (Ru & Wang, 2010) and consignment revenue sharing contract: the retailer decides the fraction of the revenue to keep for each unit sold, the supplier then chooses the retail price and the quantity to be distributed to the retailer (Wang et al., 2004)

The literature on the effect of consignment in a channel structure is that it would lead to higher product prices and lower quantities when there are complementary suppliers, and a decrease in product prices and higher quantities when the suppliers are perfectly substitutable (Wang, 2006). Besides, Addida and Ratisoontorn (2011), found that in a consignment arrangement where there is a strong retail differentiation, the producer earns the highest profit under consignment contract with revenue sharing, similarly at strong retail differentiation, retailer earn higher profit in price-only contract. Zhang et.al also demonstrated that poor coordination of channel through a consignment arrangement may lead to low stocking level, higher prices, and low channel profit (Zhang et al., 2010). According to Cho (2014), one of the problems with consignment was chronic over supply which occurs when retailers receive large quantities of products from manufacturers without bearing inventory risk. Thus, in this study research consignment contract practices are expected to fuel excessive oversupply and leads to high manufacturing cost and higher product prices.

The straight buying is also referred to as price-only contract or wholesale price contracts where the retailer makes purchase of inventory at a price and takes full inventory risk during the purchase. Thus, the ownership title of the inventory is transferred from the manufacturer to the retailer. Previous literature on straight buying has indicated that straight buying form of channel structure is used by manufacturers in the event of financial constraint (Lai et al., 2009). According Cachon (2004) there are three forms of supply chain contracts: push, pull and advance-purchase discount in a supply chain with one supplier and one retailer. The study further claimed that the efficiency for a single wholesale price contract (straight buying) is high when firms consider both push and pull contract. Adida and Ratisoontorn (2011)'s study identified the conditions under which straight buying would be used in a supply chain. They found that straight buying (contract price) is preferred to consignment when the level of retail differentiation is weak. Low retail

differentiation means that products will have a higher elasticity, and consumers will have the ability to compare prices of retailers (Adida & Ratisoontorn, 2011). It can be observed that most of the literature mentioned above did not focus on how the distribution channel form of straight buying can affect consumer price. Therefore, the research would look to measure the effect of straight buying on consume price level increase.

3. Hypothesis Development

3.1. Exclusive Dealing vs Common Retailing

In an exclusive dealing arrangement, the manufacturer usually invest in a distribution network (vertical integration) by acquiring an existing retailer or building its own exclusive retail store. In an exclusive dealing arrangement, the retailer yields power to the manufacture enabling them to gain dominance in the channel structure. The manufacture uses their dominance to increase profit or securing themselves from rivals by raising increasing prices or rivals cost respectively. In addition, according to Besanko and Perry (1994) products sold in this type of channel structure is characterised by low price elasticity which enhance brand and store differentiation synergies as well as lowering price competition. These features of the channel structure limit any possibility for lower prices. Hence, exclusive dealing is expected to lead to an increase in consumer price levels.

In contrast, in common retailing channel structure, the retailer (who sells multi-item and multi- functional brands) bears the risk of inventory. This type of channel structure is characterised by inter and intra-brand competition, high price elasticity, low product differentiation, and store differentiation. In addition, the balance of power common retailer is skewed towards the retailer, enabling the retailer to resist prices increases by the manufacture as well negotiate for lower prices. Also, the manufactures do not incur investment cost (such as financial, promotional, or training cost) as compared to exclusive dealing, hence, allowing them to offer products to the retailers at a low cost. Therefore, common retailing is expected to result in lower consumer price levels.

H1: Price level increase percentage of exclusively transacted products is greater than that of commonly retailing products.

3.2. Consignment vs Straight Buying

In a consignment contract the manufacture bears all the risk and ownership responsibility and not the retailer. As a result, in this channel structure, manufactures adopt a cost push approaching in setting high prices by transferring the risk of cost related to chronic over supply to the retailer. Excessive over supply occur when consignee retailers lack effective sales promotion and then request of large quantities from supplier. The cost reduction approach used by manufacturers leads to higher retail prices for goods sold on consignment basis.

On the other hand, in a straight buying (wholesale pricing) channel structure, the retail retailer bears all inventory risk and ownership responsibility. This results in the retailer engaging to engage in strategies such as price promotions which leads to reduction in price to ensure that existing stocks are sold before restocking. In addition, in this channel structure the retailer usually more power in the channel structure than the supply. This then enable the retailers to resist price increase moves by the manufacture as well as enables the retailer to negotiate for lower prices. Therefore, in this channel structure, consumer prices levels are expected to be lower.

H2: Price level increase percentage of consignment is greater than that of straight buying.

3.3. Exclusive Dealing/Consignment vs Exclusive Dealing/Straight Buying

In a channel structure there are times whereby exclusive dealing and consignment type of channel structure contracts are combined. The power dynamics is such that the manufacture has gains dominance over the retailer. Additionally, the manufacture and not the retailer bears inventory risk and ownership responsibility of products. The effect of such a channel structure is that the possibility of oversupply is greater because the retailer does not assume inventory responsibility, and retailers request for large quantities of products from manufactures base on the idea that they are likely to be sold when they display the availability of large quantities of product. Manufactures in these channel structure can force retailers to adhere to minimum resale maintenance or transfer the cost of excessive oversupply to the supplier hence leading to the possibility of an increased consumer price levels.

In an exclusive dealing and straight buying channel structure, the competition among retailer or manufactures are curbed. This because retailers usually operate in exclusive territories with dense consumer population and no competing retailers assigned to by the manufacturers and hence trade with only them. The channel structure is also characterised by retailers having more authority and therefore the manufacturer cannot interfere in the setting of price by the retailer. As well, retailers have ownership of inventory and bear the risk of inventory. Therefore, retailers can reduce prices to clear off inventory quickly. Moreover, in an event of an increase in the number of new brands in the exclusive territory, retailers market share and revenue shrinks. In other

to regain the lost market share and revenue, the manufacturer takes the strategic decision to increase the number of retail stores, hence, resulting in fierce inter and intra-brand competition and consequently a fall in retail prices. Therefore, exclusive dealing and straight buying channel structure is expected to lead to increase consumer price level.

3.4. Common Retailing/Straight Buying vs Common Retailing/Consignment

In common retailing, there are many brands competing on price and product differentiation. Price is said to be low as inter-brand competition will force producers to charge low wholesale price. This gives the opportunity to consumers to compare the product and the prices before making a purchase. Hence, increasing inter-brand competition, and leading to a fall in retail price since retail price maintenance is banned. In an event of an increase in the number of competing brands, intra and inter brand competition will improve significantly because more brands will be competing in both the upstream and downstream levels of a channel structure leading to low wholesale price and subsequently a reduced retailer price. Therefore common/buying channel structure would be expected to result in low rate of consumer price level increase.

Regarding common/consignment channel structure, it a form of channel structure that originated from from Japan and spread to other Asian countries. This form of retailing is based on charging commission for the multiple products that the retailer sells but its operation is very complicated and costly. In this channel structure, products are owned by the manufacture and provides sales staff for the selling of the product. The manufacturer performs all functions except the provision of store space which is provided by the retailer (Cho, 2014). Hence, the manufacturers incur huge cost in distributing goods to the final consumer. Also, in this form of channel structure retail price maintenance (RPM) is legal. Meaning the manufacturer has the authority to influence retail prices in other to cover the huge cost incurred from using this form of channel structure by charging high retail prices. Therefore, common/consignment channel structure will lead to a high rate of consumer price level increase.

H3: There is a significant difference between exclusive dealing/consignment, common retailing/consignment, and common retailing/straight buying on their effect on consumer price level.

H3a: The rate of price level increase for exclusive dealing/ consignment is greater than the rate of price increase for common retailing/consignment and common retailing/straight buying.

H3b: The rate of price level increase for common retailing/ consignment is greater than the rate of price increase for common retailing/straight buying.

3.5. Model

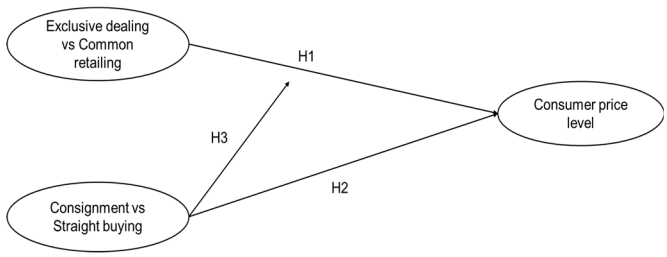

Figure 1: Research Model

4. Methodology

A secondary data was collected from Korea statistical information service (KOSIS) specifically the annual consumer price index spanning a period of 20years i.e., 1995 to 2016. A total of 487 items of consumer price index are announced annually and grouped into agriculture and marine products (cereals, vegetables, fruits, and other agricultural products), industrial products (processed food, durable goods, textile products, publications, oils, medicines, cosmetics, other industrial products), electricity, water and gas, rental housing, public services, and personal services. In this study all items related to services were omitted from the data, as well, agricultural products were exempted as their prices regularly fluctuate. Therefore, only, industrial products (240) items were used for the study.

In the next step, a field observation was undertaken by enquiring from retail their channel structure for acquiring products, thus, either through exclusive dealing (single brand) or common retailing (multi-brands). They were further asked if the supply chain contract was based consignment or straight buying (wholesale pricing) and made to select items sold that fall under the above-mentioned channel structures. 120 items were identified and categorized under the following industrial products which will form the independent variable: processed food, durable goods, textile, publication, oil, medicine, Cosmetics, and other industrial products, by using stratified sampling. Also, based on the information provided by the retailers, the sampled items were categorized into exclusive dealing, common retailing, consignment, and straight buying. During the field observation, 13 stores were visited. They include Emart (Gwangyeo), Lotte outlet (Gwangyeo), Watson, Ace Bed Suwon, OliveYoung, Daiso, Lg shop, Samsung shop, Hi-Mart, SK filling station, Ssanyoung sales store, Wonchon pharmacy, hospital pharmarcy.

Only products with high proportion of household consumption were selected from the industrial product. A retail structure made up of a combination of the above-mentioned channel forms were further analysed. They

include exclusive dealing/consign-ment, exclusive dealing/ straight buying, common/consign-ment, and common-straight buying. From the field observation no items were identified for exclusive dealing and straight buying channel structure (see table 1 and 2).

Table 1: Combined Channel Structure

Channel structure types	Straight Buying	Consignment
Exclusive dealing		Wardrobe, Bed, Display cabinet, Sofa, Desk, Chair, Dining table, Passenger car (small size), Passenger car (medium size), Passenger car (large size), Passenger car (1000cc and less), LPG (for cook), Kerosene, Gasoline, Diesel
Common Retailing	Glass noodles, Cereal, Sliced bread, Rice cake, Fish cake, Imitation crab meat, Milk powder, Milk powder, Milk powder, Pickled radish, Tea, Juice, Mineral water, Healthy drink, Beer, Common rice wine (makgeolli), Liquor, Electric rice – cooker, Gas range, Microwave oven, Refrigerator, Air conditioner, Electric fan, Washing machine, Electric mixer, Bicycle, Audio-visual Device, Camera, Computer, Printer, Piano, String instruments, Cold remedies, Medicine for intestinal disorders, Stomach medicine, Antiphlogistic analgesic, Medicine for skin disease, indoor slippers, Materials for maintenance and repair, Cup, Iron pot, Frying pan, Sauce pan, Spoon & chopsticks, Battery, Laundry detergent, Fabric softener, Light bulb, Dehumidifier, Eyeglasses, Data storage device, Toy, Sporting goods, Sketch book, Copy paper, Writing tools, Art supplies, Toothbrush, Toilet tissue, Umbrella.	Bag, Handbag, Cake, Sliced bread, Kitchen sink, Vacuum cleaner, Mobile phone, Television, Wrist watch, Men's Outer garment, Men's top, High school boy's uniform, Men's underwear, Women's Outer garment, One-piece, Women's top, High school girl's uniform, Women's bottoms, Women's underwear, Jumper, T-shirt, Sweater, Blue jeans Sportswear, Children's clothing, Baby's clothing, Socks, Hats & caps, Necktie, Gloves, Bedding, Curtain, Reference book (elementary school), Reference book (middle school), Reference book (high school), Textbook (high school), Books, Newspaper, Multivitamin, Shampoo, Skincare cosmetics, Makeup cosmetics, Children's shoes, Athletic shoes

Table 2: Number of Item Identified for Each Retailing Form

	Straight buying	Consignment
Exclusive dealing	0	15
Common retailing	60	45

5. Results

A descriptive statistics of product categories was undertaken which revealed average price increase for medicine as the highest in Korea, followed by publications, processed food, clothing, cosmetics, and other industrial products respectively (see table 3). It was also observed that the average price increase of exclusive dealing is greater than common retailing (see table 4). Likewise, the average rate of price increase of consignment was more than straight buying, and under the combined channel form exclusive consignment had the highest average rate of price increase (see table 5). However, the mean difference does not significantly prove the difference between the test variables hence, a multiple linear regression was used to test for hypothesis 1, 2, and 3. The independent variables were also tested for multicollinearity and the threshold for multicollinearity variance inflation factor is set at 5 (Neter et al., 1996). Hence, all independents variable with VIF above 5 will be considered to have a collinearity. The results indicates that there no multicollinearity between the independent variables (See table 7, 10, and 13).

Table 3: Product Category

Product Category	Mean	N	Std. Deviation
Processed Food	.0246	17	.00856
Durable goods	-.0030	33	.04075
Clothing	.0219	23	.00739
Publications	.0372	6	.01274
Oil	.0552	4	.01707
Medicine	.0207	6	.01130
Cosmetics	.0188	3	.00459
Other industrial products	.0192	28	.01543
Total	.0165	120	.02713

Table 4: AVP * Exclusive and Common Retailing

ExCR	Mean	N	Std. Deviation
Common	.0143	105	.02719
Exclusive	.0319	15	.02181
Total	.0165	120	.02713

Table 5: Regression Analysis, Impact of Exclusive Dealing vs Common Retailing on Consumer Price Level

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.630[a]	.397	.354	.2181	.397	9.150	8	111	.000

a. Predictors: (Constant), other Industrial Products, Cosmetics, Oil, Medicine, Publications, processed Food, Textile, Exclusive
b. Dependent Variable: Average increase in Consumer Price level

Table 6: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.035	8	.004	9.150	.000[b]
	Residual	.053	111	.000		
	Total	.088	119			

a. Dependent Variable: Average increase in Consumer Price level
b. Predictors: Predictors: (Constant), other Industrial Products, Cosmetics, Oil, Medicine, Publications, processed Food, Textile, Exclusive

Table 7: Coefficient

		Standardized Coefficients			Collinearity statistics	
		Beta	T	Sig.	Tolerance	VIF
1	(Constant)	.025	4.653	.001		
	Durable Goods	-.041	-5.802	.000	2.495	
	Textile	-.003	-.394	.000	.526	1.902
	Publications	.013	1.220	.000	.778	1.285
	Oil	-.009	-.621	.000	.581	1.721
	Medicine	-.004	-.379	.014	.778	1.285
	Cosmetics	-.006	-.423	.000	.872	1.147
	other Industrial Products	-.005	-.810	.010	.493	2.029
	Exclusive	**.040**	**4.926**	**.000**	**.559**	**1.790**

a. Dependent Variable: Average price increase in consumer price level

Table 8: Regression Analysis, Impact of Consignment vs Straight Buying on Consumer Price Level

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. Change
1	.537[a]	.289	.238	.02369	.289	5.634	8	111	.000

a. Predictors: (Constant), other Industrial Products, Cosmetics, Oil, Medicine, Publications, Textile, Durable Goods, Consignment
b. Dependent Variable: Average increase in Consumer Price level

Table 9: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.025	8	.003	5.634	.000[b]
	Residual	.062	111	.000		
	Total	.088	119			

a. Dependent Variable: Average increase in Consumer Price level
b. Predictors: (Constant), other Industrial Products, Cosmetics, Oil, Medicine, Publications, Textile, Durable Goods, Consignment.

Table 10: Coefficient

Model		Standardized Coefficients			Collinearity Statistics	
		Beta	T	Sig.	Tolerance	VIF
1	(Constant)	.023	4.004	.000		
	Consignment	.012	1.901	.060	.470	2.126
	Durable Goods	-.032	-4.318	.000	.417	2.400
	Textile	-.013	-1.417	.159	.342	2.927
	Publications	.002	.164	.870	.625	1.600
	Oil	.020	1.403	.163	.711	1.407
	Medicine	-.003	-.223	.824	.775	1.291
	Cosmetics	-.016	-1.032	.304	.764	1.308
	other Industrial Products	-.006	-.845	.400	.491	2.035

Table 11: Regression Analysis, Impact of Exclusive/Consignment vs Common/Consignment vs Common/Buying

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. Change
1	.630[a]	.397	.348	.02190	.397	8.059	9	110	.000

a. Predictors: (Constant), Exclusive Consignment, Medicine, Cosmetics, other Industrial Products, Publications, Oil, Textile, Durable Goods, common Consignment
b. Dependent Variable: Average increase in Consumer Price level

Table 12: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.035	9	.003	8.059	.000[b]
	Residual	.053	110	.000		
	Total	.088	119			

a. Dependent Variable: Average increase in Consumer Price level
b. Predictors: (Constant), other Industrial Products, Exclusive Consignment, Medicine, Cosmetics, Publications, Oil, Textile, Durable Goods, Common Consignment

Table 13: Coefficient

Model		Standardized Coefficients			Collinearity Statistics	
		Beta	T	Sig.	Tolerance	VIF
1	(Constant)	.019	3.431	.001		2.473
	Durable Goods	-.039	-5.600	.000	.404	3.253
	Textile	.002	.227	.821	.307	1.699
	Publications	.017	1.460	.147	.588	1.694
	Oil	-.007	-.490	.625	.590	1.289
	Medicine	-.006	-.549	.584	.776	1.360
	Cosmetics	-.001	-.064	.949	.736	2.037
	other Industrial Products	-.005	-.755	.452	.491	3.338
	Common Consignment	.007	.913	.363	.300	2.634
	Exclusive Consignment	.016	4.665	.000	.380	2.473

a. Dependent Variable: Average increase in Consumer Price level

5.1. Exclusive Dealing versus Common Retailing Effect on Price Level

In hypothesis 1, exclusive dealing was tested whether it has significant impact on consumer price level increases than common retailing. The result indicates in table 3 that *[R^2=0.397]* approximately 39.7% of variance in average consumer price level increases is explained by exclusive dealing and the product categories (Durable goods, textile, publications, oil, medicine, cosmetics, and other industrial products). The finding in table 4 justifies that the model is statistically significant *(sig<0.05),* showing that there is a statistically significant difference between exclusive dealing and common retailing on their impact on average consumer price level increases. In table 5, it can be observed that controlling for product categories, exclusive dealing has a statistically significant effect on increasing average consumer price level than common retailing in a channel structure *[B=0.040; t(119)=4.926; P=0.000, <0.005]*. This means that in a channel structure exclusive dealing increases consumer price level by 4% higher than common retailing. Also, holding all other variable constant, we observed that durable goods under the products categories has a statistically significant influence on consumer price level increases than the other product *categories [B=-0.041; t (119)=-5.802; P=0.000, <0.005]*. Other products categories have an influence on consumer price level, but their effect is not statistically significant. Textile *(Beta= -0.003; p>0.05);* Publications *(Beta=0.013; p>0.05)*, Oil *(Beta=-0.009; p>0.05)*, Medicine *(Beta=-0.004; p>0.05)*, Cosmetics *(Beta= -0.006; p>0.05)*; other industrial products *(Beta= -0.005); p>0.05).* it can be concluded from the analysis with 95% confidence that exclusive dealing significantly increases consumer price level more than common retailing when product categories are controlled.

5.2. Exclusive Dealing versus Common Retailing Effect on Price Level

In hypothesis 2 consignment is tested to have a significant impact on the consumer price level increases than straight buying in a channel structure. The result indicates in table 6 that (R^2=0.397) approximately 39.7% of variance in average consumer price level increases is explained by consignment and the product categories (Durable goods, textile, publications, oil, medicine, cosmetics, and other industrial products). This shows that consignment is a good predictor of consumer price level increases. The finding in table 7 justifies that the model is statistically significant (sig<0.05). Which shows that there is a statistically significant difference between consignment and straight buying on their impact on average consumer price level increases. However, in table 8, it can be observed that controlling for product categories, consignment increases average consumer price level increases by 1.2% more than straight buying but the effect is not statistically significant. *[Beta=0.012; t (119)=1.901; P=0.060, >0.005]*. Further, holding all other variable constant, we observed that durable

goods under the products categories has a statistically significant influence on consumer price level increases than the other product categories *[Beta= -0.032; t(119)=-4.318; P=0.000, <0.005]*. other products categories have an influence on consumer price level, but their effect is not statistically significant. Textile (Beta=-0.013; p>0.05); Publications (Beta=0.02; p>0.05), Oil (Beta=-0.020; p>0.05), Medicine (Beta= -0.003; p>0.05), Cosmetics (Beta= -0.016; p>0.05); other industrial products (Beta= -0.007); p>0.05). it can be concluded from the analysis with 95% confidence that in a channel structure, consignment does not significantly influence consumer price level more than straight buying when product categories are controlled.

5.3. Exclusive/Consignment vs Common/Consignment vs Common/Buying

The focus under this section is to identify whether the combined variables (common/straight buying; common/ consignment; and exclusive/consignment) forming the channel structure has a significant difference on their effect on consumer price level. The result indicates in table 9 that (R^2=0.397) approximately 39.7% of variance in average consumer price level increases was explained by exclusive/consignment, common/consignment, common/ buying, and the product categories (Durable goods, textile, publications, oil, medicine, cosmetics, and other industrial products). The findings in table 10 justifies that the model is statistically significant (sig<0.05). Which shows that there is a statistically significant difference between exclusive/ consignment, common/buying and common/consignment on their impact on average consumer price level increases in hypothesis 3.

In testing for hypothesis 3a it was proposed that the rate of price level increase for exclusive dealing/consignment is greater than the rate of price increase for common retailing/consignment and common retailing/straight buying. The result proves that exclusive/consignment has a significant effect on the average rate of consumer price increases more than common consignment and common/ buying *[Beta=0.016; t(119)=1.901; P=0.000 <0.005]*. However, in hypothesis 3b, the result indicates that controlling for product categories, common/consignment increases the rate of consumer prices by 0.7% more than common/buying. This shows that common/consignment's effect on the rate of consumer price level increase in relation to common/buying was not statistically significant *[Beta=0.002; t(119)=0.913; P=0.363, >0.005]*, hence hypothesis 3b was not supported by the data. The product categories showed an influence on consumer price level, but their effect is not statistically significant. Textile (Beta= 0.002; p>0.05); Publications (Beta=0.017; p>0.05); Oil (Beta=-0.-007; p>0.05); Medicine (Beta= -0.006; p>0.05); Cosmetics (Beta= -0.001; p>0.05); other industrial products (Beta= -0.005).

6. Results Discussion and Conclusion

6.1. Discussion

The intent of the study is to identify the channel structures and how they affect retail prices and consequently consumer welfare. Based on 3 hypotheses proposed, the results showed that exclusive dealings arrangement between a producer/supplier and a retailer would have a significant influence on raising the rate of consumer price increases (retail prices) more than common retailing. The result support claims by existing literature that consumers would pay higher prices under exclusive dealing than non-exclusive dealing (common retailing) (Besanko & Perry, 1994; Comanor & Frech Iii., 1985; Li & Dant, 1997). In addition, the result improves on similar research by Cho (1994) where the data weakly supported the proposition that consumer price inflation rate is lower in a channel structure where products are sold through a retailer store that sells multi-branded products than those sold through retail stores that sell single branded products. This study's result is much stronger because 120 sampled items were used in this current study. Therefore, improving the power of the data as compared to 58 sampled items used in the previous study. From the study, products sold under exclusive dealing experiences higher rate of price increases than common retailing because most of the items sold in this form of channel structure have high overall product differentiation (quality, brand, and retail differentiation) than a decade ago, making it more susceptible to price increases. likewise, exclusive dealing arrangement has more effect on the rate of consumer price increases than common retailing since such an arrangement lowers price elasticity of consumer due to the high product differentiation and strong brand preference of the products usually sold under this form of channel structure. Similarly, retailers enjoy higher retail prices under exclusive dealing because it reduces competition among brands and retailers. For instance, to reduce competition among the smartphone manufacturers when lunching a new product, Apple introduced the iPhone via an exclusive partnership with AT&T in the United States. Similarly, the manufacturer of BlackBerry, launched its new model, BlackBerry Storm via an exclusive partnership with Verizon (Andritsos & Tang, 2010). This made Apple and BlackBerry to enjoy high product prices for their new product, not forgetting that the high quality, product differentiation, strong brand preference which are characteristics of exclusive dealing played a role in the high prices of the product. On the other hand, the rate of consumer price increase for common retailing is low

because intra-brand and inter-brand competition is very intense. This gives the opportunity to consumers to compare prices of brands at the same time at retail outlets to make informed decision. The retail competition in common retailing results in consumers being price sensitive, therefore, limiting the manufacturer or retailers' ability to increase prices.

The second hypothesis was about consignment having a higher impact on the rate of consumer price increase more than straight buying in a channel structure. The result appears to suggest that despite the consignment channel form having a higher effect on the rate consumer price level increase than straight buying by a marginal rate of (1.2%), it's impact on the rate of consumer price level increase was found to be insignificant. In comparison to previous literature, Cho (1994)'s research revealed that consignment has a strong significant effect on consumer price level increase than straight buying. This because unlike 20 years ago where products were supplied independently on either consignment or straight buying basis, currently products are supplied simultaneously to retailers on consignment and straight buying. For instance, items such as handbags, socks, clothing are usually supplied on consignment bases but there are other retailers that have the title of ownership of the items as they were acquired through straight buying agreement with the producer. The current trend makes it difficult identifying products that are solely supplied on consignment or straight buying basis. Therefore, the change in product supply form under this form of channel structure could be the reason why consignment has a weak effect on consumer price level than straight buying. In addition, currently there is an effective operational optimization of channel structures. This is due to the introduction of strong information technology systems where algorithms, big data, models and optimization engines are used. These systems help eliminate supply chain and logistic problems, enabling retailers to meet consumer expectations at a reduced cost, hence, reducing the impact of consignment channel structure on increasing consumer prices.

In hypothesis 3, it was observed that there is significant difference in the effect of the combined channel structures on consumer price level. In hypothesis 3a, the result indicates that exclusive/consignment has a significant impact on the rate of consumer price increase than common/consignment and common/buying. Affirming the fact that exclusive/consignment such as department stores charge high retail prices especially in the fashion industry. Exclusive consignment is dominant in the Korean apparel industry. Nonetheless, in hypothesis 3b where common/consignment was proposed to have greater impact on consumer price level than common/straight buying. It was observed that common/consignment does not have a significant effect on the rate of consumer price increase than common/buying. The reason for the nonsignificant effect of common/consignment on the rate of consumer price level increase is because decades ago common/consignment stores such as department stores were owned by few conglomerate firms. The stores had significant market dominance, likewise, strong consumer preference, but the lack of various retailing styles and the strong power of the department stores caused the department stores to abuse their dominant position in the market by over pricing (Cho, 2014). Therefore, making the common/consignment channel form to have more effect on consumer price level than common/buying. However, the management operations of the common/consignment channel structure have improved as compared to 20 years ago. Thereby reducing the inefficiencies in the channel structure which had led to high retail prices. Also, the development of internet-based department stores where consumers can get similar products in offline common/consignment retail stores at a much cheaper price and at the convenience of their homes online is promoting new levels of competition in this channel structure and leading to a reduction in common/consignment's price increasing effect. Besides, there is the influx of foreign based department stores into the Korean market responsible for the reduction in the market dominance of the few home-grown department stores. In effect, the price increasing effect of common/consignment on consumer price level has reduced in recent times.

The results of the study provide insights into how retailers plan their merchandising strategy. When large manufacturing companies dominated the market, carrying one brand (exclusive dealing) can absorb significant amount of demand. However, as suppliers' competition becomes intense as more competitors enter the market, retail market becomes fragmented. Therefore, in a very competitive market, exclusive dealing is not an optimal merchandising strategy.

Finally, it can be said that the form of channel structure used in suppling of goods to a final consumer is one of the determinants that influences consumers welfare which is measured by the rate of increase in consumer price level. Therefore, in this study exclusive dealing channel structure would have a significant impact on reducing consumer welfare. This means that exclusive dealing increases retail prices and consequently reduces consumer welfare. Also, according to Chen and Riordan (2008)'s research, consumer welfare is reduced through exclusive dealing because an entry of new brand into the market that may improve competition, reduce retail prices, and advance consumer welfare is deterred due to the foreclosure effect of exclusive dealing. On the contrary, common retailing channel form was found to improve consumer welfare since it leads to lower consumer prices. Consumers gain under common retailing because of multi-branding (Nurski & Verboven, 2016) which

helps lower consumer prices through inter-brand and intra-brand competition. In terms of consignment or straight buying their effect on consumer welfare is regarded as minimal. However, when consignment or straight buying is combined with exclusive dealing or common retailing, it is observed from the result exclusive/consignment had the strongest effect in reducing consumer welfare through its effect on increase consumer price level. In summary, it could be observed form the study that exclusive dealing, and exclusive/consignment form have an adverse effect on consumer welfare due to their influence on raising consumer prices whiles common retailing and common/ straight buying improves consumer welfare as they reduce the rate of consumer price level increases.

6.2. Implication

The research adds to previous literature on exclusive dealing being anti-competitive (Besanko & Perry, 1994; Nurski & Verboven, 2016; Sass, 2005). The study further highlights the empirical relationship between channel structures (exclusive dealing, common retailing, consignment, exclusive/consignment, common/buying, common/consignment) and consumer price level. Lastly, the study also improves upon existing literature on the effect on a channel structure on consumer welfare.

In addition, government agencies could rely on the findings to create favourable policies and principles that will guide manufacturers and retailers in selecting channel structures that will improve consumer welfare as well as ensure that consumer prices do not excessively rise. Below are proposed policies that can be undertaken by the government institutions to improve upon the channel structures. Firstly, development of large complex shopping malls which would dramatically increase the supply of retail space, promote consumers simultaneous comparison of products by operating individual exclusive dealing retailers in a single roof, and encourage competition among similar products to reduce the differentiation effect of exclusive dealing. It is a more desirable form of retail that promotes consumer welfare and reduces retail prices. In addition, these public facilities have the effect of preventing excessive exercise of power by the perspective of the retail space of the department store. Secondly, fostering the development of Cyber shopping space develops the online and mobile distribution space. The cyber shopping provides infinite retail space, opportunities for small self-employed retailers, and improves consumer welfare in that it minimizes the time, cost and inconvenience to move and search for a retailer as well as provides consumer the prospect of simultaneous comparisons of product like in the offline complex shopping mall. In addition, cyber shopping has the potential to compete effectively with department stores, independent exclusive or common retailers. Therefore, the government should develop a policy for cyber shopping merchants to build trust in product quality, delivery, and operation. Thirdly, the results can be used by distributors and manufacturers to improve consumer welfare and attract potential consumers. For instance, retailers that wants to use consignment as their main distribution form could develop a merchandising know-how (the ability of a retailer to identify the products that his / her main target customers prefer and to assemble an optimal product assortment.) in order to avoid costs (such as unnecessary products occupying shelf space and costs incurred by manufactures due to inventory being unsold) that are incurred due taking in several products on consignment basis from the manufacturer. Also, retailer will be able to provide the right assortment of product preferred by their target consumers.

6.3. Conclusion

Conclusively, it was evident form the study that channel structures in a product distribution chain influence consumer price level. The study undoubtedly showed that exclusive dealing as channel structure significantly increase consumer price level (reduce consumer welfare) more than common retailing. However, the empirical evidence demonstrated that consignment as a channel form does not significantly influence consumer price when compared with straight buying. Finally, it was clear from the research that when exclusive dealing is combined with consignment in a channel structure, their impact on consumer price level increase (reduce consumer welfare) would be significantly greater than the combination of common retailing and consignment or common retailing and straight buying.

The major challenge of the research was about getting retailers to identify the form of distribution structure that is being used by the firm. Thus, some of the retailer found it difficult to identify the form of channel structure they represent. Likewise, some of the supervisors of the retail stores visited do not have accurate information on how the items were purchased (i.e., either on straight buying or consignment). Therefore, it was difficult in getting products that are absolutely sold on consignment or straight buying especially for cosmetic products, furniture, and electronic products. Also, it was hard to categorize clothing items. These items are made up of fashion products with national brands. Such products are usually supplied on consignment basis, however there are exclusive retailers for such brands and at the same time common retailers such as department stores that sell same items but at a high value.

Future studies should be carried out to assess how online channels of distribution affect consumer price level and welfare. Also, since it was difficult categorizing items under their respective distribution structure, further studies should

be undertaken to develop indexes that will be helpful for researchers and businesses in categorizing products under either exclusive retailing, common retailing, consignment or straight buying. Finally, future research can be undertaken to improve upon this study by providing a concrete reason why exclusive/straight buying distribution structure is not available in Korea.

6.4. Limitations and Future Research

This research has some limitations mostly due to the availability of the data. Firstly, since the secondary data published by Korean Statistical Information Service was used, the consumer price level might not have correctly measured. Furthermore, as pointed out earlier, some product categories are not sold through in multiple channel formats. However, we investigated the major channel formats that each product category is mostly sold through field study.

This paper provides some implications for the research regarding ecommerce. There are two major types of ecommerce, one is the platform carrying fulfillment function (e.g., Amazon, Coupang, Market Kurly, both are Korean ecommerce), and the other is not (called marketplace or open market, e.g., eBay, Gmarket, Korean marketplace). While Amazon and Coupang can be categorized common retailer/straight buying marketplace platforms which charge commission can be categorized as common retailer/ consignment. Recently we witnessed the success of platform of straight buying while marketplace which adopted consignment lose competitiveness. As we pointed out in the paper, consignment inevitably result in price increase because of structural inefficiencies. We surmise that consignment is one of the main factors that determine the performance of ecommerce. It is recommended to investigate other factors that have impact on the performance of ecommerce.

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