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Recent product mislabeling class actions, including a 2015 ruling by the Central District of California in *Briseno v. ConAgra* (2015 BL 54967), focus on econometric models that experts use to assess classwide damages. However, the plaintiffs' proposed damages calculation in *Briseno* contains ''fundamental economic errors'' and doesn't provide a reliable means for determining classwide damages in the case, say Professors Greg Allenby and Peter E. Rossi, Brattle Principal Lisa Cameron, and Brattle Senior Research Analyst Yikang Li.

Computing Damages in Product Mislabeling Cases: Plaintiffs' Mistaken Approach in *Briseno v. ConAgra*

By Greg Allenby, Peter E. Rossi, Lisa Cameron, and Yikang Li

Several recent consumer product mislabeling class actions have focused attention on the econometric models that experts have used to assess class-wide damages. See e.g. *In re NJOY, Inc., Consumer Class Action Litig.*, 2016 BL 58999 (C.D. Cal. Feb. 2, 2016); *Guido v. L'Oreal, USA, Inc.*, 2014 BL 334410 (C.D. Cal. July 24, 2014); *Werdebaugh v. Blue Diamond Growers*, 2014 BL 352349 (N.D. Cal. Dec. 15, 2014). In many of these suits, plaintiffs have encountered difficulty in persuading courts that their models allow for the reliable computation of class-wide damages in a manner that satisfies *Comcast v Behrend,* 133 S.Ct. 1426 (2013). A prominent and recent case involving ConAgra's Wesson brand cooking oils, *Briseno v ConAgra Foods Inc.*, 90 F. Supp. 3d 919, 2015 BL 54967 (C.D. Cal. Feb. 23, 2015), has suggested a novel method for calculating such damages that may initially appear promising but that in fact contains fundamental economic errors.

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The purpose of this paper is to provide an economic perspective on the plaintiffs' proposed damages calculation in *Briseno* and explain why this calculation does not provide a reliable means for determining the damages questions at issue. The remainder of this article proceeds as follows. First, we provide additional background on the *Briseno* case. Second, we offer an economic perspective on the assessment of damages in product mislabeling class actions like these. Finally, we conclude with a discussion of why the damages model proposed by plaintiffs in the *Briseno* case is economically inappropriate.

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Background on *Briseno*

In *Briseno*, the plaintiffs took issue with Wesson oils that were labeled ''100% Natural.'' Plaintiffs argued that because the oils contained genetically modified crops (GMOs), the labels misrepresented the products. To calculate class-wide damages arising from the misrepresented products, the plaintiffs' damages expert planned to conduct a hedonic regression analysis. The purpose of this analysis was to assess the increase in the price of Wesson oils (if any) attributable to the ''100% natural'' label by measuring the relationship between the products' historic prices and this label, while controlling for other potentially relevant factors.

Defendants responded that a ''100% natural'' label might be interpreted a variety of ways by consumers—for instance, as ''free of synthetic chemicals'' or ''free of preservatives.'' Because the expert's analysis could not isolate the portion of the price premium attributable to a belief that ''100% Natural'' means ''GMO-free,'' the court found that the proposed methodology was not adequately tied to the plaintiffs' theory of liability. See *In re ConAgra Foods., Inc.*, 2014 BL 378112 (CD Cal Aug. 1, 2014).

Subsequently, plaintiffs amended their motion to suggest a two-step method to parse out the value specifically attributable to ''GMO-free'' products: (i) use the previously described hedonic regression analysis to calculate the increase in the price of the oil at issue due to the ''100% Natural'' claim, and (ii) conduct a conjoint analysis—which is based on a consumer survey—to isolate consumers' perceptions of the value of various kinds of ''natural'' products, including GMO-free products. The experts proposed multiplying (i), the price premium associated with the ''100% Natural'' label, by (ii), the percentage that a GMO-free interpretation contributed to its value, and the Court approved this approach. See *In re ConAgra Foods, Inc.*, 90 F. Supp. 3d 919, 2015 BL 54967 (C.D. Cal. Feb. 23, 2015).

Economic Assessment of Damages in Product Mislabeling Class Actions

As noted above, the plaintiffs' theory of damages in *Briseno* is based on a market price premium, which is defined as the difference between: (i) the price that consumers paid for Wesson oils and (ii) the market price that would exist ''but for'' ConAgra's alleged misrepresentation. The first price—*i.e.*, the price that consumers paid for Wesson oils, as they were represented—is known. However, the plaintiffs must conduct an analysis to determine the oils' market price in the absence of the claimed misrepresentation. Two standard methods that can be used for assessing this ''but for'' price are hedonic regression analysis and market simulation.

Hedonic Regressions

A hedonic regression is used to model the relationship between a good's price (the dependent variable) and its attributes (the independent variables). For example, in the real estate context, hedonic regressions based on observed property sales can be used to estimate the impact of a property's attributes (*e.g.*, square footage, number of bathrooms, presence of a pool, age of the house) on the sale price of the property.

In principle, hedonic regression can also be used to estimate how the market price of a product like cooking oil would change due to the alleged misrepresentation on the product's label. However, this technique can only be used if we can find data on market prices for products with/without the relevant feature or with/without the misrepresentation. Returning to the real estate example, we can only determine how much the market price for a house increases with the presence of a swimming pool if we can find sales prices of houses both with and without swimming pools.

Moreover, like any other regression model, a hedonic regression model will only provide an accurate estimate of the misrepresentation's impact on market price if it also controls for all other factors that influence that price In our real estate example, if square footage were an important determinant of housing prices but the hedonic regression did not contain any data on square footage, the price premium associated with other housing characteristics such as the presence of a pool will also be unreliable. Hedonic regression thus requires data on the many factors that can have an important effect on market price—data which is not always available. These data limitations create a role for market simulations in assessing damages due to misrepresentation.

Market Simulations

When data that can be used to reliably estimate a hedonic regression are unavailable, the damages expert in a product mislabeling class action may instead choose to construct a ''but for'' world using a market simulation. At a high level, we can illustrate the goal of our market simulation using Figure 1, below, which depicts a competitive industry for illustrative purposes.

Figure 1: Illustration: Market Price for Product with No Misrepresentation

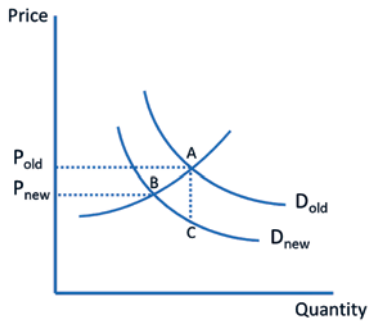

Figure 1: Illustration: Market Price for Product with No Misrepresentation

Here, the demand curve for the misrepresented product is D_{old}. The market price for the misrepresented product is provided by the intersection of D_{old} with the supply curve for the product; this intersection occurs at point A and the equilibrium price is labelled P_{old}. As noted above, P_{old} is already known but we need to perform an analysis to determine the market price for the same product *without misrepresentation*, P_{new}. In order to determine P_{new}, we must estimate a demand curve for the product without misrepresentation (D_{new}). We then find the intersection of D_{new} with supply in order to identify the new equilibrium price, P_{new}. In Figure 1, we make the simplifying assumption that the supply curve stays fixed. Under the plaintiffs' theory of the case, demand for the product shifts downwards when the misrepresentation is revealed, in this case declining from D_{old} to D_{new}. The new equilibrium occurs at the in-

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tersection of the existing supply function and D_{new}. This intersection occurs at point B and the market price for the product with no misrepresentation is given by P_{new}.

Recall that the plaintiffs' theory of damages in *Briseno* is based on a market price premium. Hence, in order to assess class-wide damages in this matter, we must compute the difference between: (i) the market price for the product as ''received'' (*i.e.*, made with GMO crops) and (ii) the market price as represented (''100% Natural''). This premium is given by the difference between P_{old} and P_{new}.

In order to estimate the demand curve D_{new}, economists often turn to conjoint analysis. This is because conjoint analysis is based on respondents' stated preferences collected through a survey rather than real world data on market outcomes. As the economic literature shows, consumers do a poor job of directly estimating what monetary value they place on product features. Conjoint surveys instead determine these values based on consumers' choices among product profiles, similar to the choices consumers make in real shopping situations, and are much more accurate in assessing consumer preferences. Because conjoint analysis determines values from choices among hypthetical product profiles, the fact that the product without the misrepresented feature has never been sold on the market does not prevent the damages expert from determining how much value consumers attach to the misrepresentation.

However, it is important to remember that consumer valuations of the misrepresented feature are not the same as the market price premium associated with the alleged misrepresentation. These consumer valuations express consumers' preferences for, say, non-GMO cooking oil, but do not take into account cost and other market forces such as the nature of competition among suppliers. To see intuitively the fundamental insight that market prices reflect both consumer valuations and other competitive forces, consider the case of a computer laptop screen. Assume we conducted a conjoint analysis in which we assessed consumers' valuations for monochrome versus color monitors. If we computed your valuation for color over monochrome, we would likely find that the incremental value of color over monochrome is worth a thousand dollars or more. Due to competition, however, laptops with color monitors are readily available on the market at quite inexpensive prices. This is a key reason that demand-side only valuations tend to overstate market prices. See e.g. Brian K. Orme, *Getting started with conjoint analysis: strategies for product design and pricing research*, Research Publishers, 2010, p. 87.

While conjoint estimates enable the damages expert to forecast demand for a non-misrepresented version of the accused product, additional analysis is required to determine P_{new},the market price for this version of the accused product. In particular, the conjoint-based demand forecast must be incorporated into an economic analysis that also takes into account factors such as costs and competition among suppliers. In such an analysis, the accused seller will typically drop the price of the non-misrepresented version of its product in order to compete more successfully with rival firms. However, the amount of this price drop generally cannot be determined by consumers' valuation of the accused feature alone (i.e., an amount represented by the vertical distance between A and C in Figure 1). If the analysis employed does not also account for costs and other market forces such as competition among suppliers, the resulting damages estimates may be significantly overstated.

Plaintiffs' Hybrid Methodology

In the *Briseno* case, the plaintiffs' experts proposed to estimate damages by combining data on market prices from a hedonic regression results with data on consumer valuations obtained from a conjoint analysis. In particular, the plaintiffs proposed to run a conjoint analysis that would purportedly determine the relative value that consumers place on six possible interpretations of the ''100 percent natural'' label: (i) the absence of artificial colors; (ii) the absence of artificial flavors; (iii) the absence of artificial preservatives; (iv) the absence of pesticides; (v) the absence of GMOs; and (vi) the absence of artificial materials or chemicals (other than colors of flavors) used during processing. According to plaintiffs, survey participants' responses would reflect the level of importance that participants assign to the ''non-GMO'' aspect of the ''100% Natural'' claim on Wesson Oils as compared to other meanings they include within that claim.

We contend that this approach is unreliable for use in estimating class-wide damages. First, as discussed in detail above, hedonic regression coefficients are estimated from marketplace data that reflect both demand and supply conditions. In contrast, the results of a conjoint analysis only reflect demand. Hence, even if we were to assume for the sake of argument that the results of the plaintiffs' proposed hedonic regression and conjoint analyses were reliable, the approach of combining estimates from each method would still be economically suspect.

Put another way, the plaintiffs conflate two distinct economic concepts: (i) the relative value that consumers attach to any particular aspect of the 100% natural label and (ii) the actual price charged for that particular aspect of the 100% natural label in the marketplace. In the analysis provided by the plaintiffs' experts, only consumer perceptions determine the portion of the he-

More From the Authors

These authors have published extensively on the topic of the use of conjoint surveys in valuing product features, particularly in the context of litigation. These papers include Greg M. Allenby, Peter E. Rossi, Lisa Cameron, Jeremy Verlinda, and Yikang Li, *Calculating Reasonable Royalty Damages Using Conjoint Analysis*, [forthcoming in AIPLA Quarterly]; John R. Howell, Greg M. Allenby and Peter E. Rossi, ''Feature Valuation Using Equilibrium Analysis,'' in Handbook of Marketing Analytics: Methods and Applications in Marketing Management, Public Policy, and Litigation Support, Natalie Mizik and Dominique Hanssens, editors, Edward Elgar Publishing (2016), and Greg M. Allenby, Jeff D. Brazell, John R. Howell and Peter E. Rossi, ''Valuation of Patented Product Features,'' 57 Journal of Law and Economics (2014), 629-663.

donic price premium that can be attributed to each aspect of the 100% natural label. However, as discussed in detail above, market prices are determined by a variety of forces beyond the demand-side considerations reflected in consumer valuations, including costs and the strategic reactions of other suppliers. Thus, the division of the hedonic price premium among aspects of the 100% natural label based on consumer valuations alone is not reliable.

Second, the plaintiffs' proposed conjoint analysis will not provide a reliable estimate of consumer demand because it is focused entirely on attributes related to the 100% natural label and therefore leaves no room for consideration of primary factors in the consumer's purchasing decision, such as brand, price, packaging etc. The plaintiffs proposed conjoint analysis includes six product attributes based on the ''100% natural'' claim. However, a conjoint survey can typically accommodate only six or seven product attributes. Hence, it is unclear how the proposed analysis could include other key product attributes, which must be included for the survey technique to work well.

The omission of price from the conjoint analysis creates a further issue. It is a fundamental principle of economics that consumer valuations of various product attributes cannot be directly compared across survey respondents. Hence, economists typically express these valuations in dollar terms—i.e., the consumer willingness-to-pay for an enhanced or misrepresented feature. However, in order to dollarize consumer valuations in this way, the conjoint survey must include price among the attributes, something that the conjoint survey proposed by plaintiffs' expert in *Briseno* does not do.

Conclusions

In sum, economists use both hedonic regression analysis and market simulations to determine the price premium associated with misrepresentation. When damages are determined using market simulations, conjoint analysis can be used to generate the demand curve for a product that has never appeared in the market. This forecasted demand can then be used in an economic analysis that also takes into account costs and other key market forces such as competition between the accused firm and rival producers.

The ultimate result of such an analysis will be the market price at which a non-misrepresented version of the accused product would sell in the marketplace. In contrast, the plaintiffs' proposed approach in *Briseno*—pairing hedonic regression coefficients with coefficients obtained from a conjoint analysis—is unreliable because it mixes data on market outcomes with data based on demand alone.

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