Appendix I: Background Information on Sunk Costs

Market Specific Assets and Learning

Where entry on the scale described in part 4.6.1 would require investments in assets whose total cost comprises a significant sunk cost component[1], potential entrants will generally recognize that it may be profit maximizing for incumbent firms to maintain their output at levels that would render entry unprofitable, i.e., at levels which would enable the incumbents to recoup some of their sunk costs, and which would yield prices below the potential entrant's long run average total costs. Where significant economies of scale[2] or scope[3] exist, a potential entrant will recognize that output added to the market by any new entry on a minimum efficient scale will exert downward pressure on prices.

The greater the ratio of minimum efficient scale to total market output, the greater will be the price depressing effect of entry at that scale, and the less likely it will be that such entry will occur. Given that the relevant price to a potential entrant is the post-entry price, entry ordinarily will be increasingly deterred the longer that this price is expected to be below a level that would enable the entrant to recoup its entire investment if the entry initiative fails[4]. This deterrent effect will be enhanced by the recognition that risk and uncertainty are increased by virtue of the likelihood that incumbents will vigorously fight to defend their market position, particularly in stable or declining markets, or where they have significant excess capacity[5]. If potential entrants decide in the alternative to enter on a lesser scale and accept the cost disadvantage associated with a sub-optimal level of production, this entry will not ordinarily be sufficient to eliminate a material price increase or other exercise of market power in a substantial part of the relevant market.

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[1] ie., the component of the purchase price of the highly specialized asset (less depreciation for use), that will not be recovered if entry fails and the asset must be sold at liquidation prices, moved to less valuable uses, or scrapped. If entry fails, variable costs associated with the entry initiative will also be irrecoverable, and must therefore be factored into the entrant's estimation of the irrecoverable costs associated with a failed entry initiative.

[2] Economies of scale arise when the unit cost of producing a product decreases as the amount produced increases. Economies of scale may also exist in relation to other aspects of a business, such as distribution, marketing and management.

[3] Economies of scope arise when it is less costly to produce two or more products together than to produce them separately. As with economies of scale, economies of scope can also exist in other areas, such as distribution and marketing a full-line of products.

[4] Incumbents can price below their average total costs until an entry initiative fails because their sunk costs have already been committed and may therefore no longer be considered to be relevant to pricing decisions. It is this asymmetry between incumbents and persons contemplating entry that confers the advantage on the former. By contrast, in the absence of sunk costs, it would be difficult for the incumbent to credibly commit to maintaining output, because it could maintain prices and profit margins by accommodating entry, and moving to another market the production capacity formerly used to produce the output ceded to the new entrant. Given that potential entrants will ordinarily recognize this fact together with the fact that they would not face the prospect of making an investment that could not be recovered, they would not be deterred.

[5] Due to the fact that many Canadian markets support only a small number of firms, as a result of the existence of scale economies, the Bureau is frequently presented with this source of entry impediment. This is particularly so in relation to markets that are insulated by tariffs or are stable or contracting. In such markets, the scope for strategic interaction among firms is heightened.

The assessment undertaken pursuant to section 93(d) also involves a determination of whether entry within two years on a scale sufficient to eliminate a material price increase is likely to be deterred by the existence of advantages that accrue to incumbents through "learning by doing" and experience. In some markets, entry by potential entrants may be deterred or hindered by the fact that it takes several years to debug plants, acquire essential production and marketing experience and otherwise learn the tricks of the trade. In other markets, entry may be deterred or hindered by virtue of the fact that learning is an ongoing process and knowledge may only be acquired in such a way that potential entrants cannot realistically expect to catch up with incumbents in the foreseeable future.

Product Differentiation

Firms typically attempt to differentiate their products from the products of their competitors in one or more of the following ways:

(i) by distinguishing the physical nature of the product, in terms of features, durability and quality;

(ii) by offering superior pre or post-sales service, including warranties;

(iii) by selling from locations that are more convenient to access, or that require less transportation costs to reach, than rival sales locations; and,

(iv) by creating perceived attributes through advertising, labelling, packaging, etc.

When products are successfully differentiated in these or other ways, buyers are generally not indifferent between branded and unbranded products that compete within a single relevant market, in the way that they typically are with respect to competing sources of an undifferentiated product. When buyers in a differentiated market find a brand that they like, that brand will often become the standard against which products of new entrants are judged. In essence, buyers develop brand loyalty which is generally rooted in satisfactory past experience and in the assurance of quality that is provided by the brand name. This quality assurance is in turn ordinarily reinforced through advertising and other forms of promotion.

Where significant brand loyalty exists in a market, buyers will often be reluctant to immediately switch to a new product in response to an increase in the price of the product that commands their loyalty. This reluctance can be exacerbated by the significant risk associated with purchasing a new product where the product:

- is a component in a production process that will have to be shut down if the product fails to perform as expected;
- is resold, either as is or embodied in another product, by buyers who must therefore place their own reputation at risk if they decide to purchase the new product;

- is not one which is cheaply sampled; is a durable good that is infrequently purchased; or,
- where timeliness of delivery and technical support are important.

Given the foregoing, new entrants often must offer a lower price, a superior product, and/or engage in more extensive and more frequent advertising and promotion than incumbent firms to convince buyers to sample their product(s) and ultimately abandon the product(s) of the incumbent firm(s). Each of these sources of asymmetry between new entrants and incumbent firms is a source of additional sunk costs which ordinarily serve to deter or delay entry. This is particularly so with goods that are purchased on a self-serve basis, without significant in-store assistance from salespersons; and where there are significant costs associated with obtaining information about a product and its performance relative to other products in the relevant market.

These disadvantages increase as the proportion of total market output that is accounted for by minimum efficient scale increases. In short, the more sales that must be made to attain minimum efficient scale, the greater are the sunk entry costs that must be incurred in terms of product discounts, advertising and other forms of promotion[6], and the longer it will generally take an entrant to gain sufficient sales to eliminate a price increase by incumbents. Moreover, as the level of minimum efficient scale increases, potential entrants are more likely to fear that they will not gain sufficient sales to justify committing to these sunk costs, and/or that the prospect of slow buyer-acceptance will increase their exposure to additional sunk costs.

Strategic Behaviour

There are several kinds of strategic behaviour that can serve to impose sunk costs on new entrants or delay the ability of a new competitor to eliminate a material price increase. Such behaviour may occur prior or subsequent to entry, and may not be designed to have an entry deterring effect. For example, the offering of discounts for full-line purchases often effectively serves to prevent suppliers of less than a full line of products from being able to constrain a price increase with respect to a single product within the full line, yet this is not typically the primary reason why incumbent firms may offer such discounts.

In assessing the extent to which a material price increase or other change in the market brought about by the merger is likely to induce entry on a scale that is sufficient to eliminate such a price increase within two years, particular attention will be paid to determining whether entry is likely to be impeded or delayed by one or more of the following:

- existing exclusive dealing or tying arrangements;

[6] It is important to recognize that there are often economies of scale in advertising that disadvantage new entrants until they reach the level of sales where their per-unit advertising costs are comparable with those of incumbents.

- buyers facing significant switching costs[7];
- existing contracts that are long term in nature, and/or that include "meet the competition" or "unilateral renewal" clauses;
- high levels of investment in R&D or advertising by incumbents, or a likelihood that such investments will be made;
- incumbents having filled most significant product niches or geographic location opportunities;
- incumbents having acquired patents for a variety of ways of making a product;
- incumbents having signalled through responses to past entry initiatives that existing excess capacity will be employed to depress prices in response to an attempt to enter; and/or,
- an expectation that incumbents will likely respond to entry by vigorously defending their market positions

[7] Suppliers can advertently or inadvertently impose significant switching costs on buyers in various ways, including: by making rebates or discounts contingent on total fidelity, or on purchases made over a long period of time; by negotiating substantial liquidated damages for breach of contract; by requiring the purchaser to include the trade mark of the relevant product on the packaging when it is resold; or by manipulating the compatibility of product components.