

HANDOUT #1

Providing Economic Evidence for Anti-Competitive Practices

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Outline of Discussion

- I. Complaint Synopsis
- II. Respondents' Defence
- III. The Usefulness of Economics in Evaluating Respondent's Arguments
- IV. Conclusion

I. Complaint Synopsis (fictitious case)

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Informant alleges that three (3) stores in his neighbourhood are involved in “unfair” business practices. The informant indicates that he went to purchase two kites for his sons and the three stores he visited were selling kites for \$85.00 each. He informed the Commission that there are less than seven (7) stores sold kites in the island and the prices were much lower a couple weeks ago. He continued to say that in December 2005, a store located “way over on the other side of the island” announced that it would raise its price to \$85 effective January 1, 2006. He mentioned he thought nothing of it because the stores in his neighbourhood made no such announcement and he had no reason to believe they would raise their price as well since the cost of the material used to make each kite did not change and could not have been more than \$8.00. He said the \$85 charged by the stores was “exorbitant” and he expressed the opinion that the stores were guilty of extortion and should be punished accordingly.

NOTE for competition lawyers: Unless a society is mature in a culture of competition, not many persons will be able to recognise potential breaches of competition. One way of addressing this problem is for the Competition Authority, such as the Fair Trading Commissions in Barbados and Jamaica, to inform the public about various provisions in their competition law through a competition advocacy program. In the example above, the informant complains of only excessive pricing or price gauging. However, the Commission must be perceptive enough to detect breaches that are not explicitly mentioned by informants. The pre-announced price increase and the high degree of *concentration* in the kite industry are *facilitating devices* in the market and suggest that the kite industry might be susceptible to *collusive* activities; in this instance, *price-fixing*.

Treatment under the Competition Laws of Barbados and Jamaica

(i) “Excessive pricing”

Excessive pricing is contemplated by the competition laws of both Barbados and Jamaica:

Barbados FCA, Section 16(3)(e) states “... An enterprise abuses a dominant position if it impedes the maintenance or development of effective competition in a market and in particular, but without prejudice to the generality of the foregoing, if it...directly or indirectly imposes unfair purchase or selling prices that are excessive, unreasonable, discriminatory or predatory;”

Jamaica FCA, Section 20(1)(d) states “... An enterprise abuses a dominant position if it impedes the maintenance or development of effective competition in a market and in particular, but without prejudice to the generality of the foregoing, if it...directly or indirectly imposes unfair purchase or selling prices or other uncompetitive practices;”

Excessive pricing may fall into one of two categories of “abuse by a dominant enterprise”. Excessive pricing by a dominant enterprise to a business customer is an example of *exclusionary abuse* and contravenes competition laws in Barbados and Jamaica. Excessive pricing by a dominant enterprise to a final customer is an example of *exploitative abuse* and contravenes competition laws in Barbados. Jamaica has never prosecuted cases of exploitative abuses.

Discussion Question:

Do you think exploitative abuses are within the jurisdiction of the Jamaica FTC?

(ii) “Price-fixing”

Price fixing is outlawed in Section 33 of the Barbados FCA and prohibited under Section 34 of the Jamaica FCA.

II. Respondents' Defence

The Respondent (three kite sellers) advanced the following arguments with regard to the allegation made against them.

Price-Fixing: The respondents argued that the mere fact that rival firms charge identical price does not imply that this price was arrived by way of any agreement among kite sellers. The respondents indicate that all stores in the island were of similar size and use the same inputs to create the kites. They raise two points:

- (i) identical price arise out of the fact that they faced similar market conditions and so their response to said conditions would also be similar;
- (ii) the average cost of making each kite was about \$10 and the price of \$85 arise not out of any agreement among stores, but because firms recognise their interdependence and understands that they will enjoy higher prices and profits if they compete less vigorously.

NOTE: The argument used above is referred to as *conscious parallelism*: enjoying the benefits of a particular market structure without entering into an agreement to do so. As described, conscious parallelism should not contravene competition law since it is a reasonable outcome of legitimate market interaction. However, any agreement that allows firms to coordinate around a specific outcome would contravene competition law. The main question for competition authorities is how to make a distinction between markets operating under conscious parallelism and explicit collusion. To make this distinction, the Commission would need to undertake an economic analysis of the market.

III. The Usefulness of Economics in Evaluating Respondent's Arguments

The main objective of the Economics department in the Commission is to provide evidence that would either support or contradict the notion that the \$85 charged by the firms resulted from conscious parallelism (interdependence) and not out of any collusive agreement among firms.

Defining the Relevant Market

In arriving at this opinion, the relevant market for this analysis must first be defined. A market consists of a group of consumers and sellers of a product. The relevant market is determined by considering two factors: product space and market boundaries.

The product space captures the set of final goods that could or potentially compete with the respondents for consumers. The main consideration would be products that are *substitutes in demand* or goods that are *substitutes in supply*.¹ The Economics department determined that the product space comprises of kites. The market boundaries delineate the location of firms trading in the product space which have a strategic relationship with firms selling kites. The Economics department notes that kites are sold at two other stores in close proximity to the respondents and another two (2) stores located way over the other side of the island also sell kite. Since transportation cost is likely to be an important consideration for persons purchasing kites, the Economics department is of the opinion that each firm will share a strategic relationship (interdependence) only with firms located in close proximity. Consequently, the Bureau defines the market boundary as the area in which the five (5) firms operate.

Based on the discussion above, the relevant market was defined as consumers and sellers of kites traded within area served by the five stores.

▪ Economic Analysis

¹ Note: Substitution in supply is not used by the USFTC and DoJ unless they are considering market entry.

Any meaningful economic policy ought to be informed by sound economic theory. Before an evaluation of the arguments can be made, one has to know the outcomes under conscious parallelism and collusion. The economics department would then collect data to provide evidence in favour of one or the other.

Economic Theory

Economic theory guides us as to how to model the behaviour of firms under (i) conscious parallelism and (ii) Collusion.

(i) Modelling “conscious parallelism”

A useful model of “conscious parallelism” is provided by the theory of “oligopolistic” behaviour. In this model, each firm behaves exclusively in its self interest and selects a level of its own output that would allow it to earn the highest possible profits. The profit earned by the firm is given by:

$$[3.1] \quad \text{profits} = (q \times p) - (q \times c)$$

where,

q is the number of kites produced by each firm;

p is the “inverse market demand curve” and indicates the price received by each firm for each kite;

c is the constant unit cost of making each kite;

$(q \times p)$ is the total sales revenue earned by the firm; and

$(q \times c)$ is the total production costs.

The interdependence of the firms in this market is captured by the fact that, *ceteris paribus*, the revenue of a firm is lower whenever another firm sells more kites since a greater number of kites will serve to depress the price at which kites may be sold.

(ii) Modelling “Collusion”

With the model of oligopolistic behaviour outlined above, only a slight modification is needed to model collusive activities in the relevant market. To make the modification, one need only recognise that cartel behaves as if they are only one firm. This cartel will

now choose the total output to maximise the profit of the group. Assuming that all five firms in the relevant market area are colluding, the profit earned by this cartel is given by:

$$[3.2] \quad \text{profits} = (Q \times p) - (Q \times c)$$

where,

Q is the number of kites produced by all five firms

In this model, each firm suppress its self interest in order for the cartel to earn the highest possible profits.

The models in (i) and (ii) above adequately captures the important features of markets operating under conscious parallelism and collusion. Fortunately for economists, they also result in different market clearing price, number of kites sold and profits for the firms. Now, based on the assumption that the “inverse” demand curve for this industry is given as

$$[3.3] \quad p = a - bQ$$

where,

a and b are constants that would have to be estimated using actual market data

The final outcome under the alternative situations is given in the Table below.

Table 1 Equilibrium under alternative market conditions

	Conscious Parallelism (5 firms acting interdependently)	Collusion (all five firms acting as one firm)
<i>Individual level</i>		
Price	$p^{conscious} = \frac{a + 5c}{6}$	$p^{collusion} = \frac{a + c}{2}$
quantity	$q^{conscious} = \frac{a - c}{6b}$	$q^{collusion} = \frac{Q^{collusion}}{5}$
Profit	$\pi^{conscious} = \frac{1}{b} \left[\frac{a - c}{6} \right]^2$	$\pi^{collusion} = \frac{\Pi^{conscious}}{5}$
<i>Market Level</i>		
total quantities	$Q^{conscious} = 5 \times q^{conscious}$	$Q^{collusion} = \frac{a - c}{2b}$
total profits	$\Pi^{conscious} = 5 \times \pi^{conscious}$	$\Pi^{collusion} = \frac{1}{b} \left[\frac{a - c}{2} \right]^2$

The Economics department then conducted an empirical econometric analysis to estimate the inverse demand curve in the relevant market. [*Econometrics* is a hybrid of economics and statistics]. Historical data on price and quantity of kites sold were used to estimate the following inverse demand curve:

$$p = 160 - 5Q$$

The Economics also determined that the unit cost of production was \$10.

The information given above indicates that

$$a = 160; b = 5 \text{ and } c = 10.$$

Exercise:

Using Table 1 and the information above, compute the equilibrium price, quantity and profit under the alternative market situations.

Table 2 Expected Equilibrium under alternative market conditions

	Conscious Parallelism	Collusion
<i>Firm level</i>		
Price	$p^{conscious} = \$35$	$p^{collusion} = \$85$
Quantity	$q^{conscious} = 5 \text{ kites}$	$q^{collusion} = 3 \text{ kites}$
Profit	$\pi^{conscious} = \$125$	$\pi^{collusion} = \$225$
<i>market level</i>		
total quantities	$Q^{conscious} = 25 \text{ kites}$	$Q^{collusion} = 15 \text{ kites}$
total profits	$\Pi^{conscious} = \$625$	$\Pi^{collusion} = \$1,125$

Table 2 clearly shows a marked difference in the equilibrium market outcome under the alternative market situation. Prices will be higher under collusion than under conscious parallelism. To understand why price is higher under collusion, one need only recognise that although firms under conscious parallelism are interdependent, they are also independent; it is the independence among firms that allows the price not to be higher than \$35. Under collusion, firms do not behave independently of each other; the interest of the individual firm is replaced with the interest of the cartel

IV. Conclusion

Since the actual price charged by the stores was \$85, the evidence gathered from the market suggests that firms were colluding. Of course, the data provided in this paper is an artefact of my imagination and crafted only for its pedagogical value. I hope that I have demonstrated that the input of economic analysis should not be considered as a luxury reserved for agencies in developed countries; rather economics should be seen as a necessary component of competition law enforcement.