CHAPTER 3
BRANDING, INNOVATION AND COMPETITION

Introduction

Branding has come a long way from its humble beginnings as an identification mark to its current position as a tool for communicating with consumers. Firms use branding as a way to control and manage consumers' perceptions about their products and image. In many cases, branding creates sustainable competitive advantage for firms.

How much a firm should invest in branding is critically dependent on the business model that the firm pursues. For example, many recent buyers of a smartphone would attest, as firms that invest heavily in branding often also invest heavily in innovation. This raises the question of how firms' branding strategies interact with their innovation strategies. Does one support the other? Do firms face a choice between either branding or innovating? This chapter offers a perspective on such questions by exploring how branding affects innovation and competition in the marketplace. In particular, it draws on the economic literature to highlight the linkages between branding and innovation, and to show how such linkages have repercussions on market competition. It also examines forms of branding behavior that may be considered anticompetitive.

The chapter first describes the relationship between innovation and competition, and explores how branding affects this relationship (Section 3.1). It then examines in greater detail how branding and innovation relate to one another, and considers scenarios where competition concerns may arise (Section 3.2). Based on the insights gained, the chapter reviews ways in which competition authorities could safeguard competition against anticompetitive behavior (Section 3.3). The concluding remarks summarize the main messages emerging from the chapter discussion, and point to areas where more research could usefully guide policymakers (Section 3.4).

3.1

Conceptual considerations

Innovation and market competition are two important elements in determining the growth rate of an economy. The combination of vibrant innovative activities and competitive market pressures can lay the foundation for strong economic growth in any country.[1] However, the effects of these two elements are so interrelated, and so intertwined, that each of them has significant impact on the other.

3.1.1

How competition affects innovation

Market competition can affect innovation in several ways. On the one hand, too much competition discourages innovation. When competitive pressures are too strong, firms are not in a position to innovate. Given that innovation is costly and risky, any additional expenditure would have to be justified by the potential profit margin. Where intensely competitive market conditions prevail, the profit margin may not be sufficiently large, or significant enough, for firms to recover their investments in innovative activities.[2]

1 See Paul Romer (1986, 1990). Romer argues that a country can have sustainable economic growth if it invests in innovative activities.

2 In economic theory, perfect competition implies that firms in the market make little or no profit. In other words, the firms' total revenue from the sales of their goods or services pays for the costs of producing them. This would leave little to no leftover profit to invest in innovative activities.

Using a different line of reasoning, too little competition also hampers innovation. Firms that operate in markets where few rivals challenge them, or where they do not face any competitor, are less likely to innovate because there is no motivation for them to do so.

In short, for competition to best incentivize innovation, it has to be neither too strong nor too weak. Plotting the relationship between competition and innovation on a graph reveals an inverted U-shaped figure, whereby innovation increases as competition intensifies; however, after a certain threshold of competition intensity, innovation decreases as more rivals enter the market.[3]

What matters from an economic viewpoint is the presence and size of economic rents.[4] When firms operate in markets where they enjoy some economic rents – and their rents are threatened by the potential entry of new rivals – these firms are more likely to innovate. They innovate so as to ensure that they continue to enjoy their rents, as well as ensure that they continue to stay competitive in the market. New entrants, on the other hand, are encouraged to innovate and enter the market so as to capture these rents for themselves. In this case, competition encourages firms to innovate, thus leading to generally higher innovation levels.

However, when firms operate in markets where the economic rents are small – as happens when market competition is intense – the reward from innovating may be too small to justify the investment, and therefore the level of innovation in the market will also fall. At the other extreme, when rents are large and there are no competitive pressures, firms can continue to enjoy their economic rents without any need to innovate.

Competitive pressures also affect the types of innovation that firms bring to the market. The effect varies according to whether the innovation is a product or process innovation, leaving aside industry-specific factors.[5]

Process innovation is generally viewed as reducing firms' production costs. In a competitive setting, each firm would be motivated to invest in innovative activities that would reduce its production costs, so as to earn higher profit margins than its rivals; this impetus to innovate becomes stronger the higher the profit margin is expected to be.[6] Moreover, if a firm's process innovation significantly reduces costs, it would be able to replace the existing leader in the market and gain market share. Therefore, in this case, market competition generally encourages innovation, which in turn may provide a basis for intervention from competition authorities if there is high risk of the market becoming too concentrated.[7]

3 It is only recently that economists have been able to theoretically justify the inverted U-shaped relationship between market competition and innovation. Prior to the seminal contribution by Aghion *et al* (2005), most scholars observed this relationship without being able to provide a credible explanation for it. See also Subsection 2.2.3 of WIPO (2011) for further discussion on the relationship between innovation and competition, but from a patent rights perspective. Other economists have also added to the contribution of Aghion *et al* (2005) by looking at the innovation-competition relationship as influenced by advertising (Askenazy *et al*, 2010) and by considering when the market structure is endogenously determined (Goettler and Gordon, 2013), to name but a few.

4 Economic rent is a term that many economists use to refer to the return on a factor input. Profit – a type of economic rent – is the financial return from investing in the production of a particular good or service after subtracting the cost of producing that good or service.

5 Industry-specific factors include how seamlessly one product could be substituted for a similar one; barriers to entry; presence of innovation spillovers, and ability to exclude others from imitating the innovation. See Richard Gilbert (2006), who conducted an extensive review of theoretical and empirical evidence on how market competition, market structure and innovation (proxied by R&D) affect one another.

6 This is a model proposed by Arrow (1962), and it assumes that the innovative firm is able to appropriate all returns on its innovation.

7 Concentration refers to when there are too few producers in the market – less than what is dictated in the effective competition framework. In traditional competition cases, market concentration is usually measured by the Herfindahl–Hirschman Index.

Product innovation – characterized by the introduction of new and improved products – can thrive in both competitive and less competitive settings.[8] The reason for this is that product innovation will almost always increase firms' profits from the sale of both the new and the old products, especially when the products are differentiated. In the case of process innovation, however, the new process method often makes the older method obsolete, and so the profit that the innovator gains is only from the use of the new or the old process method, and not both. Therefore for product innovation, regardless of whether the market is competitive or not, firms tend to have the incentive to innovate. This result, in turn, makes it relatively difficult for competition authorities to assess if there could be competition issues at play in cases where they are assessing markets in terms of differentiated product innovation. Subsection 3.3 delves into this issue further.

How innovation affects competition

Innovation, in particular product innovation, can affect market competition.[9] There are two general types of product innovation, and these have differing effects on competition. The two types are: horizontal product differentiation and vertical product differentiation (see Box 3.1).[10]

Box 3.1: Distinguishing between *horizontal* and *vertical* product differentiation

Firms can improve products by differentiating them either horizontally or vertically. When firms cater to consumers' differing tastes and aesthetic preferences, it is regarded as *horizontal product differentiation*. This particular type of product differentiation is called horizontal because the product has not changed drastically; rather, it has been only slightly modified so as to meet the preferences/tastes of particular consumer segments. For example, a potato chip manufacturer may produce different product flavors such as barbeque, paprika or sour cream. *Vertical product differentiation*, on the other hand, improves the product's quality. One example of vertical product differentiation is Microsoft's quality upgrade from Windows Vista to Windows 7. The following examples also illustrate the difference between these two types of product differentiation.

Consider a market with two market segments, A and B. The consumers in these segments have different tastes, so the firm has to decide which of these segments it should design a product for. Suppose it decides to design for A – perhaps because A is the larger market segment, and let's assume that consumers in A are willing to pay USD 25 for this product whereas consumers in segment B are willing to pay only USD 15. Now the firm has to make a pricing choice: price at USD 25 and cater to A only, or price at USD 15 and cater to both A and B. The choice depends on the trade-off between higher margins or more sales. Choosing margins over sales means that the firm will cater for A's market segment whereas consumers in segment B will be shut out of the market. On the other hand, favoring sales over margins means that while all consumers would be catered for, the firm would have to forego its potential revenue from segment A: consumers in segment A would have paid USD 15 for a product that is worth USD 25 to them.

Now, suppose the firm innovates with a new product that explicitly caters to segment B's tastes – an example of horizontal product differentiation. Segment B would be willing to pay more for this product than for the previous one, say USD 20. By contrast, segment A's willingness to pay for this product would be lower than that for the previous product priced at USD 15. Here, the logical approach is for the firm to set the price for the old product at USD 25 and the new product at USD 20.

Suppose in a different scenario, the firm innovates to change the quality of the product – an example of a vertical product differentiation. Specifically, the firm invests in order to provide a lower quality of the same product, so as to cater for segment B's preference (because B does not care much for the high quality of the original product.) Suppose B is willing to pay USD 10 for the new product (as opposed to USD 15 for the high-quality product), and suppose A is willing to pay USD 25 for the high-quality product, and USD 18 for the low-quality product. Note that A's willingness to pay for the new product still exceeds B's willingness to pay for it – even if the new product is meant for the latter.

8 This assuming that the firm innovating can appropriate all returns to its innovation. See Gilbert (2006) for a good review of Arrow's (1962) economic model which explains why it is not clear whether a competitive environment provides a good incentive for product innovation, even though this is generally the case for process innovation. See also Greenstein and Ramey (1998) for the case of vertical product differentiation and Chen and Schwarz (2013) for the case of horizontal product differentiation.

9 See Goettler and Gordon (2013). Similar to the findings of Aghion *et al* (2005), Goettler and Gordon found an inverted U-shaped relationship between innovation and product market competition, as measured by product substitutability.

10 Product innovation refers to a new or improved good or service.

In both cases of product differentiation, investing to introduce products that cater to the demands of consumer B is good for the firm and can also benefit consumers. The firm now caters for both consumers A and B, earning more sales revenue; simultaneously, both A's and B's demands are met.

Source: Moorthy (2013)

Horizontal product differentiation, generally referred to as the Hotelling (1929) model, is one where products are spread along a straight line and consumers generally align themselves with their closest preference. A new firm could enter the product market and place itself along the line, either close to or far from the existing products, and then capture both new and existing consumers from rival producers.[11] In such a scenario, the product innovation would result in more competition in the market in terms of the variety of products available and the number of producers in the market. Existing producers could also introduce new, differentiated products in order to increase their customer base.[12] While this would result in the availability of more products, the number of competitors would remain the same as before. However, such a situation might discourage new producers from entering the market (see subsection 3.2.3).

The other type of product innovation is vertical product differentiation. This type of innovation can either increase or maintain the number of products and competitors in the market. Modeled by Sutton (1991), and later Shaked and Sutton (1982, 1983), vertical product differentiation introduces into the marketplace a new product with superior quality to the existing one. When similar products of different qualities are sold at the same price, the newer and better quality one is always preferred to the older and lower quality one, and then displaces it in the marketplace. This cannibalization of the older product by the newer one enables the innovative firm to capture all consumers in the market, and both the number of products and competitors in the market remains the same as prior to the product's introduction.[13]

However, in certain circumstances, both the new and the existing firms can co-exist in the market. When there is a difference in consumers' willingness to pay for quality – such that some consumers would pay a premium price for the superior quality product while others would prefer the lower priced product regardless of quality – the existing firm with the lower quality product could set a lower price for its product in response to the introduction of the new, higher quality one. This would therefore lead to an increase in the number of products and competitors in the market.[14]

11 How similar or different these products are from one another can vary from almost exact likeness to very different. See Hotelling (1929), D'Asprement *et al* (1979), and Böckem (1994).

12 See Chen and Schwarz (2013).

13 Scherer (1979).

14 Innovation dynamics alone will not define the market, since, ultimately, the prevailing number of products and competitors in the market would depend on market forces and industry-specific factors such as barriers to entry.

How market competition and innovation affect one another has been the reason why some prominent economists, such as Kenneth Arrow, have argued for government intervention to encourage innovation.[15] This intervention could be in the form of an exclusive right, such as patent protection, which would provide some reward to firms so as to encourage them to innovate. It is also why competition authorities around the world have been concerned about certain innovative activities that may give rise to anticompetitive behavior.[16]

3.1.2

Why does branding matter?

Branding can be broadly defined as all activities that raise awareness of a firm's offerings and shape how consumers perceive those offerings. This includes, first and foremost, advertising and other activities that directly promote the firm and its goods or services. More generally, it includes all observable activities for which consumers may have a preference – for example, what kind of innovation the firm pursues, how it treats its customers, and to which environmental or labor standards it adheres.

Firms invest in branding so as to increase demand for their products and enhance the willingness of consumers to pay for these products. In general terms, branding investments are worthwhile as long as an additional dollar spent on branding generates a net profit of at least one dollar.[17] However, branding can affect consumer behavior, and consequently the performance of firms through different channels, and so therefore it is useful to briefly review these channels.

How does branding do this? First, as outlined in Chapter 2, branding reduces consumers' search costs. It also informs potential consumers about firms' goods and services, highlighting the unique traits they may have and thus making it easier for consumers to choose between competing items. This informational role of branding not only raises awareness of firms' offerings, but also reduces the uncertainty that consumers face when making new purchases.

15 See Arrow (1962).

16 See Chapter 3 of WIPO (2011) for thorough discussion on how collaborative research and development (R&D) activities facilitate innovation, but can also give rise to concerns about anticompetitive behavior.

17 In economic theory, branding investments represent a form of endogenous sunk costs (Sutton, 1991).

A related point is that branding links products to the firms producing them. This association helps to promote the firms' newer products – even new products in markets that are new to these firms.[18] The good experience that consumers may have had with previous purchases is likely to motivate them to continue purchasing products from these same firms.

As firms capitalize on their past successes, they develop a reputation that continues to reduce consumers' search costs. This reputation benefits the firms in several ways. For one, consumers would be more willing to pay more for these firms' products, as switching to competing products would entail extra search costs.[19] One study, which examined how much it would cost for consumers to switch from one branded breakfast cereal product to another, estimated that the cost of switching to a different breakfast cereal brand is high; in fact it is higher than the cost of purchasing any branded cereal.[20] In addition, consumers can develop goodwill towards a brand over time, which in its strongest form be expressed as fierce brand loyalty.[21] Even with purchases on online price comparison sites – where consumers can easily choose between similar products at different prices – brands continue to play an important role in consumers' final purchase choice.[22]

18 Cabral (2000).

19 In addition, Klemper (1987) argues that changing brand imposes a switching cost to the consumer and results in a loss in the consumer's utility.

20 Shum (2004) investigates how advertising may influence consumers to switch brand loyalty by looking at the purchases of breakfast cereal purchases in several districts in Chicago, Illinois in the United States of America (US). In this case, brand loyalty is defined by consumers' past purchases of particular cereal brands.

21 Homburg *et al* (2010).

22 See Smith and Brynjolfsson (2001), and Baye and Morgan (2009).

A second important way in which branding affects consumer behavior and firms' performance is that it enables firms to associate an image with a particular product. As discussed in Chapter 2, for many products – especially luxury products – image is an important product feature in and of itself. Through image-focused branding, firms can carve out a niche and can generate a higher willingness to pay among consumers whose preferences align with the product's image.

In many situations, firms differentiate their products based on a large number of characteristics along both horizontal and vertical dimensions. In fact, the most successful branding strategies are often those that manage to combine reputation and image in such a way that they reinforce each other and appeal to a variety of consumer tastes.

How do branding investments affect firms' performance?

To begin with, strong brand value – whether induced by reputation or by image – can have an important impact on firms' growth potential. In the first place, it can increase firms' financial value above the traditional accounting book value, which in turn can help them raise money in the financial market.[23] The money raised can then be used to generate more innovation. In addition, firms with strong brand value are more likely than their rivals – and tend to be faster than them – at introducing new products.[24] This is useful because studies have shown that a firm that breaks into a new market segment first is more likely to retain a significant share of the market.[25] Therefore, strong brand value not only helps raise money in the capital markets, but it can also help secure a firm's future revenue stream.

23 Subsection 1.3 contains a discussion on how brand plays a role in firms' stock value. See also Krasnikov *et al* (2009).

24 Thomas (1995).

25 Schmalensee (1982) shows that the order in which consumers are introduced to branded products influences their loyalty to the product, thus making the case for firms to be the first ones to enter the market. See also Guadagni and Little (1983).

It is unclear, however, whether branding channels such as advertising increases firms' profit margins.[26] When empirical studies examine the impact of advertising on firm-level profits, the results are mixed.[27] The reason for this can be attributed to industry-specific factors.[28] However, when industry-specific factors are taken into consideration, this branding channel is found to increase the profit levels of firms in certain industries.[29] For example, Porter (1976) shows that the advertising-to-sales ratio increased profits for firms operating in convenience goods industries (i.e. non-durable goods that are easily purchased by consumers, and which tend to be low priced and widely available), but not in shopping goods industries, which consists of durable goods that tend to involve consumers in more selection and comparison effort than is required for purchasing non-durable goods.[30]

As outlined earlier, brand investments generate market power for firms. This market power is at the heart of *brand equity* and can be defined as the result of a firm's branding activities to promote itself – in comparison with other firms that do not engage in such activities.[31] One of the outcomes of this equity is the ability of branded products to command higher prices than their generic counterparts, thus increasing their mark-up over production costs.[32] This ability to command higher prices can be due to the firms' product differentiation efforts, such as investments to produce higher product quality, or to use more efficient production methods.[33] It also allows firms to distance themselves from their rivals and to compete on factors other than on just price.[34]

26 See Shah and Akbar (2008).

27 Bloch (1974); Ayanian (1975).

28 Aggregating these different firms may neutralize any effect that advertising may have on firms in specific industries with firms where advertising has no impact. A related factor which contributes to the mixed result finding from studies on advertising profit is the method some studies use to account for firms' advertising expenditure – in particular the rate at which advertising spending should depreciate over time. The depreciation rate determines how long the effect of spending on advertising would last, which also varies according to industry sectors. Therefore, studies that do not take into account the differences across industries, and their corresponding depreciation rates, are likely to be missing the nuanced picture of the advertising-profit relationship. See Shah and Akbar (2008).

29 Weiss (1969) and Comanor and Wilson (1974).

30 Porter (1974) attributes the distinction between convenience goods and shopping goods to consumers' buying habits. Convenience goods are, "[g]oods with relatively small unit price, purchased repeatedly and for which the consumer desires an easily accessible outlet. Probable gains from making price and quality comparisons small relative to consumer's appraisal of search costs." Shopping goods, on the other hand, are, "[g]oods where the consumer compares prices, quality and style; compares several stores; the purchase can be delayed; the purchase is relatively infrequent. Probable gains from making price and quality comparisons are large relative to the consumer's appraisal of search costs."

31 Aaker (1991); Dubin (1998); and Keller (2003). Researchers have proposed many ways to measure brand equity, which includes the customers' perspective, product and financial market outcomes (Ailawadi, Lehmann and Neslin, 2003). Chapter 1 of this report also suggests another way to measure brand equity.

32 Using scanner data from a large Midwestern chain in the United States, Barsky *et al* (2003) studied 19 different categories of products to compute how much higher branded goods are priced above their production costs. Many of the categories studied have estimated that mark-ups in general range from 1.40 to 2.10 times their marginal costs of production and delivery. These findings are consistent with previous studies that looked at mark-ups in the breakfast cereal industry and the saltine cracker food category (Nevo, 2001; Slade, 1998).

33 Wiggins and Raboy (1996) examine the factors that affect banana prices in North America and show that the quality of the banana, rather than the brand name, tends to explain a significant portion of the price difference between branded bananas and their generic counterparts.

34 See Joachimsthaler and Aaker (1997), Baye and Morgan (2009) and Desai and Waller (2010) on how consumers' choice of products or services is no longer primarily determined by price.

Strong brand names can also help firms venture into new markets, where they may have had no previous commercial experience; alternatively, it may enable firms to license out their name in return for royalty payments (see Section 1.4).[35] In essence, these firms use their brands to draw consumers' attention to the quality of the firms' new products in the new markets. In many cases, this strategy has been proven to be quite successful, especially when firms have a strong brand reputation.[36] Ralph Lauren, an American fashion company, has successfully pursued the strategy of licensing out its name in order to diversify its business from clothing to perfumes and home furnishings. By licensing out its brand name, the Ralph Lauren company was able to expand its revenues from the design and manufacture of clothing lines to include royalty payments from the licensing activity. For the company that licensed in the Ralph Lauren brand name, the licensing provides a way to mitigate some of the costs and risks in building a brand by using an established name to enter new markets.[37]

However, there is the risk that the new products may undermine the original brand. When firms fail to deliver on their promises, consumers are likely to punish the brand by withholding future purchases or by bad-mouthing the brand.[38] This helps to explain why some firms prefer to create separate brands when commercializing new products in different market segments, or when introducing products in markets that are very different from their original product-based brand identity.[39] Consider, for example, Toyota's investments in building hybrid car technology.[40] The company has chosen to commercialize this innovation by creating a new sub-brand, Prius. Toyota's successful marketing and advertising efforts, coupled with its innovative technology, have led to the creation of a Prius brand that is based entirely on hybrid cars and, by extension, on environmental responsibility. In the meantime, Toyota's efforts to ensure that consumers continue to link the Prius brand with the Toyota brand have enhanced the company's image as an innovator.

This is not to say that branding is always a more profitable business strategy than selling generic products. Even if branded products generate a higher net profit on each sale, firms still need to recover their fixed investments in branding. Indeed, because consumers differ in their willingness to pay for reputation and image, there may well be room in the market for both generic and branded products, with both underlying business models being profitable.

Due to the often high upfront costs of establishing a brand, the presence of strong brands in a particular market may pose a barrier to entry into that market by new firms. Competition among existing brands may still be fierce and, as explained earlier, may be sufficiently strong to promote innovation. However, in selected cases, brands may become so powerful that they may result in the firms having dominant market positions – a topic to which Section 3.3 will return.

35 See Randall *et al* (1998); Lei *et al* (2008) and Heath *et al* (2011) for empirical evidence on the use of brand reputation on brand stretching. A good example of brand stretching is the Virgin brand. This brand has been used on airlines, music stores, a banking brand, a train operating company and many other applications.

36 Cabral (2000).

37 See Aaker (2011) and Kapferer (2008).

38 Klein and Leffer (1981); and Choi (1998). In 1986, Audi had an incident with the sudden acceleration problem in its Audi 5000 car, which reduced demand both for this model and for the Audi Quattro.

39 Pepall and Richards (2002).

40 Moorthy (2013).

3.2

Branding and promoting innovation

How does branding promote innovation, in particular product innovation?

First, branding channels, such as sales and promotion activities, help firms to recoup their returns on investment in innovative activities. This ability to recover investments made, in order to produce innovation, provides a further incentive for firms to continue investing in innovative activities.

Second, effective branding channels not only promote firms' market offerings by increasing consumers' demand for their products, as well as increasing their willingness to pay for them, but they also help to build consumer trust in the firms' products, and by extension trust in the firms themselves.[41] This trust built over time, also known as consumer goodwill, provides another incentive for firms to continue producing innovative products.

41 Bresnahan *et al* (1997).

3.2.1

Helping firms appropriate their returns to innovation

Branding is one of the ways that helps firms recover the investments they have made in innovating. Surveys conducted in the United States, Switzerland, the Netherlands, and Japan on how firms appropriate their returns on investment in innovation show how important branding activities are. The factor known as "sales or services efforts" appears as one of the top five important ways that firms use in order to appropriate their returns on investment in innovation; however, it is not the only method that firms use to achieve this objective (see Table 3.1).

Firms use branding activities as a way of promoting their product innovation (see Figure 3.1). In fact, firms that invest more in research and development (R&D) activities are also more likely to invest in branding activities.[42] This finding is not surprising given that branding channels, such as advertising, have been shown to be useful in promoting the sale of firms' goods or services.[43] However, the duration of this effect and its significance varies across the types of goods and industrial sectors.[44] For example, Zhao *et al* (2003) studied the effect of advertising on sales of durable and non-durable goods in China, and they found that advertising is more useful for the former than for the latter. [45]

42 Von Graevenitz (2009) shows that there is complementarity between firms that invest in R&D activities and the advertising expenditure of those firms.
43 Shah and Akbar (2008) provide a good review of the link between advertising and its impact on sales. Furthermore, it is worth emphasizing that while advertising does have an impact on sales, firms' sales also have an effect on this branding channel. For many firms, the size of their advertising budget is dependent on the firms' sales performances, whether past or projected. See Lee *et al* (1996) on this simultaneous causal relationship.
44 See Yip (1982); and Acs and Audretsch (1990).
45 Durable goods studied included air conditioners, color television sets, refrigerators and washing machines, while non-durable products included shampoos and skincare creams.

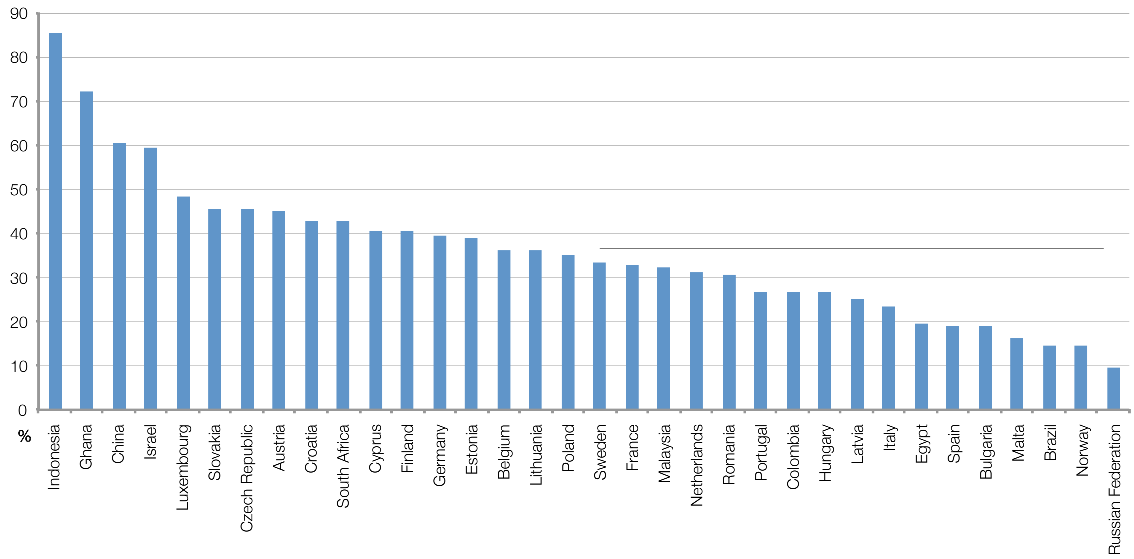
Table 3.1: Top five methods that firms use to protect their innovations

	Year	Country	Survey sample	Product innovation					Process innovation				
				1	2	3	4	5	1	2	3	4	5
Yale	1982	US	Firms in the manufacturing sector (publicly traded), performing R&D	Sales or service efforts	Lead time	Fast learning curve	Patents	Secrecy	Lead time	Fast learning curve	Sales or service efforts	Secrecy	Patents
Harabi	1988	Switzerland	Firms, mainly in the manufacturing sector, engaging in R&D	Sales or service efforts	Lead time	Fast learning curve	Secrecy	Patents	Lead time	Sales or service efforts	Fast learning curve	Secrecy	Patents
Dutch CIS	1992	Netherlands	Firms in the manufacturing sector with (≥10 employees) that developed or introduced new or improved products, services or processes during the previous three years	Lead time	Retain skilled labor	Secrecy	Patents	Complexity of design	Lead time	Retain skilled labor	Secrecy	Com-plexity of design	Certifi-cation
Carnegie Mellon	1994	US	Firms in the manufacturing sector with (≥ 20 employees and ≥ USD 5 million in sales) carrying out R&D	Lead time	Secrecy	Comple-mentary assets	Sales or service efforts	Patents	Secrecy	Comple-mentary assets	Lead time	Sales or service efforts	Patents
Japan Carnegie Mellon	1994	Japan	Firms in the manufacturing sector carrying out R&D (≥ 1 billion Yen capitalization)	Lead time	Patents	Comple-mentary assets	Sales or service efforts	Secrecy	Comple-mentary assets	Secrecy	Lead time	Patents	Sales or services assets
RIETI-Georgia Tech	2007	Japan	Inventors who applied for triadic patents with patents with priority during the time period 2000 to 2003	Lead time	Comple-mentary assets	Secrecy	Comple-mentary assets	Patents	Survey does not distinguish between product and process innovation				
Berkeley	2008	US	Small manufacturing firms focusing on biotechnology, medical devices and software	Lead time	Secrecy	Comple-mentary assets	Patents	Reverse engineering difficulty	Survey does not distinguish between product and process innovation				

Source: WIPO, 2011

Figure 3.1: Firms spend money on marketing their product innovation

Firms that engage in marketing their product innovation as a percentage of all innovative firms



Source: WIPO, based on country innovation surveys. Data for OECD countries were obtained from Eurostat, 2010. Other countries from the UNESCO Institute for Statistics, 2012.

Note: The Oslo Manual (1992, 1995, 2005) defines market preparations for product introduction as activities that are aimed at introducing new or significantly improved goods or services to the market – across countries. Only responses from the manufacturing sector are considered here, in order to allow for cross-country comparison. However, there are other factors, which are specific to each country innovation survey, that prevent further comparison between countries.

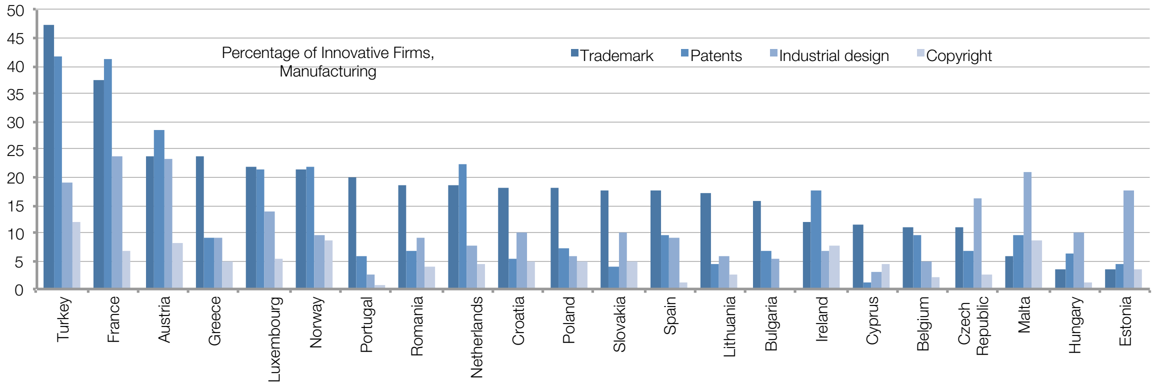
The results of Berkeley study (2008), which surveyed innovative firms in the highly innovative sectors, show that on average trademark protection is considered a “slightly” to “ moderately” important means to help recoup the innovative firms’ investments in innovative activities. While this IP instrument is often used in conjunction with other IP instruments such as patents and industrial designs, firms tend to use trademark protection more frequently than they do with other IP instruments. Figure 3.2 shows how important trademarke are in comparison to patents, industrial designs and copyright – for both innovative and non-innovative firms in both manufacturing and services sectors in several Organisation for Economic Co-operation and Development (OECD) countries.[46]

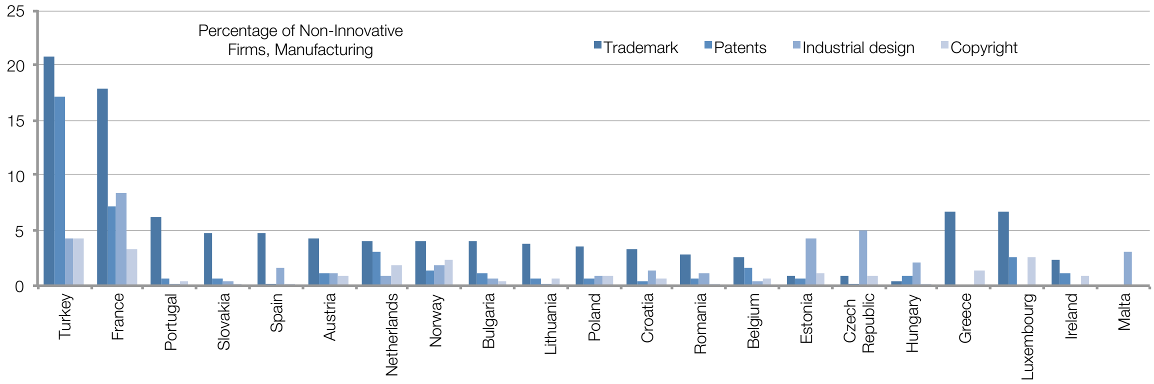
The fact that trademark protection does not have a term limitation allows firms to prevent others from free-riding on investments made in order to build consumer goodwill, which then extends the firms’ exclusivity over their brand names.

46 See Subsection 2.1.2 for a discussion of key differences among these forms of IP.

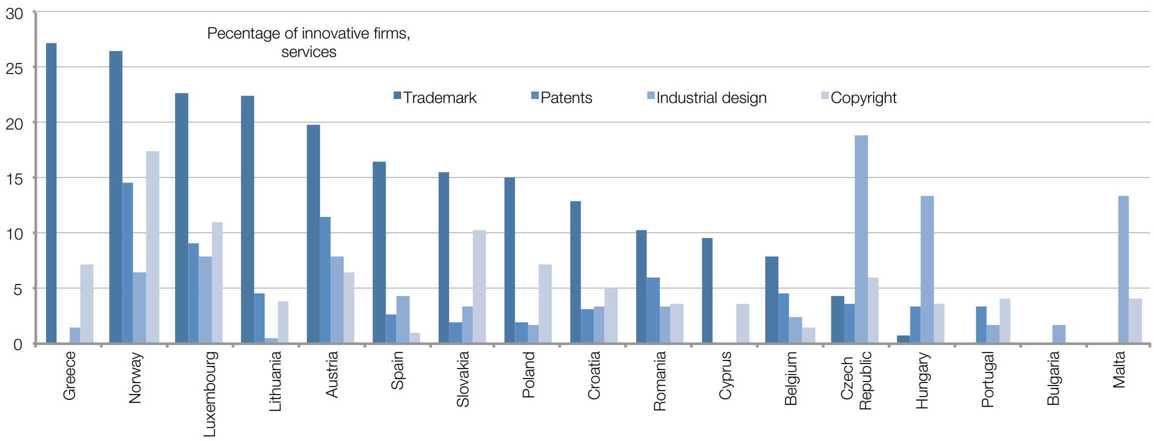
Figure 3.2: Firms are more likely to use trademarks than any other IP instrument

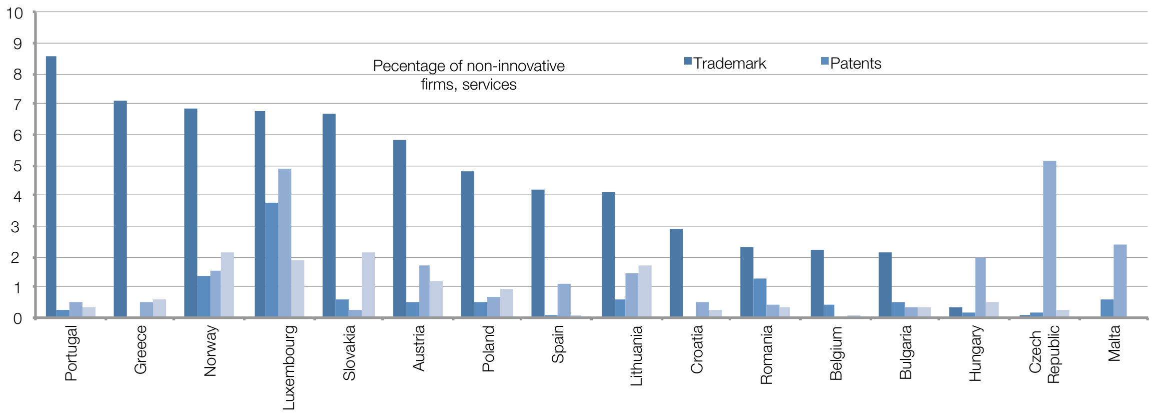
Firms using IP instruments as a percentage of all firms in OECD countries





Firms using IP instruments as a percentage of all non-innovative firms in OECD countries





Source: Eurostat, 2005.

Note: Interpret these cross-country results with caution. Idiosyncratic differences between countries' innovation surveys affect survey results, and thus impose limitations on cross-country comparability.

One such example can be seen in the pharmaceutical sector. Original drug manufacturers usually use the full term of patent protection, in order to protect their product from competition. Upon patent expiry, the original manufacturer would have to contend with generic drug entry into the market, which would eventually erode the original manufacturer's market share.

But pharmaceutical firms have been able to temporarily avoid this erosion of market share through investing in consumer goodwill.[47] Jennewein provides the anecdotal example of Bayer and its success with *Aspirin*. In 1897, one of Bayer's researchers discovered a method that produced a pure and durable form of acetylsalicylic acid more efficiently than was available at that time.[48] To protect its discovery, Bayer applied for a patent on the

47 Other methods used include the introduction of slight product differentiations, such as changes in the delivery method of the drug.

48 See Jennewein (2005).

process innovation and it also registered a trademark on the name *Aspirin*. In addition, the company invested in building its brand name by imprinting the *Aspirin* tablet with Bayer's name and logo. The rationale for adopting this approach was that whenever people consumed *Aspirin*, they would associate it with its original manufacturer, Bayer. Jennewein credits this branding strategy along with Bayer's efforts to build consumer goodwill, with the company's ability to maintain its market share even when the patent for *Aspirin* expired and was followed by competition from generic manufacturers. More empirically, Hurwitz and Caves (1988) considered how sales promotion activities, before and after patent expiry, helped protect the original drug manufacturer's market share from the manufacturers of generic competitors. They found that branding, through the use of trademark protection and advertising activities undertaken after patent term expiration, helps firms to extend some of this market power.[49] They attributed this success to consumer goodwill generated during and after patent protection. However, Hurwitz and Caves noted that over time this market power is likely to diminish, as more generic drug producers enter the market and competition forces the price of the drug to fall.

3.2.2

Branding based on product versus image

In general, branding activities promote innovation and innovation-related activities. However, there are instances where firms may use branding strategies to repackage an existing product instead of investing in innovation – for example, when a firm creates a different image for an existing product and markets it as a new product. Accordingly, branding can have two effects on product innovation: when firms invest in branding activities to sell an innovation-based product, branding complements innovation.[50] But when firms rely on these activities to sell an image-based product, branding may substitute for innovation.

Two factors help determine whether firms invest in introducing innovation-based products as opposed to image-based products. The first factor relates to the cost-effectiveness of investing in either type of product. The second relates to broader considerations, such as whether the investment can be used across multiple products or technologies to maximize the firms' brand name.[51]

49 See Conley and Sczoboscan (2001) and Conley *et al* (2008) for other examples.

50 Branding may also play a role in process innovation. For example, the American retail chain Wal-Mart has successfully branded itself as a low-price retailer by investing in supply chain innovation, a type of process innovation, which gives it cost advantage over its competitors.

51 Sutton (1991) provides the theoretical model for this analysis. The model allows for two substitutable ways of increasing the quality of a product: either product innovation-based (objective) or advertising-based (perception). While consumers do not have a preference, firms do, and the decision is based on which means is more cost-effective. In any application, the investment that is more productive may be chosen. When weighing the productivity of R&D versus advertising, Sutton's analysis suggests that the possibility of leveraging the two investments across multiple products/technologies ought to be considered.

The cost of investing in innovation-based products, as opposed to image-based products, is related to industry-specific factors as well as factors that are specific to the firm in question. Firms that operate in industries where the market is new, and there are avenues for product-based differentiation, may find it cost-effective to introduce product-based innovation. Conversely, firms that operate in markets where product differences are few and far between, and where further investments in product innovation may be counter-productive, may find that image-based products have a clear advantage.[52] Many *convenience goods* categories – low-priced consumer packaged goods, such as ready-to-eat cereals, canned soup, and chocolate bars – may fall into this category. Firm-specific factors that determine whether firms introduce innovation-based products or image-based products include the firms' market performance, technological prowess and reputation considerations. Firms that have strong R&D capabilities are likely to introduce product innovation. But if these firms find themselves so technologically advanced that their rivals are unable to keep up with them, they may exploit their strategic and reputational advantage – independent of activities that would lead to the creation of new products – and instead introduce image-based products to maintain their market lead.[53]

52 Moorthy (2012) discusses this subject in further detail.

53 Ofek and Sarvary (2003) examined in a dynamic competitive setting how firms decide whether or not to introduce new products based on their innovative or reputational advantage. The researchers make two reasonable assumptions: (i) a firm's position as the market leader can easily be toppled; and (ii) past successes have an impact on firms' investment decisions. They show that firms with strong research and development competence would invest more in R&D in order to retain their market leadership position. The more these firms invest in R&D, the less likely their followers would be able to compete with them. The smaller number of effective competitors in the market would motivate these firms to exploit their strategic advantages rather than continue to produce more innovative products.

When branding activities complement product innovation

How effective branding channels will be in terms of promoting innovation depends on the quality of information communicated to consumers.

Product innovations that have search attributes are relatively easier to promote than those with experience attributes. (See Box 3.2 on the distinction between the two traits). In particular, branding channels such as advertising are particularly effective in making claims for goods with search attributes. This is because goods with search attributes can be verified by consumers before they purchase them.[54] Here, advertising plays a clear, informative role by pointing out relevant product differences to consumers.

In the case of goods with experience attributes, however, advertising has to be both informative and persuasive. By definition, claims in advertising for experience goods cannot be verified before product purchase, and so consumers tend to discount these claims. Consequently, firms that produce experience goods may be more inclined to spend more on advertising than firms that produce search goods, since the quality of information conveyed may not be as relied upon as that used for promoting search goods.[55] In general, investments in advertising increase according to the difficulty of demonstrating innovation superiority: in other words, investment is low for differentiated search goods; it is higher for differentiated experience goods, and it is highest for non-differentiated convenience goods.

54 Nelson (1974); Ford *et al* (1990); Anand and Shachar (2011).

55 Klein and Leffler (1981). Nelson (1974) argued that search goods do not require as much branding activity as experience goods, mainly because consumers can easily verify the differences in search goods prior to the purchase, unlike experience goods.

Box 3.2: Search versus experience attributes

The distinction between *search attributes* and *experience attributes* corresponds to the difference between *search goods* and *experience goods*, respectively.

Strictly speaking, search goods can be identified through their physical traits. They can therefore be examined and assessed by the consumer prior to purchase. Examples of physical traits include the design, size and color of a product. More generally, any product information that can be trusted – even if the information is not personally verifiable – falls under the search goods category. One such example is the nutrition information printed on a breakfast cereal box.

Experience goods, however, can only be assessed after the purchase has been made; in other words, the consumer needs to experience the good in order to differentiate it from others. Examples of experience-related product traits include those that refer to its quality, durability and reliability, or taste – such as in food or beverages.

Source: (Nelson, 1970, 1974).

However, this does not mean that firms that spend more on advertising necessarily produce better quality products, especially in the case of experience goods. So, how can consumers determine if the products advertised are good? In other words, can consumers rely on advertising expenditure as an indicator of product superiority?[56] It is difficult to definitively answer this question. Many factors can have an impact on the effectiveness of advertising as an indicator.

First, it depends on a firm's incentive to differentiate itself from others. Firms that are more likely to profit from advertising tend to spend more on advertising than firms that do not fall into that category. For example, a firm that wishes to distance itself from its rivals – because it has a higher quality product than its rivals – tends to invest more in advertising. In addition, because its consumers are likely to make repeat purchases, this firm should be able to recover some of the extra spending required in order to promote its products.

But this incentive may not be sufficient to determine the effectiveness of advertising as an indicator of product quality.[57] If consumers in general consider that advertising does indeed provide a good indicator of product quality, then firms producing lower quality product would have the perverse motivation to advertise as much as their high-quality product rivals.[58] In such a situation, advertising becomes a noisy indicator of product quality. However, if the cost of advertising is high – and consumers do not completely rely on advertising as an indicator of quality – then firms which need to advertise would do so. As a result, once again this branding channel becomes a good indicator of product quality.[59]

56 Firms often use a combination of both advertising and pricing to provide indicators to their consumers regarding the quality of their product (Fluet and Garella, 2002). However, pricing and its relationship to the product's quality is not discussed here. For further discussion on price, advertising and quality, see Archibald, Haulman and Moody (1983) and Klein and Leffler (1981), to name but a few.

57 Comanor and Wilson (1979).

58 Schmalensee (1978).

59 Levin *et al* (2009). Although Askenazy *et al* (2010) argued that the cost of advertising should be low, to allow for more R&D-based product innovation.

A second factor that determines how good the product quality is depends on how easily consumers can verify a firm's advertising claims before they make a purchase; this is especially true in the case of products with experience attributes.[60] Here, the ability of consumers to verify advertising claims plays an important role in promoting sales of the product.[61] This verification may manifest itself in the form of repeat purchase, or third party review or certification.[62] Archibald *et al* (1983), for example, studied the relationship between quality, price and advertising in the case of running shoes. They found that evaluations published by the *Runner's World* magazine had a positive impact on the effectiveness of advertising as an indicator of product quality, when factors such as price differences were taken into account.

When branding activities may substitute for product innovation

Firms sometimes use image as a way to distinguish themselves from their rivals; in some cases this is a complement to their product innovation. But, strictly speaking, image-based identity is one that is created solely through advertising, and is independent of the final product. In general, advertising creates brand identity by associating the brand with a particular imagery. However, it can also do this by simply increasing awareness of the brand: more familiar brands are perceived by consumers to be higher in quality.[63]

Brands that build their name based on image tend to fall into the realm of persuasive advertising. This type of advertising can appeal to consumers in a specific age group; one such example is Pepsi advertising, which appeals to young people – the "Pepsi generation". Persuasive advertising may also associate itself with a cause that has a broader appeal, e.g., "Dove is for girls' self-esteem."[64] The strategy of firms that use persuasive advertising involves targeting specific consumer groups by appealing to their personal, subjective and, often, emotional preferences.

The power of image-based brand identities is illustrated in Allison and Uhl's (1964) beer experiments. In these experiments, consumers rated several brands of beer after tasting them – once in a blind taste test with the brand names hidden, and a second time with the brand names visible. The authors found that consumers' ratings changed from the first to the second evaluation, even though the order in which the beers were tasted was exactly the same. This shows that image-created branding plays a big role in influencing consumers' views of products. Marketing folklore is replete with stories of brands being positioned differently at different times, even though the product itself never changed.[65]

60 Klein and Leffler (1981).

61 See Caves and Greene (1996); and Hakenes and Peitz (2009). Caves and Green (1996) calculated the correlation between brands' quality ratings and prices, and advertising expenditures, for about 200 products evaluated by the American Consumer Reports. They found that, in general, advertising serves as a good quality indicator only in cases where the quality of the product can be verified.

62 Firms that have built trustworthy brand names based on their product quality are more likely to be able to promote their product innovation with experience attributes. But this trust in brand name gives rise to a moral hazard problem whereby firms may deviate from providing high-quality products. However, it has been shown that consumers can punish the firms for such deviation by, for example, withholding future purchases from the firm. See Klein and Leffer (1981); and Choi (1998).

63 Stokes (1985); Hoyer and Brown (1990).

64 Moorthy (2013).

65 The Marlboro brand was introduced as a women's cigarette in 1924, with the slogan "Mild as May". In 1954, it was repositioned as men's cigarette, with advertisements featuring a tattooed man. See: *www.rochester.edu/College/ANT/faculty/foster/ANT226/Spring01/history.html*

3.2.3

Branding activities that may raise competition concerns

Investments in branding activities may raise competition concerns. This is because branding activities make it difficult for competitors to convince consumers to switch from branded goods, due to established goodwill. In addition, firms with strong brand reputation can deter the entry of competitors into new markets.[66]

How do branding activities raise competitive concerns? First, effective branding channels can create market entry barriers; for example they may lead to higher advertising costs for all manufacturers in the market.[67] If consumers were easily swayed by advertising, this would lead firms to spend more money on sales promotion activities. The increase in marketing and advertising expenditure could lower firms' profit margins, which in turn could force smaller firms to exit the market. New firms, on the other hand, could be deterred by high advertising costs and therefore would not enter the market at all.[68]

Second, effective branding activities may lead to market segmentation, which in turn affects the level of effective competition in the market.[69] Branding activities do this by persuading consumers to consider similar products as completely different from one another to the extent that these products are considered imperfect substitutes for one another and compete in different market segments (see Subsection 3.3.1 for further discussion on product substitutability and how it relates to competition). Such market segmentation may then affect the level of competition that firms face, and can result in a scenario where a firm may find itself as the only producer in the market. This in turn creates potential for anticompetitive behavior.

And, finally, branding activities may lead to a concentration of market power in the hands of a few firms. Both the higher barrier to market entry and the lack of contestability between branded and non-branded products due to branding activities can lead to a decrease in the number of firms in the market. This market concentration creates the potential for collusive and anticompetitive behavior between the remaining firms in the market. More importantly, it can have an adverse effect on innovation, although this depends on industry-specific factors.[70]

66 Choi and Scarpa (1986) considered how firms use a brand proliferation strategy to deter the entry of new competitors. Brand proliferation usually applies in the horizontal product differentiation market, and refers to situations where firms use their brand name and the reputation they have acquired in order to enter new markets. Schmalensee (1978) documented one such case in the breakfast cereal ready-to-eat market.

67 Comanor and Wilson (1967).

68 See Sutton (1991).

69 There is no legal definition of effective competition. However, competition authorities refer to this term in order to describe a competition framework that captures the essential concept of perfect competition, as described by economic theory. See OECD (2012).

70 Dixit and Stiglitz (1977).

3.3

Safeguarding competition

The previous discussion has highlighted how branding activities may give rise to competition concerns. These concerns revolve around the influence of strong brand names and high market entry barriers – due to branding activities – on competition and price.

Competition authorities generally condone the existence of strong brand name and reputation. These are investments that firms have cultivated over time in order to build consumers' trust and goodwill as part of the normal functioning of competitive markets. There is *a priori* no reason why these firms cannot profit from consumers' goodwill, which may manifest itself in the form of strong consumer loyalty and less sensitivity to price changes.[71]

In addition, competition authorities see trademark protection as complementary to and supportive of innovation and competition, as it prevents rivals from confusing consumers or from free-riding on the goodwill developed by firms. Rivals are not permitted to use the same trademark as the rights holders, in order to promote their products, but they are free to sell the same products under different names and identities.[72]

One area where competition authorities have expressed concern is in situations where firms consolidate their market power through financial transactions, such as mergers and acquisitions (M&As), and through vertical arrangements. In the case of M&As, competition authorities may worry that the combined branded assets of the merged entity will result in an increased likelihood of coordinated and collusive behavior between competing firms; alternatively, they may worry that the merged entity is likely to have obtained significant market power, such that it can behave independently of its competitors, like a monopolist.[73] In the case of vertical arrangements, the authorities may be concerned that certain distribution clauses – inserted at the request of the stronger negotiating party – are anticompetitive and may result in a reduction in overall consumer welfare.[74] Specifically in the case of branding, the authorities would take into consideration whether the stronger negotiating party attributes its market power to having strong brand assets.

71 See Desai and Waller (2010).

72 For instance, a trademark owner may have registered a trademark relating to running shoes, which entitles the trademark owner to prevent competitors from selling running shoes with a similar trademark that may confuse customers. Competitors may still sell running shoes, but those shoes must have a different name. Rivals can also choose to sell their products as non-branded running shoes.

73 In the European Union (EU) anticompetitive acts are referred to as abuse of dominance, while in the United States they are referred to as monopolization. A firm is considered to have dominance when it can behave in a manner that is independent of its consumers, customers and competitors, although this definition vary between different jurisdictions. In some cases, the exercise of this significant market power may be reflected in the firm's ability, and motivation, to raise or maintain prices above competitive levels. For more details, see the EC's Technology Transfer Guidelines (2004), the United States FTC and Department of Justice (2010) to name but a few. See also United Brands Company and United Brands Continental BV v Commission of the European Communities (1978).

74 The distribution clauses may include choices of distribution channels, selection of specific retailers, product/service sale conditions, etc.

3.3.1

Assessing firms' market power

Brands play an important role in the competition authorities' assessments of M&As. Brands are one of the factors that determine the extent of firms' market power. Firms with strong branded products tend to have the ability to raise the prices of their goods or services without seeing a reduction in the demand of their products by consumers.[75] This market power derives from the fact that the branded goods belong to a class of goods that are imperfect substitutes for one another. What this imperfect substitutability implies is that consumers would be less inclined to switch from the branded product to a competing one, even if there were an increase in the price of the branded product (see Box 3.3).

Competition authorities take into consideration firms' brand assets, in order to identify the relevant product market and assess the competitive effects of the proposed M&A.[76] A narrow definition of the relevant market implies that branded firms have strong market power; conversely, a broad definition implies the opposite.

One example of how competition authorities use firms' brands to identify the relevant product market for assessment is the 2010 European Commission (EC) analysis of the deodorant product category in the Unilever/Sara Lee merger case.[77] Of all the product categories where Unilever and Sara Lee had overlapping economic activities, the deodorant category had the highest degree of product differentiation, and market competition was mainly between brand name deodorants.[78] Both Unilever and Sara Lee contended that there was only one deodorant market, while the EC argued for a narrower definition of male and non-male deodorant market segmentations. When the narrower definition of relevant product market was used, the EC found that the proposed merger would result in potential anticompetitive effects in the non-male deodorant markets in several European Union (EU) territories.[79]

75 Economists refer to this type of market power as the firm facing low price elasticity of demand.

76 Identification of the relevant market is the first step in assessing a firm's market power. The relevant market is one where the products or services of a specific group are considered substitutes by consumers. This assessment is often undertaken with respect to a specific set of products or services in which the firm has allegedly conducted an unlawful practice.

77 Unilever/Sara Lee Body Care (2010). Unilever exists as two separate entities, Unilever N.V. and Unilever Plc., but operates as a single economic unit.

78 According to the submission of Unilever and Sara Lee, there were seven product categories where they had other overlapping economic activities: deodorant, skin cleansing, skin care, fabric care, aftershave treatments, oral care, hair care, and household cleaning.

79 Unilever owns the trademark to the deodorant brand names Axe (Lynx in the United Kingdom), Rexona (Sure in United Kingdom), Dove, Vaseline and Impulse, while Sara Lee markets its products under the brand name Sanex.

The EC's reasoning for separating the deodorant product market into two segments highlights how this competition authority may consider brands when identifying and delineating the relevant market. First, the EC considered consumers' perception of the deodorant market. Based on a survey it conducted, consumers overwhelmingly perceived male deodorants as distinctly different from the non-male deodorants. Second, the EC considered firms' sales and promotion efforts as well as the supply-side constraints that would prevent them from switching between producing either male or non-male deodorants. The EC found that the substantial time and financial investments needed to produce and market the product for one gender segment restricted a firm's ability to either enter the market, or easily switch between catering for one market segment to catering for another. The EC also took into consideration how retailers marketed the products and noted the different placements assigned to deodorants, based on the gender of consumers. Finally, the EC undertook the hypothetical monopolist test where it assessed the substitutability between the two types of deodorants using the *small but significant non-transitory increase in price* (SSNIP) test (see Box 3.3). Using scanner data submitted by Unilever, the EC found that a hypothetical monopolist producing deodorants for the non-male market segment would not face competition from its competitors in the male market segment.[80] All of the assessments made clearly pointed to the gender-based market distinction in the deodorant product category.

Box 3.3: How competition authorities determine relevant market for differentiated goods

Competition authorities are often engaged in complex product and geographic market definitions, in order to assess the actual or potential competitive harm caused by a specific firm's, or firms', behavior. They employ several empirical methods in order to define the relevant market for antitrust enforcement purposes.

Measures of whether products are direct substitutes of one another tend to be based on the metric of *cross-price elasticity of demand* between two products. This measure determines how responsive the demand of one product is to a change in the price of a second, similar product. If there is some effect, and the effect is such that an increase in the price of the first product results in an increase in the demand of the second product, then these two products are considered substitutable and can belong in the same relevant market. If there is no effect, then the products are not considered substitutes and do not belong to the same market.

Differentiated products tend to be imperfect substitutes for one another. This implies that the products, while not direct substitutes, are similar enough that they compete with each other in the same product category. Take the example of Coca-Cola and Pepsi. A consumer may still prefer to purchase a can of Coca-Cola, even if the price of the Coca-Cola product is higher than the price of the equivalent Pepsi product. However, if the Coca-Cola beverage is not available, the same consumer may be inclined to purchase a can of Pepsi.

In order to measure whether two products belong in the same relevant market, more sophisticated measures have been employed.

One of the most widely used tests is the so-called *small but significant non-transitory increase in price* (SSNIP) test. The SSNIP test assesses the relevant market from the perspective of a hypothetical monopolist. It considers a relevant market as one that includes the narrowest grouping of all relevant products and regions where the monopolist would be able to impose this small but significant increase in price. The SSNIP test is arguably an international standard for market definition, with countries such as the United States, Canada, New Zealand, Australia and EU member states applying it when assessing merger cases.

However, in markets with differentiated products where brands play an important role, market shares – based on relevant markets defined throug the SSNIP test – may not capture the actual market power of firms and may therefore lead to an incorrect assessment of the competitive dynamics within a specific market.

80 The data were collected by AC Nielsen Company, a retail service tracking provider.

The drawback identified in using the SSNIP test has given more prominence to using a different test, referred to as the *upward pricing pressure* (UPP) index. This index, proposed by competition economists Joseph Farrell and Carl Shapiro (Farrell and Shapiro, 2008, 2010), who served in the Federal Trade Commission (FTC) and the Department of Justice (DOJ) in the United States, respectively, measures the incentives that merging firms may have to increase the post-merger prices on their products, although it is not able to predict the magnitude of such increase. The index considers how close the substitutable products of merging firms are in comparison to other products, a measurement that is known as the *diversion ratio.* Simply put, this diversion ratio measures the fraction of sales lost by a merging product (A) with the other merging product (B), as a result of an increase in the price of the former merging product (A).

Both the SSNIP and UPP tests attempt to answer the same question: does the proposed merger result in an increased incentive to raise prices on the combined products without suffering the consequences of a reduced demand for those products, as would normally be expected in a competitive environment?[81]

However, the way in which these tests answer the question is different. The SSNIP test considers the hypothetical case of a monopolist and a basket of products in comparison to an alternative basket of products, while the UPP index test carries out the exercise with respect to the proposed merging firms and their combined basket of products. In addition, the UPP index also takes into consideration the competition faced by the firms in the marketplace, something which the SSNIP test does not.

Note: For further discussion on this issue, see OECD (2012).

Competition authorities may also consider the firm's trademarks, or set of trademarks, when reviewing the effects of a proposed merger on a market. If the firm has a strong brand name or a set of brand names applicable to several products, all of which are protected by trademarks, the competition authorities may suggest that the firm divest itself of a few of these trademarks before approving the proposed merger. One such example is the merger between Dreyer and Nestlé in the premium brand ice cream market – specifically, the market for superpremium ice cream. In March 2003, the United States FTC sought a preliminary injunction to block the merger of Nestlé and Dreyer. The FTC was concerned that the merger would result in Nestlé controlling about 60 percent of the superpremium ice cream market. Since Nestlé markets its superpremium ice cream under the trademark Häagen-Dazs, while Dreyer's included Dreamery, Godiva and Starbucks, the FTC assessed that there would be strong evidence of a high level of concentration if the merger were to proceed as envisioned.[82] As a remedy, Nestlé and Dreyer agreed to divest three of Dreyer's brands as well as Nestlé's distribution assets.[83]

81 In a competitive environment, an increase in the price of a product is likely to induce consumers to switch to a substitutable product.

82 Dreyer marketed its superpremium ice creams under the trademark Godiva, under license with Godiva Chocolatier, Inc., and Starbucks, under a joint venture with Starbucks Corporation respectively.

83 See Federal Trade Commission Press Release, June 25, 2003, "Nestlé-Dreyer Settle FTC Charges," available online at *www.ftc.gov/opa/2003/06/nestle.shtm.*

A related example of where the competition authority used trademark divestment as a remedy to counter potentially anticompetitive effects was in the acquisition of Moulinex by Société d'Emboutissage de Bourgogne's (SEB) two brands of kitchen appliances.[84] SEB is the owner of two global brands, namely Tefal and Rowenta, while Moulinex has control over two equally well-known brands, namely Moulinex and Krups. In order to allow the merger to proceed, the EC temporarily suspended the SEB's use of its newly acquired trademark, Moulinex, for eight years; within this eight-year period, SEB would have to license the trademark out to a third party for five years, and refrain from using it for three years.[85]

Strong brand names built through branding activities can result in low contestability of the market for branded products, and can create strong market power for the holders of the branded goods or services; in turn, this can result in anticompetitive concerns. The case of the General Mills-Pillsbury (2001) merger in the pancake mix market raised such concerns. Both firms were successful in creating separate brands for functionally equivalent baking products. Due to their branding efforts, the FTC considered that the firms were able to behave relatively independently of their rivals: any increase in the price of these branded goods was unlikely to induce a switch by their consumers to other similar baking products, including unbranded flour. The General Mills-Pillsbury merger was allowed to proceed only after Pillsbury agreed to divest itself of its baking products line.[86] In a similar line of reasoning, the 1995 merger between Kimberly-Clark Corp. and Scott Paper Co. was rejected because it was deemed likely to result in harm for consumers of tissue paper and baby wipes.

In both merger cases, each of the merging parties had strong brand names. By merging, the competition authorities determined that the consolidation of these brand names would make it difficult for newcomers to enter the market, and could potentially harm consumer welfare.

A related example of competitive concerns due to effective branding channels is the *Babyliss SA v Commission* case.[87] Babyliss, as a new entrant to the kitchen appliances market, challenged the EC's decision to allow the acquisition of Moulinex by SEB, as described above, arguing that the EC did not consider all possible anticompetitive impacts of the merger on new market entrants. In its submission, Babyliss argued that the cost and time necessary to build its brand awareness – in order to be on par with the newly merged entity – would place it in a severely disadvantaged position. It also argued that the merger would concentrate a significant share of the most powerful small kitchen appliance brands into one already dominant company. While Babyliss was not successful in preventing the merger, it did trigger an assessment from the Court of First Instance on the potential anticompetitive effects of the merger.

For the moment, neither the courts nor competition authorities have conclusively clarified the role played by brands in determining a firm's market power. Nonetheless, there seems to be at least a growing awareness of the necessity to deepen the understanding of branding and competition, as more and more private investment is devoted to the strengthening of brand image and reputation in order to enhance competitiveness.

84 See: *http://europa.eu/rapid/press-release_IP-03-1531_en.htm*

85 See Babyliss Sa v. Commission of the European Communities (2003).

86 General Mills Inc./Diageo PLC/Pillsbury Co. (2001).

87 Babyliss Sa v. Commission of the European Communities (2003).

3.3.2

The case of vertical arrangements

Related to the discussion of brand names and market power is the issue of vertical arrangements. Vertical arrangements are arrangements between market players that operate at different levels of the supply chain – for example an agreement between a manufacturer and a distributor. In vertical arrangements, competition authorities are generally concerned that a firm may use its strong brand name and reputation to limit competition with its rivals – for example by imposing certain restrictions on the distribution of its products. Vertical arrangements can relate to intra-brand or inter-brand competition (see Box 3.4); in either case, they restrict the competitive behavior of one of the parties to the agreement.

Box 3.4: Two types of competition associated with vertical arrangements

Vertical arrangements can relate to two types of competition. The first type is *intra-brand competition*, which takes place between retailers of the same branded goods or services in the same geographic market. This kind of competition is usually limited by specific clauses in distribution contracts; such clauses provide either for a certain territorial exclusivity or for recommended/imposed prices, as in the case of resale price maintenance. Here, competition authorities often try to determine whether any limitations on the economic freedom of retailers, placed by the vertical arrangement, are motivated by high-level consumer service imperatives.

The second type is *inter-brand competition*, where competition takes place between different branded products belonging to the same goods or services market. Here, the question at hand is the ability of firms with strong brands to prevent others from competing in the same market by imposing certain clauses that may foreclose their rivals. For example, a manufacturing firm may decide to enter into a vertical arrangement with a distribution firm in the interest of continually improving the quality of its goods or services, and also in order to gain competitive edge over the firm's rivals. In its arrangement, the manufacturing firm imposes a restrictive clause on the distribution firm, which stipulates that the distribution firm cannot service products that rival the manufacturing firm's products. And because this firm has strong market power, due to its ownership of branded products, the distribution firm may readily accept this restrictive clause and avoid servicing other rival products. This type of restrictive arrangement is one that competition authorities would most likely consider anticompetitive. Therefore, the objective of the competition authority in the inter-brand competition case is to ensure that any arrangement undertaken promotes market competition between brands rather than hinders it.

How do branding activities relate to vertical arrangements?

Vertical arrangements relate to branding activities through trademark licensing. Firms that own valuable trademarked names can license out those trademarks for specific commercial purposes. For example, the licensing could be related to an authorization on the use of the trademarked name to a distributor, or it could even be in the form of franchise agreements. In practice, franchise agreements are the most relevant agreements regarding the licensing of trademarks.[88] Companies such as McDonald's, Subway and 7-Eleven have successfully franchised their brand names and business models, thus allowing independent entities to do business under their brand names at individual locations.[89]

When do branding activities in vertical arrangements give rise to competition issues?

The types of vertical arrangements that may worry competition authorities are those where one of the parties to the vertical arrangement leverages its strong brand name to create an even stronger market position and, in doing so, reduces overall consumer welfare. In order to allay anticompetitive concerns, the authorities would ensure that vertical arrangement contracts are based on efficiency gains reasons.

88 Franchising agreements may take the following three general forms: (i) ownership by one person (the franchisor) of the rights to a trademark, brand name or other similar sign; (ii) the grant of a license to selected independent retailers, not agents, (the franchisees) to use the trademark, brand name or other sign in exchange for some agreed upon payment in order to provide retail products or services; (iii) a license (franchise) agreement establishing an ongoing contractual relationship between franchisor and franchisee of significant duration, and specifying some set of obligations on the franchisee, the franchisor, or both. See Section 1.4 and OECD (1994).

89 These franchising agreements are generally part of strict licensing and contract agreements that govern how the businesses will be conducted, and how the brand will be used and displayed.

Resale price maintenance (RPM) is one of the most contentious vertical arrangements relating to branding activities. It restricts the distributors from selling the manufacturer's product below a specific suggested price. On the one hand, RPM is beneficial to the manufacturer in two ways. First, it enables the manufacturer to maintain its brand name reputation by setting a certain price level benchmark. This price level may signal to consumers that the product is of certain high quality (see Subsection 3.2.2). Second, RPM provides incentives to the distributor to engage in sales and promotional activities that it might not otherwise have engaged in were the arrangement not in place; such activities might include offering pre-sale demonstrations free of charge. This may help build the manufacturing firm's brand name, especially in situations where the product being sold is new to the market, or where the provision of demonstrations to consumers may be required before they use the product for the first time. In addition, RPM enables distributors to make some profits, and it may motivate them to actively promote the product, even by way of offering after-sales services, which in turn are beneficial for the manufacturer.[90]

On the other hand, RPM limits price competition. For example, fixed and minimum price arrangements of RPM eliminate or reduce intra-brand competition and may result in prices above the competitive level.[91] This is the reason why the EC competition authorities fined Yamaha in 2003.[92] Another example is where RPM takes the form of a company policy that limits sales only to resellers who adhere to the manufacturer's suggested retail prices.[93]

In the past, regulators in both the United States and EU have considered RPM as a hardcore restriction which should be prohibited without any further analysis. For example, in 1911, the United States Supreme Court in *Dr. Miles* held that a supplier cannot lawfully restrict its reseller's pricing freedom.

Current trends, however, indicate a move away from this strict approach and allow for a rule of reason review of RPM. This new position can be seen in the subsequent rulings of the *Colgate*, *State Oil v. Khan* and *Leegin* cases in the United States and in the slight changes set out in the EC's *Guidelines on Vertical Restraints* in Europe.[94] Under the rule of reason regime, the pro- and anticompetitive effects of potential violations of antitrust law will be analyzed. If the pro-competitive effects outweigh the anticompetitive effects, the behavior in question will not be regarded as a violation of antitrust law.

90 RPM works best when the distributor can impose territorial limitations on the sale of the products. In other words, when the RPM is accompanied by limitations stating that other distributors cannot service the same market as one another. See Areeda and Kaplow (2004).

91 See Verras (2009).

92 See Yamaha (2003).

93 Verras (2009).

94 United States v. Colgate & Co. (1919); State Oil Co. v. Khan (1997); and Leegin Creative Leather Products, Inc. v. PSKS, Inc. (2007). However, in Europe, RPM is still considered a blacklisted clause.

Indeed, it seems appropriate to apply a rule of reason approach regarding RPM, particularly in cases involving trademarks; this is because the traditional elements of the competition analysis do not necessarily apply in the case of strong brands. More importantly, price competition is less relevant in the case of strong trademarks and the resulting brand loyalty than in traditional competition analysis. Finally, as described above, RPM may also have pro-competitive effects which cast doubt on applying strict prohibition on this type of vertical arrangements.

Finally, how vertical restraint arrangements affect competition is also a key consideration for policymakers who must decide on whether to permit the *parallel* importation of trademarked goods distributed in foreign markets. Trademark laws regulate this question through the so-called exhaustion doctrine (see Box 3.5). Where policies allow for parallel importation, competition rules can in turn play an important role in scrutinizing private contractual arrangements that seek to unduly limit competition from foreign-sold goods.

Box 3.5: Trademark exhaustion and parallel imports

Trademark laws – like laws for other IP instruments – typically set rules on how far trademark holders can control the distribution of their goods after their first sale on the market. It is possible to broadly distinguish between two approaches. Under a rule of "national exhaustion", trademark holders cannot control the resale of goods first sold in the domestic market, but they can prevent the parallel importation of these goods if they were first sold abroad. By contrast, under a rule of "international exhaustion", trademark holders cannot control the resale of their goods, regardless of where they were first sold; in other words, parallel importation of goods first sold abroad is legal.

What precisely are parallel imports? Parallel trade refers to trade in genuine goods outside official channels of distribution. For instance, an independent firm may purchase goods from a trademark holder's official wholesaler in country A and then sell them on to a retailer in country B. Alternatively, a trademark holder's official distributor can directly engage in parallel trade by entering a foreign market in competition with other official distributors. In either case, parallel trade leads to greater intra-brand competition (see Box 3.5).

A policy of restricting parallel importation amounts to a market-segmenting vertical restraint linked to national territories. Assessing the pros and cons of such a policy involves similar considerations to those required for assessing vertical restraints in trademark licensing or franchising arrangements, as outlined in the subsection 3.3.2. In particular, do benefits such as better sales services for consumers outweigh the costs of reduced intra-brand competition? And how do consumers fare under internationally differentiated pricing structures?

Different jurisdictions have opted for different exhaustion rules. The EU has adopted a hybrid regime that denies parallel importation from outside the EU territories, but allows parallel trade within the EU's single market.[95] United States law generally permits parallel importation of trademarked goods, subject to certain requirements – such as the imported goods in question not differing from domestically sold goods, so as to deliberately confuse consumers.[96]

Some countries, such as Japan, have adopted an approach whereby exhaustion is at the discretion of the trademark owner. In particular, parallel imports are permissible, unless trademark holders indicate otherwise in licensing and purchasing agreements. In principle, this approach enables the case-by-case evaluation of the competitive effects of vertical restraints by competition authorities, as is generally advocated by economists and lawyers.

95 Calboli (2002).

96 Another requirement is that the domestic and foreign trademark are owned by the same economic entity. See Lever Brothers Company v United States (1993).

3.4

Conclusions and directions for future research

Building brand names is an important investment component of the process of creating sustainable competitive advantage for firms in the world today. It helps firms differentiate themselves from others, it promotes firms' goods and services, and it can even help firms venture into new markets. When effective, branding activities can help firms increase their market share, encourage consumers to demand more of these branded products, and persuade them to pay more for them in comparison to their generic counterparts.[97]

More importantly, branding helps firms to appropriate their investments in innovation. Branding channels, such as sales promotion activities, marketing and advertising, can extend firms' market power.

It is therefore not surprising that firms that invest more in innovation also invest more in branding. Of course, how effective these sales promotion activities are depends on the types of product innovation being promoted. Once consumers are familiar with and are satisfied with firms' brands, they may develop goodwill towards them, which tends to be expressed in the form of brand loyalty.

Notwithstanding a generally complementary relationship, branding activities can, under certain circumstances, substitute for product innovation. Firms may prefer to invest in introducing products that are based solely on image, and are independent of any technological improvements. This can happen when firms benefit from strong consumer goodwill and are able to leverage this goodwill to promote their image-based products.

Finally, investments in branding may give rise to competition concerns. High costs of advertising, for example, can discourage or prevent the entry of new competitors into the market. Another cause for concern is where firms use their strong trademarked brand name to limit competition in downstream markets.

Areas for future research

In better understanding how branding affects innovation and competition, several avenues for future research stand out:

- Relatively few research studies have analyzed how branding activities may substitute for product innovation, especially in the case of vertical product differentiation, where firms introduce higher quality products to rival their competitors. Given that these types of innovative products tend to have experience attributes, it is possible that firms may engage in additional branding activities aimed at persuading consumers about the quality of their products, rather than investing in innovative activities to achieve the same objective. In Hoyer and Brown's (1990) laboratory experiment using peanut butter, the researchers found that brands can compensate for deficiencies in objective quality by advertising more than the higher quality product. But, the question is, what circumstances in the real world would lead to this outcome? Do the same circumstances apply across all industries? In other words, at what point do branding channels, such as advertising, become more effective at selling firms' goods or services than the introduction of new innovative products?

97 Bresnahan *et al* (1997).

- The Internet has changed how consumers make new purchases. It has reduced the time input and cost required to conduct research on potential purchases, and it has simplified how consumers make purchases. How have these factors affected the way firms introduce new products? Are they obliged to introduce more new products at a more frequent rate? In other words, has the Internet changed firms' product life cycle? Has it also changed how firms appropriate their returns on investment in innovation? In the past, firms reported that lead-time advantage was one of the most effective ways to appropriate their returns on investment in innovation.[98] Are branding activities online a better way for firms to improving their chances of securing a return on investment to innovation?

- The Internet enables the collection of large amounts of data that can be used to answer specific branding-related research questions. Google, for example, is able to track how many times a firm's brand name or its branded product is searched over time. Combining this information with the amount of money a firm spends on building its brand or marketing its products may provide better insights into exactly how effective a firm's branding activities are. Further research studies need to be conducted using "big data" in combination with newly available trademark data (see the proposal set out in Chapter 2.4 in relation to research using trademark data). As well as creating a better understanding of how firms use branding activities, these research studies would also shed new light on the effectiveness of branding activities in terms of promoting firms' sales and growth.

- Lastly, assessing a firm's market power based on its ownership of brand names is not easy. The current methods used to identify the relevant market, and assess whether the firm in question has market power, need more rigorous study and analysis. Most of the current tools rely on traditional economic analysis, which can produce contradictory findings. It would be both timely and useful to conduct additional research studies to identify how best to incorporate determinants of consumers' choices, such as brand reputation and brand loyalty, in these assessments.

98 See Cohen *et al* (2000).

REFERENCES

Aaker, D.A. (1991). *Managing Brand Equity.* New York: The Free Press.

Aaker, D.A. (2011). *Brand Relevance: Making Competitors Irrelevant.* New York: Jossey-Bass.

Acs, Z.J., & Audretsch, D.B. (1990). *Innovation and Small Firms.* Cambridge, MA: MIT Press.

Aghion, P., Bloom, N., Blundell, R., Griffith, R., & Howitt, P. (2005). Competition and Innovation: An Inverted-U Relationship. *Quarterly Journal of Economics, 120*(2), 701-728.

Ailawadi, K.L., Lehmann, D.R., & Neslin, S.A. (2003). Revenue Premium as an Outcome Measure of Brand Equity. *Journal of Marketing, 67*, 1-17.

Allison, R.I., & Uhl, K.P. (1964). Influence of Beer Brand Indentification on Taste Perception. Journal of *Marketing Research, 1*(3), 36-39.

Anand, B.N., & Shachar, R. (2011). Advertising, the Matchmaker. *The RAND Journal of Economics, 42*(2), 205-245.

Archibald, R.B., Haulman, C.A., & Moody, C.E., Jr. (1983). Quality, Price, Advertising, and Published Quality Ratings. *Journal of Consumer Research, 9*(4), 347-356.

Areeda, P. E., & Kaplow, L. (2004). *Antitrust Analysis: Problems, Text, Cases* (6th ed.). New York: Aspen Publishers.

Arrow, K. (1962). Economic Welfare and the Allocation of Resources for Invention. In R.R. Nelson (Ed.), *The Rate and Direction of Inventive Activity: Economic and Social Factors* (pp. 609-626). Princeton, NJ: Princeton University Press.

Askenazy, P., Breda, T., & Irac, D. (2010). Advertising and R&D: Theory and Evidence from France. *Paris School of Economics Working Paper, No. 2010-45.*

Ayanian, R. (1975). Advertising and Rate of Return. *Journal of Law and Economics, 18*, 479-506.

Babyliss Sa v. Commission of the European Communities - Case T-114/02 II-01279 (Court of First Instance 2003).

Barsky, R., Bergen, M., Dutta, S., & Levy, D. (2003). What Can the Price Gap between Branded and Private-Label Products Tell Us about Markups? In R.C. Feenstra & M.D. Shapiro (Eds.), *Scanner Data and Price Indexes* (pp. 165-228): University of Chicago Press.

Baye, M.R., & Morgan, J. (2009). Brand and Price Advertising in Online Markets. *Management Science, 55*(7), 1139-1151.

Bloch, H. (1974). Advertising and Profitability: A Reappraisal. *Journal of Political Economy, 82*, 112-128.

Böckem, S. (1994). A Generalized Model of Horizontal Product Differentiation. *Journal of Industrial Economics, 42*(3), 287-298.

Bresnahan, T.F., Stern, S., & Trajtenberg, M. (1997). Market Segmentation and the Sources of Rents from Innovation: Personal Computers in the Late 1980s. *The RAND Journal of Economics, 28*(ArticleType: research-article/Issue Title: No. 0, Special Issue in Honor of Richard E. Quandt/Full publication date: 1997/Copyright © 1997 RAND Corporation), S17-S44.

Cabral, L.M.B. (2000). Stretching Firm and Brand Reputation. *The RAND Journal of Economics, 31*(4), 658-673.

Calboli, I. (2002). Trademark Exhaustion in the European Union: Community-Wide or International? The Saga Continues. *Marguette Intellectual Property Law Review, 6*, 47-90.

Caves, R.E., & Greene, D.P. (1996). Brands' Quality Levels, Prices, and Advertising Outlays: Empirical Evidence on Signals and Information Costs. *International Journal of Industrial Organization, 14*(1), 29-52.

Chen, Y., & Schwartz, M. (2013). Product Innovation Incentives: Monopoly vs. Competition. *Journal of Economics & Management Strategy, 22*(3), 513-528.

Choi, J.P. (1998). Brand Extension and Informational Leverage. *Review of Economic Studies, 65*, 655-669.

Cohen, W. M., Nelson, R. R., & Walsh, J. P. (2000). Protecting Their Intellectual Assets: Appropriability Conditions and Why U.S. Manufacturing Firms Patent (or Not). *National Bureau of Economic Research Working Paper, No. 7552.*

Comanor, W.S., & Wilson, T.A. (1967). Advertising Market Structure and Performance. *The Review of Economics and Statistics, 49*(4), 423-440.

Comanor, W.S., & Wilson, T.A. (1974). *Advertising and Market Power.* Cambridge, MA: Harvard University Press.

Comanor, W.S., & Wilson, T.A. (1979). The Effect of Advertising on Competition: A Survey. *Journal of Economic Literature, 17*(2), 453-476.

Conley, J.G., Berry, J.D., DeWitt, L., & Dziersk, M. (2008). Inventing Brands: Opportunities at the Nexus of Semiotics and Intellectual Property. *Design Management Review, 19*(2), 58-67.

Conley, J.G., & Szobocsan, J. (2001). Snow White Shows the Way. *Managing Intellectual Property, 6*(1), 1-5.

D'Aspremont, C., Gabszewicz, J.J., & Thisse, J.F. (1979). On Hotelling's "Stability in Competition". *Econometrica, 47*(5), 1145 - 1150.

Desai, D.R., & Waller, S. (2010). Brands, Competition and the Law. *Brigham Young University Law Review, 2010*(5), 1425-1499.

Dixit, A.K., & Stiglitz, J.E. (1977). Monopolistic Competition and Optimum Product Diversity. *The American Economic Review, 67*(3), 297-308.

Dubin, J.A. (1998). The Demand for Branded and Unbranded Products: An Econometric Method for Valuing Intangible Assets *Studies in Consumer Demand: Econometric Methods Applied to Market Data* (pp. 77-127). Norwell, MA: Kluwer Academic Publishers.

EC. (2004). *Technology Transfer Guidelines.* Brussels: European Commission.

Farrell, J., & Shapiro, C. (2008). Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition. *Working Paper.*

Farrell, J., & Shapiro, C. (2010). Upward Pricing Pressure and Critical Loss Analysis: Reponses. *The CPI Antitrust Journal.*

Fluet, C., & Garella, P.G. (2002). Advertising and Prices as Signals of Quality in a Regime of Price Rivalry. *International Journal of Industrial Organization, 20*(7), 907-930.

Ford, G.T., Smith, D.B., & Swasy, J.L. (1990). Consumer Skepticism of Advertising Claims: Testing Hypotheses from Economics of Information. *Journal of Consumer Research, 16*(4), 433-441.

General Mills, Inc./ Diageo plc/ Pillsbury Co. - FTC File No. 001-0213 (U.S. Federal Trade Commission 2001).

Gilbert, R.J. (2006). Looking for Mr. Schumpeter: Where are We in the Competition-Innovation Debate? In A.B. Jaffe, J. Lerner & S. Stern (Eds.), *Innovation Policy and the Economy* (Vol. 6). Cambridge: The MIT Press.

Goettler, R.L., & Gordon, B.R. (2013). Competition and Product Competition in Dynamic Oligopoly. *University of Rochester Working Paper.*

Greenstein, S., & Ramey, G. (1998). Market Structure, Innovation and Vertical Product Innovation. *International Journal of Industrial Organization, 16*, 285-311.

Guadagni, P.M., & Little, J.D.C. (1983). A Logit Model of Brand Choice Calibrated on Scanner Data. *Marketing Science, 2*(3), 203-238.

Hakenes, H., & Peitz, M. (2009). Umbrella Branding and External Certification. *European Economic Review, 53*(2), 186-196.

Heath, T., DelVecchio, D., & McCarthy, M.S. (2011). The Asymmetric Effects of Extending Brands to Lower and Higher Quality. *Journal of Marketing, 75*(3), 3-20.

Homburg, C., Klarmann, M., & Schmitt, J. (2010). Brand Awareness in Business Markets: When is it Related to Firm Performance? *International Journal of Research in Marketing, 27*, 201-212.

Hotelling, H. (1929). Stability in Competition. *Economic Journal, 39*, 41-57.

Hoyer, W.D., & Brown, S.P. (1990). Effects of Brand Awareness on Choice for a Common, Repeat-Purchase Product. Journal of Consumer Research, 17(2), 141-148.

Hurwitz, M.A., & Caves, R.E. (1988). Persuasion or Information? Promotion and the Shares of Brand Name and Generic Pharmaceuticals. *Journal of Law and Economics, 31*(2), 299-320.

Jennewein, K. (2005). *Intellectual Property Management: The Role of Technology-Brands in the Appropriation of Technological Innovation.* Heidelberg: Physica-Verlag.

Joachimsthaler, E., & Aaker, D.A. (1997). Building Brands Without Mass Media. *Harvard Business Review, 75*(1), 39-48.

Kapferer, J.N. (2008). *The New Strategic Brand Management: Creating and Sustaining Brand Equity Long Term.* London: Kogan Page.

Keller, K.L. (2003). *Strategic Brand Management: Building, Measuring, and Managing Customer-Based Brand Equity* (Second ed.). Upper Saddle River, New Jersey: Prentice Hall.

Klein, B., & Leffler, K.B. (1981). The Role of Market Forces in Assuring Contractual Performance. *Journal of Political Economy, 89*(4), 615-641.

Klemperer, P. (1987). Entry Deterrence in Markets with Consumer Switching Costs. *The Economic Journal, 97*, 99-117.

Krasnikov, A., Mishra, S., & Orozco, D. (2009). Evaluating the Financial Impact of Branding Using Trademarks: A Framework and Empirical Evidence. *Journal of Marketing, 73*, 154-166.

Lee, J., Shin, B.S., & Chung, I. (1996). Causality between Advertising and Sales: New Evidence from Cointegration. *Applied Economics Letters, 3*(5), 299-301.

Leegin Creative Leather Products, Inc. v. PSKS, Inc., 551 U.S. 877 (United States Supreme Court 2007).

Lei, J., Ruyter, K.D., & Wetzels, M. (2008). Consumer Responses to Vertical Service Line Extensions. *Journal of Retailing, 84*(3), 268-280.

Lever Brothers Company v United States, 981 F.2d 1330 (United States Court of Appeals 1993).

Levin, D., Peck, J., & Ye, L. (2009). Quality Disclosure and Competition. *The Journal of Industrial Economics, 57*(1), 167-196.

Moorthy, S. (2012). Brand Extension Strategy: An Integrative Framework. In D. Soberman & D. Soman (Eds.), *Flux: What Marketing Managers Need to Know to Navigate the New Environment.* Toronto: University of Toronto Press.

Moorthy, S. (2013). *Branding, Innovation and Competition.* Unpublished Background Research Commissioned for the World IP Report 2013. Geneva: World Intellectual Property Organization.

Nelson, P. (1970). Information and Consumer Behavior. *Journal of Political Economy, 78*, 311-329.

Nelson, P. (1974). Advertising as Information. The *Journal of Political Economy, 82*(4), 729-754.

Nevo, A. (2001). Measuring Market Power in the Ready-to-Eat Cereal Industry. *Econometrica, 69*(2), 307-342.

OECD. (1994). *Competition Policy and Vertical Restraints: Franchising Agreements.* Paris: Organisation for Economic Cooperation and Development.

OECD. (2012). *Market Definition.* Paris: Organisation of Economic Co-operation and Development.

Ofek, E., & Sarvary, M. (2003). R&D, Marketing, and the Success of Next-Generation Products. *Marketing Science, 22*(3), 355-370.

Pepall, L.M., & Richards, D.J. (2002). The Simple Economics of Brand Stretching. *The Journal of Business, 75*(3), 535-552.

Porter, M.E. (1974). Consumer Behavior, Retailer Power and Market Performance in Consumer Goods Industries. *The Review of Economics and Statistics, 56*(4), 419-436.

Porter, M.E. (1976). Interbrand Choice, Media Mix and Market Performance. *The American Economic Review, 66*(2), 398-406.

Randall, T., Ulrich, K., & Reibstein, D. (1998). Brand Equity and Vertical Product Line Extent. *Marketing Science, 17*(4), 356-379.

Romer, P. (1986). Increasing Returns and Long-Run Growth. *Journal of Political Economy, 94*(5), 1002-1037.

Romer, P. (1990). Endogenous Technical Change. *Journal of Political Economy, 94*(5), 1--21.

Scherer, F.M. (1979). The Welfare Economics of Product Variety: An Application to the Ready-to- Eat Cereals Industry. *The Journal of Industrial Economics, 28*(2), 113-134.

Schmalensee, R. (1978). A Model of Advertising and Product Quality. *Journal of Political Economy, 86*(3), 485-503.

Schmalensee, R. (1982). Product Differentiation Advantages of Pioneering Brands. *The American Economic Review, 72*(3), 349-365.

Shah, S.Z.A., & Akbar, S. (2008). Value Relevance of Advertising Expenditure: A Review of the Literature. *International Journal of Management Review, 10*(4), 301-325.

Shaked, A., & Sutton, J. (1982). Relaxing Price Competition Through Product Differentiation. *The Review of Economic Studies, 49*(1), 3-13.

Shaked, A., & Sutton, J. (1983). Natural Oligopolies. *Econometrica, 51*(5), 1469-1483.

Slade, M.E. (1998). Optimal Pricing with Costly Adjustment: Evidence from Retail-Grocery Prices. *The Review of Economic Studies, 65*(1), 87-107.

Smith, M.D., & Brynjolfsson, E. (2001). Consumer Decision-Making at an Internet Shopbot: Brand Still Matters. *The Journal of Industrial Economics, 49*(4), 541-558.

State Oil Co. v. Khan *et al*., 522 U.S. 3 (United States Supreme Court 1997).

Stokes, R.C. (1985). The Effects of Price, Package Design, and Brand Familiarity on Perceived Quality. In J. Jacoby & J. Olson (Eds.), *Perceived Quality.* Lezington: Lexington Books.

Sullivan, M. (1990). Measuring Image Spillovers in Umbrella-Branded Products. *Journal of Business, 63*, 309-329.

Sutton, J. (1991). *Sunk Costs and Market Structure: Price Competition, Advertising and the Evolution of Concentration.* Cambridge: The MIT Press.

Thomas, L.A. (1995). Brand Capital and Incumbent Firms' Positions in Evolving Markets. *The Review of Economics and Statistics, 77*(3), 522-534.

U. S. Department of Justice, & Federal Trade Commission. (2010). *Horizontal Merger Guidelines.*

Unilever/Sara Lee Body Care - Case No COMP/M.5658 (European Commission 2010).

United Brands Company and United Brands Continentaal BV v Commission of the European Communities 207 (European Court of Justice 1978).

United States v. Colgate & Co. - No. 828, 250 U.S. 300 (United States Supreme Court 1919).

Verras, N. (2009). Resale Price Maintenance in E.U. Competition Law: Thoughts in Relation to the Vertical Restriants Review Procedure. *The Columbia Journal of European Law, 16*, 37-41.

Weiss, L.W. (1969). Advertising, Profits, and Corporate Taxes. *The Review of Economics and Statistics, 51*(4), 421-430.

Wiggins, S.N., & Raboy, D.G. (1996). Price Premia to Name Brands: An Empirical Analysis. *The Journal of Industrial Economics, 44*(4), 377-388.

WIPO. (2011). *World Intellectual Property Report 2011: The Changing Face of Innovation.* Geneva: World Intellectual Property Organization.

Yamaha - Case COMP/37.975 PO (European Commission 2003).

Yip, G. (1982). *Barriers to Entry: A Corporate Strategy Perspective.* Lexington, MA: D.C. Health.

Zhou, N., Zhou, D., & Ouyang, M. (2003). Long-Term Effects of Television Advertising on Sales of Consumer Durables and Nondurables: The Case of China. *Journal of Advertising, 32*(2), 45-54.