

# 3

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## Competition and Firm Profitability

I have no friends and no enemies—only competitors.

—A phrase attributed to Aristotle Socrates Onassis (1906–1975)

The structure of the market inevitably determines, together with other variables, the level of competition between companies which, in turn, influences their profitability. The first section will discuss monopolistic competition in the wine sector and explain why and how firms in the Old and New World try to differentiate from their competitors to avoid price wars and falling profit margins (for a theoretical review of the main market forms of interest for the wine sector, see appendix 3.1). In the second section we apply, point by point, Porter's five forces model to the wine sector. The aim is to identify the forces that operate most in favor of or against profitability in the sector. Finally, the third section analyses the profitability of the wine sector in light of Italian data on company balance sheets and international literature.

### 3.1 Monopolistic Competition and How to Differentiate from Competitors

The wine sector is characterized by very strong product differentiation, both horizontal and vertical,<sup>1</sup> and the presence of thousands of producers scattered over five continents. There are also very strong information asymmetries between producers and consumers, making signals such as price, reputation, ratings in wine guides, and advertising important determinants of consumer choices. The market, therefore, can rightly be defined as monopolistic competition. Each producer chooses the type of wine to put on the market (generally more than one variety) and the quality to be achieved, which may vary to reach different types of consumers and diversify risk. Each bottle of wine is unique in both its objective and subjective (as perceived by the buyer) characteristics. The entrepreneur has to discern the preferences of one or more niches of the market so that he can become a monopolist and make abnormal profits (Thornton, 2013, pp. 3–4). In contrast, a company that produces an

undifferentiated good is automatically placed in a market of perfect competition in which price pressure will make profits disappear. (See Aylward's [2008] concerns about the "coca-colarization" of Australian wines by large corporations.)

In the long run, however, even in monopolistic competition profits will disappear as new businesses enter the market and offer other products that are imperfect substitutes, unless the third condition necessary for monopolistic competition—freedom of entry and exit—is violated. In the Old World, in fact, the European Union has imposed a ban on the planting of new vineyards to rebalance demand and supply while there is a scarcity of available land in the best areas of the New World, limiting the entry of new firms. The long-term profitability of firms depends on their ability to differentiate products in terms of their real, but also perceived, characteristics and quality. For this reason, the role of appellations seems to be crucial, since they were established in Europe with two main objectives:

1. To create unique and inimitable products: a wine with an appellation can only be produced within specific geographic boundaries established by law. The enhancement of territorial uniqueness protected by specific legal rules creates an inescapable barrier to entry that makes a group, and not the individual producer, the monopolist of a market niche. Verdicchio di Matelica and Taurasi, for example, can only be produced in the municipalities and in the provinces authorized by the Italian state. Any-one marketing wines with the same name that is produced outside the authorized area would be accused of infringing the rules. Each appellation can be produced by a group of companies operating within specific geographic boundaries; there may be many companies in the groups or just a few. The French appellations, La Romanée and Château-Grillet, which cultivate a total of 0.84 and 3.8 hectares respectively, are examples of pure monopoly given that only one manufacturer is authorized to produce the AOC-branded wine ("AOC" meaning *Appellation d'Origine Contrôlée*, or Controlled Designation of Origin—the equivalent of the Italian DOC);
2. To enhance the reputation of a group of businesses (i.e., collective brands; see chapter 6) by setting common rules and minimum quality standards. In a world characterized by information asymmetries, a consumer relies on signals such as price, wine guide ratings, the institutional classification system of products, and appellations. When this generates higher expectations in consumers than can actually be matched by the real quality, it creates a surcharge that is reflected in persisting profit margins.

The production of an undifferentiated wine, on the other hand, exposes a company to fierce competition based on price.<sup>2</sup> In this case unit costs must be contained through an efficient production structure, and the company or collective brand has to be promoted through advertising campaigns to retain the loyalty of customers and convince them that the product has better characteristics and qualities than its rivals, even if this is not

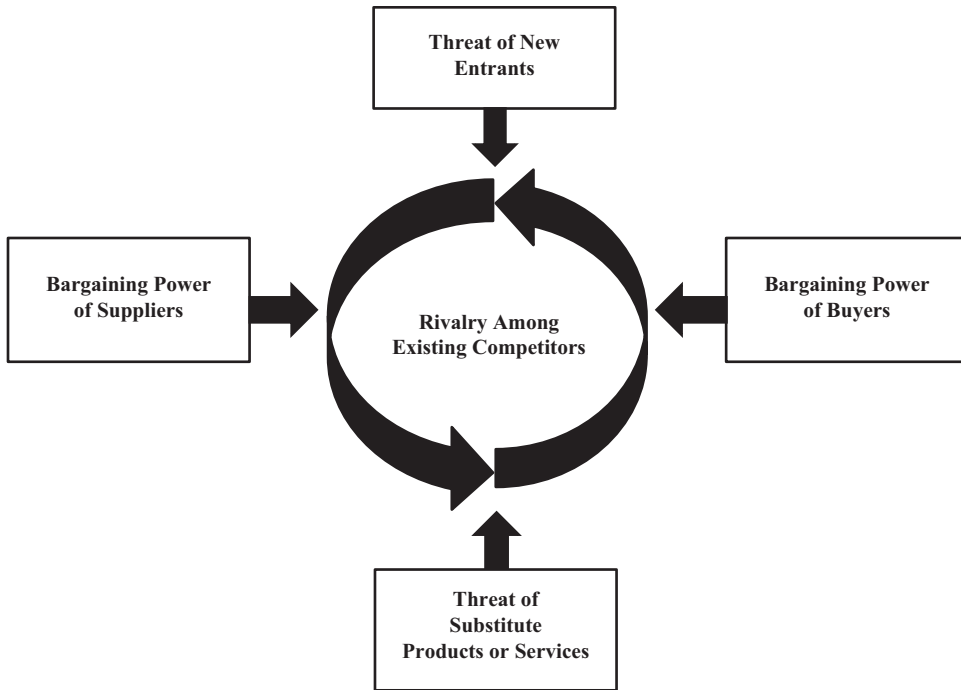
exactly true. In Italy the ex-table wines, now called simply “wines,” are an example: it is forbidden by law to label the vine, the vintage, the area of production, and production standards for this range of product, except for varietal wines (see chapter 6). The only aspects that can be exploited are packaging and advertising campaigns.

To avoid this challenging situation the Old and the New World have adopted different strategies. The European Union has established wine appellations (Colman, 2008, p. 45) to prevent the use of geographic names like Champagne and Barolo by producers outside their borders. To exploit the collective brand, wines have to be produced according to strict rules that discipline every aspect, from the grapes used to the yields per hectare and so on. In addition to this public solution aimed at generating monopoly, a private solution has been provided by some producers whose wineries are not located within the borders of famous wine appellations. In this case wine makers are rediscovering and promoting local grape varieties that have been forgotten over the last decades or centuries (e.g., Bellone and Nerello Mascalese in Italy).

In the New World the strategy is similar but also different. Many countries have established “wine areas” to create monopoly power. However, in this case producers can freely choose what (white/red/sparkling/sweet, grape variety, etc.), how much (yields per hectare, how many hectares, etc.), and how to produce (agronomic and enological techniques). In this way wine areas end up being simple borders. The majority of producers opt for the most famous international (often French) grape varieties and deliver very flavorful, intense, and approachable wines (Marks, 2015, p. 193). These products are easy to understand but also difficult to distinguish from those of other countries or continents. Since there are no native *vitis vinifera* grape varieties in the New World, some producers are trying to differentiate from competitors not by rediscovering abandoned vines but rather by planting new grapes created as hybrids in US universities and research departments (McKee, 2016), as happened when Abraham Perold at the University of Stellenbosch in South Africa in 1925 mixed Pinot Noir and Cinsaut and created the successful vine Pinotage. It is difficult to predict whether these varieties will be successful at a national and international level.

### 3.2 Analysis of Competition in the Wine Market: Porter’s Five Forces in the Wine Sector

The models presented in the previous section and in appendix 3.1 describe the functioning of the main market forms but are necessarily subject to simplifications that are often reductive or even unrealistic. The main conclusion is that competition erodes long-term profits: companies have to differentiate in some way from their competitors and remain monopolist in their niche market. To better understand what factors affect the level of competition and consequently a firm’s profitability, Michael Porter’s five forces model (1979) in figure 3.1 will be applied to the wine



**Figure 3.1**  
Porter's five forces model.

sector. The model was presented in an article in the *Harvard Business Review* when the author was a young associate professor. It triggered a revolution in the field of strategic business analysis, and the model was later integrated with reflections and insights to clarify some points and updated in 2008 to take account of the development of new sectors using high technology. Porter (2008) will therefore be the reference used in what follows.

The five forces model is applied to the wine sector (table 3.1), highlighting wherever possible the differences between the Old and New Worlds.

### 3.2.1 Five Forces Analysis

#### (A) *Threat of new entrants into the industry*

This is a concrete and ever-present risk, as shown by the large-scale entry of New World (and recently Chinese) firms in a market that was dominated by Europe until the 1980s.

**Table 3.1**  
Porter's five forces in the wine sector.

Force	Presence
<b>A. Threat of new entrants</b>	Present
<i>Barriers to entry</i>	Present, but moderate
1. Economies of scale on the supply side	Present, especially in mass-produced goods, but not so much as to discourage the entry of new firms in the market
2. Benefits of scale on the demand side	Absent; there is no benefit from the consumption of the same wine by other buyers
3. Cost of change for the customer	Absent
4. Capital requirements	Variable but not impossible
5. Advantages of existing firms independent of their size	High; there is a scarcity of available land and exorbitant prices per hectare. Other advantages are mostly in the New World (brand, control over value chain)
6. Unequal access to distribution channels	Present but not relevant
7. Restrictive government policies	Strict in the EU; variable in other countries
<i>Expected retaliation</i>	Minimal. There are a very large number of producers already in the market with generally small market shares.
<b>B. Power of suppliers</b>	Limited. Most producers own or rent land. In Europe many small grape producers are members of cooperatives while others are weak links in the chain.
<b>C. Power of buyers</b>	Variable. Distribution is more concentrated in the New World, and price elasticity is higher for lower quality wines and among low-income consumers.
<b>D. Threat of substitutes</b>	Low in static terms (low cross elasticity of goods), and variable in dynamic terms (growing share of beer in Mediterranean Europe, growing share of wine in other countries)
<b>E. Rivalry among existing competitors</b>	High
<i>Intensity of competition</i>	High
Number of producers	High
Growth of sector	Persistent imbalance between demand and supply that is leading to a process of concentration and an increase in economies of scale
Barriers to exit	Average; part of the investments can be recovered. Further, the EU's funding for grubbing up vineyards have lowered barriers
Commitment to the business	High; strong noneconomic motivation (intrinsic motivation) of many producers

(continued)

Table 3.1 (continued)

Force	Presence
<i>Competition front</i>	Average
Product differentiation	High
Incidence of fixed costs	High; land and machinery tie up capital
Need for large size	Moderate because not essential
Perishability of product	Limited (white and sparkling wine) or minimal (red and fortified wine)
Factor	Presence
Growth rate of sector	Low. Imbalance between demand and supply (though falling) is leading to a process of concentration to increase economies of scale.
Technology and innovation	No product innovations, and innovations in production are slow.
Government	In the New World state intervention is minimal or aimed at increasing production. In the EU there are restrictive policies and subsidies. In both, there are campaigns against drunk driving and excessive consumption of alcohol.
Complementary products and services	Absent

Barriers to entry. They are present but moderate.

1. Economies of scale on the supply side: as in almost all sectors, there are economies of scale on the supply side that allow the reduction of average production costs. Therefore, whoever enters the market with small plots of land and limited production is at a competitive disadvantage compared with the large companies already present (Thornton, 2013, p. 4). It has been estimated that in the United States the investment to build a wine company with good—but not full—economies of scale (around five hundred thousand cases) amounts to about \$35 million (Thornton, 2013, p. 176). This, however, is especially true for lower-level wines that are marketed through large-scale distribution: a low sale price means unit costs have to be contained and production made in large quantities. But, the medium-high segment can reach satisfactory profit margins, or at least a balanced budget, even with smaller quantities. An estimate of the costs to build a two-thousand-case wine facility is about \$600,000 (Thornton, 2013, p. 177).
2. Benefits of scale on the demand side: there are none since there is no benefit from the consumption of the same wine by other buyers. Some benefit could result

from imitation and adjustment to the behavior of others when a particular product or type of wine becomes fashionable, but this circumstance does not seem very likely in a differentiated market like wine.

3. Cost of change for the customer: no cost for consumers and almost none for traders who only have to choose a new producer and sign a new supply contract.
4. Capital requirements: variable, but not unbearable. Starting the production of wine involves buying vine cuttings,<sup>3</sup> land (if it is not rented or grapes are not bought from third parties), machinery, and barrels; constructing buildings for processing and storage; hiring employees (administrative and technical staff); bearing advertising costs (especially in the New World where the company brand counts more than geography); and looking for buyers. The financial commitment of a company is made even more burdensome by the fact that, as reported in chapter 1, a vine does not produce fruit in the first three years; from the fourth to the sixth year production stands at 30 percent; and from the thirty-first year onward (usually until the fortieth) the yield per hectare decreases. The eventual aging of the wine in barrels for one or more years raises costs, postponing revenues even further. The latter is not only deferred over time but is also random: many of the variables that affect the quality of wine, such as climate and soil quality, are beyond the control of the producer and may vary over time. Nevertheless, the minimum commitment is in the order of millions, not billions, of euros, so it is not enough to discourage the entry of new producers into the market (as happens, for example, in the pharmaceutical industry).
5. Advantages of existing companies independently of their size: high. For some time now there has been a shortage of land in the most prestigious areas (e.g., Champagne), which—when available—is sold at exorbitant prices.<sup>4</sup> In the European Union this difficulty is amplified by the legislation on planting rights.<sup>5</sup> In the New World other advantages—such as the company brand and control of the value chain—are more relevant. The experience accumulated over time by agronomists and wine makers, on the other hand, plays the same important role everywhere. Further, it takes time for a firm to build a reputation among consumers; therefore new entrants have to sustain high marketing and promotion costs before earning a positive reputation price premium (Thornton, 2013, p. 177).
6. Unequal access to distribution channels: present, especially for small wineries. It is true that distributors are always looking for new products that can satisfy the curiosity or the needs of a heterogeneous and constantly evolving public. However, small producers in the Old World are facing declining domestic demand and have to increasingly rely on foreign markets to survive; this can be difficult if a firm does not have skilled export managers and large, diversified portfolios of products. The problem can be even more severe in the United States where the three-tier system prevents direct-to-consumer sales and shipments in many states and counties (see chapter 8).

Here producers must sell to distributors, who sell to retailers, who finally sell to buyers. The problem is that, to maximize profits, distributors often privilege the large producers who can offer all the products they need at low prices. Small producers have a limited number of bottles and labels and higher production costs. Relying on many small producers can be better from the point of view of consumers who can enjoy a greater variety of products, but it is inefficient for distributors.

7. Restrictive government policies: very strict regarding production in the European Union because of planting rights; variable in the New World. After the repeal of Prohibition, every state and county in the United States was allowed to regulate the production, distribution, and sale of alcoholic beverages. Nowadays a significant number of counties are still “dry.”<sup>6</sup> In Australia the authorities openly support the growth of wine production with long-term planning (see the Strategy 2025 program). But as far as consumption is concerned, in both countries these groups have a variety of instruments used with greater or lesser intensity to contain alcohol abuse and alcoholism (see chapter 7).

Expected retaliation. The risk that companies in the market react in a vigorous way to the entry of new companies is minimal in Europe and limited in the New World. In the wine sector there is, in fact, a very large number of producers, each of whom has a fairly limited market share, especially in the Old World.<sup>7</sup> Given the large number involved, incumbents rarely respond strongly to the entry of a new competitor since they are usually unaware of it. On an aggregate level, however, there may be collective reactions, planned or otherwise, immediate or delayed, that lead to a reduction in price.

#### (B) *Power of suppliers*

The power of suppliers is limited for the following reasons.

- The markets for the supply of cuttings, fertilizers, and other chemical products; machinery; and labor (administrative staff, agronomists, oenologists) are competitive enough to guarantee that none of these suppliers may compromise the profitability of wineries.
- Most of the wineries, especially the high-end ones, own or rent land. Those who have plots of land that are too small to produce wine in an economically sustainable way (e.g., have less than five hectares) may decide to rent land, sell grapes to a private winery, or take them to a cooperative. In Europe, where there is a deeply rooted cooperative tradition dating back to the second half of the nineteenth century, the latter option is often preferred because it adds an additional link in the value chain. The cooperative, in fact, pays members not only the price of the grapes (raw material) but also a share of the profits from their transformation into wine. Those who, on the contrary, decide to sell only the raw material have to



accept the lower remuneration which simple grape growers are entitled to: in this case the compensation is likely to be low, especially if it has not been previously agreed on with buyers in formal supply contracts.

- Small producers of wine grapes depend heavily on wineries. In fact, wine grapes can be used profitably only to produce wine.<sup>8</sup> Therefore, suppliers cannot sell their goods to the best bidder in other sectors of the food industry.
- The cost (if any) of changing supplier is very low. There are no learning costs for using grapes from different producers, whereas costs connected with the use of new technologies are bearable.
- Wine producers can threaten suppliers to proceed with upstream vertical integration if there is land available or if regulations allow the planting of new vines.

Two factors can partially mitigate this imbalance of bargaining power that is heavily weighted in favor of wine grape buyers.

- Grapes are a highly differentiated product. This can increase suppliers' contracting power but only for high quality grapes.
- There is no substitute for grapes in wine production.

### (C) *Power of buyers*

The power of buyers is variable, depending on the context. In the wine sector, it is reduced by the following circumstances.

- Consumers cannot buy directly from producers. Direct purchase is allowed in most countries, but in others, like the United States, it can be prohibited, and consequently, organized distribution is more concentrated.
- The products are highly differentiated both horizontally and vertically, making it more difficult for clients to exert downward pressure on prices.
- Buyers, either consumers or intermediaries, cannot threaten to proceed with upstream vertical integration.

Contrarily, the power of buyers is partially increased by the fact that the cost to change suppliers is zero for final consumers and low for intermediaries. Moreover, in some countries—as for example Scandinavia and Canada—the purchase and distribution of alcoholic beverages lie entirely in the hands of state companies that consequently have great bargaining power.<sup>9</sup> Although the final purchase is made by thousands of individuals in public-owned stores, intermediation by a single large entity acting as a cooperative of consumption reduces the power of sellers.

Price sensitivity also varies as wine generally forms a very small part of the family budget, making the consumer less responsive to price. However, the economic situation of buyers differs greatly depending on the country and time and therefore will influence their willingness to pay and their attention to price. In general, however,

less wealthy customers are, for reasons of necessity, more aggressive and pay more attention to price.

(D) *Threat of substitutes*

The threat of replacing wine with other drinks is quite variable. On the one hand, it is difficult to imagine radical product innovations that can bring new alcoholic drinks onto the market that are so successful that those already present lose significant shares. On the other hand, considering the existing drinks, we have to distinguish the behavior of the individual in the short term from that of a community in the long term. As we saw in chapter 2, there is limited cross elasticity of alcoholic beverages to changes in the price of others: consumer preferences are given, and people often prefer to reduce quality rather than change the type of product, limiting expenditure but maintaining the same quantity.

As shown in chapter 1, however, there are clear changes in the habits and preferences of peoples at a collective level, with a process of convergence that sees a fall in the share of wine in European Mediterranean and Latin American countries out of the total amount of alcohol consumed but that is an increase in other countries. The threat of substitution is, therefore, very serious for some countries (Cardebat, 2017, pp. 57–60) while it works in a favorable sense for others. The risk of a change in consumer preferences for the type of wine (e.g., white, red, sparkling wine) or vine (e.g., Nebbiolo, Chardonnay, Tempranillo) is, instead, a serious problem for all producers as these choices involve decade-long investments. On an aggregate level it is a “zero-sum game” while the effects can be quite dramatic at an individual level.

(E) *Rivalry among existing competitors*

There is a high level of rivalry between companies operating in the wine sector.

- Although there are considerable differences in the size of companies, the large number present in the market and the process of internationalization make competition quite strong. As reported by Anderson, Norman, and Wittwer (2004), however, concentration in the wine sector is much lower than in other sectors. Rabobank data from the end of the 1990s showed that the world market share held by the top three companies was 6 percent in the wine sector, compared with 35 percent for beer, 42 percent for spirits, and 78 percent for nonalcoholic beverages.
- World consumption shows very low growth rates and marked differences among geographic areas, with some in expansion and others in serious difficulty.
- As in all sectors of the economy there are barriers to exit (e.g., grubbing up vineyards),<sup>10</sup> even if part of the investments (e.g., land and machinery) can be recovered in the case of closure.
- Many producers are driven by strong noneconomic motivations. A significant number of producers, especially small- and medium-sized ones, do not pursue

maximization of profits (profit maximizers) as a priority objective but rather pursue utility (utility maximizers) that tends to coincide with the prestige of the company and the quality of its wines (Scott Morton and Podolny, 2002). These entrepreneurs are willing to give up part of the return on invested capital (ROIC) to excel in their business and they tend to specialize in the production of high-end wines. This increases pressure on other profit maximizers in the higher segments.

Fortunately, competition among producers is not based solely on price, and this reduces price pressures since:

- the wine sector is strongly differentiated, both horizontally and vertically;
- some consumers are enthusiasts and are willing to dig into their pockets to satisfy their palates; and
- the product can be stored for several years.

In summary, the level of competition in the wine sector seems to be quite high due to the risk of new companies entering the market, the substitution of wine with beer (for Mediterranean European countries), and the degree of rivalry among existing competitors.

### 3.2.2 The Factors, Not Forces, that Influence Competition

Four factors—which Porter recommends should not be confused with forces—can further affect competition: growth rate of the sector, technology and information, government, and complementary products and services. The first three seem to play against the Old World only, while the fourth can benefit both.

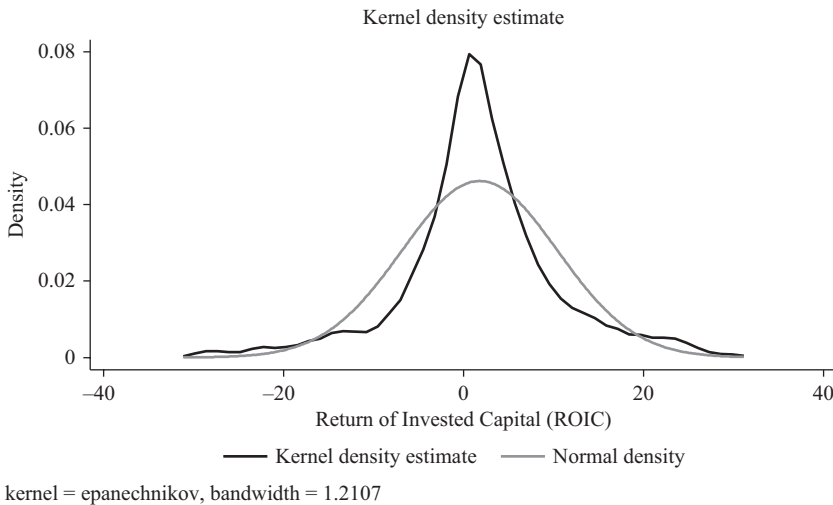
- At the aggregate level, consumption is almost static, with a contraction in Mediterranean European countries and growth in others. There is a persistent imbalance between supply and demand, which decreased for a while but encourages a process of business concentration through mergers and acquisitions (especially in the New World) that aim to increase economies of scale.
- There are no product innovations, and process innovations are rather slow.
- Government policies differ greatly from one country to another. In the New World, state intervention is not aimed at decreasing production and in some cases (as in Australia) is even aimed at increasing. In the European Union, in contrast, there is a set of restrictive measures and subsidies whose effects have been frequently criticized. In compliance with the provisions of the World Health Organization, all countries have adopted policies to combat drunk driving and alcohol abuse that have contributed to the reduction of per capita consumption.
- There are products and services complementary to wine production—and above all, tourism—which can promote virtuous competition focused on the quest for quality.

As highlighted by Porter (2008), a complete and rigorous analysis of the five forces would require data collection and scientific studies on each of the points listed—a book in itself. In any case, there are no homogeneous data on many aspects discussed in this chapter.

### 3.3 Analysis of Profitability in the Wine Sector

After discussing the main market forms, the forces that influence competition, and consequently, the profitability of companies, we can now turn to an analysis of profitability in the wine sector. Is making wine profitable? And if so, how profitable? To answer these questions, we need to analyze the balance sheets of wineries. The most appropriate measure for this task is ROIC,<sup>11</sup> given by the ratio between operating income and net operating invested capital. It enables us to assess whether and to what extent management is able to remunerate all the capital invested—namely equity and credit capital—in the running of the company (Porter, 2008).

Below are the results of some analyses made on Italy's Aida (financial analysis of companies) data from 2015 for private companies only.<sup>12</sup> Figure 3.2 shows the estimate of the (nonparametric) Kernel distribution of the ROIC and that of a normal variable. This plot clearly shows how the ROIC does not have a normal distribution, since it is characterized by a very pronounced peak near the median value and has fat tails. On the one hand, ROIC is on average low (1.73 percent), with most companies



**Figure 3.2**

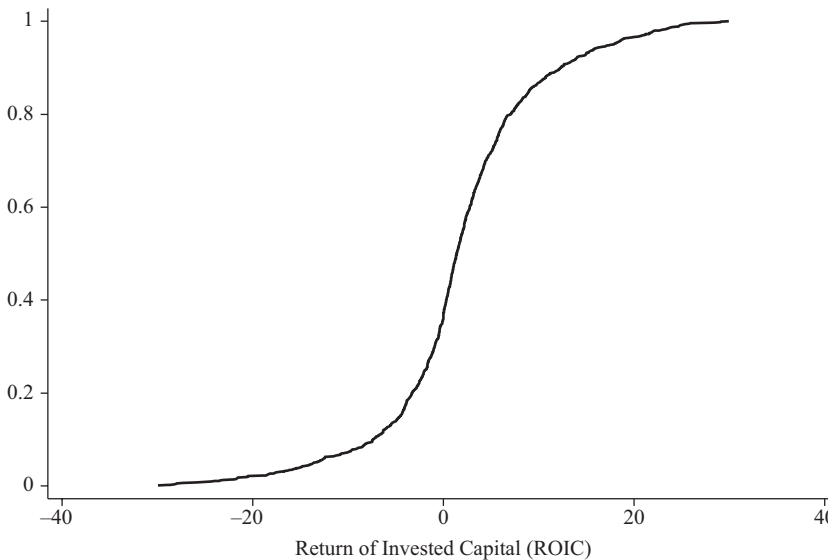
Distribution of ROIC of Italian wineries, 2015.

Source: Author's calculations using data from Bureau van Dijk's Aida database.

in the sector having weakly positive or weakly negative values. On the other hand, however, there is a certain dispersion of data with a significant number of companies that make extreme returns on capital in both directions.

In other words, the very strong dispersion present in the graph shows that this sector is not only on average very competitive and not very profitable but also strongly diversified with profitability between a minimum of  $-30$  percent and a maximum of  $30$  percent. For every company that records very heavy losses, there is another that makes huge profits. Figure 3.3 shows the cumulative distribution of ROIC: about  $20$  percent of private companies are running at a loss while three quarters have ROIC between  $-5$  percent and  $5$  percent. It should be underlined that these data concern Italy, a country with high levels of tax evasion and avoidance, and could therefore underestimate the real profitability of wineries. Further, profitability in other countries could be higher because of the larger size of businesses. On the other hand, it should be kept in mind that those companies that went bankrupt are not in the database anymore; therefore the average profitability could be overestimated.

Intangible expenses deserve a separate in-depth analysis. They are generally classified into four types: human, intellectual, organizational, and relational capital. Over the years the cost of training or hiring qualified staff, developing or buying patents and software, or establishing solid relationships with customers has grown



**Figure 3.3**

Cumulative distribution of ROIC of Italian wineries, 2015.

Source: Author's calculation using data from Bureau van Dijk's Aida database.

constantly. According to advocates of the resource-based view, intangible resources are the key to maintaining sustainability in the long run (Itami, 1987)<sup>13</sup> since they cannot be easily copied and acquired by competitors (Nelson, 1991). From an empirical point of view Villalonga (2004) demonstrated with US panel data that intangible expenditure plays an important role in supporting the competitive advantage of companies, which is defined as profit persistence. For the agricultural and food sectors, however, there is a negative relationship between intangible expenditure and sustainability. Using data from five European countries from 1993 to 2004, Casta, Ramond, and Escaffre (2008) came to the opposite conclusions to Villalonga (2004): intangible expenditure does not imply any improved competitive edge. The evidence, therefore, shows rather conflicting results.

The extent and type of investments required and the impact they have on company profitability vary greatly from one sector to another. While advertising costs are huge in areas such as drinks and cosmetic products, in others, such as pharmaceuticals, the most onerous item is the multiyear investments in research and development (Megna and Mueller, 1991). The sector in which a firm operates will affect the impact each of these items produces on profitability, as shown by Villalonga's (2004) results.

In light of all these considerations, an analysis must obviously refer to specific sectors. As far as wine is concerned, there is often the widespread belief that the sector is characterized by traditional production techniques and, above all in the Old World, by the prevalence of small- and medium-sized businesses that make intangible expenses superfluous or nonproductive. Actually, fierce competition from New World countries and the important and costly innovations in production introduced in recent decades have clearly shown the need to make investments in the fields of agronomy, wine making, organization, advertising, reputation, and so on (Zahra, 1999; Berthomeau, 2001).

This belief is reinforced by the conclusions reached by Amadiou and Viviani (2011) who, in a longitudinal study conducted on a sample of 196 French wineries (101 cooperatives and ninety-five private companies), empirically demonstrated that intangible expenditure, consisting mainly of advertising and promotion since research and development costs are small, increase expected profits and reduce variance (and therefore risk). In a sector where large investments in fixed assets—primarily in land and buildings—are necessary, the amount of intangible expenditure was understandably lower than for tangible expenses. The authors of the study argued, however, that to effectively improve the strategic positioning of French wineries on international markets, investments in intangible capital need to be massive. For this strategy to be successful there must be greater concentration, so companies should be helped to grow sufficiently to bear these burdensome investments. In addition, intense and fruitful cooperation among producers should be encouraged to promote prestigious collective branding.

The literature review in the chapters 2 and 6 has shown that excellence, as measured by the quality of wines and the reputation of wineries, is an important determinant of wine prices. For this reason, there is a strong belief that firms should achieve excellence to increase prices and sales. However, whether increasing quality and building a famous firm or collective brand also increase firm profitability is not clear. In fact, when firms increase quality, the costs often increase at an exponential rate and can exceed the additional revenues. Further, even if profits are higher, profitability might be lower if—as in the wine sector—huge investments are required (e.g., owning land, equipment, consultants, etc.). The overall impact might also depend on the sector of activity since excellence implies a number of fixed costs which can be covered only with large quantities.

Business scalability can, therefore, be the key to making a good investment. In the mobile phone industry, there is a huge initial investment to design a new product, but afterward the variable production costs are minimal, and it is possible to produce millions of devices. In the wine sector, instead, scalability is limited by the availability of land and by the EU laws on planting rights while variable costs are significant. A similar line of reasoning holds for vertical integration. In some sectors like wine, the direct control of the whole value chain is necessary to increase quality while in others like electronics or automobiles where hundreds or thousands of components are necessary it is better to rely on specialized suppliers.

However, the in-house production of grapes requires large investments, and it is not clear whether being a simple bottler—a company which buys cheap wines from other firms and resells them—is less profitable (Thornton, 2013, p. 169). Thornton (p. 153) provides the example of Castle Rock Winery, estimated to be the twenty-sixth largest winery in the United States and having no vineyards at all. The company has long-term agreements with a number of independent producers in California, Oregon, and the state of Washington to deliver wine according to detailed instructions and supervised procedures and then to sell its wine through a network of distributors in forty-eight states and over the internet.

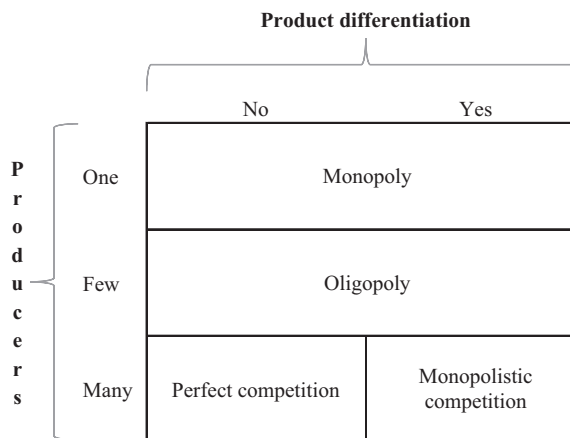
Castriota (2018) used Italian data from the Veronelli wine guides of 2004–2009 on more than fifty thousand bottles and confirmed the results (obtained in the literature) that quality and vertical integration are important drivers of price; better wines as well as those produced by private rather than cooperative firms are more expensive. However, in a second analysis the author collected balance sheet data from Aida on a sample of around seventeen hundred Italian firms over the period 2006–2015. The database is enriched with data coming from telephone surveys and wine guides on the type of activity carried out and firm and collective reputation. The results show that firm reputation is positively influenced by vertical integration, firms producing both grapes and wine having a better firm reputation. However, using a number of different econometric methodologies it turns out that neither firm

nor collective reputation are significant drivers of ROIC; the ROIC's main determinant is firm size due to economies of scale and enhanced export capabilities. In sectors with limited scalability, firms should carefully consider their investment strategies to avoid overinvestment in quality and reputation.

Net of reputation effects, wineries producing grapes and wines are more profitable, but the highest performance belongs to bottlers that sell large volumes of cheap products and have no land and little invested capital. Three more advantages have to be taken into account. First, bottlers can diversify their portfolio horizontally across regions to satisfy clients' needs. Second, the costs of market entry and exit are almost null; bottlers can change suppliers if tastes change without need to uproot vineyards. Third, bottlers are not subject to any production constraint and can grow limitlessly.

### Appendix 3.1: Main Market Forms of Interest for the Wine Market

In the course of time, economists have developed four fundamental models of market structure: perfect competition, oligopoly, monopoly, and monopolistic competition. This taxonomy is based on the number of companies present in the market and the differentiation of the product (figure 3.A.1). If there is only one producer we speak of a monopoly while if there are a few companies the market is an oligopoly. Firms can differentiate their production horizontally (type of good) or vertically (quality) if they want to extract a high share of consumer surplus and maximize their profits. In the presence of many companies we can have perfect competition if the good is undifferentiated or monopolistic competition if the products are characterized by vertical and/or horizontal differentiation. The three forms that are conceptually the



**Figure 3.A.1**  
Type of market structure.



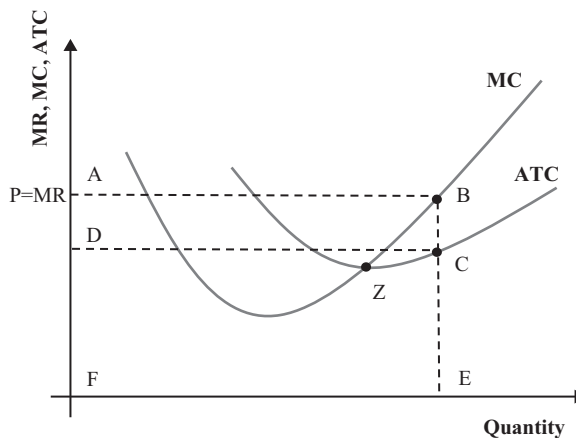
most interesting for the wine production market are perfect competition, monopoly with homogeneous goods, and monopolistic competition (oligopoly is not relevant).<sup>14</sup> Monopsony—where only one buyer exists—is relevant for the market of grape suppliers and will be briefly discussed at the end of the appendix.

### Perfect Competition

Five conditions must be met for a market to be defined as perfect competition.

1. The product should be a standardized or undifferentiated product. Neither horizontal nor vertical differentiation is considered.
2. There should exist a large number of firms and consumers who are not able to influence the market with their individual behavior and are, therefore, price takers, not price makers. Consumers are usually price takers while companies can often influence the market price, as in the case of monopolies and oligopolies.
3. There should be perfect information. Firms and consumers know all about the prices, features, and quality of the products. Producers know the prices and features of all the production factors like labor, tools, machinery, and so on.
4. All companies should have access to the same technology.
5. There should be freedom of entry and exit from the market in the long term at no cost, except for capital investment.

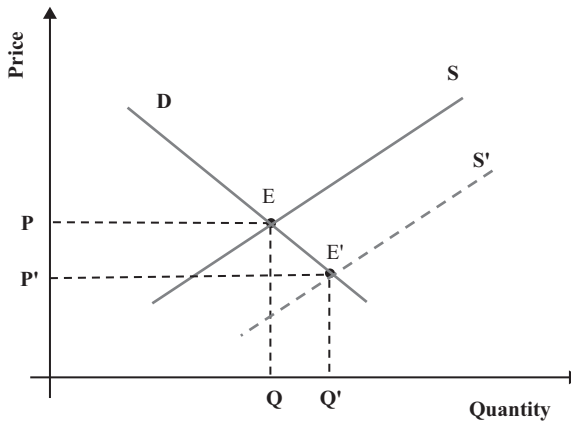
If these conditions are met, and a traditional cost function as in figure 3.A.2 is hypothesized where marginal cost (MC) and average total cost (ATC) first decreases and then grows, the firm will maximize profits in the short term by choosing to produce the quantity at which marginal revenue (MR) is equal to marginal cost (point B). Since no firm has market power, MR is equal to price and is graphically



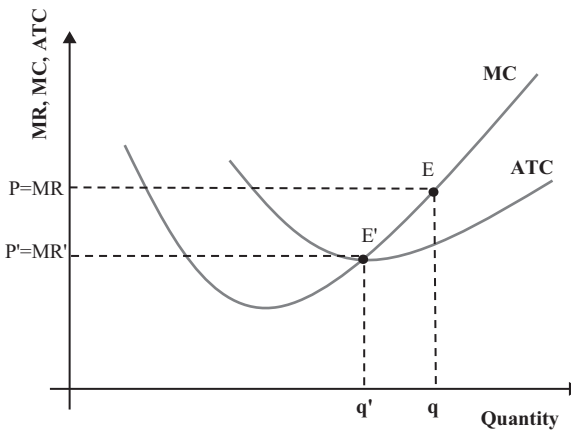
**Figure 3.A.2**  
Short-term costs and revenues in perfect competition.

represented by a horizontal line. In other words, the individual demand curve is horizontal, and no matter what quantity is produced by the firm, price does not change. Profits are made up of the rectangle A-B-C-D, the result of the difference between revenues (A-B-E-F) and costs (C-D-E-F).<sup>15</sup>

In the long run, however, firms are free to enter and exit the market. The presence of profits encourages new firms to enter the market, leading to an increase in supply and a consequent decrease in market price (figure 3.A.3), in turn lowering the marginal price-revenue line (figure 3.A.4). At an aggregate level the quantities produced increase



**Figure 3.A.3**  
Long-term supply curve in perfect competition.



**Figure 3.A.4**  
Long-term costs and revenues in perfect competition.

due to the entry of new companies in the market, even if at an individual level firms reduce the volume to keep marginal costs equal to revenues. New firms stop entering the market when the price reaches the minimum value of average costs: at this point profits are zero, and no one enters the market. If someone decided to enter, price would fall below average costs, and in the long run, someone would leave the market.

Perfect competition is considered by classical microeconomics as an optimal mechanism for the efficient allocation of resources because:

- every production factor is remunerated on the basis of its marginal productivity;
- the producer maximizes their profits, even if they are zero in the long run; therefore, there are no extra profits and the entrepreneur is remunerated only for their own work; and
- the consumer pays the lowest possible price that covers minimum average production costs.

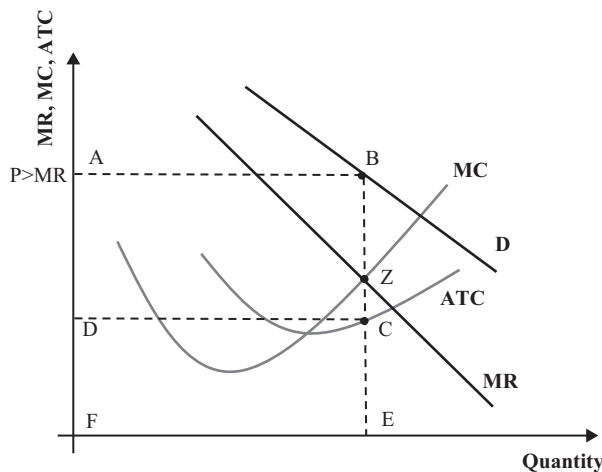
### Monopoly

In the basic model with homogeneous goods a market is said to be a monopoly if there is only one supplier of a good that does not have valid substitutes. Monopolistic firms have market power, so they can raise the price above the competitive level to maximize profits. The possibility of achieving profits should entice new companies to enter the market, such as in the model of perfect competition. The question therefore arises: what prevents companies from entering a potentially lucrative market? The answer can be found in four types of entry barriers.

1. Control over a market of scarce resources or production factors: an example is when Cecil Rhodes took control of almost all the largest diamond mines through a series of acquisitions at the end of the nineteenth century.
2. Economies of scale: if unit costs are always falling (the first section of the curve shown in figure 3.A.2) and large investments are required, then larger companies are more profitable and tend to exclude small ones that are at a competitive disadvantage in the market. This type of market supported by economies of scale is called a “natural monopoly.”
3. Technological superiority: a company that continuously innovates and always guarantees process or product innovations to reduce costs or win over customers/buyers can create or maintain a monopoly situation. In this case, however, the barrier is necessary in the short run since competitors will not just stand by and watch, so the advantage can fade quickly. For example, Nokia, the leader of the mobile phone market in the early 2000s, ended up on the verge of bankruptcy with the advent of Apple-branded smartphones.
4. Legal barriers: a monopoly can be either public or private. In the latter case, it is established by the state through patents and copyright. Patents give owners an exclusive

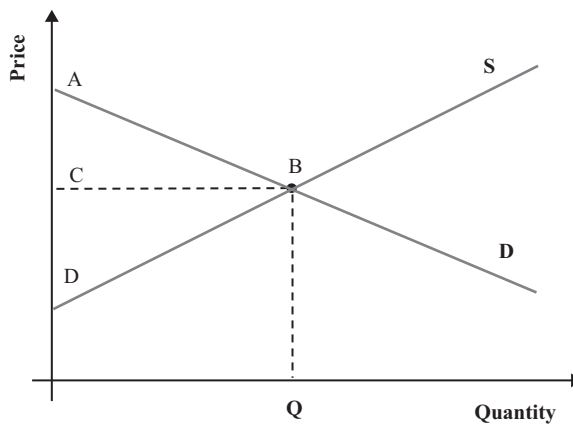
twenty-year right to the exploitation of an invention to repay the investments incurred, and copyright gives the exclusive original right to the diffusion and exploitation of a work for seventy years. When a patent or copyright expires, anyone can exploit the invention or the work, and a monopoly suddenly switches to competition.

A firm's demand is, for the sake of simplicity, represented by a straight line rather than a curve so that marginal revenue is a line that is also straight but with a double slope (figure 3.A.5). While marginal revenue is constant and equal to price in perfect competition, in a monopoly the firm is the price maker: market price decreases as the quantity produced by the monopolist increases. The increase in volume has two opposite effects on the firm's revenue: a quantity effect that leads to increased revenue and a price effect that tends to reduce it. Overall, total revenue increases up to a peak point. Once a certain amount has been reached, it begins to decrease. Maximization of monopoly profits follows the same rules as competition and needs marginal revenue to be equal to marginal costs (point Z), even if the former is decreasing and no longer constant. The optimal level of production will be lower and the price higher than in perfect competition. The monopolist's profits correspond to the rectangle A-B-C-D, given by the difference between revenues (A-B-E-F) and costs (C-D-E-F). If the barriers to entry are not lowered in the course of time, the monopolist will make positive profits both in the short and in the long period, in contrast with competition. This happens to the detriment of the consumer who sees his own surplus decrease. This redistribution process, however, is not a zero-sum game since it generates a deadweight loss of wealth for society, attributable to the mutually beneficial transactions that did not take place because of the monopolist's behavior.

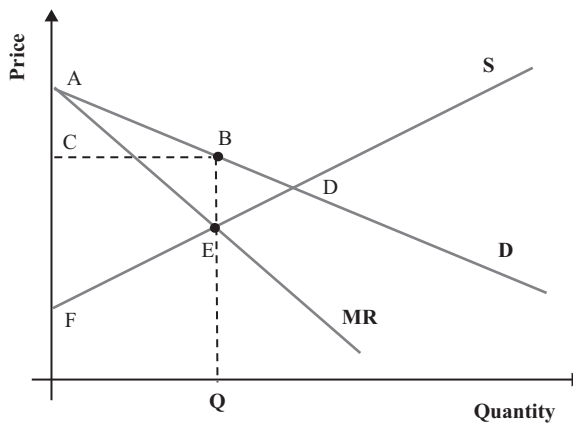


**Figure 3.A.5**  
Short-term costs and revenues in monopoly.

Figure 3.A.6a shows the demand curve (which traces the decreasing marginal utility of the good) and supply curve (which reflects the increasing marginal costs of production) in competition. The equilibrium between demand and supply is at point B. The area in triangle A-B-C is consumer surplus or the positive difference between the price that an individual is willing to pay for a specific good or service and its market price, while the area in triangle B-C-D is producer surplus or the positive difference between the price paid and what the producer would have been willing to accept. Conversely, figure 3.A.6b shows a monopoly's demand, supply, and marginal revenue curves. In this case the equilibrium between supply and demand is at



**Figure 3.A.6a**  
Consumer and producer surplus in perfect competition.



**Figure 3.A.6b**  
Consumer and producer surplus in monopoly.

E instead of D, with consumer surplus reduced to the triangle A-B-C to the advantage of the increased producer B-C-E-F surplus and with a deadweight loss given by B-D-E. In a monopoly the total surplus is less than in a competitive company. Some mutually beneficial exchanges do not happen.

Producers and consumers find themselves in two opposing positions; producers are interested in maintaining a status quo that assures them market power and positive profits also in the long run while consumers want to maximize their well-being by buying goods and services at the lowest price possible. The state, which pursues the interest of society as a whole, may adopt legislative measures to prevent ex ante or ex post monopoly situations by imposing public ownership or by regulating the market. In the first case, the market remains a monopoly, but control by a public authority should guarantee the pursuit of consumer interests by setting fair prices and adequate quality standards. In the second case, however, the market can establish prices or maximum market shares. If the authorities decide to intervene when a monopoly already exists, the monopoly can be broken by requiring the company to split into two or to sell a part of the company to a competitor. It is always an open question whether regulatory (state) intervention is advisable, with a large number of economists convinced that the cure is more harmful than the disease. Public decisions are, in fact, subject to political influences that vary according to election results and generate opportunities for corruption.

### Monopolistic Competition

Monopolistic competition has to satisfy the following conditions.

1. A differentiated product: each company produces a good or service that buyers consider to be different from that offered by competitors. As a result, every seller has some market power, even though it is less than in a monopoly, because the products are imperfect substitutes. For example, there are a number of restaurants on a street in the center of town, each with its own characteristics that distinguish it from the others, but they are still fundamentally businesses that supply food and beverages.
2. A large number of firms: from this point of view it looks more like perfect competition than a monopoly or oligopoly.
3. Freedom of entry and exit from the market in the long run: as in competition, there are no economic or legal obstacles in the long run impeding the entry or exit of companies, which will depend on the opportunities for profit.

Monopolistic competition is therefore different from other forms of the market. It is different from competition as companies have some market power and information is imperfect; different from a monopoly because of product differentiation and competition between companies; and different from oligopoly because freedom of entry and exit prevents collusion among competing companies. As implicit agreements cannot be made with rival companies to reduce competitive pressure, product

differentiation becomes of fundamental importance and the only way for firms to acquire some market power. There are three forms of product differentiation.

- Horizontal differentiation is based on style or type. The producer tries to carve out a niche or market share by discerning a group of consumers' preferences, which depend on a number of sociodemographic and cultural factors. Willingness to pay varies from one individual to another and is increased by product differentiation; the same individual readily accepts to pay a higher price if the product reflects his best preferences or meets his needs. Goods are substitutes but are imperfect. Sometimes, however, the differences are less marked than consumers think and are the result of appropriate marketing campaigns.
- Vertical differentiation is based on quality. Here again, consumers have different preferences, needs, and willingness to pay. Some manufacturers specialize in the supply of low-level products sold at low prices; others in high-end products sold at high prices to wealthy clients.
- Geographic differentiation is based on location. When goods or services are of the same quality or type, often what counts is the position of a business. Consumers who are pushed for time generally make purchases near their home or workplace. This is even truer for small purchases: few people will travel long distances daily to have a coffee at a bar, but their range of action widens in direct proportion to a chef's reputation when eating out for dinner. With varying degrees of incision, however, location is important for the vast majority of businesses.

The differentiation of a product, whatever form it takes, is an advantage for both the consumer, who has a much wider choice from which to find the good or service that best meets their needs, and for the producer, who can carve out a niche and provide for customers with greater economic means. Differentiation can, therefore, increase consumption both in volume and, above all, in value. Given, however, that the products are imperfect substitutes and the market is limited, the entry of new companies reduces the opportunities for sales even if they produce slightly different goods and services. If a new restaurant opens in a downtown street or a new petrol pump opens on a highway, sales can be expected to fall in the other businesses. In other words, if the cake remains the same size and the number of table mates grows, the size of the slices will decrease.

In the short term, profit maximization works as in a monopoly (figure 3.A.5): the firm has an individual demand curve that is negatively inclined and a marginal revenue curve with a slope that is twice that of demand. The optimal quantity is near the point at which marginal revenue is equal to marginal cost. A market price that is higher than the average cost of production guarantees extra profits.

In the long run, however, this form of market looks more like perfect competition: in the presence of profits and freedom of entry new businesses will enter the market, leading to an increase in the supply of competitor products—imperfect substitutes

(figure 3.A.3). This, in turn, has repercussions on the individual demand curve since customers now want to pay less for the same amount of goods or services (figure 3.A.7a). When a new restaurant opens in a shopping mall, the market power of sellers decreases since the average number of customers decreases. New businesses stop entering when the individual demand curve is tangent to the average total cost at the optimum point (point B, where cost and marginal revenue are equal). Here firms' profits are zero because the price is equal to ATC (figure 3.A.7b). The long-run equilibrium of monopolistic competition is therefore characterized by zero profits:

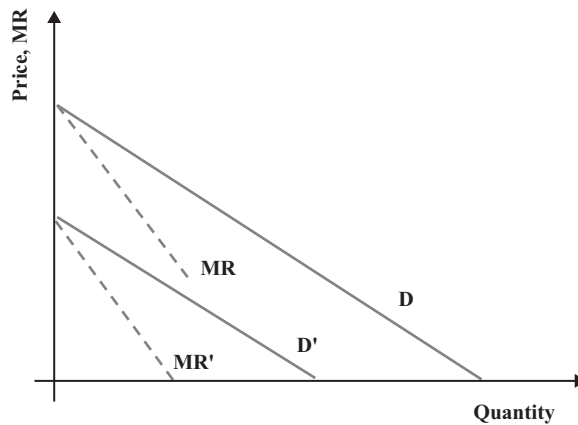


Figure 3.A.7a  
Long-term demand and marginal revenues in monopolistic competition.

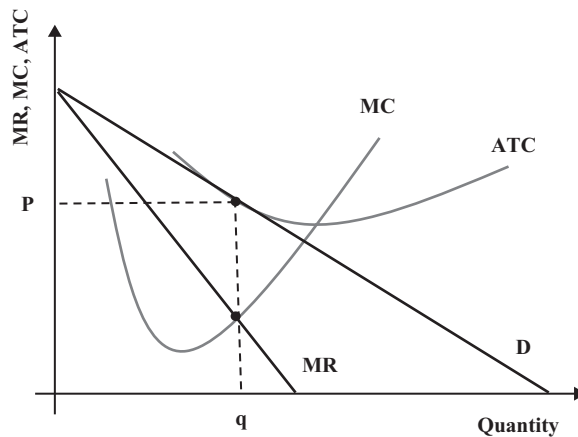


Figure 3.A.7b  
Long-term costs and revenues in monopolistic competition.



these producers are monopolists without monopoly profits. Monopolistic competition in the long run is very similar to perfect competition, with an important difference in the prices charged and the quantities produced. As can be seen from the graphs, the optimal point is not at the minimum value of the average total cost but rather at a point on the demand curve to its left. As in a pure monopoly, consumer welfare is lower because they pay higher prices and consume fewer goods and services. Since the price is higher than marginal cost, some mutually beneficial transactions do not take place. However, it is not clear whether this circumstance is a source of inefficiency since consumers benefit from the horizontal and vertical differentiation of products.

### Monopsony

A market where there is only one buyer and several sellers is called a monopsony. While it is difficult to find an example which holds at the global level, there exist several local markets where one buyer has substantial purchasing power or even a local monopoly in purchasing raw materials, labor, or final goods. A typical example is depressed areas where one large firm controls the entire labor market. Large firms which process agricultural goods are another example: in the wine sector some large wine makers have supply contracts with most producers in their valley, county, or region. In the United States, due to the three-tier system, in many states producers must sell to distributors who sell to retailers. Over the last decades, however, the market of alcohol distributors has become more concentrated, with a handful of companies controlling a large share of the market, especially at a local level.

Figure 3.A.8 represents a monopsonistic market with one buyer only. While in competition the price (of the grapes supplied, labor or whatever other good or

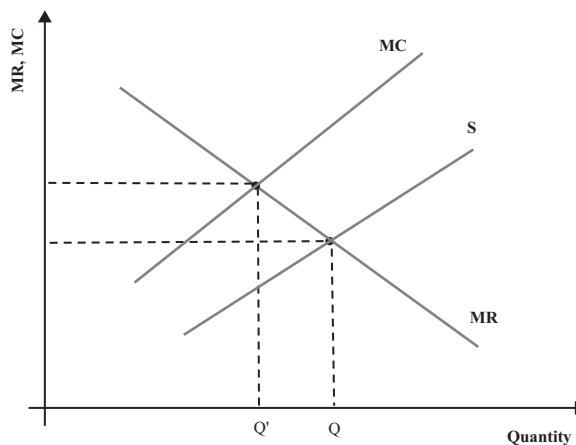


Figure 3.A.8

Costs and revenues in monopsony.

service) is determined by the demand and supply curves, in monopsony the buyer is a monopolist. Whenever they decide to increase the purchases, they cannot increase the price only for the last unit and have to increase it for all the previous units as well. Therefore, the marginal cost curve lies above the supply curve and determines an equilibrium with both quantities and prices that are lower than those of perfect competition. This generates a deadweight loss with some transactions which do not occur.

In addition to this problem, the monopsonistic buyer is very powerful because they can threaten the supplier by not buying anything if the price does not fall below a certain level. This is a problem for the seller because they will not be able to find another buyer, and it is particularly problematic if the good is perishable.

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# Wine Economics

**By: Stefano Castriota**

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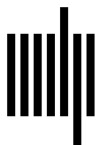
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