ONE

Three Ski Lessons for Budding Economists

Winter sports may teach us a great deal about the economics of competition. We just need to look at the end of the local monopolies once enjoyed by ski schools, the monopoly power still enjoyed by the suppliers of boots, bindings and boards, and ski lift operators struggling to survive despite the lack of snow. If you reach the end of this series of lessons without taking a tumble, you should qualify for your first star in economics!

Lesson 1. There Are Good and Bad Monopolies

In resorts along the west coast of the United States there is only one ski school offering its services, whether they are large like Vail or more modest in size like Beaver Creek. It enjoys a local monopoly over ski and snowboard lessons. This is surprising in a country that invented anti-trust law! In contrast, in most Italian ski resorts you can choose between several schools, some specializing in a particular approach to tuition, others in a particular discipline, or indeed catering for a certain type of skier. In France, the market is open too, though at first sight it may seem dominated by École de Ski Français (ESF), with its red-suited instructors.

The situation in the USA is an economic anomaly: teaching glide sports is not a natural monopoly. This demands some explanation. It is quite usual for a resort only to have one lift operator,

STVI in Val d'Isère, for instance, because one firm, capturing all of the demand, can offer a service at a lower cost than several firms, among other things due to economies of scale. This property, which economists refer to as the subadditivity of costs, is characteristic of network industries. It would be costly to duplicate Britain's high-voltage power lines or the Channel Tunnel. This natural monopoly is virtuous. All the more so in the case of ski lifts given the pressure on the price of lift passes. The local council or resort developer will be wary, because if lift-pass prices are too high, they will make the resort less attractive, jeopardizing revenue. The lift company must also make allowance for rival services in neighbouring or comparable resorts.

On the other hand there is nothing natural about a monopoly over ski lessons. Even if a ski school enrolled all the potential customers in a resort it wouldn't be able to bring the unit cost of a lesson down any lower than it would be with several ski schools. With only minor fixed costs – reception, nursery-slope equipment and such – economies of scale soon reach their limits. In fact a monopoly of this sort has all sorts of drawbacks. The price of lessons will be higher: adding higher margins, known as monopoly rent, to already higher costs, because, lacking the stimulus of competition, there is no incentive for the monopoly to trim its prices. The quality and range of lessons will suffer too, for the same reason. Glide sports enthusiasts in the USA complain of just these shortcomings. It also explains why there are increasing numbers of freelance instructors in resorts in the Rocky Mountains and why local schools harass them.

Some time ago alternative ski schools such as Evolution 2 or École de Ski Internationale opened in French resorts. This broadened the range of lessons on offer and prompted ESF to pay more attention to customer satisfaction and improve the quality of its own services.

Lesson 2. Two Monopolies Are Worse than One

Just imagine there is only one manufacturer of bindings in the world and only one ski manufacturer. That would leave consumers facing two monopolies, it being of no use to have skis without bindings, or vice versa. A situation with two consecutive monopolies gave rise to an economic model that is now quite old, but still just as surprising. It dates from 1838 and was posited and demonstrated by Antoine-Augustin Cournot, a French mathematician, economist and thinker. His model predicts that if the two monopolies merge, the overall profit will be greater, but the price of the good will fall, rather than rising. So shareholders and consumers would gain from the operation. The outcome of a merger of our two hypothetical manufacturers would be a retail price for skis lower than the aggregate price of the skis and bindings in the days when they were set separately by the two companies. This counter-intuitive result is easier to understand if you bear in mind that the two monopolies each take a monopoly margin, whereas once they merge only one monopoly margin is left. The merger puts an end to double mark-up.

But what is this model doing here, you may ask. Surely there are plenty of ski manufacturers. True enough, but there aren't that many and above all they sell differentiated products, which gives them monopoly power over their particular market segment. This is admittedly not as great as in a pure monopoly, but sufficient for the Cournot model to hold true.

The top two ski manufacturers, Amer Sports and Jarden, share about half the market, though you probably aren't familiar with their names. They are large, diversified corporations which own many brands (Salomon, Atomic, Dynamic and Arc'Teryx in the first case; K2, Völkl, Marker and Dalbello in the second). They are followed by firms that specialize in mountain sports gear but also own several brands: Rossignol, which controls Dynastar, Lange, Kerma and Look; Tecnica, which controls Nordica, Blizzard and Moon Boot.

There is obviously more to differentiating skis than just the brand name. France's Vieux Campeur sports retailer features 100 different models in its catalogue, and that's just in the downhill ski section. Two economists who have studied the diversity of these products, identified more than 500 models on offer in the European market.[1] They differ in many ways: technical characteristics (material, weight, carving radius, and such); use (giant slalom, downhill, off-piste, etc.); type of skier (beginner, expert, competition); and appearance (colour and design, among others). The price range is just as large. Such differentiation enables manufacturers to avoid head-on competition, giving each one some monopoly, or market, power, each model being to some extent unique.

The ski manufacturing industry has undergone a series of mergers and acquisitions by diversification. Some firms wanted to achieve growth by taking over another firm's business: ski manufacturers bought out binding manufacturers (Rossignol acquired Look in 1994) or boot manufacturers (Rossignol acquired Lange in 1989); conversely boot manufacturers bought the makers of skis (Tecnica acquired Nordica in 2003, then Blizzard in 2006); binding manufacturers joined forces with their counterparts in skis (Head and Tyrolia in 1985); and ski manufacturers even took control of pole makers (Dynastar bought Kerma in 1987). All these operations spared the consumer a succession of mark-ups. Nowadays most firms producing winter sports gear offer skis, bindings and boots, which suits consumers better. (They have also diversified into many other goods, such as skiwear, tennis rackets and football boots, but the purpose of this sort of integration is not to end double mark-up, because purchases of these goods by consumers are not necessarily linked.)

Lesson 3. Entry, Exit and Trickery

To understand competition the budding economist may be tempted to focus on competition in more familiar fields such as biology or

sport. But with a better grasp of the basics they will see that it takes a different form in economics. That being as it may, such parallels may prove instructive at this stage.

Much as with the evolution of a species, we see companies entering and exiting the market. They may be studied using survival models, statistical instruments that identify and measure the factors determining the failure of a business. They reveal several trends. For example, the likelihood that a company will survive increases with its age, but decreases as an industry ages. The former result suggests that the first market entrants are more efficient, which may be explained by learning economies. The older a company, the more it has produced; the more it produces, the better it is at producing; and the better it is at producing, the lower its unit cost. The latter result suggests that the efficiency threshold which a viable venture must attain rises with time, which may be due to technological progress.

Survival analysis has been applied to ski lift operators in Austria.[2] In the past twenty years, almost one in ten have stopped trading, along with the ski area they were serving. Predictably, high-altitude resorts stand a better chance of survival. Other things being equal, the likelihood of failure is six times lower above 1,700 metres. The absence of a nearby resort, which would cause local competition attracting skiers, also impacts favourably on the likelihood of survival. Less predictably, the econometric model shows that the ski areas standing a better chance of survival were among the first to install snow cannons. However this finding agrees with the theory that innovative firms have a higher chance of survival. In passing, we should point out that fitting artificial snow equipment is not a catch-all solution for resorts to adapt to the effects of climate change, particularly small ones located at low altitudes. A recent survey of resorts in the French Alps estimates that almost a third of the surface area of ski slopes is equipped with snow cannons and this figure doesn't vary much between different

types of resort.[3] On the other hand, projects to extend artificial snow cover by 2020 are restricted to large, high-altitude locations, the aim being to achieve 50% coverage. Artificial snow requires substantial investment, is expensive to produce and only achieves the desired result at low temperatures.

Drawing a parallel between industrial and sporting competition highlights common ground: in either case it is a matter of winning by merit, not cheating. Athletes must go by the rule book and not resort to doping; companies must obey the law, in particular upholding consumer rights and competition law. The latter does not prohibit dominant and monopoly positions as such, only abusive action to achieve or maintain such advantage. Which is just as well for the economy, for obtaining or maintaining market power is the prime incentive for firms to cut costs and improve the quality of their products. But just as for athletes they must prevail on merit and not resort to abusive practices that eliminate competitors or deceive consumers. For instance, in the USA, the Federal Trade Commission's Bureau of Competition ruled against Marker Völkl and Tecnica.[4] The two competitors had agreed not to solicit, call or recruit professional skiers who had already signed an endorsement agreement with the other party, in other words, a non-compete agreement that increased their chances of retaining star skiers without their cost increasing.

Misleading advertising on product quality with the intent to fool consumers is also subject to prosecution. One amusing example concerns exaggerated reports of snow falls in ski resorts. Over several years, two US researchers compared snow falls as reported by the national weather service and self-reported by resorts, via their websites.[5] They found that the resorts announced more days with falls of over 20 centimetres of snow than the government service, and fewer days with no snow at all. The depth of snow claimed by the resorts was 15% greater than recordings by the public service. As these results could have been due to a difference between local

observation points for the two sources of information, the authors checked for any variation depending on the day of the week. The divergence between reported and self-reported snow falls increased on Saturdays and Sundays. According to the resorts' websites it snowed more at weekends than on other days of the week. This meteorological oddity is not surprising in economic terms, there being a greater incentive for resorts to embellish reality at weekends in order to attract skiers for the two-day break; visitors staying for a whole week buy their pass when they arrive. Furthermore, weekend divergences were greater at resorts with another resort less than 80 kilometres away. This sort of practice is obviously not consistent with efforts to attract skiers on merit alone!

Congratulations! You've reached the end of this series of lessons for beginners. If you read it all in one go, you deserve your first star for economics.

Notes

1. Corrocher, N. and Guerzoni, M. (2009), 'Product variety and price strategy in the skimanufacturing industry', *Journal of Evolutionary Economics*, 19: 471–486.
2. Falk, M. (2013), 'A survival analysis of ski lift companies', *Tourism Management*, 36: 377–390.
3. François, H., George-Marcelpoil, E., Morin, S. and Spandre, P. (2015), 'Dynamique de la neige de culture dans les Alpes Françaises', *Journal of Alpine Research*, 103: 1–19.
4. 'Two companies are barred from non-compete agreements', Federal Trade Commission press release, 9 May 2014.
5. Zinman, J. and Zitzewitz, E. (2016), 'Wintertime for deceptive advertising?', *Applied Economics*, 8: 177–192.