Candidates must complete this page and then give this cover and their final version of the extended essay to their supervisor.

Candidate session number	
Candidate name	
School number	
School name	
Examination session (May or November)	May Year 2012

Diploma Programme subject in which this extended essay is registered: __Economics__

(For an extended essay in the area of languages, state the language and whether it is group 1 or group 2.)

Title of the extended essay: _Do Exito Hypermarkets use various geographic price discrimination degrees for grocery goods in Bogota?_

Candidate's declaration

This declaration must be signed by the candidate; otherwise a grade may not be issued.

The extended essay I am submitting is my own work (apart from guidance allowed by the International Baccalaureate).

I have acknowledged each use of the words, graphics or ideas of another person, whether written, oral or visual.

I am aware that the word limit for all extended essays is 4000 words and that examiners are not required to read beyond this limit.

This is the final version of my extended essay.

Candidate's signature: _____   Date: __30-01-12__

Supervisor's report and declaration

The supervisor must complete this report, sign the declaration and then give the final version of the extended essay, with this cover attached, to the Diploma Programme coordinator.

Name of supervisor (CAPITAL letters) _____

Please comment, as appropriate, on the candidate's performance, the context in which the candidate undertook the research for the extended essay, any difficulties encountered and how these were overcome (see page 13 of the extended essay guide). The concluding interview (viva voce) may provide useful information. These comments can help the examiner award a level for criterion K (holistic judgment). Do not comment on any adverse personal circumstances that may have affected the candidate. If the amount of time spent with the candidate was zero, you must explain this, in particular how it was then possible to authenticate the essay as the candidate's own work. You may attach an additional sheet if there is insufficient space here.

DID NOT ENCOUNTER ANY MAJOR DIFFICULTIES
DURING THE PROCESS OF his EXTENDED ESSAY Research
HE SEEMED TO have had A CLEAR UNDERSTANDING
OF his WORK SINCE he MANIFESTED THA
he WAS SATISFIED TO have CONCLUDED THAT
ECONOMIC THEORY Could be TESTED AND
PROVEN TO REFLECT REALITY, ALThough The
WORK COULD have been EXPANDED TO INCLUDE
More ITEMS STUDIED.

This declaration must be signed by the supervisor; otherwise a grade may not be issued.

I have read the final version of the extended essay that will be submitted to the examiner.

To the best of my knowledge, the extended essay is the authentic work of the candidate.

I spent 6 hours with the candidate discussing the progress of the extended essay.

Supervisor's signature _____ Date: JANUARY 27th

Assessment form (for examiner use only)

Candidate session number

		Achievement level		
		First examiner	maximum	Second examiner
Assessment criteria	**A** research question *clear*	2	2	
	B introduction *clear context*	2	2	
	C investigation *limited*	2	4	
adequate	**D** knowledge and understanding	2	4	
	E reasoned argument *attempted*	2	4	
little	**F** analysis and evaluation	1	4	
sometimes clear	**G** use of subject language *but*	1	4	*needs more definitions, theory and graphs*
	H conclusion *attempted*	1	2	
	I formal presentation *satisfactory*	2	4	*sources in text need completing and one in the bibliography as well*
	J abstract *clear*	2	2	
	K holistic judgment *some evidence*	2	4	

Total out of 36   19

Assessment form (for examiner use only)

Achievement level

Criteria	Examiner 1	maximum	Examiner 2	maximum	Examiner 3
A research question	2	2		2	
B introduction	2	2		2	
C investigation	2	4		4	
D knowledge and understanding	2	4		4	
E reasoned argument	2	4		4	
F analysis and evaluation	1	4		4	
G use of subject language	1	4		4	
H conclusion	1	2		2	
I formal presentation	2	4		4	
J abstract	2	2		2	
K holistic judgment	2	4		4	
Total out of 36	19				

e of examiner 1: _____   Examiner number: __

PITAL letters)

e of examiner 2: _____   Examiner number: _____

PITAL letters)

e of examiner 3: _____   Examiner number: _____

PITAL letters)

IB Cardiff use only: B: _____✓____

IB Cardiff use only: A: __094129__   Date: __18/5/12__

Does Exito Hypermarkets use various geographic price discrimination degrees for grocery goods in Bogota?

Economics Extended Essay

Code:

IB Diploma Program

May, 2012

Abstract

The purpose of this investigation is to find out "Does Exito Hypermarkets use various geographic price discrimination degrees for grocery goods in Bogota?" The approach towards this investigation will be to go to various locations of Exito Hypermarket where consumers of different social classes purchase their groceries and then record the price of five basic necessities which are raw beans, potatoes, pasta, eggs, and milk. The same brand (Exito brand) will be used for all five grocery goods because they're cheaper than the other brands on the market hence making it the most popular. Thus, the promotions or change in price of these grocery goods according to their location will determine which degree of geographical price discrimination is being used.

The data collection showed and evident price discrimination because Almacenes Exito met the three conditions necessary for a company to price discriminate. For 60 percent of the grocery goods the price changed in all the different locations basically with consumers of different social classes. And the prices of all the grocery goods were lower for Las Americas (the location with the lowest social class) in comparison to Unicentro (the location with the highest social class).

It was concluded that Exito Hypermarkets in Bogota use the third degree for geographical price discrimination. This is because the prices of the grocery goods lowered as the locations' consumers' social class lowered as well. It was determined that neither first nor second degree price discrimination was used by Almacenes Exito because the consumers weren't paying what they were willing to pay and because the price didn't change per unit when a larger quantity of the grocery god was purchased. **(Word Count: 275)**

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Introduction

The biggest retail chain in Colombia is called Almacenes Exito. They are the third biggest company in the country according to Revista Semana (Semana Magazine) with 261 stores. Almacenes Exito are the father company of "hypermarkets (under the Éxito brand), supermarkets (Carulla and Pomona), Bodega stores (Surtimax brand), as well as other formats (Ley, Home Mart, etc.)"[1] making it the retail store most present throughout the country. In my investigation I have chosen to research only about the Exito Hypermarkets in order to narrow down my investigation, and to facilitate the collection of data by using a popular hypermarket brand which has a total of twenty hypermarkets in Bogota, the city which I reside.

I have therefore created the research question, "Does Exito Hypermarkets use various geographic price discrimination degrees for grocery goods in Bogota?" I have chosen to only research price discrimination on grocery goods for the two specific reasons. First, Exito Hypermarket offer "real estate, finance, insurance, apparel, food, travel agencies and service stations"[2], therefore investigating only about grocery goods will significantly reduce the variables taken into consideration, consequently producing a more concrete research. Two, grocery goods are basic living necessities which will be purchased regardless of the location, unlike apparel or technological devices that will most likely have very little purchasing in the low income areas of Bogota. For the same reason I have only chose to investigate about the use of geographic prices discrimination, and not the other five (*Time, Age, Gender, Income, Geographic, and Types of Costumer*) markets which can be used to prices discriminate. Only focusing on the geographic price discrimination will be more time efficient and much less bureaucratic because in order to determine the other markets of price discrimination, information from inside the company will be necessary, consequently making the research too broad. The purpose of my research is to investigate if Exito Hypermarkets uses geographic price discrimination in Bogota, which will allow me not only to discover the degrees used, but also the geographic market which Exito Hypermarkets uses to price discriminate.

Why have I chosen this topic?

It's understood by economists that firms have an incentive to use price discrimination (Price discrimination exists when a producer sells the same exact product to different consumers at different prices) if they can identify different elasticity's of demand Elasticity of Demand is the measure of how much the quantity demand changes, when the price of a product changes.) to their corresponding costumers. The reason for this is because it allows firms to increase their profits by reducing consumer surplus (Consumer Surplus is the extra satisfaction gained by consumers from paying a price that is lower than that which they were prepared to pay). Therefore, I have chosen to investigate about the geographic price discrimination used by Exito Hypermarkets in grocery goods because I'm curious to discover how price discrimination is used by such a cosmic and powerful company, and it will give me an insight about the economic and social situation of my home country's capital from the perspective of a professional.

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[1] http://www.grupoexito.com.co/sites/English/conozcoexito/default.aspx
[2] http://www.grupoexito.com.co/sites/English/conozcoexito/default.aspx

3

Data Collection Method

In order, for producers to price discriminate they must meet three conditions. First, they must be able to set prices, thus the market has to be an imperfect one. Two, the consumers "must have different elasticities of demand"[3]. Three, "the producer must be able to separate the consumers so that they are not able to buy the product and then sell it to another consumer."[4] Hence, the first objective which must be met is identifying the three conditions of price discrimination for Exito Hypermarkets in Bogota.

After proving Exito's Hypermarkets ability to price discriminate I will inspect how this firm uses geographic price discrimination. The following defines and exemplifies what geographic price discrimination is:

- *Geographical distance:* Costumers are charged different prices for the same product depending on their location. For example, Hershey Chocolates are sold in Florida, USA at 69 cents, while in Bogota they are sold at 2 dollars.

I will travel to four Exito Hypermarkets found in different locations of Bogota. These five hypermarkets will be located in regions with different social classes because the elasticity of demand changes upon these regions allowing me to increase the chances encountering price discrimination for my data collection. I will choose five essential grocery goods which are bought by all social classes which are the following:

1. Raw Beans
2. Potatoes
3. Pasta
4. Eggs
5. Milk

At these four locations I will look at the difference between the prices of the cheapest brand which is the Exito Brand and the corresponding social class which the Hypermarket is located in. Once the geographic price discrimination used by Exito Hypermarkets is identified that data will be used to find out in to which of the three degrees of price discrimination they correspond, thus concluding the research. There are three degrees (levels) of price discrimination:

- *First Degree Price Discrimination:* Is when a consumer purchases a product for the price they are prepared to pay. For example, if trader is selling jerseys outside a football stadium, the trader will sell his jerseys depending on what the customer is willing to pay. If the consumer is willing to pay 100 dollars the trader will sell it for that price, and if another costumer is only willing to pay 80 dollars the trader will also sell it for that price.

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[3] Economics Course Companion Page 127
[4] Economics Course Companion Page 127

- *Second Degree Price Discrimination:* Is when a producer charges different prices for the same product depending on the quantity being bought. For example, Dunking Donuts sells in Bogota a single donut for 2,000 pesos, but if he or she buys three donuts the three donuts for 4,500 pesos instead of the corresponding price per three donuts of 6,000 pesos.
- *Third Degree Price Discrimination:* Is "when consumers are identified in different market segments, and when a separate price is charged in each market segment that recognizes the different price elasticities in each segment."[5] For example, a cinema identifies "two distinct market segments in their audience, adults and students. The students have a more elastic demand for going to films because they have lower incomes. Thus the management knows that they will have to charge a lower price for students than for adults."[6]

Collected Data

The data will be collected from the four following Exito Hypermarkets, with their social class[7] indicated:

- La Colina- Social Class Status: 4
- Villa Mayor- Social Class Status: 5
- Las Americas- Social Class Status: 2
- Unicentro- Social Class Status: 5 to 6

The following data was collected:

Unicentro (Social Class: 5 to 6) Exito Hypermarket		
Grocery Good	Price of Exito Brand Grocery Good ($ COP)	
Raw Beans	6,450	per 1 kg
Potatoes	3,240	per 1 kg
Pasta	5,200	per 1 kg
Eggs	5,530	per dozen
Milk	1,738	per 1,000 mL

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[5] Economics Course Companion Page 129
[6] Economics Course Companion Page 129
[7] In Colombia the Social Classes are categorized from 1 to 6

Villa Mayor (Social Class: 5) Exito Hypermarket	
Grocery Good	Price of Exito Brand Grocery Good ($ COP)
Raw Beans	6,450 per 1 kg
Potatoes	2,750 per 1 kg
Pasta	4,800 per 1 kg
Eggs	5,530 per dozen
Milk	1,738 per 1,000 mL

La Colina (Social Class: 4) Exito Hypermarket	
Grocery Good	Price of Exito Brand Grocery Good ($ COP)
Raw Beans	6,450 per 1 kg
Potatoes	2,50 per 1 kg
Pasta	4,480 per 1 kg
Eggs	4,620 per dozen
Milk	1,598 per 1,000 mL

Las Americas (Social Class: 2) Exito Hypermarket	
Grocery Good	Price of Exito Brand Grocery Good ($ COP)
Raw Beans	5,890 per 1 kg
Potatoes	2,480 per 1 kg
Pasta	4,480 per 1 kg
Eggs	4,210 per dozen
Milk	1,598 per 1,000 mL

Processed Data:

Location:	Price of Grocery Goods($ COP)				
Price Comparison between Locations					
	Raw Beans per 1 kg	Potatoes per 1 kg	Pasta per 1 kg	Eggs per dozen	Milk per 1,000 mL
Unicentro (Social Class: 5 to 6)	6,450	3,240	5,200	5,530	1,738
Villa Mayor (Social Class: 5)	6,450	2,750	4,800	5,530	1,738
La Colina (Social Class: 4)	6,450	2,500	4,480	4,620	1,598
Las Americas (Social Class: 2)	5,890	2,480	4,480	4,210	1,598

Data Analysis

Travelling from location to location it could be easily proved that the Almacenes Exito had the three necessary conditions in order to price discriminate, not just because the prices were different, but by the essence of the definition. First, Almacenes Exito had price setting ability because their Exito Brand had lower prices than the competition, hence demonstrating that they could set the price under the other, but also increase it if they wanted to. Second, the consumers had different elasticities of demand due to the location, because the consumers are of different social classes, thus someone buying groceries in Unicentro has a more inelastic demand because his income is higher than someone going grocery shopping in Las Americas. Third, Almacenes Exito has the ability to separate the consumers. Consumers wouldn't be able to sell the cheaper groceries for higher prices because the transport costs would be too high forcing these re-soled groceries to cost more than the local price. Hence, the changes in prices according to their location symbolized the Exito Hypermarket's containment of these three conditions.

There happens to be a clear trend in all five grocery goods. The price of all goods eventually decrease as they approach the lowest social class located Exito Hypermarket. The raw beans price only changed for the hypermarket located in Las Americas which was lower because it was the lowest social class amongst the four hypermarkets. The potatoes price was a clear example of price discrimination because the price lowered for each of the locations as the locations' social class lowered. The pasta price just as the potatoes price lowered for each of the locations as the locations' social class lowered. The price for a dozen of eggs only lowered for La Colina and furthermore for Las Americas, therefore also showing price discrimination occurring. Finally, the price of milk was the same for Unicentro and Villa Mayor where consumers of the two highest social class grocery shopped, and for La Colina and Las Americas the price was the same, but lower in comparison to Villa Mayor and Unicentro. It can be observed that the price

for all five grocery good were lower for hypermarkets located areas with a social class of 2 in comparison to hypermarkets located in areas with a social class of 5 or higher. In addition, 60 percent of the five grocery goods price was lower for hypermarkets located areas with a social class of 2 in comparison to hypermarkets located in areas with a social class of 4. Hence, it can be analyzed that all the prices decreased as the social classes in the locations of the hypermarkets decreased for the majority of the five grocery goods.

 It can also be deduced that the degree used by Exito Hypermarkets in Bogota, is the third-degree price discrimination. This is because consumers are paying according to their elasticity of demand. First-degree can be eliminated because costumers aren't walking in the hypermarket and paying the price they're willing to pay. People buy the Exito brand because it was the cheapest one, thus they're looking to buy the groceries at the lowest price possible. Second-Degree price discrimination can also be crossed out because there were no types of promotions for these goods, if they bought 2 or more they would pay proportional to the price and quantity purchased. The reason the geographic price discrimination is third-degree price discrimination is because it corresponds to the definition. The elasticites of the consumers are different as stated above, and Exito Hypermarkets in Bogota have been able to identify them in the different locations, and set the price according to the elasticity studied. Consequently, they have changed the prices in different locations. The market segments are the locations, and in each of these segments there are existent differences between their elasticities, due to the difference in income of the consumer purchasing the same product.

How does using third-degree price discrimination increase Exito Hypermarkets profits in Bogota?

 In order to show how Almacenes Exito can benefit and increase profits by using third-degree price discrimination, the following graphs will be explained and the numbers used will be theoretical with the purpose of illustrating how profits are maximized.
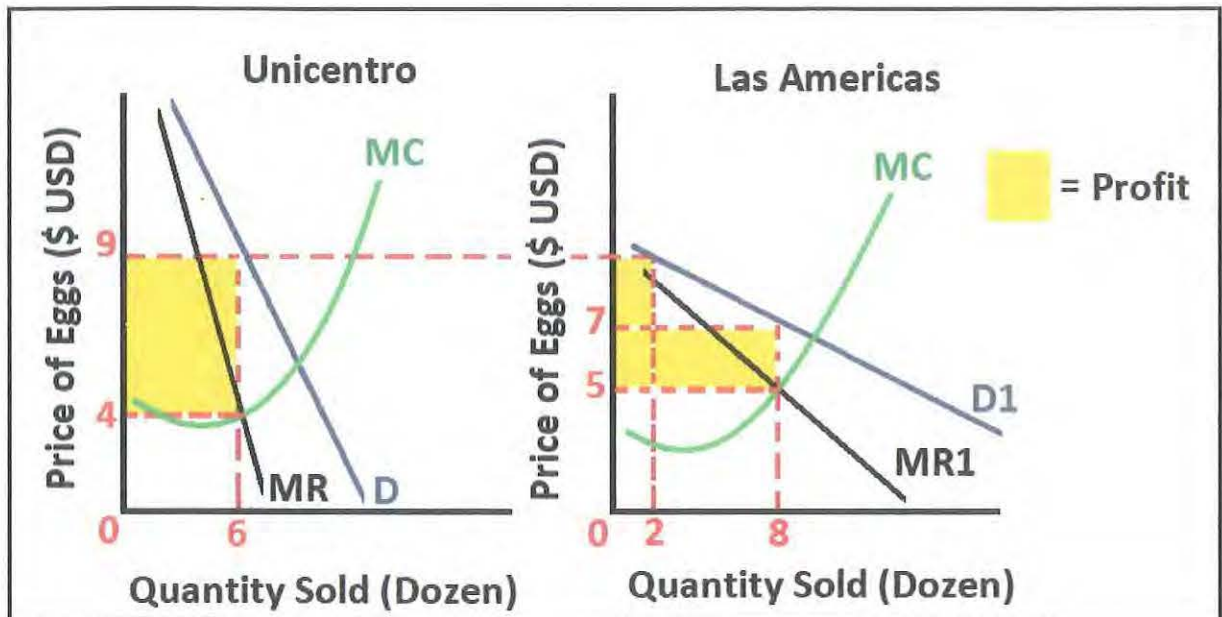
The graphs from above show the different elasticities of demand of Las Americas and Unicentro. Due to the fact that Las Americas consumers are of a lower social class the demand (D1) is more elastic than the demand (D) of Unicentro. The Marginal Cost is the same for both graphs, and the Marginal revenue is proportional and correspondent to the graphs' demand. Let's assume that the dozen of eggs sold under the Exito brand in Unicentro are sold at $9. At $9, 6 dozens of eggs will be sold, consequently the revenue will be (9×6) = $54. Thus, the profit will be (9×6)- (4×6)= $30 at the Unicentro hypermarket. If the same price of $9 is used to sell in eggs in Las Americas only 2 dozens of eggs will be sold and the revenue will be (9×2)= $18. The profit at the Las Americas hypermarket will be (9×2) - (5×2) = $8. Hence, if Exito were to sell the dozen of eggs at $9 at both locations they will have a total profit of $38. On the other hand, if Almacenes Exito chooses to use third degree price discrimination and lower the price of the dozen of eggs in the Las Americas hypermarket to $7 they will gain a higher profit. This is because the revenue in Las Americas hypermarket will now be (7×8) = $56. Consequently, the profit will be (7×8) - (5×8) = $16. Therefore, the total profit from selling eggs will be $46, instead of $38.

This example demonstrates the reality of how Almacenes Exito benefits from selling their grocery goods at lower prices in hypermarkets where the consumer is of a lower social class because the company's goal is to have the highest profits as possible, and this allows Almacenes Exito to have a higher profit. This third price discrimination can be applied to any market as long as Almacenes Exito can identify the different elasticities of demand. Thus, this explains why for the five grocery goods chosen to investigate all of them were had a lower price in Las Americas hypermarket than the other locations.

Conclusion

The purpose of this experiment was to find out which geographic price discrimination degrees for grocery goods does Almacenes Exito grocery use in Bogota?" After collecting data using five different grocery goods it could be observed how third degree price discrimination was being used due to the social class of the consumers at the different locations. Also, it was calculated how the use of third degree price discrimination was beneficial for Almacenes Exito because it did indeed increase their profits due to their ability to identify different elasiticties of demand for grocery goods.

Unresolved Questions

It was concluded that only the third degree price discrimination was used, but in reality there are vast possibilities that Almacenes Exito uses second degree price discrimination for grocery goods in Bogota. There are certain seasons or times of the years where grocery goods have promotions, thus meaning second degree price discrimination will be used during these promotions. Also, various brands exist other than the Exito brand for the five grocery goods used. Hence, it is generally inaccurate to state that all the raw beans, potatoes, pasta, eggs, and milk products in Almacenes Exito use geographical price discrimination or only use third degree price discrimination.

Word Count: 2,354

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