What Makes Consumers Willing to Pay a Price Premium for National Brands over Private Labels?
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The growing sales of private labels (PLs) pose significant challenges for national brands (NBs) around the world. A major question is whether consumers continue to be willing to pay a price premium for NBs over PLs. Using consumer survey data from 22,623 respondents from 23 countries in Asia, Europe, and the Americas across, on average, 63 consumer packaged goods categories per country, this article studies how marketing and manufacturing factors affect the price premium a consumer is willing to pay for an NB over a PL. These effects are mediated by consumer perceptions of the quality of NBs in relation to PLs. Although the results do not bode well for NBs in the sense that willingness to pay decreases as PLs mature, the authors offer several managerial recommendations to counter this trend. In countries in which PLs are more mature, the route to success is to go back to manufacturing basics. In PL development countries, there is a stronger role for marketing to enhance the willingness to pay for NBs.

Keywords: willingness to pay, private labels, cross-continent survey, consumer packaged goods, marketing-mix effects

What Makes Consumers Willing to Pay a Price Premium for National Brands over Private Labels?

The growing sales of private labels (PLs) pose significant challenges for national brands (NBs) around the world. A global study conducted by ACNielsen (2005) reveals that the growth in PL market share outpaced that of NBs in three-quarters of the consumer packaged goods (CPG) categories studied. In the United States alone, in each year of the last decade (1998–2008), PLs grew faster than NBs. In

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light of the recent economic recession, the future looks even bleaker. Lamey and colleagues (2007) show that PL share increases when the economy is suffering and shrinks when the economy is flourishing. However, consumers switch more extensively to PLs during an economic downturn than they switch back to NBs in a subsequent recovery, permanently boosting PL share over a succession of business cycles.

To offset their sliding sales volumes, many NB manufacturers have begun to increase their price premiums over PLs. For example, Unilever has recently been increasing prices at record rates to compensate for a 2.4% drop in European sales volumes (*The Financial Times* 2009). Similarly, Kellogg, General Mills, and Heinz have implemented strong pricing increases in an attempt to retain or grow their profits despite drops in sales volumes attributable to PLs (Facenda 2008). Unfortunately, the pricing window that opened for many CPG firms before the recent "Great Recession" seems to be closing, leaving companies in a bind. Instead of compensating for falling sales volumes, "boosting prices further could drive consumers to buy even more private-label goods; reducing the companies' sales volume and squeezing their profit margins at the factory level by

raising the cost of production per unit" (*The Wall Street Journal* 2009, p. B1).

Although academic research has provided useful insights to combat increasing PL sales, several gaps in our understanding have yet to be addressed. First, there is a dearth of research on whether and when consumers continue to be willing to pay a price premium for NBs over PLs (for an exception, see Sethuraman and Cole 1999). This is remarkable because the ability of NBs to charge a price premium has a strong impact on profitability (Marn, Roegner, and Zawada 2003). Second, although there has been a lot of research into the consumer-side factors that drive PL success (e.g., Ailawadi, Neslin, and Gedenk 2001; Erdem, Zhao, and Valenzuela 2004), supply-side factors, in particular marketing and manufacturing, have received far less attention (for two exceptions, see Dhar and Hoch 1997; Hoch 1996). Third, almost all the existing research has been conducted in countries in which PLs are highly developed. Although it is reasonable that researchers first focus on these markets to understand how NBs can fight PLs, it is paramount that we conduct research in countries with a more recent PL history. Because the economic and marketing environments of these countries are different from those of more developed PL countries, the best ways to fight PLs may also differ.

The purpose of this study is to advance the understanding of what drives consumers to pay a price premium for NBs over PLs. We accomplish this in two ways. First, we specify effects of marketing and manufacturing factors on consumers' willingness to pay (WTP) and posit that these effects are mediated by consumer perceptions of the quality of NBs in relation to PLs. Second, we explore the possibility that the efficacy of these marketing and manufacturing factors in fostering WTP depends on a country's stage of PL development. We estimate our model with dedicated consumer survey data from 22,623 respondents from 23 coun-

tries in Asia, Europe, and the Americas across, on average, 63 CPG categories per country.

CONCEPTUAL MODERATED-MEDIATION FRAMEWORK OF DRIVERS OF WTP

Our conceptual moderated-mediation framework considers the effects of marketing and manufacturing factors on the price premium a consumer is willing to pay for an NB over a PL. We posit that the effect of these factors on WTP is mediated by consumer perceptions of the quality of NBs in relation to PLs. We expect that the effect of the quality gap on WTP is systematically moderated by two consumer factors: the consumer's involvement with the category and the consumer's beliefs about the extent to which quality and price are related (price–quality schema). Involvement is a major general moderator of consumer decision processes (Assael 1998; Celsi and Olson 1988), while price–quality schema is a key price context–specific moderator, only implicated in price judgments related to perceived quality (Lichtenstein, Bloch, and Black 1988).

Our model also includes the stage a country is in with respect to the PL life cycle. The PL environment in several countries can be considered mature in that PLs have had a major presence for many decades. In other countries, PLs are in the development stage, with PLs being a much more recent phenomenon. Because PLs require extensive learning, by both retailers and consumers, we may expect systematic differences between countries that are in the PL development versus the PL maturity stage.

Figure 1 presents our moderated-mediation framework of the drivers of WTP. Subsequently, we discuss the conceptual rationale for the direction of the expected effects.

Marketing Drivers of Perceived Quality Gap

Product innovation. Introducing new and improved products underpins the quality gap between NBs and PLs. Retailers must manage many product categories and conse-

Figure 1
CONCEPTUAL FRAMEWORK
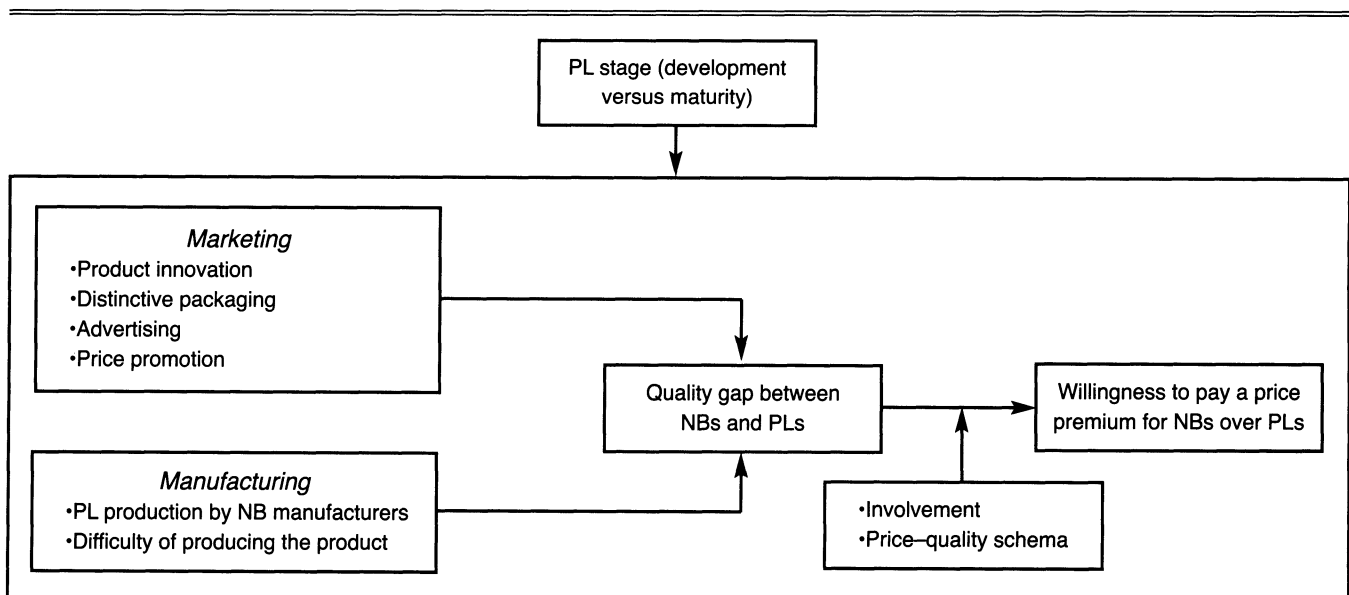
quently lack the technical and financial resources to be innovation leaders. Private labels overwhelmingly play a catch-up game, trying to copy the innovations that NBs introduce (Kumar and Steenkamp 2007). In some categories, the catch-up game is difficult to pull off because NBs actively compete by way of continuous and expensive investments in technical innovation. This puts PLs continuously at a distance, and consequently, comparative quality of PLs in these categories is lower. Conversely, if NBs fail to innovate, they lose the quality edge they typically have because it allows PLs to catch up.

Distinctive packaging. National brands try to increase the perceived quality gap not only through product innovation but also by distinctive packaging, a second essential element of an NB manufacturer's product strategy. Packaging plays a crucial role in consumers' perceptions of NBs and PLs because of (1) the large number of stockkeeping units (SKUs) in any retail store; (2) shelf layout, where competing SKUs are positioned next to each other; and (3) the limited amount of time consumers spend on each purchase decision (Kapferer 1995).

To understand the important role of packaging in shaping the perceived quality gap, we turn to perception theory. Two consumer characteristics are important in determining consumers' perceptions of stimuli: the propensity to generalize from one stimulus to another (i.e., to generalize from NBs to PLs) and the ability to discriminate between stimuli (i.e., to discriminate between NBs and PLs) (Assael 1998, pp. 211–17). If the packaging of the PL is similar to that of an NB, stimulus generalization is likely. The consumer will put the NB and the PL in the same perceptual category and will be prone to generalize perceived quality from the NB to the PL. Conversely, if the packaging of NBs is distinctive from the packaging of PLs, stimulus discrimination is more likely. In this case, the consumer is more likely to perceive a quality gap between NBs and PLs. Realizing the importance of these perceptual processes, NBs make a consistent effort to render their products' look and feel as distinct as possible from PLs, while PLs try to copy the packaging of NBs. Thus, it is not surprising that copycatting is an important area of conflict between NB manufacturers and retailers (Kapferer 1995).

Advertising. In their seminal article, Klein and Leffler (1981) derive analytically that after repeat purchases are taken into account, consumers can successfully use advertising intensity as an indicator of quality. Kirmani and Wright (1989) provide empirical evidence for this notion, showing that consumers indeed use high advertising expenditure as a clue to the marketer's confidence in the product quality. Although some retailers have begun to advertise their PLs, retailers typically cannot match the advertising intensity of NBs. Brand manufacturers have a greater stake in their categories than retailers do because retailers need to manage and support hundreds of categories (Hoch and Banerji 1993). Thus, consumers are more likely to perceive a quality gap between NBs and PLs in categories in which NBs are heavily advertised.

Price promotion. The final marketing-mix weapon considered is price promotion. While advertising serves to differentiate product alternatives in a category, price promotions teach consumers to focus on price and reduce differentiation between product alternatives (Boulding, Lee,

and Staelin 1994). Heavy price promotions cause product alternatives to be increasingly viewed as commodities purchased on the basis of price, with their distinctiveness subsequently diminished (Mela, Gupta, and Jedidi 1998). Thus, we expect that heavy price promotions in a category are associated with smaller perceived quality differences between NBs and PLs.

Manufacturing Drivers of Perceived Quality Gap

PL production by NB manufacturers. Despite the progress in PL quality over the last decades, there is still considerably more uncertainty about PL quality than there is about NB quality. Consumers realize that retailers usually do not manufacture their own PLs. In the United States alone, it has been estimated that more than half the NB manufacturers also engage in PL production. Consumer magazines and anecdotal wisdom regularly suggest that "all products come from the same factory." For example, consider a recent statement in *Consumer Reports* (2009, p. 16) that "[m]any big-name companies make their usual types of products for the stores." Indeed, well-known companies, such Alcoa, Bausch & Lomb, Del Monte, McCormick, and Heinz, engage in PL manufacturing (Kumar and Steenkamp 2007). To the extent that consumers believe that NB manufacturers produce PLs, the perceived quality gap between NBs and PLs is reduced.

Difficulty of producing the product. Conversely, consumers have no guarantee that the PL is indeed produced by a reputable NB manufacturer, because NB manufacturers are typically secretive about PL manufacturing, lest it reduces the equity of their own brands. This is an important issue for categories in which manufacturing sophistication is high. If consumers perceive that the product is difficult to make, this calls PL quality into question because consumers will not know whether the purveyor of the PL has mastered these difficulties. However, this matters less if the consumer believes that the product is easy to manufacture because, in this case, almost any manufacturer can deliver a PL of good quality. Thus, we expect that the perceived quality gap is greater in categories that are perceived as more difficult to produce.

WTP

We expect that consumers' WTP is strongly related to their perceptions of the quality gap between NBs and PLs. We further posit that this quality gap largely mediates the effects of marketing and manufacturing drivers on WTP. The central role of perceived quality in shaping behavioral intentions is well established in the literature (Steenkamp 1989; Zeithaml 1988). We also propose that consumers' involvement and price–quality schema moderate the effect of the perceived quality gap on WTP with respect to the product category in question.

Involvement. Involvement has been consistently identified as a key moderator of the strength of the relationship between attitudes and behavioral intentions (Assael 1998). Consumers who are highly involved in a product category associate highly valued outcomes with product use (Bloch and Richins 1983). In such instances, consumers will be more concerned with the product they purchase. As Lichtenstein, Bloch, and Black (1988, p. 246) argue, "People who are highly involved in a product associate important

functional, social, and psychological outcomes with the product. Therefore, highly involved consumers care more about product quality." We expect that consumers who are more involved with a product category are more quality sensitive, and thus the quality gap has a larger effect on their WTP.

Price–quality schema. Consumers encounter vast amounts of quality information. Because of limited cognitive processing abilities, over time consumers develop a repertoire of abstract ideas or "schemas" about the working of the marketplace to process incoming information efficiently (Lichtenstein and Burton 1989). If consumers come to believe that quality is strongly associated with price, they may look for shortcuts in decision making and will be more likely to evoke what Peterson and Wilson (1985) call a "price–quality schema." Some consumers have a generalized price–reliance schema in that they equate higher quality with higher price, regardless of category. However, for most people, such schemas are product category specific (Peterson and Wilson 1985). People who have a stronger price–quality schema for a category will associate quality with price in that category, and thus their WTP is likely to be more strongly dependent on the perceived quality gap (Lichtenstein, Bloch, and Black 1988).

PL Life Cycle

Using the number of years PLs have been available in a country, we distinguish between two stages in the PL life cycle: development and maturity. There is no firm theory to guide us as to the likely differences between countries in the PL development versus the PL maturity stages on (interrelationships between) our constructs, but several plausible propositions can be developed. Our propositions draw on organizational learning theory (Vera and Crossan 2004) and consumer learning theory (Assael 1998). Learning theory posits that retailers (consumers) learn over time as they accumulate experiences with PLs, adjusting their strategies (perceptions) while absorbing feedback about past decisions. Moreover, for our propositions, we draw on the notion that PLs were introduced much earlier in mature economies in North America and Western Europe than in developing economies in Latin America, Eastern Europe, and the Asia-Pacific region. Because the economic and marketing environment of emerging countries is still different from that of mature economies (Burgess and Steenkamp 2006), this will also contribute to systematic differences in our model constructs. Comparing model results between PL development and PL maturity stages is of interest in its own right but also enables us to peer into the future. International product life-cycle theory (Kotabe and Helsen 2004) suggests that by comparing countries cross-sectionally on key model parameters along this implicit time dimension, we can make informed estimates about the future of PLs in countries with a more recent PL history.

Differences in levels of constructs across PL stages. Developing high-quality PLs takes time, and it takes even longer before consumers perceive changes in quality (Mitra and Golder 2006). Therefore, we expect the perceived quality gap between NBs and PLs to be smaller in countries in which PLs are in the maturity stage than in countries in which PLs are still in the development stage. Furthermore, while detailed product information from external sources is not easily available in PL development countries, in (highly developed) PL maturity countries, such information is readily available from several sources, such as *Consumer Reports* (Zhou, Su, and Bao 2002). Few things undermine price–quality schemas more than press reports stating that "private label beats national brand," "switching to store brands can be a painless way to cut your grocery bill," "good products do not have to be expensive," and "the leading national brands are losing their focus on quality" (all taken from various consumer test magazines; e.g., *Consumer Reports* 2009). Formalizing this anecdotal evidence, Apelbaum, Gerstner, and Naik (2003) study the objective quality of NBs and PLs as published in *Consumer Reports*. They find that in more than one of four CPG categories, the average PL was actually higher in objective quality than the average NB. Because these findings are likely to undermine consumers' beliefs about price–quality associations, we propose that consumers in PL maturity countries possess a weaker price–quality schema than consumers in PL development countries.

Private label maturity countries have a longer history of PL success in many categories, which can undermine consumer beliefs about the manufacturing edge of NBs. After all, how can PLs be successful over such a long period unless the category is easy to make (Aaker and Keller 1990) or unless NB manufacturers engage in PL manufacturing (Kumar and Steenkamp 2007)? These beliefs are also undermined by consumer magazine reports that PLs beat NBs on quality and that PLs are produced by NB manufacturers. Thus, we expect that consumers in PL maturity countries have weaker beliefs about the difficulty of making a category and have stronger beliefs that PLs are produced by NB manufacturers.

Differences in structural relationships between constructs across PL stages. We theorize that marketing efforts by NBs will be more important in shaping the perceived quality gap and WTP in PL development countries. This expectation is informed by the notion that the effectiveness of marketing investments will be larger in emerging markets because these countries have a much shorter history of heavy marketing, and consequently, there is more scope to build awareness and cognitions (Burgess and Steenkamp 2006). Moreover, the PL maturity countries of North America and Western Europe are postmodern societies (Inglehart and Welzel 2005) in which marketing is increasingly viewed with skepticism (Ritzer 2004). In PL maturity countries, the route to success might be going back to manufacturing basics (Slater 1997): Who produces the PL, and how difficult is that process?

METHOD

Data Collection

We calibrate our model on a data set that is unique in size and scope. We collected survey data in close collaboration with the global market research agencies TNS and GfK. Respondents in 23 countries from four continents completed the questionnaires: the United States (North America), Argentina and Brazil (Latin America), Austria, Belgium, Denmark, France, Germany, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom (Western Europe), Croatia, the Czech Republic, Hungary, Poland, Slovakia (Eastern Europe), Taiwan, and

Thailand (Asia). For countries with a high penetration of the Internet, we used a Web survey. In other countries, we used mall intercepts, using the same questionnaire layout. The questionnaire was developed in English and was translated into all local languages using the back-translation method. Modifications were made based on discussions among back-translators, authors, and headquarters of the market research agencies to maintain consistency across all countries.

Respondents were people who were primarily responsible for grocery purchases in their households and who at least occasionally patronized stores that sell NBs and PLs. They indicated how often they made a purchase in each of ten randomly drawn product categories. Respondents evaluated up to four product categories that were randomly drawn from a subset of the selected ten categories in which the respondents bought at least once every six months. We provided the respondents with definitions and examples of leading PLs and NBs to ensure consistency among respondents about what these terms mean (Ailawadi, Neslin, and Gedenk 2001). These examples were provided by the local subsidiaries of TNS and GfK and were checked by their headquarters. The final section recorded sociodemographics. The samples in each country were drawn to be broadly representative of the total population in terms of region, age, education, and gender.

A total of 22,623 respondents completed questionnaires. The number of product categories evaluated per country varied between 28 (Taiwan) and 100 (the United Kingdom), averaging 63 categories. The product categories were selected to cover a wide range of CPGs. On average, 52 respondents supplied data on each product category in each country, resulting in 74,314 observations.

Measurement

Table 1 provides the measures and sources for all variables and the mean reliability across countries, wherever applicable. We use the percentage price premium as a measure of the price premium consumers are willing to pay for NBs over PLs. This measure is comparable across consumers, categories, and countries and is easily interpretable for the respondents. Palmatier, Scheer, and Steenkamp (2007) also successfully use this measure. The assumption underlying this measure is that consumers consider percentage price differences rather than absolute differences (Monroe 1973). We obtained quality gap scores by subtracting the PLs' quality scores from the NBs' quality scores (Erdem, Swait, and Valenzuela 2006). The perceived quality gap ranges from −4 ("PLs much better than NBs") to +4 ("NBs much better than PLs").

Note that we include four sociodemographic variables (gender, household size, education, and social class), three product category dummies (beverages, household care, and personal care, with food as the baseline category), and gross domestic product (GDP) per capita to control for differences across consumers, categories, and countries. These covariates are not the focus of our study, but controlling for their effects provides a stronger test of our hypotheses (Greene 2000).

Validation

WTP. TNS and GfK conducted pretests in Germany and the United Kingdom to assess the validity of our WTP measure. Data were collected among approximately 1000 consumers per country, for 57 (Germany) and 52 (United Kingdom) CPG categories. Respondents evaluated up to 4 CPG categories on WTP. TNS and GfK also provided the actual price premium NBs command in the marketplace, based on their household scanner panels. The actual price premium is unlikely to correspond closely to the price premium consumers are on average willing to pay. After all, the actual price gap in a category is set by retailers that have multiple goals in mind, including generating store traffic, maintaining store image, building loyalty, stimulating PL sales, and maximizing profitability (Ailawadi and Keller 2004). Nevertheless, our survey measure showed significant convergent validity with the actual price premium in the market, the correlation being .50 ($p < .01$) in Germany and .42 ($p < .01$) in the United Kingdom.

Covariates. To allow for a stringent test of convergent and discriminant validity, we included all category-level constructs in a single confirmatory factor model, pooling data across countries and product categories. Although the chi-square was highly significant ($\chi^2(57) = 8208.3$, $p < .001$), other indicators suggested good fit: comparative fit index = .98, Tucker–Lewis index = .95, and root mean square error of approximation = .04. All indicators loaded significantly ($p < .001$) and substantively (standardized factor loadings exceeded .60) on their hypothesized factors. Moreover, all correlations between constructs were significantly below unity. These findings provide evidence of the convergent and discriminant validity of the measures.

We measured product innovation, advertising, and price promotion using consumer perceptions (Table 1). This enables us to differentiate the intensity of these marketing instruments experienced by individual consumers. Some consumers may be exposed to more advertising messages, promotions, or product innovations for a category than others, depending on their media and shopping behavior. To validate consumer perceptions, GfK and TNS provided market data for several categories and four countries (France, Germany, Spain, and the United Kingdom). Data were provided for the year before the survey on (1) the number of new SKUs introduced into a category relative to the total number of SKUs in that category, (2) advertising expenditures in the category, and (3) the proportion of volume sold on promotion in the category. We correlated aggregate category perceptions with these objective category data. The results appear in Table 2. All correlations were significant at $p < .05$ or better, attesting to the validity of our perceptual measures.

Estimation

Our conceptual model involves variables at three levels of aggregation: the individual level (all focal constructs), the category level (the three category dummies), and the country level (GDP per capita). The levels are hierarchical in that $i = 1, ..., n_{jk}$ individuals are nested within $j = 1, ..., J_k$ categories, which in turn are nested within each of $k = 1, ..., K$ countries. To calibrate our conceptual model, we estimate a hierarchical linear model using maximum likelihood.

Following Raudenbush and Bryk's (2002) recommendations, we centered the continuous Level 1 predictors within categories and countries, and we grand-mean-centered the Level 3 predictor (GDP per capita). Our hierarchical linear model assumes that the Level 1 error term u_{ijk} is normally distributed with zero mean and variance σ^2, the Level 2

Table 1
VARIABLES AND DATA SOURCES

Construct	Operationalization[a]	Data Source
WTP	"In the category X, how much more are you willing to pay for a brand compared to a shop's own label?" 0% (nothing), 10% more, 20% more, 30% more, 40% more, 50% more, 75% more, 100% more (twice as much), more than 100% (more than twice as much). The latter category was recoded to 125%.	Adapted from Palmatier, Scheer, and Steenkamp (2007)
Perceived quality gap	"In the category X, the quality of brands is very high." "In the category X, the quality of shops' own labels is very high." We obtained quality gap scores by subtracting the PLs' quality scores from the NBs' quality scores.	Erdem, Swait, and Valenzuela (2006)
Marketing Factors		
Product innovation ($\overline{\alpha} = .84$)	"In the category X, new products are frequently introduced." "There are many new product introductions in category X."	Own development
Distinctive packaging ($\overline{\alpha} = .60$)	"On the shelf of category X, I cannot tell a shop's own label from a brand as packages are very similar." (R) "In the category X, shops' own labels and brands look very similar." (R)	Own development
Advertising ($\overline{\alpha} = .86$)	"Brands in the category X are heavily advertised in magazines, radio, or TV." "There is a lot of advertising for brands in the category X."	Yoo, Donthu, and Lee (2000)
Price promotion ($\overline{\alpha} = .74$)	"There is always a special offer in category X." "It is easy to find a special offer in category X."	Yoo, Donthu, and Lee (2000)
Manufacturing Factors		
PL production by NB manufacturers	"In the category X, shops' own labels are produced by brand manufacturers."	Own development
Difficulty of producing the product	"In the category X, making good quality products is difficult."	Adapted from Aaker and Keller (1990)
Moderators		
Involvement ($\overline{\alpha} = .83$)	"The category X is very important to me." "The category X interests me a lot."	Zaichkowsky (1985)
Price–quality schema ($\overline{\alpha} = .76$)	"In the category X, higher priced products provide better quality than lower priced products." "In the category X, the higher the price for a product, the higher the quality of the product."	Lichtenstein and Burton (1989)
PL life-cycle stage	Dummy: 1 = PL maturity stage (countries in which PLs were introduced before 1980), and 0 = PL development stage (countries in which PLs were introduced after 1985). Countries classified in the PL maturity stage include Austria, Belgium, Brazil, Denmark, France, Germany, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland, the United Kingdom, and the United States. Countries classified in the PL development stage include Argentina, Croatia, the Czech Republic, Hungary, Poland, Portugal, Slovakia, Taiwan, and Thailand.	GfK/TNS
Control Variables		
Gender	"What is your gender?" Dummy: 1 = men, and 0 = women.	GfK/TNS
Household size	"What is the size of your household? Please count all persons (adults as well as children) that live in your household at least four days per week, including yourself."	GfK/TNS
Education	"Which of these best describes your highest level of education?" 1 = "no formal education," 2 = "education up to age 12," 3 = "up to age 14," 4 = "up to age 16," 5 = "up to age 18," 6 = "higher education," and 7 = "university."	GfK/TNS
Social class	"If people in our society are divided into upper, upper-middle, middle, lower-middle, working, and lower classes, which class do you think you belong to?" (1 = "lower class," 2 = "working class," 3 = "lower-middle class," 4 = "middle class," 5 = "upper-middle class," and 6 = "upper class"). Operationalized as a dummy variable, which equals 1 if a consumer's social class is higher than the country median and 0 if otherwise.	GfK/TNS
GDP per capita	GDP per capita in thousands of U.S. dollars.	World Bank

[a]With the exception of WTP, PL life-cycle stage, and the control variables, we scored all items using a five-point scale with the following categories: "strongly disagree," "disagree," "neither agree nor disagree," "agree," and "strongly agree."

Notes: (R) = reverse coded.

Table 2

VALIDATION OF MARKETING MEASURES

	Product Innovation		Advertising		Price Promotion	
	Correlation (Perceptions, Objective Data)[a]	Number of Categories	Correlation (Perceptions, Objective Data)	Number of Categories	Correlation (Perceptions, Objective Data)	Number of Categories
France	.55***	51	.59***	53	.43**	51
Germany	.34**	59	.55**	31	.59***	59
Spain	.47**	41	.53***	41	.47**	41
United Kingdom	.31*	52	.46***	51	.74***	52

*$p < .05$.
**$p < .01$.
***$p < .001$.
[a]Perceptions are averaged across consumers within a category.

error terms u_{pjk} (for coefficient p) are multivariate normally distributed over categories with zero mean and variance–covariance matrix T_2 (with $var[u_{pjk}] = \tau_{pp}$ and $cov[u_{pjk}, u_{p'jk}] = \tau_{p,p'}$), and the Level 3 error terms u_{pk} are multivariate normally distributed with zero mean and variance–covariance matrix T_3. We allowed the effects of the predictor variables involved to vary across categories and countries. We constrained the effects of the control variables to be constant across countries (no random-error terms included at Levels

2 and 3 for these coefficients). Although all coefficients could be specified as random effects, Raudenbush and Bryk caution against such practice because it negatively affects model convergence and stability of the parameter estimates.

RESULTS

Overall Descriptive Findings

Figure 2 reports WTP averaged across categories within countries expressed as an index (United States = 100;

Figure 2

WTP AND PL SHARE AROUND THE WORLD
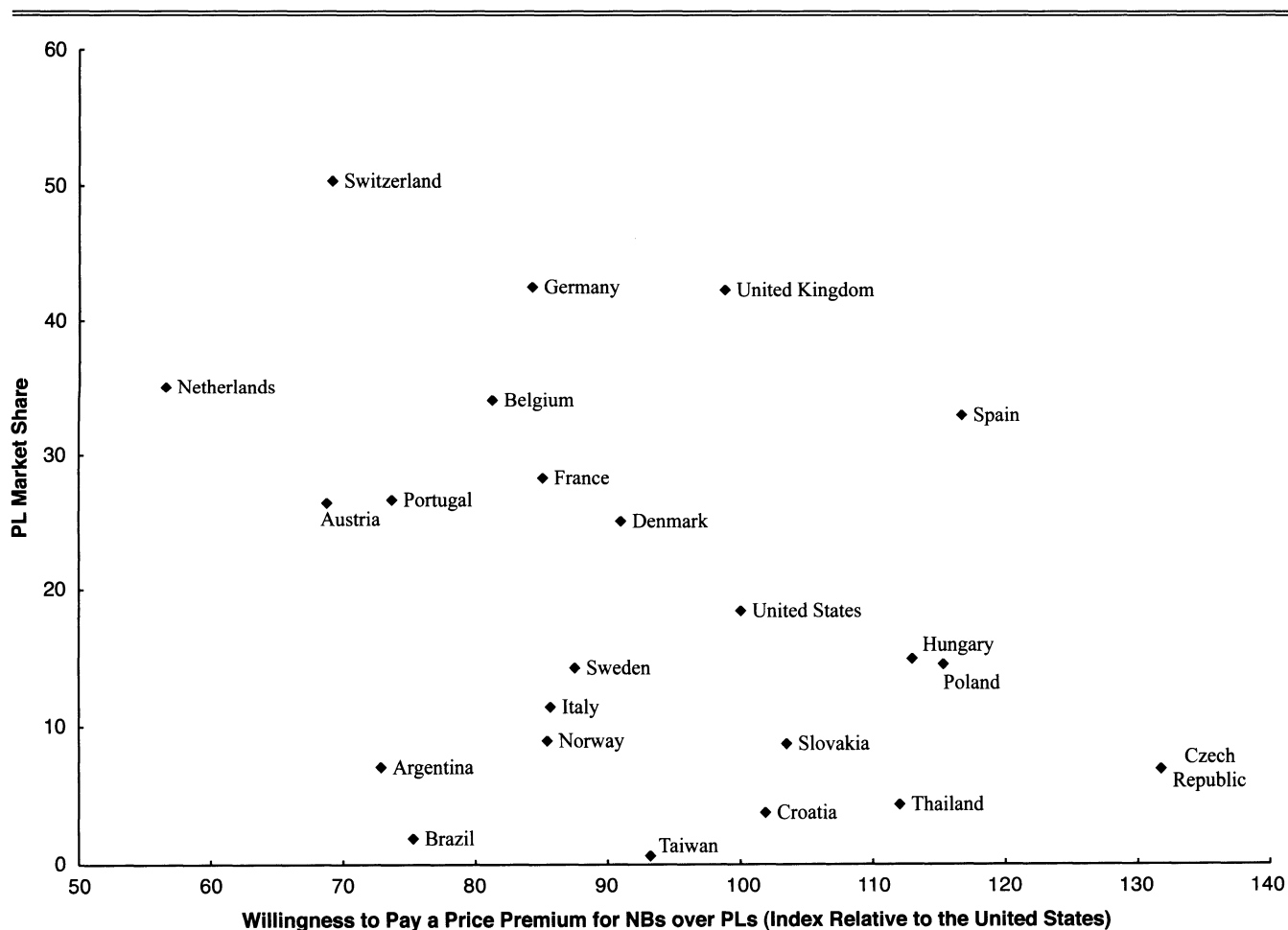
adjusted for differences in sociodemographic makeup and categories included in the country samples) versus the market share of PLs in that country. Willingness to pay is higher in the United States than in most other developed markets. This reflects the historically strong position of NB manufacturers in the United States compared with retailers. While most U.S. retailers operate at a regional level, brand manufacturers operate at a national level. This creates a relative disadvantage for U.S. retailers because brand manufacturers benefit from "greater national brand economies of scale in both production and advertising" (Hoch 1996, p. 94).

We expect that, in general, PLs command higher market shares in countries and categories in which WTP for NBs is lower. Figure 2 reveals that, indeed, PL share and WTP are negatively related at the country level. We also correlated PL share and WTP at the category level, by pooling across categories and countries; this yielded N = 1335 observations. The resultant correlation is –.36 ($p < .001$). Without suggesting a causal relation, both country- and category-level analyses show that WTP is inversely related to PL share.

The average quality gap (on a scale from –4 to +4) is only .34, with only 39% of the observations showing a quality advantage for NBs. In 43% of the cases, consumers see no quality gap between NBs and PLs, while in 18%, consumers perceive PLs to be of better quality than NBs. This provides evidence for the remarkable strides PLs have made in reducing the perceived quality gap with NBs. Although there is a lack of a generalized substantial quality advantage for NBs, there is large heterogeneity among consumers: The standard deviation in quality gap perceptions is a high 1.13, with a coefficient of variation of 3.32.

Perceived Quality Gap

Turning first to the analysis pooled across PL life-cycle stages, we show the effects of the marketing and manufacturing drivers on the perceived quality gap between NBs and PLs in Table 3. We report unstandardized parameter estimates. In multilevel analysis, standardized coefficients are not used because the variance is partitioned across different levels.

As we expected, product innovation ($\beta = .04, p < .001$), distinctive packaging ($\beta = .23, p < .001$), and advertising ($\beta = .09, p < .001$) increase the perceived quality gap, while price promotions reduce it ($\beta = -.05, p < .001$). Our expectations pertaining to the manufacturing drivers are also confirmed by the data. When consumers believe that NB manufacturers produce PLs, the perceived quality gap with NBs is reduced ($\beta = -.15, p < .001$). Conversely, when consumers believe that the product category is difficult to manufacture, the perceived quality gap is higher ($\beta = .05, p < .01$). Thus, we find strong evidence that marketing and manufacturing factors systematically affect the perceived quality gap between NBs and PLs.

WTP

Table 3 also shows the effect of the perceived quality gap on WTP, which we hypothesized to be moderated by involvement and price–quality schema. The perceived quality gap is positively related to WTP ($\beta = 2.43, p < .001$). As we expected, consumers who are more involved with a category ($\beta = .37, p < .001$) and posses a stronger price–quality schema for a particular category ($\beta = .97, p < .001$) draw more heavily on the quality gap in forming their WTP.

Table 3
OVERALL MODEL ESTIMATION RESULTS

	Quality Gap		WTP	
	Estimate	t-Value	Estimate	t-Value
Intercept	.30	6.44***	10.07	22.22***
Product innovation	.04	4.42***		
Distinctive packaging	.23	12.78***		
Advertising	.09	7.73***		
Price promotion	–.05	–4.61***		
PL production by NB manufacturers	–.15	–9.26***		
Difficulty of producing the product	.05	3.34**		
Quality gap			2.43	13.72***
Involvement			1.76	12.36***
Quality gap × involvement			.37	4.88***
Price–quality schema			3.47	19.97***
Quality gap × price–quality schema			.97	6.64***
Control Variables				
Gender	–.01	–.66	.12	.99
Household size	–.01	–4.05***	.10	2.50*
Education	–.01	–2.44*	.87	16.97***
Social class	.05	11.63***	.32	5.35***
Beverages	.14	8.12***	2.66	11.73***
Personal care	.17	11.00***	2.41	11.38***
Household care	–.01	–.69	–.37	–1.54
GDP per capita	–.00	–.68	–.13	–6.18***
2 × log-likelihood		–110,151.1		–306,128.6

*$p < .05$.
**$p < .01$.
***$p < .001$.

In addition to their interactive effect with the quality gap, involvement and price–quality schema also have a positive main effect on WTP (involvement: β = 1.76, p < .001; price–quality schema: β = 3.47, p < .001). In conditions of high involvement, consumers are willing to pay more for NBs over PLs. Similarly, when consumers believe that paying more brings them greater quality in return, they view price in a more favorable light and are willing to pay more for NBs.

Test of Mediation

The model depicted in Figure 1 suggests that the perceived quality gap mediates the effects of marketing and manufacturing drivers on WTP. We use Baron and Kenny's (1986) sequential procedure to test the mediating effect of perceived quality gap. In the first stage, we regress WTP on all the antecedent variables (marketing and manufacturing factors) with the proposed mediator (perceived quality gap) excluded from the model. In the second stage, we include the quality gap in the model to assess whether its insertion reduces the effects of the antecedents on WTP. Mediation occurs if the effects of the antecedents on WTP are reduced in the presence of the mediator and overall fit is improved. Both conditions are met, as we show in Table 4. When we add the quality gap to the model, the effects of all marketing and manufacturing drivers are significantly reduced (all Sobel test statistics are significant at the .05 level or better). Moreover, model fit improves significantly ($\Delta\chi^2(5)$ = 5002.2, p < .001).

The mediating role of the perceived quality gap can be further examined by evaluating the relative magnitude of the indirect effect of an antecedent to its total effect.[1] The right-hand side of Table 4 shows that the ratio of the mediated effect to the total effect ranges between 27.1% (distinctive packaging) and 72.3% (PL production by NB manufacturers) for consumers with average involvement and price–quality schema scores. On average, the perceived quality gap mediates 57.2% of the effects of the marketing and manufacturing drivers on WTP. Collectively, we find strong support for the mediating role of the perceived quality gap.

PL Life Cycle

Differences in levels of constructs across PL stages. Table 5 compares the construct means (adjusted for differences in sociodemographic makeup and categories included in the country samples) across the PL development and PL maturity stages. As we expected, the quality gap between NBs and PLs is smaller in countries in the PL maturity versus PL development stage (.26 versus .53, p < .05). Furthermore, consumers in PL maturity countries have weaker price–quality schemas (2.88 versus 3.22, p < .05) and weaker beliefs about the difficulty of making the product (2.59 versus 2.86, p < .05) than consumers in PL development countries. Surprisingly, the perception that PLs are produced by NB manufacturers is equally strong in both stages (p > .05).

Examining the differences for which we had no specific expectations, we find that consumers in countries in the PL development stage are more involved with CPG product

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[1] A problem arises when direct and indirect effects differ in sign because the proportion can be greater than one or even negative. A solution that Alwin and Hauser (1975) propose is to take the absolute values of the quantities when computing the percentage mediated.

Table 4
MODEL ESTIMATION RESULTS: THE MEDIATING ROLE OF THE PERCEIVED QUALITY GAP

	Total Effect on WTP		Direct Effect on WTP		Indirect Effect on WTP
	Estimate	t-Value	Estimate	t-Value	% Mediation[a]
Intercept	10.10	23.28***	9.83	22.38***	
Product innovation	.95	6.73***	.29	2.67*	69.5%
Distinctive packaging	3.17	10.50***	2.31	9.14***	27.1%
Advertising	1.13	10.49***	.50	4.90***	55.8%
Price promotion	.30	1.35	–.16	–1.09	46.7%
PL production by NB manufacturers	–.94	–4.72***	–.26	–2.26*	72.3%
Difficulty of producing the product	1.07	5.41***	.30	2.37*	72.0%
Quality gap			2.05	12.72***	
Involvement			1.59	10.97***	
Quality gap × involvement			.33	4.09***	
Price–quality schema			3.46	17.24***	
Quality gap × price–quality schema			.81	5.64***	
Control Variables					
Gender	.16	1.19	.27	2.19*	
Household size	.04	1.06	.11	2.89**	
Education	.72	13.33***	.78	15.46***	
Social class	.72	11.39***	.35	5.94***	
Beverages	2.80	11.70***	2.50	11.17***	
Personal care	2.73	12.24***	2.41	11.56***	
Household care	–.57	–2.25*	–.45	–1.89	
GDP per capita	–.08	–3.09**	–.13	–6.66***	
2 × log-likelihood	–310,232.7		–305,230.5		

*p < .05.
**p < .01.
***p < .001.
[a]The mediated effect as a proportion of the total effect, for consumers with average involvement and price–quality schema scores.

Table 5

DESCRIPTIVE STATISTICS: CONSTRUCT MEANS ACROSS PL STAGES

| | | Mean Score | | |
	Expectation Relative to PL Maturity Stage	PL Development Stage	PL Maturity Stage	Significantly Different? (p < .05)
Quality gap	Larger in the PL development stage	.53	.26	Yes
Price–quality schema	Larger in the PL development stage	3.22	2.88	Yes
PL production by NB manufacturers	Smaller in the PL development stage	3.13	3.24	No
Difficulty of producing the product	Larger in the PL development stage	2.86	2.59	Yes
Involvement		3.40	3.20	Yes
Product innovation		3.36	3.25	Yes
Distinctive packaging		3.21	3.37	Yes
Advertising		3.53	3.46	No
Price promotion		3.26	3.22	No
WTP		12.79	10.56	Yes

categories than consumers in the PL maturity stage (3.40 versus 3.20, $p < .05$). In terms of the marketing drivers, consumers do not perceive differences in the level of advertising and price promotion across the two stages ($p > .05$). However, consumers in countries in the PL development stage perceive more product innovations in the category than consumers in countries in the PL maturity stage (3.36 versus 3.25, $p < .05$). Conversely, in PL maturity countries, consumers rate NBs higher on distinctive packaging (3.37 versus 3.21, $p < .05$). Finally, WTP is higher in the PL development stage than in the PL maturity stage (12.79 versus 10.56, $p < .05$). Thus, the more mature PLs are, the less consumers are willing to pay a price premium for NBs over PLs. To understand why this is the case, we now turn to an analysis in which we test whether the effects of the

antecedents of WTP differ for countries in the PL development stage compared with countries in the PL maturity stage.

Differences in structural relationships between constructs across PL stages. We first estimated a model in which we let PL stage interact with each of the focal independent variables. In a second step, we retained only the significant interaction effects with PL stage.[2] The results are intriguing (see Table 6).

The effects of the drivers of the perceived quality gap differ substantially across the two PL stages. More specifically,

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[2]No substantive differences occurred between the model that included all interaction effects and the model in which we retained only the significant interactions. For ease of interpretation, we only report the latter.

Table 6

MODEL ESTIMATION RESULTS ACROSS PL STAGES

| | Quality Gap | | WTP | |
	PL Development Stage	PL Maturity Stage	PL Development Stage	PL Maturity Stage
Intercept	.29***		9.80***	
Product innovation	.04***			
Distinctive packaging	.29***	.09***		
Advertising	.11***	.07***		
Price promotion	–.05***			
PL production by NB manufacturers	–.12***	–.17***		
Difficulty of producing the product	.05***			
Quality gap			2.42***	
Involvement			1.77***	
Quality gap × involvement			.36***	
Price–quality schema			3.05***	3.73***
Quality gap × price–quality schema			.98***	
Control Variables				
Gender	–.01		.12	
Household size	–.01***		.10*	
Education	–.01*		.87***	
Social class	.05***		.32***	
Beverages	.14***		2.66***	
Personal care	.17***		2.42***	
Household care	–.01		–.37	
GDP per capita	.01**		–.10***	
2 × log-likelihood	–110,144.9		–306,124.6	

*p < .05.
**p < .01.
***p < .001.
Notes: Coefficients that differ between the two stages are significantly different at p = .05.

we find that the effects of distinctive packaging and advertising on the perceived quality gap between NBs and PLs are significantly larger in the PL development stage than in the PL maturity stage ($p < .05$). We found no significantly different effects on the perceived quality gap for the other two marketing drivers (product innovation and price promotion), though the effects were in the same direction (stronger effects in the PL development stage). Thus, there is evidence that marketing efforts (in particular, distinctive packaging and advertising) play a larger role in enhancing quality gap perceptions in countries with a more recent PL history than in countries with a longer PL history.

With respect to the manufacturing factors, the findings reverse. The belief that PLs are produced by NB manufacturers plays a significantly larger role in reducing the perceived quality gap in the PL maturity stage than in the PL development stage ($p < .05$). Thus, although there is no difference in the mean levels of the extent to which consumers in the different PL stages believe that PLs are produced by NB manufacturers, the detrimental effect of this belief on WTP is much stronger in countries with a longer PL history. Although the belief that producing good-quality products is difficult had a larger detrimental effect on the perceived quality gap in the PL maturity stage than in the PL development stage, the difference was not significant ($p > .05$).

Collectively, the manufacturing factors explain about twice as much of the Level 1 variance in the quality gap in the PL maturity stage than in the PL development stage (4.2% compared with 2.2%), whereas the Level 1 variance explained by the marketing drivers is approximately 25% lower in the PL maturity stage than in the PL development stage (5.6% compared with 7.4%). Thus, "marketing" matters more when PLs are a relatively recent phenomenon, whereas "manufacturing" matters more when PLs are more established.

If we turn to the WTP regression, we find that the perceived quality gap affects WTP equally strongly in the PL development and the PL maturity stage. However, the average perceived quality gap is larger in the PL development stage (Table 5). Thus, as far as the main effect is concerned, the larger perceived quality gap (rather than a difference in quality sensitivity) represents the reason for the higher WTP in the PL development stage. Involvement and price–quality schema enhance the effect of the quality gap to the same extent across stages.

The direct effect of price–quality schema on WTP differs significantly across the two stages: Its effect is larger in PL maturity countries ($\beta = 3.73$, $p < .001$) than in PL development countries ($\beta = 3.05$, $p < .001$). However, the net effect on WTP is counterbalanced by the lower average levels of price–quality schema in PL maturity countries. Thus, in PL maturity countries, on average, consumers have weaker beliefs about price–quality associations, but when these beliefs strengthen, the effect on WTP is stronger than for consumers in PL development countries.

For both PL stages, the perceived quality gap significantly mediates the effect of marketing and manufacturing factors on WTP. The mediational role of the quality gap works out differently in the two PL stages because the marketing and manufacturing drivers differentially affect the quality gap across the stages. In summary, marketing is more effective to increase consumers' WTP for NBs in PL

development than in PL maturity countries. In contrast, manufacturing beliefs about PLs play a larger role in PL maturity than in PL development countries.

DISCUSSION

We develop a model of the price premium consumers are willing to pay for NBs over PLs. We estimate our WTP model on a unique data set, collected among 22,623 respondents from 23 countries on four continents. In general, WTP is inversely related to PL success across categories and countries. We find systematic effects of marketing and manufacturing factors on the perceived quality gap and WTP and document the pivotal moderating role of price–quality schema and involvement. We compare the model components along two stages of the PL life cycle. Whereas the perceived quality gap exerts an equally strong influence in countries in both stages of the PL life cycle, the antecedents of the perceived quality gap differ significantly across the two stages. In countries in the PL development stage—the engine of future growth of NBs—marketing (especially advertising and distinctive packaging) is more effective in increasing the perceived quality gap between NBs and PLs than in countries in the PL maturity stage. In contrast, in countries in the PL maturity stage, there is a need to go back to manufacturing basics. In particular, the belief that PLs are produced by NB manufacturers exerts a stronger (negative) influence on the perceived quality gap than in PL development countries.

Managerial Implications

As we discussed previously, to compensate for falling sales volumes, many NB manufacturers have begun increasing their prices. Can brand managers uphold their price premiums in relation to PLs, despite sliding sales volumes and recessionary markets? We believe that they can, but the challenges are somewhat different in different regions of the world, depending on their stage of PL development.

Marketing factors. The starting point of any turnaround strategy is to embark on a program of significant quality improvement, in both PL development and PL maturity countries. It is worrisome that objective tests reveal that there is often little, if any, quality difference between PLs and NBs (Apelbaum, Gerstner, and Naik 2003), and we find that, on average, the perceived quality gap is small too. We show that product innovation significantly increases the perceived quality gap (regardless of the country's PL life-cycle stage), which in turn leads to a higher WTP. Consumer packaged goods companies need not only rely on major new product innovations; even minor innovations can contribute to NB success (Gielens and Steenkamp 2007).

We further document the key role of advertising in enhancing the perceived quality gap and WTP, both in PL maturity countries and even more so in PL development countries. It is well known that advertising is especially effective in combination with new product launches. Thus, it is worrisome that in recessionary times, when NBs are already under pressure, companies cut back on advertising and innovation activity (Axarloglou 2003; Deleersnyder et al. 2009). A cost-effective option is to run a collective advertising campaign, such as the campaign run by the Austrian Association of Brand Manufacturers (which includes companies such as Mars and Procter & Gamble as mem-

bers) with the slogan *"Die Marke Garantiert den Unter-schied"* ["The Brand Guarantees the Difference"]. The motivation for this campaign was that "many consumers think that PLs and NBs are actually the same product, only in different packaging" (Österreichischer Verband der Markenartikelindustrie 2004). The campaign has since been adopted by several other national associations of brand manufacturers in Europe.

Distinctive packaging is the strongest driver of the perceived quality gap and has a strong direct effect on WTP. Unfortunately, copycatting of NBs is rampant. At the 2009 Benelux Branding Congress, Sara Lee's vice president of legal affairs sharply criticized copycatting practices by PLs (Kist 2009). However, criticism is not enough. Historically, NB manufacturers have been reluctant to vigorously challenge PL copycatting for two reasons: First, how do they sue their own customers? Second, will an aggressive stance result in products being removed from the shelves of the retailer in question? Our results indicate that a timid response is no longer tenable—the effect of distinctive packaging is too strong to ignore. Brand manufacturers need to develop a reputation for aggressively pursuing retail copycat violators. The experience of companies such as Coca-Cola, Unilever, Procter & Gamble, and Kraft shows that actively pursuing any trademark and package infringement can be effective in the fight against copycatting (Kumar and Steenkamp 2007).

Heavy price promotions condition consumers to focus primarily on price and dilute the perceived quality gap between PLs and NBs, regardless of the PL stage. Thus, we document a third jeopardy of price promotions: Not only do price promotions make consumers more price sensitive (e.g., Mela, Gupta, and Lehmann 1997) and lower baseline sales (e.g., Jedidi, Mela, and Gupta 1999), but they also decrease the WTP for NBs over PLs (this study). Thus, another managerial lever to increase the perceived quality gap and, therefore, WTP is to decrease the intensity of price promotions. Our contrasting findings for advertising and price promotions show that a shift in promotion budgets from price promotions to advertising is necessary. This is exactly the opposite of current NB practice.

Manufacturing factors. Our study shows that for countries in the PL maturity stage, the marketing mix is still effective in increasing the perceived quality gap, but it is less effective than in PL development countries. This attests to the notion that marketing is increasingly viewed with skepticism in these countries. If this trend continues, marketers will have a difficult time fighting PLs with the traditional marketing instruments. Instead, our results suggest that they should pay more attention to the manufacturing side of the story.

National brand managers in PL maturity countries should counter consumer belief that PLs are produced by NB manufacturers. This belief is likely to become more widespread as consumers become more connected to each other through online networks. As a case in point, German consumers share their production beliefs and knowledge on sites such as http://www.discounter-archive.de. The most straightforward way to counter this belief is to not embark on producing PLs or to stop producing PLs. Several NBs, such as Tylenol and Pledge, have chosen to stay away from manufacturing PLs and have communicated this to consumers. Tylenol runs television advertisements in which

employees make the following promise: "We don't make store brand pain relievers. We make Tylenol." Pledge announces on its packaging in red bold capital letters that "This formula is not sold to any retailer as a store brand." However, these are exceptions rather than the rule. Most NBs that do not engage in PL production provide this information in fine print, if at all. However, NBs need to be much more explicit if they want to fight consumer perceptions that PLs are produced by NB manufacturers.

Another manufacturing factor that enhances the quality gap and WTP is consumer belief that the production of the product category is difficult, regardless of the PL life-cycle stage. Advertisements that stress the amount of knowledge that goes into producing good quality products may enhance this belief and create the basis to charge a price premium. The Dutch beer manufacturer Grolsch used to run television advertisements that showed the craftsmanship required in many different professions (e.g., making musical instruments) and, by projection, in brewing good beer. Product harm crises might also be used to NBs' advantage. Recently, several PL products containing acetaminophen were recalled. In response, Tylenol ran advertisements to reassure consumers that it was not involved in the recall and that "Tylenol products are safe and manufactured with the highest quality standards."

Consumer factors. For countries in either PL stage, strengthening consumers' price–quality schema and involvement renders the quality gap much more effective in terms of WTP. Continuous quality improvement is a prerequisite for consumers to maintain their price–quality schema for the category. Advertising messages may reinforce the idea that good quality is worth a higher price. For example, television commercials for Procter & Gamble's Dreft (a detergent for washing dishes by hand) show that though the product costs more than its unbranded rival, it also lasts much longer.

Increasing the personal relevance of the category (involvement) can also make a difference. Although relevance resides in consumers' minds, companies can work to create emotional bonds with consumers, even in mundane categories such as breadcrumbs and canned beans (Fournier 1998). Traditional advertising plays an important role in increasing the personal relevance of the category, but new forms of communication, such as buzz marketing, can also be fruitfully employed, as shown, for example, by Red Bull in the energy drink market.

Further Research

Our study has several limitations that offer opportunities for further research. We measured product innovation, advertising, and price promotion using survey data because we were unable to acquire advertising and promotion expenditures and numbers of new product introductions for all countries and categories. Further research should replicate our findings using objective measures.

Another data limitation is that countries in the PL development stage also tend to be countries in which Western NBs were introduced later than in countries in the PL maturity stage. As such, this reduces our ability to disentangle the effect of the number of years PLs have been available in a country and the number of years Western NBs have been available. In addition, we measure PL stage at the country

level. TNS and GfK considered it infeasible to collect reliable and valid data on the exact start date of PLs across 1454 country–category pairs. As a result, our PL stage variable may contain some measurement error. The results for error-in-variable models (Greene 2000, p. 378) suggest that our significant effects of PL stage represent a conservative test of the true effects. Further research could attempt to collect information on PL introduction dates in specific categories for perhaps one country with a long PL presence. We focus on the generic battle between NBs and PLs rather than on specific NBs or particular PLs. It would be worthwhile to study the drivers of WTP for individual NBs and contrast them with specific PLs.

Consumers may engage in trading up in one category and trading down in another (Silverstein and Fiske 2003). Our study design does not lend itself well to study this aspect of WTP, because each consumer rated four categories at most. Further research might be able to develop an advanced imputation scheme to combine the information across all consumers to understand how trading up and down actually works out.

In summary, although our results do not bode well for NBs in the sense that WTP decreases as PLs mature, we offer several managerial recommendations to counter this trend. In PL maturity countries, the route to success is to go back to manufacturing basics. In PL development countries, marketing has a stronger role. We hope that this study will be useful to managers across the globe and will spark additional research on the epic battle between NBs and PLs.

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