

## Supervisor's report

The supervisor should complete the report below and then give this cover, enclosing the final version of the extended essay, to the Diploma Programme coordinator. The supervisor must sign this report; otherwise the extended essay will not be assessed and may be returned to the school.

Name of supervisor (CAPITAL letters)

## Comments

If appropriate, please comment 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. These comments can help the examiner award a level for criterion H. Do not comment on any adverse personal circumstances that may have affected the candidate.

developed a strong work ethic with regard to his Extended Essay. He had developed a strong interest in microeconomics, particularly market structures and was always going to concentrate in this area. He wanted to do something in relation to the school but ultimately decided to study his place of work after observations were made whilst carrying out his duties at the Deonarong Resort. His study is an unusual approach to studying of contestable markets and occasionally required guidance on the application of theory to his study. He was able to gather information from his employer but found it more difficult to visit and obtain access to anything more than superficial information from potential competitors.

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  hours with the candidate discussing the progress of the extended essay.

Supervisor's signature:

**Assessment form (for examiner use only)**

Candidate session number									
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		Achievement level	
		First examiner	Second examiner
<b>General assessment criteria</b> <i>Refer to the general guidelines.</i>	<b>A</b> Research question		2
	<b>B</b> Approach		3
	<b>C</b> Analysis/interpretation		4
	<b>D</b> Argument/evaluation		4
	<b>E</b> Conclusion		2
	<b>F</b> Abstract		2
	<b>G</b> Formal presentation		3
	<b>H</b> Holistic judgement		4
<b>Subject assessment criteria</b> <i>Refer to the subject guidelines. Not all of the following criteria will apply to all subjects; use only the criteria that apply to the subject of the extended essay.</i>	<b>J</b>		
	<b>K</b>		
	<b>L</b>		
	<b>M</b>		

Total out of 36



Name of first examiner: \_\_\_\_\_  
(CAPITAL letters)

Examiner number:

Name of second examiner: \_\_\_\_\_  
(CAPITAL letters)

Examiner number:

# **Extended Essay**

*A real world analysis of the  
Theory Of Contestable Markets.*

3780 Words

## **Abstract**

This essay deals with the economic theory of contestable markets. It is based around the fact that although a monopoly has complete power over price in its market, it may keep prices to a competitive level to avoid the entry of competing firms to share in abnormal profits garnered by the monopolist. This study revolves around Dooralong Valley Resort and the fact that, because of its location which is so isolated, has a monopoly with regards to the people who stay there. Firstly it is established that Dooralong Valley Resort does indeed have a monopoly with regards to the consumers there, and then price comparisons were made to restaurants where there is a large concentration of competitors in a small area such as in Terrigal and at The Entrance.

A comparison was made to a similar study concerning the de-regulation of the American Airline industry, and the results were quite similar generally. Thus with these two complementary studies an attempt was made to either prove or disprove the theory of contestable markets described above. However, due to the large amounts of assumptions made in economic theory, it became impossible to do either, resulting in a relatively open study that reveals evidence for the fact that monopolies do price competitively when they have the choice to do otherwise, but also revealing that the assumptions made in economic theory are not always applicable or able to be made in the real economy.

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## Acknowledgements

1. \_\_\_\_\_ for their co-operation and willingness to provide data during the collection of primary data for this essay
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4. Matt McGee for excellent descriptions of most economics concepts included in this essay in his textbook noted in the footnotes.
5. Bailey and Panzar for the alternate study of the American Airline industry during its deregulation.
6. <http://www.mgmt.purdue.edu/faculty/smartin/aie2/contestbk.pdf> for the copy of the Bailey and Panzar document

## Introduction to the Extended Essay

The theory of contestable markets was chosen as my area of research for the extended essay because of the lack of evidence available to either prove or disprove it. The theory is heavily based on economic theory and includes many assumptions that do not necessarily happen under real-world conditions such as those of no entry or exit barriers, along with no sunk costs<sup>1</sup>. I believed it would be a topic worthy of study to see if the economic theory holds true under real conditions such as a localized monopoly of the Dooralong Valley Resort. The Resort is located very close to my house, and because of its geographical location being at least fifteen minutes from any other forms of accommodation, tourism attractions and restaurants, would appear to have a monopoly over the customers that choose to holiday there.

Dooralong is a remote suburb of the Central Coast of New South Wales, Australia, and with a very small population and no facilities like that of a normal town, it is quite removed from the rest of the Central Coast. It is located approximately fifteen minutes travel time from the closest town, Wyong, and about one hour from the coast. Wyong has very few fine dining restaurants, if any at all, and is more centered on take away food and Chinese and Asian restaurants of a small size. Hence there is no sizable restaurant in Wyong that is comparable to Dooralong Resort. The Dooralong Valley Resort was established in the valley and promoted as a country retreat with colonial style rooms and service. It contains forty-five villas housing around two hundred people and many guest services and activities under the initiative that once at the resort; customers will not travel in to Wyong, but remain at the Resort. There are two places to eat at the resort. The first is a restaurant and primarily the focus for this essay: Jilliby's Restaurant. The Second is The Oxley Tavern, which acts as a substitute for the main restaurant and provides meals at a lower price rather like a bistro or public hotel. The Entrance and Terrigal are suburbs of the Central Coast right on the Pacific Ocean, and have large numbers of both restaurants and take away shops for consumers to choose from, resulting in a monopolistic competition market as the firms (restaurants) have the ability to differentiate<sup>2</sup> their products from one another.

Applying the economic theory here could show with a certain amount of detail if the resort indeed does have a monopoly, and if it is able to use this power to generate abnormal profits. It will also give data as to whether the theory of contestable markets applies to a real world situation if indeed the monopoly is shown to exist. Thus, I thought that choosing a topic which is neither proved nor disproved and based heavily on theory rather than observation and empirical evidence in a human science would shed some light onto the credibility of such ideas and if humans can actually be studied like a science in

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<sup>1</sup> Sunk costs are expenses and costs that cannot be recovered when a firm leaves a market. These are generally the main barrier of exit for a market when large expenses cannot be reclaimed, reducing the profitability of the venture into that market.

<sup>2</sup> Differentiating a product means to make one good appear different from all others on the market through various forms of advertisement. This can lead to customer loyalty whereby a consumer chooses a more expensive item over a cheaper one because they believe it is better than the cheaper one.

areas such as economics where there are many predictions and hypotheses that proved to be wrong because of abnormal human behavior.

The topic concerns a very broad area, and many tests could be carried out on different scenarios, however, to make the study more manageable, the main research will take place only on the Central Coast areas with secondary studies from around the world included for comparison and analysis. The main areas studied will be: The Dooralong Valley Resort as an example of a monopoly, The Entrance and Terrigal as examples of monopolistic competition markets on the Central Coast where there are many restaurants rather than the one of Dooralong. By firstly establishing that Dooralong indeed does have a monopoly over consumers that are staying at the resort, and then by comparing the prices of Jilliby's Restaurant and The Oxley Tavern to similar places in Terrigal and The Entrance, the theory of contestable markets can be tested for validity.

Thus, the specific question that will be analyzed as the basis for the extended essay will be:

*Does the theory of contestable markets keep monopoly pricing at competitive levels despite the fact there is no established competition in a case study of Dooralong Valley Resort?*

Since the creation of the theory of contestable markets it is very difficult to conduct a comprehensive test and very little empirical evidence is available to either prove or disprove the theory, and that which is available often conflicts; some supporting the theory, other studies show that the theory is only economic theory applied to a perfect economic world where there are such things as no sunk costs or entry barriers as will be shown in the analysis of secondary example further on in the essay. Thus, with this case study, an attempt will be made to establish a platform through which the theory of contestable markets can be shown to be either complete theory and not applicable to the real economy, or a theory that indeed does apply to a real situation such as the Dooralong Valley Resort.



## The Extended Essay

The theory of contestable markets is based around the idea that when a market has low barriers to entry (i.e. it is not hard to establish a firm within that market quickly) and low costs of exit (i.e. when leaving that market, little or no money is lost on capital or stock that cannot be sold), firms can partake in “hit and run” strategies of entering a above-normal profit making market, staying there until these profits return to normal levels, then leaving the market. So the theory states that the threat of competition and firms entering the market to earn these abnormal profits will keep established firms prices at a competitive level, even when there is no competition present to keep other firms out of the market, and to hold their share of the market.

The contestable market theory is based upon the assumptions of other market structures, but it is primarily based upon an oligopoly market structure. It could also apply to a monopolistic market, but tends not to as barriers to entry are generally raised by the monopolistic firm to keep others out. Similarities to the oligopoly market structure are:

1. Firms are profit maximisers (i.e. they set prices where Marginal cost or MC equals marginal revenue or MR, hence where  $MC=MR$ )
2. There is perfect knowledge and information about other suppliers and their goods. This particularly does not necessarily occur in the real economy as it is very hard for one firm to know everything about another firms product and actions.
3. Goods can be homogeneous or differentiated. This means that the goods created by the firms are either identical (homogenous) or they can be made to appear different through marketing or advertising (differentiated). There may be very little tangible difference between the products but a firm can attempt to make theirs appear different by changing colour or adding some “new” feature to their product. This is common practice in monopolistic competition and in oligopolies where firms are competing for market share.

When analyzing a contestable market, it is worth noting the fact that in the economic theory, there are some assumptions made that do not actually apply to the real world. They are:

1. The market can be either a monopoly (i.e. one firm has total market power) or it can be an oligopoly or (to a lesser extent) monopolistic competition where many firms have a certain degree of market power.
2. The option of collusion<sup>3</sup> is not available, and all firms prices are characterized by the price competition in that market
3. Barriers to entry are low. There are no significant barriers preventing other firms from establishing themselves in the market (such as licenses, patents, copyrights, high fixed costs and marketing barriers)
4. There are no exit barriers. This means that a firm leaving the market would not incur sunk costs such as advertising costs, insurance costs and capital that

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<sup>3</sup> Collusion is where firms in an oligopoly or similar market structure try to maximize profits and reduce competition. A classic example is two or three firms agreeing in secret to all set the prices at a high level to avoid price competition between them and maximize all their profits. Collusion is generally illegal as it does not benefit a consumer.

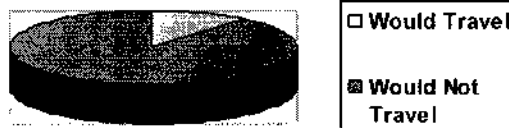
cannot be taken to another industry or sold to another firm that wishes to enter the same market. It can also include costs to acquire the licenses and copyrights/ patents that are needed to produce in that market. In the contestable market theory, none of these exist, hence exit barriers are zero.

When applying this to the Dooralong Valley Resort case study, it is immediately apparent that there are exit costs and barriers to entry. To establish a restaurant in New South Wales, a permit and license is needed, and to serve alcohol yet another one is needed. Staff also have to complete the day course of "Responsible Service of Alcohol" at a cost to the Resort in order to be licensed to serve alcoholic beverages. The restaurant needs liquor licenses and permits to be able to serve food. Studies have to be undertaken to determine the impact upon the surrounding area<sup>4</sup>. These are examples of sunk costs. The Resort also does not have total market power, neither does it have a significant share of the restaurant market which is often considered to be monopolistically competitive, but this study will attempt to prove that the Dooralong Valley resort does indeed have a localized monopoly with regards to the consumers that stay there, rather than on the general population.

Hence the market of study is not a perfectly contestable market. Set up costs for a firm out at Dooralong to compete with the restaurant and tavern there would be substantial, as not only would an entire structure need to be built, legislation would also require environmental studies on the effect of the building, as some wildlife is protected due to declining numbers in the area. However every effort will be made to create an environment where the theory can be studied accurately.

Firstly it needs to be established that the Resort does have a monopoly over those who stay there. This is done by distributing a survey at the restaurant<sup>5</sup>. As the results from the survey show:

	People Who <b>Would</b> Travel for Food elsewhere:	People who <b>Would NOT</b> travel for food elsewhere:
No of People:	11	89



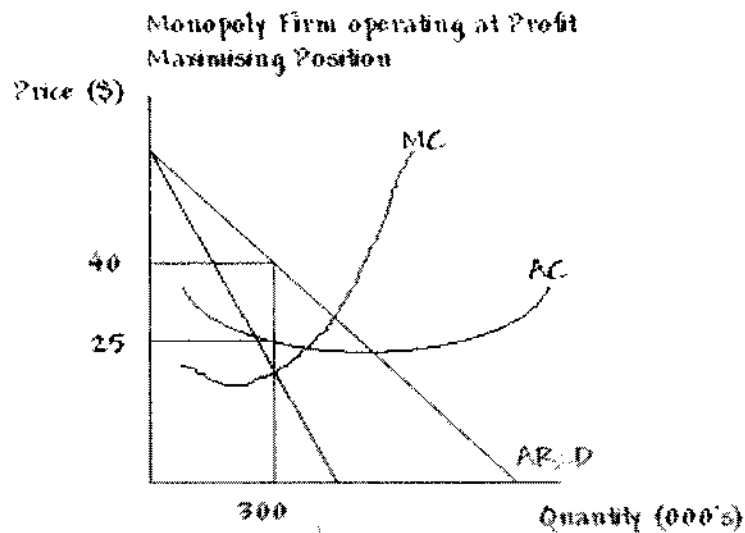
As the survey shows, 89% of surveyed guests (there were 100 responses total) would NOT travel to the closest restaurants in Wyong once at the resort. This may be because of the desire settle into a holiday stress-free atmosphere where everything is self

<sup>4</sup> To operate the Oxley Tavern, the resort had to complete a costly survey about the affect on the environment and society surround the tavern site.

<sup>5</sup> See appendix 1 for a sample copy of this survey.

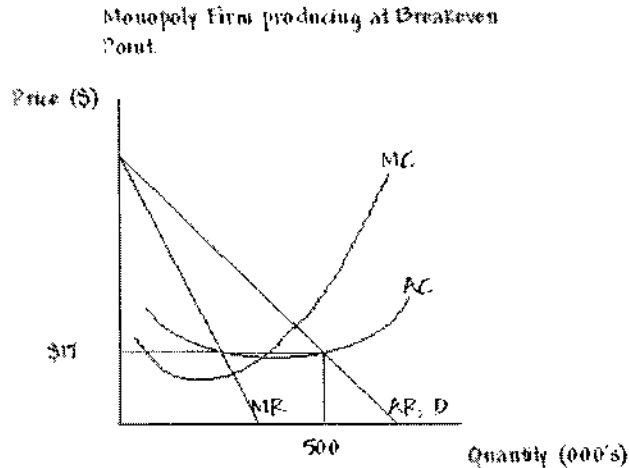
contained and no work is needed to be done by the individual. However, as such a large percentage would not travel away from the resort, it is a reasonable assumption, based ONLY on the data accumulated here that the restaurant has a relative monopoly with regards to the guests staying there.

A monopoly will often produce at a profit maximizing position as the goal of most firms is to maximize their profits.



According to Theory of the Firm, the profit maximizing position for any firm is where marginal revenue equals marginal cost, which in the above diagram is where  $MC = MR$ . As there are no competing firms in this market, the monopoly firm has complete control over the price it wants to sell its good at. If there is a likely chance that there is to any new entrants to this market, then the firm may want to remove any abnormal profits that it is receiving. In the above diagram, the firm is selling 300,000 units of its product at a price of \$40, however as the average cost curve (AC) is how much it is for each unit to be produced, the total costs are \$7.5m ( $25 \times 300000$ ). The revenue generated by the sale at \$40 is \$12m, hence the abnormal profit is \$4.5m which is indicated by the rectangle AR,AC,25,40.

With the risk of new entrants to the market the firm will produce where there are no above normal profits, or at the breakeven point where average cost equals average revenues  $AC = AR$ .



In the above diagram, total profit equal total costs at \$8.5m (17 x 500000). There are no abnormal profits being made by this firm so there is no incentive for other firms to enter this market. The monopoly may return to the profit maximizing position of  $MC = MR$  later on if it wishes. As the breakeven position is the lowest price a firm can produce at, a monopoly wishing to remove any competition can produce at this point. If the other firms (or incoming firms) can not match this price, then they will have to operate at a loss, which can only be done in the short run. The established firm will be able to stay at this point as long as necessary for any competing firms to reach shutdown point, or for any potential competitors to decide against entry into this market. This is called predator pricing when there is another firm already established, however when there is no competition at the time, it can be seen as a type of forward-thinking predatory pricing.

Thus it has been established the Dooralong Valley Resort has a monopoly with relation to the consumers that stay there. Now a price comparison needs to be made to other restaurants where there is a large number of firms in a small area. Two areas that were already identified are Terrigal and The Entrance. Meals that are similar in both the Dooralong Valley Resort and in restaurants in these locations have been compared to generate a general idea of whether or not the resorts pricing exceeds that of firms operating in a more competitive area. It is noticeable that the resorts pricing at both Jiliby's restaurant and the Oxley Tavern (despite the fact no exact matches in meals were made, only dishes closely related were compared) does not exceed that of the restaurants in the more competitive areas and is sometimes below it.

- table of comparison prices needs to go here\*

Meal:	Dooralong Price	Other Restaurant Price	Price Difference
Grilled Beef Sirloin Steak	\$30	\$32	-\$2
Grilled Beef Sirloin Steak	\$30	\$33	-\$3
Grilled Beef Sirloin Steak	\$30	\$28	+\$2
Lamb Rack	\$33	\$40	-\$7
Plate of Chips	\$4.50	\$4	+\$0.50

Duck	\$28	\$35	-\$7
Duck	\$28	\$31	-\$3
Duck	\$28	\$32	-\$4

This shows that on average, the Dooralong resort, despite its localized monopoly, continues to price at a very reasonable price. Costs of meals are frequently under the competing stores prices, and on occasion above it, demonstrating that the average pricing is comparable to other restaurants in a more densely packed area.

To help draw conclusions, a comparison to another study needs to be made:

In a case study in the United States, the aviation industry was opened up to try and reduce prices. Whereas an airline could only fly a route if they had the appropriate licensing, legislation was changed to enable any airline to fly any route. To apply the theory of contestable markets, each route needs to be examined as its own market. This shows that capital (the aircraft) can be moved in between the markets without entry or exit barriers. There were some barriers not associated with the moving of capital such as airport limitations and airports often were leased to particular airlines on a long term basis for ease of the state governments. This meant that there were some barriers to some markets, however on the general it was a good example of a contestable market theory in operation.

The results of this study are portrayed in an Adobe Publisher document<sup>6</sup>:

*"The authors report a regression analysis that suggests (Bailey and Panzar, 1981, p. 143)*

*"It was actual competition by trunk airlines, not potential competition, that limited the exercise of market power by local service carriers flying 400 miles or less. Potential competition by locals did not limit the exercise of market power by locals. Because of product differentiation — differences in the quality of service — potential competition from commuter airlines did not limit the exercise of market power by local service airlines. The only aspect of the results consistent with contestability theory is that potential competition from trunk airlines appears to limit the exercise of market power by local service airlines flying more than 400 miles."*<sup>7</sup>

And:

*"We cannot claim to have done an exhaustive empirical analysis of airline markets in transition. However, we do feel that the admittedly scanty evidence during the first year after deregulation is consistent with our theory that airline markets are basically contestable". . . .*

*..... "We have argued that long haul airline markets served by local service carriers most closely fit this theoretical ideal. The empirical evidence of late 1979 and early 1980 does, in fact, bear us out. Local service monopolists have been pricing more or less competitively on their long-haul routes."*<sup>8</sup>

<sup>6</sup> See <http://www.mgmt.purdue.edu/faculty/smartin/aie2/contestbk.pdf> to get a copy of this document.

<sup>7</sup> Quote taken from page 32 of the document

<sup>8</sup> Quote taken from page 32 of the document

This data analysis shows that the theory of contestable markets applies in some forms only. By concluding from this study that it was the actual competition, not potential competition that dropped prices (i.e. limited the exercise of market power) it would seem the theory does not apply. However, it does seem that once the journey exceeds four hundred miles, contestable market theory began to become more applicable.

Despite their own admission that it was not a comprehensive study, and that not all empirical evidence available was used, they point out that local service monopolists seem to have been already pricing competitively on long haul routes, even before the legislation change. This could indicate that there is more competition than was noted (i.e. the airline industry could be competing with the railway industry and with people driving to their destination instead).

This study proves that a complete study of the contestable market theory is very hard to achieve and that only scant details will ever be obtained. However it is easy to draw parallels between this study and the one undertaken involving Dooralong Valley Resort. Both airlines that have a long-route monopoly and Jiliby's restaurant with a monopoly on consumers staying at the resort are pricing more or less competitively already, even without competition. There is also a certain degree of product differentiation between the airlines and the restaurants, which could be a factor to explain why the results are so close, but the overall message is that before competition is introduced, both "monopolists" of Dooralong and Airlines are pricing competitively, and not abusing and monopolistic powers that they have.

## Conclusion

As both monopolists (Dooralong Valley and the Airline Firms) are pricing at competitive price before any competition could be introduced, one of two conclusions can be drawn:

1. The theory of contestable markets is valid and in practice in the commercial world, whereby firms that have a monopoly regarding its customers do not abuse its powers, but rather price at a competitive level to avoid other firms entering the market and sharing the abnormal profits that are available, eventually reducing them to normal profits in the long run.
2. The monopoly described is not a “true” monopoly in the fact that people do have an alternative to this service if they consider the price to high. People could choose not the eat at Dooralong Resort or choose to take a different route to their destination in the case of the airliners if it is still less expensive and economical for the passengers to do so. This shows that neither of these two markets are actually perfect monopolies, if they can even been classed as monopolies at all. Hence, if the chosen markets are not true monopolies; the study is thus inconclusive about the theory of contestable markets and can neither prove, nor disprove its existence in the commercial world.

Unfortunately, it is impossible for this study alone to prove either, as there is neither the resources, nor the time available to conduct a full study. A major issue that concerns the study of this topic is that the markets that are studied are not “true” or “pure” examples of the market structures dictated in economic theory. There will always be entry and sunk costs for a firm trying to leave a market, and products can general be differentiated from each other in most markets. Thus the theory of contestable markets lies within economic theory that cannot be accurately reproduced in a real world situation. The question then arises as to whether or not the theory can thus be tested at all. All social sciences like Economics are based upon human behaviour which can be highly unpredictable and so many assumptions need to be made in order for theories to work. These assumptions may not necessarily be correct, and thus all economic theories may hold in general, but there will always be an element of doubt or exceptions to the rule where a theory that works for one country may not for another.

The study as a whole can be regarded as inaccurate, for there are no “set dimensions” for the occurrence of a monopoly, and the established one at Dooralong may not quite have the pricing power of a true monopoly as dictated in economic theory, thus the whole comparison to restaurants of more competitive areas is invalid. But the major conclusion that can be drawn from this study is that the theory of contestable markets cannot be proved or disproved because of the limitations of real world applied economics compared to the assumption filled economic theory.

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