The Struggle for Control over Movements in Markets: Activists, Marketers, and Natural Products[1]

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Abstract

This article investigates how markets for natural products evolve through the combined pressures of the attempts of environmentalists to retain control over their ideas and competition among producers with varying levels of commitment to the environmental movement. Previous studies focus on the polar dynamics where activists have strong influence over sympathetic entrepreneurs or where powerful companies redirect demobilized movements. Using detailed records of over 250,000 new products in 58 consumer markets, I identify the unintended consequences that emerge from persistent contentious interactions among marketers and environmental critics with diverse perspectives. The debate around whether natural products are truly green or not triggers a proliferation of marketing claims and corporate identities, as businesses attempt to reinforce their green credentials. This process strengthens natural products, while also entangling the movement in a trajectory of limited market reforms.

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Social movements and contentious processes contribute to changes in organizations and markets by destabilizing past arrangements and fostering new ideas and goals. Strong movements can direct these outcomes for at least those parts of the economy that are already ideologically committed to movement beliefs (Weber, Heinze, & DeSoucey, 2008; Zald, Morrill, & Rao, 2005). Conversely, movements often face more hostile conditions and dissipate, whereupon more enduring businesses take the lead in shaping new institutional patterns (Dobbin, 2009; Haveman, Rao, & Paruchuri, 2007; Hiatt, Sine, & Tolbert, 2009), and the resulting movement effects are indirect and unintended. However, interactions between social movements and markets commonly follow an intermediate pattern between these two models, with persistent contention among activists and managers who have diverse proclivities towards each other. I theorize that this underexplored dynamic takes the form of a struggle for control to define the movement's meaning in markets. This definitional contest yields emergent movement interpretations that bear the imprint of all parties while not being tied or untied to any side in particular. Rather than dividing outcomes along the axes of direct/indirect and intended/unintended or splitting causal processes between an initial movement mobilization and the subsequent remobilization of movement resources by managers, I investigate how movements become entangled with markets and both sides evolve through sustained debates.

The empirical context for this analysis is the incorporation of environmental concerns in consumer packaged goods (CPGs) in the United States, focusing especially on the single largest

green marketing claim — that a product is "natural." Since the 1970s, consumer marketers have increasingly emphasized the natural quality of their products but often to the displeasure of environmental advocates. The robust but criticized growth in green marketing offers puzzling evidence for both movement influence and weakness. On the one hand, natural products invoke environmental goals of greater harmony with nature and their presence has expanded tremendously over time. On the other hand, complaints about deception in products that falsely claim to be natural (referred to by environmentalists as "greenwashing") have also proliferated. Further, two prominent characteristics of natural products are poorly aligned with the interests of either activists or mass marketers. First, producers often attach additional claims, especially claims that attest to the absence of various harms such as free from artificial colors or preservatives, in order to combat greenwashing concerns. These negative claims are thin virtues compared to core activist goals of sustainability and holistic wellness but are also more substantial modifications of product sourcing and formulation than producers might prefer. Second, mass marketers have responded to the greenwashing controversy by using the acquisition of dedicated green companies as a leading strategy for market entry. The acquisitions are both highly controversial for core activists and very expensive for the purchasing companies.

This warped market pattern fits poorly within the prevailing models of how social movements relate to markets. The two leading perspectives are that movements reform markets or that markets coopt movements. The simultaneous growth of movement ideas and misgivings in the marketplace, as well as the emergent practices of free-from claims and acquisitions, suggest the need to theorize movement-market interactions that go beyond activists reshaping markets or companies hijacking movements. While these theoretical frameworks expect that movement outcomes are rarely complete successes for either activists or managers, stretching

them to incorporate the dynamics unfolding around natural products would break their coherence.

In the analyses that follow, I integrate several developments in social movement and organizational research in order to articulate a model of movement-market interactions as a struggle for control over movements' ideas in markets. This model helps to account for the multiple emergent characteristics of natural products. As I argue below, the elaboration of natural with additional green marketing claims and the prevalence of acquisitions, which cloak the identity of the parent company, both stem from the ongoing controversy over whether natural products are green or greenwashed. The continuing debate among activists and marketers leads to a proliferation of categories and identities in order to mitigate consumer doubts.

The remainder of this paper has the following organization. I begin by explicating my theory of movement-market interactions. Following that, I introduce the texture of the evolving relations among environmentalists and businesses by tracing the history of the natural marketing claim. Then I develop hypotheses to explain the contorted development of natural products. In the subsequent two sections, I explain my data and methods, and present regression models to test the hypotheses. I conclude by discussing implications for research on organizations and social movements.

Theorizing Movement-Market Interactions

A leading perspective on how social movements relate to markets is that movements reform markets. The ideas of social movements gain representation in new products that incorporate their concerns, which grow within markets through the work of activists to neutralize

opponents, moderate difficult market conditions, improve regulations, and mobilize customers and entrepreneurs (King & Pearce, 2010). Notably, many of the studies in this tradition focus on the environmental movement, reflecting the remarkable strengths of this movement (Evans & Kay, 2008; Hoffman, 2001; Schurman & Munro, 2010; Sine & Lee, 2009; Vasi, 2011b; Weber et al., 2008; Weber, Thomas, & Rao, 2009). This research documents the success of environmentalists to win environmental protections in trade treaties, convert industrial businesses to the importance of environmental protection, build up markets for favored goods such as grass-fed beef and wind energy, and hinder the development of disliked technologies such as genetic modification.

A rival perspective, which is less theoretically integrated, is that markets coopt social movements. In this view, powerful companies hijack, reinterpret, or more benignly extrapolate activists' ideas to pursue their own market goals (Dobbin, 2009; Haveman et al., 2007; Hiatt et al., 2009). Such pathways connect movements to changes that activists never envisioned. A sizeable group of studies in this camp also focus on the environmental movement, this time highlighting its weaknesses, especially in consumer markets (Jaffee, 2012; Johnston, 2007; Lounsbury, Ventresca, & Hirsch, 2003; Sikavica & Pozner, 2013; Szasz, 2007). These studies capture the corruption of movement ideals as managers strip away values such as community, local production, and environmental integrity from markets in fair trade coffee, organic farming, and recycling, among others.

While greatly expanding our knowledge of movement-market interactions, both research in the market reform and the movement cooptation perspectives neglects the diversity of actors and the persistent nature of contentious interactions. On the first point, the boundaries between activist and business camps are increasingly blurry. Activist engagement with markets ranges

from disruptive protests to cooperation in co-branding products (Bertels, Hoffman, & DeJordy, 2014; Hoffman, 2009). Similarly, business relationships with movements can range from protest targets to active participants, with some companies prominently contributing to activist campaigns (Hoffman & Bertels, 2010; Walker, 2014). On the second point, unless managers already accept movement ideas or are disinterested, or activists have demobilized, the consequences of movements typically emerge from contentious interactions among multiple interested groups, rather than from either side's goals. For example, Bartley's comparative research on the impacts of ethical certification campaigns across movements, targeted firms, and countries demonstrates how the characteristics of certification systems represent negotiated settlements between activists, companies, and regulators rather than the intended outcomes of any party (Bartley, 2007; Bartley & Child, 2011). Moreover, contestation often continues over time, although not typically in a linear pattern, which leads to a persistent evolution of positions (Hiatt & Carlos, 2015; McDonnell, King, & Soule, 2015; Pacheco, York, & Hargrave, 2014; van Wijk, Stam, Elfring, Zietsma, & den Hond, 2013). These two points — growing diversity among activists and business, and movement consequences developing through recurring interactions with non-movement groups — undermine more linear narratives about market reform or movement cooptation.

Drawing on these concepts of diverse actors and persistent contentious interactions, I articulate a model of a definitional struggle between activists and marketers that pulls markets in multiple directions. When movements become entangled with markets, an ongoing contest between varied activists and companies develops to define the meaning of movement ideas within the market context. Other actors, especially state agencies, can be consequential but government regulations in the U.S. are generally vague and subject to interpretation by powerful

actors (Edelman, Uggen, & Erlanger, 1999).[1] In this case, environmentalists and marketers compete over the definition of natural, over what types of natural products count as truly green versus greenwashed. Success in this contest yields products that represent a particular group's understanding of movement values, as well as consumers and producers attached to these beliefs (Bourdieu, 1984; Fligstein & McAdam, 2012).

Further, the history of struggles over interpreting a movement's meaning generates new values and symbols that did not originally belong to either side. Without analyzing the contentious interactions that unfold over time, it is not possible to understand why free-from claims and brand acquisitions have become leading market strategies for natural products. Neither of these characteristics follows directly from the goals of core activists or marketers but instead they emerge from a history of conflict over the meaning of natural. The controversy over whether natural products are green or not encourages producers to add free-from claims, which are more verifiable, to their natural products. It also incentivizes mass marketers to cloak their identities through distinct green brands, which they often acquire and keep separate from the parent company because they appear more environmentally trustworthy.

In results developed below that substantiate this theory of movement-market interactions as persistent definitional struggles, I examine how the greenwashing controversy shapes the development of natural products. In response to activists' criticisms, companies reinforce the meaning of natural by connecting additional green claims to their natural products. Firms that are dedicated to making green products are especially likely to elaborate their natural products, and both activist criticism and competition from conventional producers increase this tendency.

[1] Where substantial, as in organic certification, the regulations have become a venue for competition among activists and businesses seeking varying levels of stringency.

Identity cloaking, which I define as the use of specialized brands to enter movement-aligned niches by mass marketers, also increases in response to movement pressures on a market. Neither outcome traces directly back to the goals of activists or marketers. These results show how movement-market interactions recombine multiple influences to generate emergent consequences. In this perspective, the entry of a movement into a market sets off a struggle for control over the movements' ideas among heterogeneous activists and marketers. The outcomes of this struggle shape the products, processes, and participants in the market, as well as the entangled social movement. In the next section, I illustrate these dynamics with historical materials, which will help motivate the subsequent hypotheses.

The Contentious Evolution of Natural Products

Starting in the 1960s, modern environmentalists developed an extensive critique of the prevailing patterns of consumption and production (Gottlieb, 2005; Hays, 1987; Sale, 1993). They argued that these practices were unraveling natural ecosystems, poisoning human health, and wasting the earth's resources. This critical perspective castigated corporations and technological hubris, as in Rachel Carson's expose of DDT, while valorizing greater harmony and respect for nature. Activist entrepreneurs from the countercultural scene of the 1960s drew on the environmentalist critique to develop natural alternatives to the industrial food complex and its artificial products (Belasco, 2007; Dobrow, 2014; Emerich, 2011; Kirk, 2007; Mungo, 1980).[2] Although social scientists initially considered environmentalism to be a fad (Downs, 1972) and mass marketers dismissed natural products as an ignorant fad (Belasco, 2007, pp. 111-

[2] Natural products also had roots in maverick food producers of the 19th century, such as John Harvey Kellogg and Sylvester Graham (Gusfield, 1992).

131), both demonstrated an enduring appeal (Dobrow, 2014; Dunlap, 2002). Over time, the marketing value of natural attracted considerable attention from conventional companies. According to one estimate, by 1980 "7 percent of all supermarket items were in some way labeled 'natural'" (Belasco, 2007, p. 192). In the data that I use here, this growth trend continued up to the late 2000s.

Looking across forty-three green marketing claims (see Appendix) — including much better studied ones like organic, no genetic modification, and fair trade — natural has been by far the most prevalent environmental claim in U.S. markets for consumer packaged goods (CPGs). The industry group, the Natural Products Association, reported total sales of $117 billion in 2010 in these markets, which encompass the typical offerings of supermarkets, such as soft drinks, frozen foods, and household cleaners.[3] Figure 1 charts the percentage of new natural CPGs over time, using data that I explain in the methods section below.[4] Natural product share grew steadily to a peak of nearly 30% in 2007 before collapsing during the Great Recession, which sapped business investment and redirected marketing towards consumer value. In addition to historical evidence linking natural products with the values and ideas of environmentalism, time-series regression analyses also indicate that the density of environmental social movement organizations is strongly related to the annual natural product trend.[5]

INSERT FIGURE 1 ABOUT HERE

[3] Source: http://www.npainfo.org/NPA/AboutNPA/AbouttheNaturalProductsAssociation.aspx, accessed 3/31/15.

[4] Percentages are preferable to raw numbers, which exhibit a similar pattern, because of the general growth in new products over time.

[5] Data on environmental SMOs from 1985-2005 came from the project reported in Brulle, Turner, Carmichael, and Jenkins (2007). Given the time-series nature of these data I used an empirical generalized least squares model with the Prais-Winsten estimation technique. With 21 observations, the T-statistic for the SMOs coefficient was 8.49, $p < .001$. This effect persisted after including the number of product introductions without a natural claim.

However, as natural products went mainstream, skeptics persistently raised allegations of greenwashing — that these products did not truly represent environmental values. For example, the July 1980 cover article of *Consumer Reports* read, "It's Natural! It's Organic! Or Is It?" The article went on to critique products from Nabisco, Pillsbury, Quaker Oats, and Anheuser-Busch for their misleading description of products as natural that were highly processed and contained artificial ingredients. The void that allowed these questionable products and many more was the absence of a legal definition of natural.[6] Over the ensuing years, the skepticism intensified and the complainants diversified to encompass environmental and consumer social movement organizations but also journalists, opinion writers, and later bloggers among others.[7] The allegations cumulated across specific markets and issues, so that by the late 2000s, calls for the abandonment of natural as meaningless had become common (Pollan, 2015). At Natural Products Expo West 2014, the leading industry trade show, one activist argued that certified organic products should replace natural products. He decried the fact that natural has a greater market share than organic as "labeling fraud," going on to contend that "we need to drive natural out of the marketplace."[8] Lamentations about the corruption of natural standards by mainstream companies were also common. One marketer of natural dog foods emphasized a need to fight to

[6] The Federal Trade Commission (FTC) launched an effort to regulate natural claims in 1974, during the high period of consumer regulation, but only proposed a rule in 1980. By that time the political tides had turned and Reagan's administration scrapped the rule in 1982 (Burros, 1982). In that same year, the U.S. Department of Agriculture (USDA) did create a fairly lenient standard for natural meat products. This rule subsequently became a focal point for recurring debates over issues such as sodium lactate preservatives, antibiotics and hormones used to raise livestock, confinement of animals, and genetic engineering of feed, all of which were allowable under the USDA standard. For the broader world of natural products, the FTC, the Food & Drug Administration, and the Environmental Protection Agency have repeatedly declined appeals from activists, businesses, legislators, and judges to provide a regulation, generally citing a lack of consensus about the meaning of natural.

[7] While activist backgrounds vary, all of these critics adopt the position of policing the meaning of environmentalism by attacking greenwashing.

[8] Field notes, 3/7/14.

preserve the environmental integrity of natural: "natural used to mean produced and grown organically but not certified because [the producer] couldn't afford it. What happened is people smelled money and exploited the word natural...it's a constant fight to keep standards and not let them get broken down by people who are in it for the money."[9]

Although the development of natural products did not slow in response to the greenwashing controversy, the market niche did evolve in two ways that altered the meaning of natural. First, companies increasingly combined the natural claim with other claims that could shore up their products' environmental credentials. Figure 2 shows that the share of natural products that included other green claims generally grew over time. The particular claims that companies chose to attach to their natural products reflected an effort to defuse concerns about their products not truly being natural. Marketers mostly elaborated their natural products with free-from harmful ingredient claims, such as no additives and no pesticides (see Figure 3). These negative claims were somewhat meager steps towards sustainability and holistic wellness, but they were also more verifiable and substantial than natural, helping to ameliorate concerns about deception.

INSERT FIGURES 2 & 3 ABOUT HERE

Second, mass marketers increasingly utilized distinct brands that specialized in green marketing to introduce their natural products, as opposed to extending conventional product lines with natural versions (see Figure 4). The use of distinctive brands hovered around 10%, which is typical for all new products (Kadiyali, Vilcassim, & Chintagunta, 1999, p. 340), until it expanded in the late 1990s to two-and-a-half times that rate. For many activists, this practice was a

[9] Interview, 3/21/14.

deceptive way to obscure the parent company and its environmental problems. The fact that large firms procured many of their green brands through acquisition increased activist concerns and also the cost of market entry (Howard, 2009). Despite the mass marketers' substantial investments in growing the natural market, some activists denounced the acquisitions for selling out to anti-environmental companies. For example, following a bruising battle over GMO labeling in California, the Organic Consumers Association launched a boycott against "traitor brands," which were natural brands owned by conventional companies.

INSERT FIGURE 4 ABOUT HERE

This history charts a complex interplay among activists and marketers in shaping natural products. When environmental ideas entered into the mainstream of thinly-regulated consumer markets, a controversy erupted over the faithfulness of natural products to the movement's ideals. Actors with varying environmental positions struggled over the demarcation between green and greenwashing. The results of this conflict led to the elaboration of natural, especially as associated with free-from claims, and to the multiplication of specialized brands within mass marketers. In the next section, I develop a theoretical framework and formal hypotheses to test these arguments.

Explaining the Development of Natural Products

Corresponding to the diversity in environmentalists' attitudes towards markets (Hoffman, 2009), particular factions of the environmental movement have actively opposed the development of green marketing. For some activists, the general idea of improving the environment through producing and consuming goods is suspect (Schnaiberg, 1980; Smith,

1998). In other cases, activists object to the clumsy or deceitful efforts of firms to convert movement values into products that are not as green as they appear. The marketing claim of natural has been the target of extensive greenwashing allegations. Such controversy threatens to delegitimize the claim, draining it of value to consumers. Prior research has identified how movement opposition can push companies to abandon a challenged product (Hiatt et al., 2009; Weber et al., 2009), but firms can also respond more strategically by attempting to incorporate activist concerns into existing products and defuse or coopt their opposition. In response to criticism against natural products for greenwashing, companies are likely to strengthen the claim by linking it to additional green claims in order to bolster the environmental credentials of a product. Such reasoning leads to my first hypothesis:

> *Hypothesis 1*: The more criticism of natural products for greenwashing, the more that companies will attach additional green claims to their natural products.

Producers that specialize in products related to the environmental movement's values are particularly likely to make these changes. Since environmental concerns are central to their identity, they should be more eager to strengthen the green credentials of their natural products. Also, to the extent that elaborating the meaning of natural represents environmental progress, green specialists should be more likely to follow this strategy. Further, these companies should have closer ties to the movement, which makes them more receptive to activist criticism (Weber et al., 2008; Zald et al., 2005). For these reasons, I expect the following two hypotheses:

> *Hypothesis 2*: Specialization in natural products makes companies more likely to attach additional green claims to their natural products.
>
> *Hypothesis 3*: Producer specialization in natural products increases the effect of greenwashing criticism on attaching additional green claims to natural products.

The entry of conventional companies into activist niches puts further pressure on specialized producers in two ways. First, conventional firms often enjoy the competitive advantages of greater resources over smaller specialists. Second, cooptation threatens to undermine the value of natural claims by creating uncertainty among consumers about the environmental virtues of natural products. For many marketers, green claims are a way to develop new market niches, differentiate themselves from competitors, and escape slow to negative growth in conventional product lines (Banerjee, Iyer, & Kashyap, 2003; Nidumolu, Prahalad, & Rangaswami, 2009; Unruh & Ettenson, 2010). Here the drive of companies to enter the green niche derives from profit motives, rather than from activist ideals. This dynamic creates suspicion about the credibility of green claims. Notable abuses, such as the use of high fructose corn syrup in natural products by Unilever and others, fan these suspicions. Both the pressures from competition and from greenwashing should encourage green specialists to elaborate their natural products with additional green claims, which makes the products appear more truly green and also more difficult to imitate. Resource partitioning theory suggests that specialists develop peripheral niches to avoid competition with generalists (Carroll, 1985; Carroll & Swaminathan, 2000). Here, I am theorizing how specialists will elaborate their niches in reaction to entry by generalists, which I formalize in the next hypothesis:

> *Hypothesis 4*: The introduction of natural products by conventional companies increases the effect of firm specialization on attaching additional green claims to natural products.

The greenwashing controversy should have additional impacts on conventional companies because their movement-related products are subject to intense criticism and suspicion from activists and customers. There are at least three possible reasons for these negative audience reactions. First, given the complexity of following rapidly changing

movement ideas and translating these ideas into products, the movement-aligned products of mainstream companies may be inferior to those from dedicated firms, which may be more competent at understanding and interpreting the relevant social movement (Hannan, 2010). Second, loose regulations create considerable leeway for companies in aligning production practices with marketing claims, and movement-dedicated firms may be more faithful in adhering to movement values in their product decisions because these companies have internalized the values (Ottman, 2011; Reinhardt, 1998). Third, the movement-aligned products of conventional companies may be tainted by other actions of the diversified companies that contradict movement values (Carroll & Swaminathan, 2000; Phillips, Turco, & Zuckerman, 2013).

In response to these pressures against spanning the movement-conventional boundary, firms can manipulate their presentation of self to better align with consumer expectations (Phillips & Kim, 2008). In particular, I introduce the concept of *identity cloaking* to theorize the marketing by conventional companies of movement-aligned products under distinct brands that are dedicated to movement niches. This strategic practice serves to create the impression among consumers that the producer of a movement-aligned product is dedicated to movement values. Note also that using an alternate brand name is quite consequential for marketers because the principal assets of consumer goods companies are their brands, which convey quality and trust (Kotler & Armstrong, 2012). By forgoing an already established brand name, conventional producers sacrifice considerable customer appeal and economies of scale in marketing. This is especially significant in the area of new products and new claims, for which consumers have less understanding and trust (Moor, 2007; Ottman, 2011). Therefore the use of distinct brands for movement-aligned products is likely to be a response to movement pressures on markets that

heighten the saliency of producers' commitment to movement values, increasing penalties against spanning across conventional and movement niches.[10] In other words, activist influence on markets increases the attention to movement values among consumers and the incentives for producers to enhance their apparent alignment with these values through identity cloaking. This influence is evident in the intensity of greenwashing criticism, the prevalence of movement-dedicated producers, the elaboration of movement-related claims, and the environmental quality of natural products.

Hypothesis 5a: The more criticism of natural products for greenwashing, the more likely it is that a conventional firm will cloak its identity for its natural products.

Hypothesis 5b: The greater the prevalence of environmentally-specialized producers in a market, the more likely it is that a conventional firm will cloak its identity for its natural products.

Hypothesis 5c: The more that natural products include additional green claims in a market, the more likely it is that a conventional firm will cloak its identity for its natural products.

Hypothesis 5d: The higher the environmental quality of natural products in a market, in terms of not containing any synthetic ingredients, the more likely it is that a conventional firm will cloak its identity for its natural products.

Drawing together these arguments, I theorize that the introduction of movement ideas into a market sets off a struggle to control the movement's meaning, which yields emergent consequences. Activists criticize the partial incorporation and reinterpretation of their values in markets, stimulating controversy about the credibility of movement-aligned products. Companies

[10] These pressures could also operate because companies want to avoid contaminating their conventional products with movement associations. However, the former dynamic is a more straightforward interpretation of the effects reported below. Consider also the counter-example of Clorox using its own brand name for its green cleaners because the company sought to convey their efficacy.

elaborate these products with additional claims to reduce consumer doubts. Movement-dedicated companies are especially eager to reinforce their position, particularly in response to the criticism and also the cooptation of movement ideas by mass marketers. This dynamic leads to a further proliferation of claims as specialists attempt to shore up their movement credentials and maintain their differentiation from conventional competitors. Facing intense scrutiny and opposition, generalists also adapt to the conflict by developing specialized organizational identities in order to overcome consumer concerns about their insufficient commitment to movement values.

Data and Methods

Outcomes and Models

To test these hypotheses I took advantage of a rich data source on consumer trends: Product Launch Analytics from Datamonitor, which tracks new consumer packaged goods (CPG) in 58 markets such as canned food, soft drinks, and toilet care. These data record 253,208 new CPG products in the U.S. from 1985-2012. This was a comprehensive source on trends in CPG markets, especially since products were considered new and entered the data when there were new flavors or varieties, new packaging, renaming or rebranding, or significant reformulation, in addition to entirely new products. The strength of the data was the depth of information about each new product: Datamonitor coded the ingredients and marketing claims listed on product labels, including the marketing claim of natural as well as 42 other claims related to environmental concerns. The additional green claims covered a range of issues from recycling to genetic modification. See the Appendix for the full list of these claims and a discussion of their selection. Datamonitor collected these data as a tool to assist managers and

business researchers in understanding and developing new products through information on past product introductions, but they are also a previously untapped resource for sociological research on changes in consumer culture.

The main advantages of these data over press release data, which are often used to study products, were that they contain a more comprehensive set of products (not just those that received press releases) and more systematic coverage of product features. I have also validated the general trends by examining press release data on new products from Factiva. The main disadvantages were relative to complete product-level records, which were unavailable for these markets over an extended time period but would include data on shipments and incumbent products (Carroll, Khessina, & McKendrick, 2010). By excluding incumbents, the data captured changes in firm positioning rather than cumulative positions. This aspect likely made the tests more conservative because it reduced the accuracy of measuring producers' specialization in natural products. As discussed further below, this expectation received support from the fact that results were stronger when measures incorporated data on product introductions from prior years. I also attempted to merge the primary dataset with data on incumbent products from Nielsen, but was only able to make use of this approach as a robustness check because the Nielsen data started in 2004 and were much thinner in their coverage of product features. The investigation of new products alone was also meaningful because new products played a crucial role in CPG markets, where there were around ten thousand product launches per year and companies attended highly to new market trends (Fosfuri & Giarratana, 2009; Kotler & Armstrong, 2012). Furthermore, I built from an established body of organizational research based on new products (Dowd, 2004; Hsu, Koçak, & Hannan, 2009; Mitchell, 1989; Semadeni, 2006).

To study the elaboration of natural products, I used two dependent variables. The first was whether a natural product had other green claims attached to it or not, which I used for hypotheses one through four. After a small number of records lost due to incomplete data, there were 52,579 natural products in the data and 29,296 of them had additional green claims. The second dependent variable was whether a natural product from a conventional firm had its identity cloaked through the use of a specialized green brand or not, which I used for hypotheses 5a through 5d. I defined firms and brands as dedicated to natural products if at least 80% of their products claimed to be natural, and conventional otherwise. In robustness analyses summarized below, I replicated the results with thresholds of 75% and 90%. In calculating the natural product percentage for each firm and brand, I used a decay formula to aggregate product introductions from past years to adjust for the persistence of products across years. Specifically, I weighted the contribution of each year by dividing by the number of years removed from the focal year, so that more remote years contributed less to the final score. When the specialization measure only used the focal year's data, results were consistent albeit generally at weaker levels of significance. I also excluded private label products from this analysis because of their different marketing strategies. Using the 80% threshold, there were 27,790 natural products from conventional companies, and 4,709 of them were marketed under separate green brands.

Since both outcomes were binary, I used logistic regression models. The level of analysis was the product, and I controlled for characteristics of the product, manufacturer, market, and year. I also utilized robust standard errors clustered around firms to correct for nonindependence of observations.

Independent Variables

Hypothesis one examined the effects of greenwashing criticism. To develop a measure of this criticism, I collected relevant newspaper articles from LexisNexis. Tracking social movements through newspapers followed a well-established research tradition (Earl, Martin, McCarthy, & Soule, 2004). I searched LexisNexis to identify articles that matched "natural" and at least one term from a set of keywords that identified concerns with false claims: deceptive, misleading, and greenwashing. I restricted the results to newspaper articles and required matching of both natural and a greenwashing term to occur within the same paragraph. I then built dictionaries for each of eight industries in Product Launch Analytics: alcoholic beverages, non-alcoholic beverages, food, household products, other consumer products, personal care, pet care & animal feed, and tobacco. For each dictionary, I aggregated the set of phrases from the data source that described the industry and the markets and product categories nested within the industry, generating lists ranging from 5 phrases for tobacco to 100 phrases for food.[11] Next I identified which of the articles from above also mentioned at least one industry phrase. The result was a yearly count of the number of articles criticizing greenwashing and natural in each industry-year. I logged the count to control for skewness and lagged it by one year. Greenwashing criticism should increase the likelihood of natural products including additional green claims (H1) and also of identity cloaking (H5a). As detailed below, I also used the annual number of articles mentioning "natural products" to control for changes in the size of the LexisNexis corpus over time, as well as more general attention to the market niche.

The next three hypotheses concerned producer dedication to environmental concerns. I measured specialization here the same way as discussed for the second dependent variable: the

[11] I included fixed effects at the markets level in all models, which captured static features like the phrase count.

cumulative percentage of a firm's products that were natural, with a decay function to progressively reduce the influence of prior years. This variable allowed companies to reposition themselves over time, while still taking into account past history. Hypothesis two predicted that specialization increases the likelihood that a firm will elaborate its natural products with additional green claims. Hypotheses three and four added that greenwashing criticism and cooptation by conventional companies will increase the specialist tendency towards elaboration. For hypothesis three, I interacted specialization with greenwashing criticism and the effect should be positive. For hypothesis four, I used two measures of the cooptation threat. The first was calculated as one minus the average firm specialization for natural products from the prior market-year. I refer to this variable as generalism. The second was the number of natural products with synthetic ingredients in the prior market-year, which I based on the lists of ingredients that were unacceptable in products sold at Whole Foods Market.[12] I then interacted both variables with firm specialization and expect that both interaction terms should be positive.

In addition to greenwashing criticism, the last three independent variables, for hypotheses 5b through 5d, concerned identity cloaking. The average producer specialism in natural products, the average number of additional green claims attached to natural products, and the percentage of natural products without synthetic ingredients should all increase identity cloaking. I measured producer specialism at the brand level here because this level better reflected the movement pressure on a market that I hypothesized to increase identity cloaking. I constructed these variables within market-years, lagged them by one year, and corrected for skewness in the average number of additional green claims with a log plus one transformation. Following the

[12] Source: http://www.wholefoodsmarket.com/about-our-products/quality-standards, accessed on 4/15/15. Standards have tightened over time but a continuous record was unavailable. The resulting measurement error in the variable should yield a more conservative test.

logic of hypothesis 5, I also calculated an index of movement pressure, by averaging the z-scores for the four variables.

Control Variables

In models of the elaboration of natural, I separated movement-related processes from general claim proliferation by including the number of conventional marketing claims that a product used, the number of claims that a firm used besides the ones in the focal product, and the number of claims in a market. The firm's numbers of products, brands, and markets controlled for the effects of firm size and scope. The numbers of firms in a market and the market concentration, measured as a Herfindahl-Hirschman index of firms' product shares, measured competitive conditions.

In the identity cloaking models, I included a count of the product's green claims to capture its engagement with environmental concerns. I also entered the same controls for firm size and scope, as well as competitive conditions. The firm's number of brands was an especially important control for this model since identity cloaking entails utilizing multiple brands.

To correct for skewness, I adjusted all of the foregoing control variables with log plus one transformations where variables included zeros and log transformations otherwise. A year trend controlled for linear changes in natural elaboration and identity cloaking, and a log of the annual trend in articles mentioning "natural products" from LexisNexis controlled for general attention to the market niche and changes over time in the size of this database. I also included fixed effects for markets to control for stable aspects of markets that shaped the value of

additional green claims and movement specialization, such as any durable associations between a market and environmental concerns.

Table 1 presents descriptive statistics and correlations. Examining the variance inflation factors (VIFs), multicollinearity was not a concern for the hypothesized variables as all VIF scores were well below ten, except for interaction effects where correlation was by statistical design. Among the control variables, only the year and the annual trend in attention to natural products had excessive VIF scores due to their high correlation. Since they were control variables, I included them both and do not interpret their coefficients.

INSERT TABLE 1 ABOUT HERE

Results

Table 2 presents five models to investigate the elaboration of natural products with additional green claims. The first model isolates the control variables. Elaboration is associated with the general proliferation of marketing claims, as evident in the strong positive coefficients for the numbers of distinct marketing claims at product, firm, and market levels. Also, firms with fewer products and brands but that operate in more markets are more likely to include additional green claims, although only the brands effect is stable across models. Elaboration is greater in markets with fewer firms but less concentration.

INSERT TABLE 2 ABOUT HERE

The next four models test hypotheses 1-4. Model two includes all direct effects. Greenwashing criticism strongly increases natural elaboration. This result supports the

expectation from hypothesis one that movement skepticism threatens to delegitimize natural products, and that companies respond strategically by attempting to reinforce the credibility of their products with additional green claims. In support of hypothesis two, producer dedication to natural products also has a strong effect on elaboration. Specialists are particularly eager to strengthen their green credentials and make their natural products more substantial. The expected percent change in the likelihood of natural elaboration is 21.4% for a one standard deviation shift in greenwashing criticism and 42.8% for first specialization. The non-interacted effects for both measures of cooptation, which I did not hypothesize, are negative and significant, indicating that participation in natural products by conventional companies makes elaboration less likely averaging across all producers.

Model three tests the interaction between greenwashing criticism and firm specialization, finding a strong positive interaction effect, which supports hypothesis three. The more dedicated to natural products a firm is, the more responsive it is to greenwashing criticism, although criticism remains positive throughout the range of specialization. Figure 5 charts the expected effect of specialization across three levels of greenwashing criticism. In additional analyses, I confirmed that holding the other variables at their means, the marginal effect of firm specialization is significant throughout the range of criticism and vice versa.

INSERT FIGURE 5 ABOUT HERE

Models four and five interact the focal firm's dedication to natural products with two measures of cooptation by conventional companies. The main effects of the average amount of firm generalism for natural products and the number of natural products with synthetic ingredients in a market both remain negative. These results indicate that the more that

conventional firms control natural products and the weaker the environmental quality of these products, the less likely a non-specialized company is to elaborate its natural products. Consistent with hypothesis four, the interaction terms are both positive, showing that cooptation by conventional companies does increase the tendency of specialized firms to elaborate their natural products. Figure 6 graphs the expected effect of producer specialization for average levels of generalism and poor quality natural products. The cooptation interaction becomes positive at about 50% specialization for average generalism and only 30% specialization for poor quality natural products, signifying that companies react more readily to questionable natural claims in the market. Separate analyses confirmed that firm specialization has a positive marginal effect throughout the ranges of generalism and poor quality products, holding the remaining variables at their means. Conversely, these two variables cease to have a significant negative marginal effect at the upper end of firm specialization.

INSERT FIGURE 6 ABOUT HERE

Table 3 presents three models to analyze movement impacts on identity cloaking. In the baseline model with just the controls, products with more green marketing claims, representing greater investment in environmental issues, are more likely to be marketed under distinct brands. Producers with more brands but fewer products are also more likely to cloak their identities. None of the other controls are significant.

INSERT TABLE 3 ABOUT HERE

The next model includes all predictor variables. In combination, greenwashing criticism, the average specialization of firms in natural products, the average elaboration of natural products, and the percentage of natural products without questionable ingredients all increase

identity cloaking have positive but insignificant coefficients. However, in unreported models all of these variables are individually significant, and the logic of hypothesis five expects that their combination represents the extent of movement influence on a market, which incentivizes identity cloaking. In the third model, I replace the four predictors with an index of movement pressure that averages the z-scores for the four variables. This index is positive and highly significant ($p < .001$). This model supports the argument that movement influence on a market increases the value of specialization in the movement-related niche, which induces mass marketers to strategically cloak their identity.

Together, the findings from both tables demonstrate how persistent movement skepticism and competition among companies with varying environmental commitments shape the evolution of the meaning of natural. Debates about whether natural products are greenwashing or truly green lead companies to elaborate these products. Specialized producers are especially eager to solidify their green claims, and even more so in response to skepticism and to cooptation by conventional companies. The greenwashing controversy also induces mass marketers to cloak their identities via more trusted specialized brands.

Robustness Checks

To assess robustness, I examined five additional sets of analyses. Results were generally consistent in each case, with occasionally one coefficient from among the dozen hypothesized variables falling out of significance but no consistent pattern in the changes. First, I restricted the set of additional green claims to remove those that were more peripheral to environmental concerns, such as “long-lasting” and “no fragrance.” After dropping fourteen claims, I

reanalyzed the data around a subset of twenty-nine core green claims. Second, I altered the threshold for separating green firms and brands from conventional ones, which I used in the analysis of identity cloaking. The main results employed a definition of specialists as having a natural claim in 80% or more of a firm's or brand's products. In re-estimations, I also examined thresholds of 75% and 90%. Third, I re-estimated the outcome of natural elaboration as a count of additional claims with negative binomial regression models. Fourth, the main measurements of specialization used a decay function to incorporate the past history of product introductions. I also recalculated specialization with current data only. Fifth, using matching on UPC codes and secondarily names, I merged Nielsen data on incumbent products from 2004-2012, adding nearly five million product-year records. I again recalculated the specialization variables with the expanded data. The persistence of the findings across all five checks, which entailed subsetting the data, expanding the data, and redefining both outcome and key predictor variables, testifies to their robustness.

Discussion

In June 2015, a feature article in *Fortune* titled, "The War on Big Food," detailed the erosion of mass marketers' business model (Kowitt, 2015). The market share of the top 25 U.S. food and beverage companies dropped $18 billion since 2009, as consumers increasingly sought less processed food from more authentic-seeming producers. Kraft Foods, Campbell Soup, Hershey, and the other leading firms responded through a dual strategy: first, reformulate products to remove unhealthy or unrecognizable ingredients, creating a so-called "clean label"; and second, acquire niche marketers of natural products. The companies made these changes even though higher ingredient costs and escalating acquisition prices sap profits.

The pathway that leads from the eruption of environmental ideas in the 1960s to the restructuring of food, beverage, and other consumer goods industries decades later is a prime example of the extended cultural consequences of social movements. By successfully challenging established practices, movements generate new ideas and values that other actors can utilize to advance their own interests (Rao, Morrill, & Zald, 2000; Rochon, 1998). As a consequence of achieving influence, activists lose a monopoly over their own ideas, yielding power to local implementers over the meaning of the movement within particular domains. To the extent that these implementers are fused with activists, as in the case of grass-fed beef producers, movement influence remains strong (Weber et al., 2008). Alternatively, studies from a cooptation perspective show how demobilized movements, vague regulations, and powerful organizations will typically lead to the redirection of activist ideas away from movement principles and towards managerial objectives (Edelman et al., 1999; Lounsbury et al., 2003). The more common situation, however, may be enduring debate among activists and adopters with varying movement interpretations, as in the CPG markets studied here.

The model I construct to understand this middle ground is that the loss of movement ownership over its own ideas sets off a struggle for control over the meaning of the movement within various domains, which yields emergent consequences. In the case of natural products, diverse activists and marketers compete to establish their understandings of what constitutes green virtue as opposed to greenwashing. The controversy around green credentials leads to the development of a new meaning of natural as connected with additional environmental attributes, especially negative claims to being free-from harmful ingredients, and also as tied to specialized brands that cloak the identity of mass marketers and increase their congruence with a politicized consumer audience.

The results from this study provide insights into how these dynamics unfold. In response to the emergence of green marketing, activists challenge the partial incorporation and reinterpretation of their ideas. This criticism threatens to undermine the value of movement-associated marketing claims. In response, companies push to bolster the credibility of their claims by reinforcing their products with other movement-related attributes. Producers dedicated to movement values are especially eager to shore up their products and maintain their alignment with the movement. The threat of conventional companies entering their niche further increases their efforts because these competitors are often well-resourced and they also weaken the credibility of movement-related marketing. In addition, movement pressure on markets increases the saliency of producer identity as a marker of both competence in interpreting movement values and of adherence to these values. As a result, in order to enter markets where movement influence is strong, mass marketers invest in distinct brands that cloak their identities and present consumers with the impression that their products come from companies that are dedicated to movement concerns. Persistent movement skepticism and competition among companies over their fidelity to movement values leads to the evolution of a market towards products with greater investment in their environmental integrity; less expensive attempts to weakly adhere to the inspiring movement wither away.

Going forward, I hope that this model of entanglement between social movements and markets inspires additional research on persistent interactions among activists and companies, and the emergent consequences of these interactions. Research designs should better incorporate the variety of perspectives and strategies in both camps (Bertels et al., 2014; van Wijk et al., 2013). Such research would advance our understanding of how a movement's meaning and impact emerge from recurring contentious interactions among diverse protagonists. The results

here suggest that we should expect a proliferation of new market categories and identities. The greater complexity in the ensuing market landscape offers new strategic opportunities for companies to develop in less competitive niches, as well as challenges where companies face evaluation against multiplying standards.

The increasing politicization of consumer markets (Soule, 2009) also warrants additional research focused on organizational identity and politics. Building off the study by Phillips and Kim (2008) on the use of deception by Victorian-era music companies, there is much more to be learned about how consumer politics affect market entry and corporate identity management. I suggest that identity cloaking is a useful concept because it broadens the theoretical scope to include the range of situations in which companies adjust their presentation of self to fit audiences' politicized expectations. This research should also connect with studies of how companies deploy multiple strategies to control political pressures, including public relations campaigns, lobbying, and decentralization via contracting, equity investments, and acquisitions (Dowd, 2004; Phillips & Kim, 2008; Sikavica & Pozner, 2013; Swaminathan, 2001; Walker & Rea, 2014). Marketing strategies such as identity cloaking are likely to be central tools in corporate management of these pressures.

This research should also consider the implications of this perspective for the obtainment of movement goals and the redirection of these goals. In addition to the risk of being isolated in a market niche rather than more broadly transformative, activists may enter into a path of policing claims that are not central to their original goals. For example, a debate about the presence or absence of particular additives in natural products, which are often actually resource-intensive junk foods, has displaced the pursuit of ecologically sustainable and holistically healthy

products. As one executive of a natural food processing company commented: “sustainability was not used much at the [natural products industry trade] show. Isn’t it a shame?”[13]

In conclusion, when activists and managers routinely encounter each other in the marketplace, a debate ensues over what the movement means within markets — over which market practices adhere to movement values and which are deceptive. In this view, movement-market interactions take the form of a persistent struggle for control over the interpretation of movements in markets rather than market reform or movement cooptation. These definitional contests lead to a proliferation of a new market categories and identities, as producers attempt to defuse consumer doubts about whether their products align with movement ideals or not. This theoretical perspective helps to account for the elaboration of natural with additional negative claims and a rash of green acquisitions, which are not fully consistent with either core activist or corporate goals.

[13] Interview, 3/28/14.

Appendix

Table A1 lists the green marketing claims that I used in my analyses. I drew on contextual knowledge of the environmental movement to select the 43 claims that were connected to environmental issues from the 138 available. The main environmental concerns captured by these claims are reduction in contamination or pollution and in resource use or waste. There are many overlaps with other movements, especially the health movement, which is highly connected with the environmental movement through shared ideas and adherents (Hays, 1987; Vasi, 2011a). In fact, marketers refer to this consumer niche as LOHAS or Lifestyles of Health and Sustainability (Emerich, 2011).

List of Green Marketing Claims

No Animal
No Meat
Vegan
Vegetarian
Low Fragrance
No Allergy
No Fragrance
No Perfumes
No Added Hormones
No Additives
No Antibiotics
No Artificial Color
No Artificial Flavor
No Artificial Ingredients
No Artificial Sweeteners
No High Fructose Corn Syrup (HFCS)
No Irradiation
No Preservatives
No Genetic Modification
No Bisphenol A (BPA)
No Chemicals
No Formaldehyde
No PABA
No Paraben
No Pesticides
No Petrochemicals
No Toxic
Environmentally-Friendly
Fair Trade
No Fluorocarbons
No Phosphates
No Tropical Oils
Natural
Organic
Pure
Real
Biodegradable
Long-Lasting
Recyclable
Recycled Materials
Reduced Packaging
Refill
Reusable

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Figure 1 - Percentage of New CPGs with Natural Claims, 1985-2012

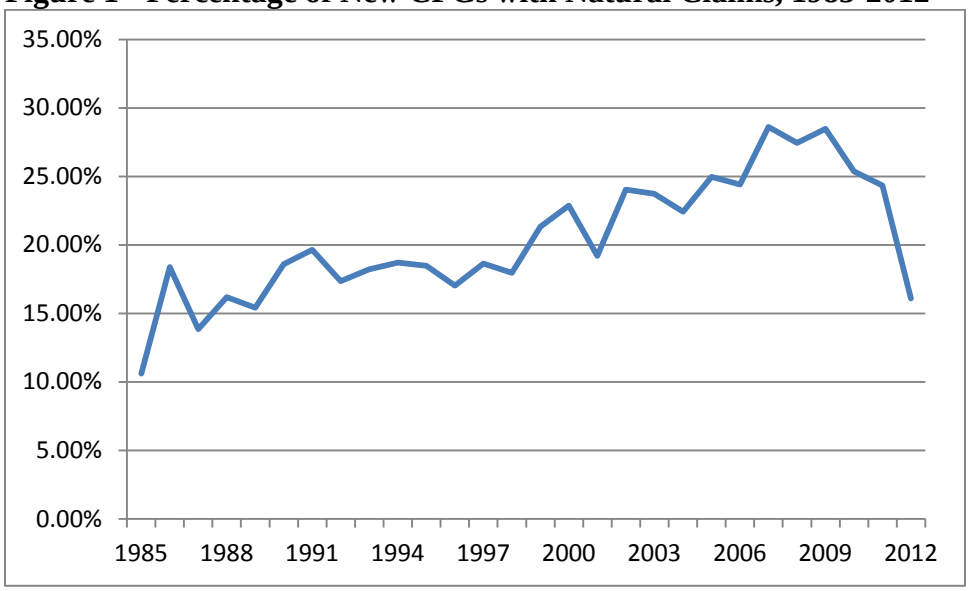


Figure 2 - Percentages of New Natural CPGs by Additional Green Claims, 1987-2012

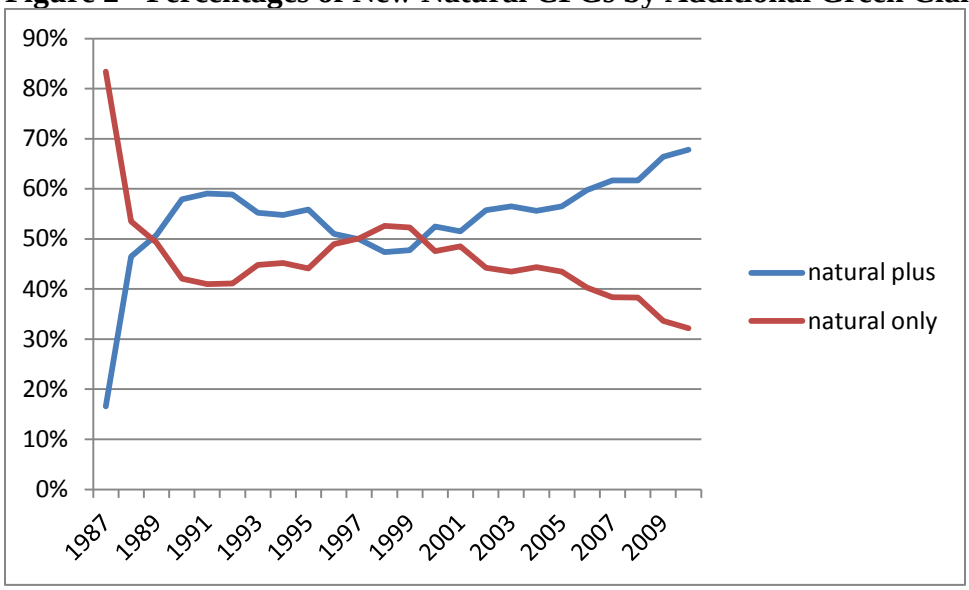


Figure 3 - Counts of Additional Green Claims Tied to New Natural CPGs, 1987-2012

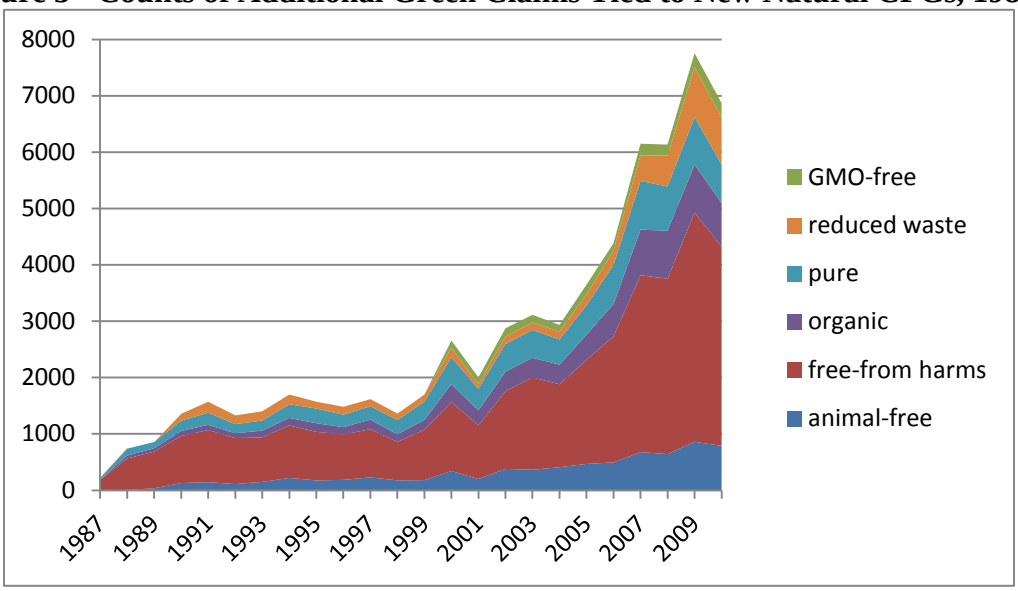
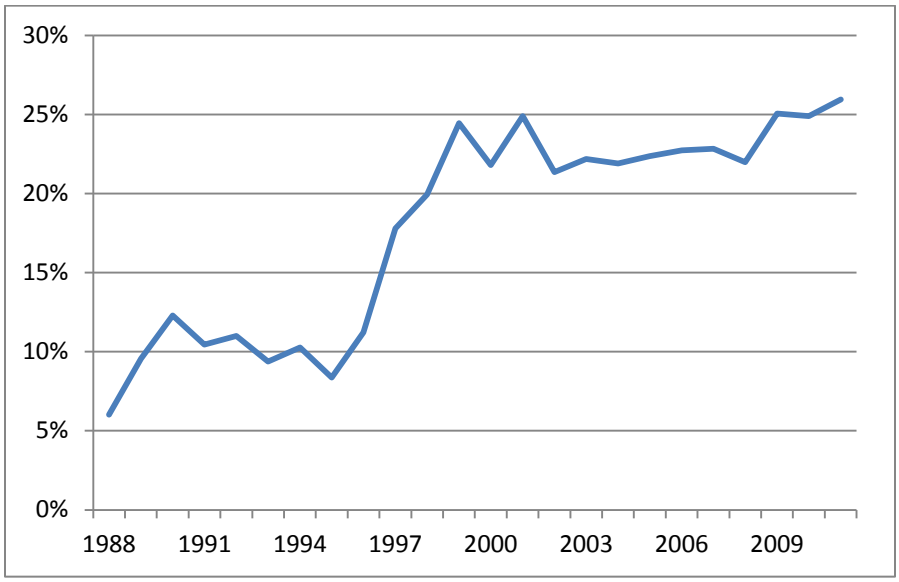


Figure 4 - Prevalence of Specialized Brands for New Natural CPGs from Mass Marketers, 1987-2012[15]



[15] Data are for companies with at least five brands and are smoothed with a three-year moving average.

Figure 5 - Effect of Firm Specialization on Natural Elaboration Across Three levels of Industry Greenwashing Criticism

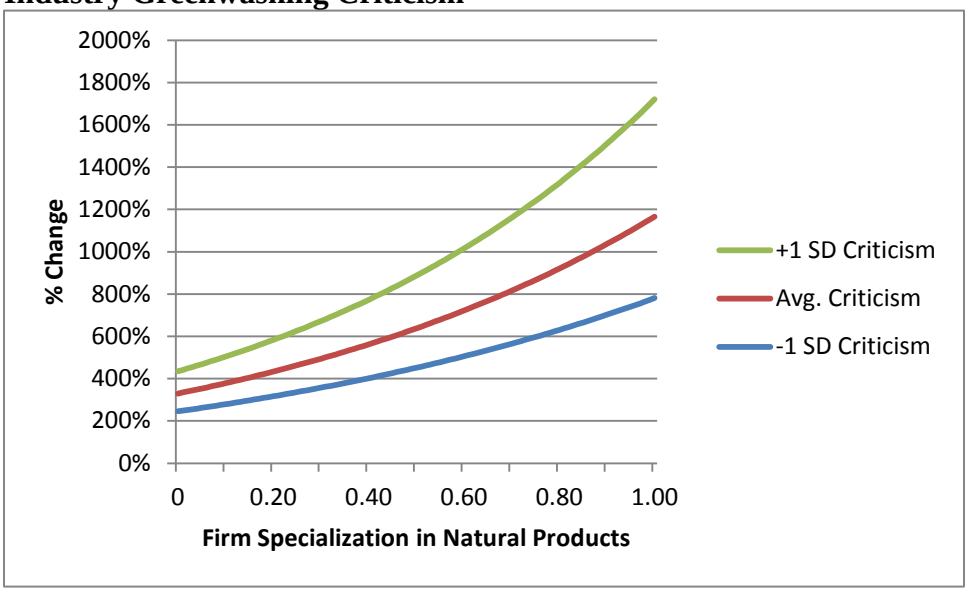


Figure 6 - Effects of Firm Specialization on Natural Elaboration for Average Levels of Generalism and Poor Quality Natural Products

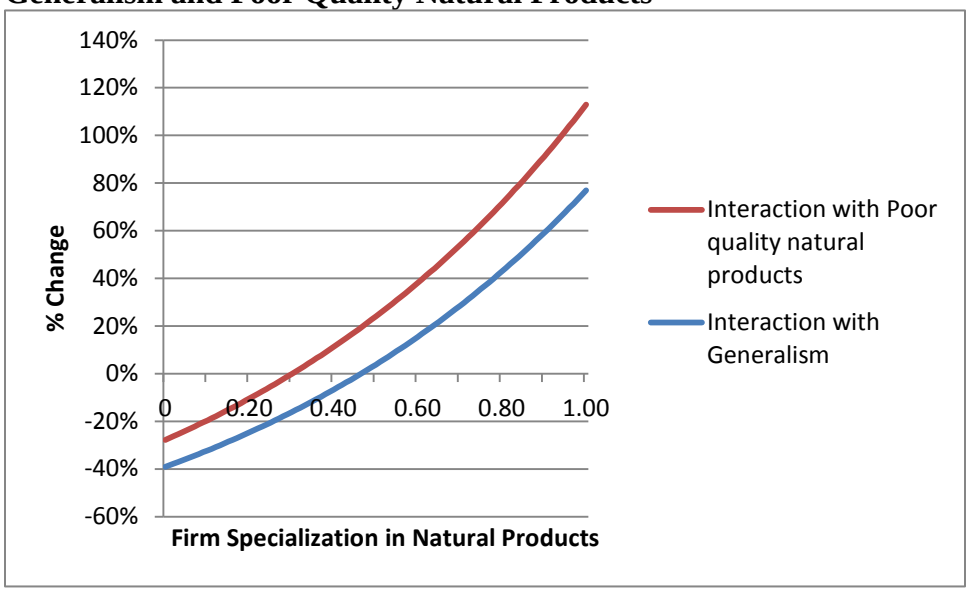


Table 1 - Descriptive Statistics and Correlations

	Variable	Mean	Std. Dev.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Natural Products (n = 52,579)																	
1	Additional green claims (0-1)	0.56	0.50	1														
2	Industry greenwashing criticism (t-1)[1]	3.35	1.10	0.07	1													
3	Firm specialization in natural (%)	0.65	0.33	0.15	-0.08	1												
4	Generalism in natural products in market (t-1)	0.36	0.12	-0.06	0.11	-0.10	1											
5	Poor quality natural products (t-1)[1]	2.09	1.57	0.08	0.25	-0.02	0.09	1										
6	Product's conventional claims[1]	0.91	0.65	0.20	0.24	0.03	-0.06	0.23	1									
7	Firm's products[1]	1.49	1.41	-0.04	0.11	-0.61	0.11	0.17	0.00	1								
8	Firm's brands[1]	0.39	0.81	-0.08	0.05	-0.51	0.04	0.04	0.01	0.68	1							
9	Firm's markets[1]	0.75	0.88	-0.01	0.15	-0.50	0.09	0.12	0.02	0.87	0.63	1						
10	Firm's other claims[1]	1.16	1.21	0.00	0.15	-0.53	0.05	0.20	0.09	0.86	0.63	0.77	1					
11	Market's firms[1]	5.21	0.77	-0.03	0.32	0.01	-0.11	0.51	0.12	0.00	-0.03	-0.07	0.01	1				
12	Market's claims[1]	3.93	0.55	0.15	0.49	-0.01	-0.26	0.68	0.39	0.10	0.06	0.07	0.20	0.60	1			
13	Market concentration	0.02	0.03	0.04	-0.13	-0.04	0.18	-0.20	-0.06	0.07	0.04	0.09	0.05	-0.68	-0.39	1		
14	Attention to natural products[1]	5.91	1.04	0.18	0.42	-0.04	-0.10	0.68	0.35	0.19	0.07	0.19	0.26	0.15	0.70	0.00	1	
15	Year	2002	7.25	0.17	0.41	-0.04	-0.07	0.70	0.35	0.21	0.07	0.20	0.27	0.14	0.68	0.01	0.98	1
	Natural Products from Conventional Firms (n = 27,790)																	
1	Identity cloaking (0-1)	0.17	0.38	1														
2	Industry greenwashing criticism (t-1)[1]	3.37	1.04	-0.05	1													
3	Specialism in natural products in market (t-1)	0.70	0.12	0.09	-0.11	1												
4	Average additional green claims (t-1)[1]	0.78	0.30	0.00	0.26	0.20	1											
5	High quality natural product share (t-1)	0.88	0.12	0.04	-0.14	0.21	-0.43	1										
6	Product's green claims[1]	0.55	0.61	0.03	0.07	0.04	0.28	-0.11	1									
7	Firm's products[1]	1.87	1.37	-0.07	0.05	-0.15	0.12	-0.20	-0.05	1								
8	Firm's brands[1]	0.61	0.97	0.19	0.04	0.00	0.07	-0.06	-0.07	0.72	1							
9	Firm's markets[1]	0.90	0.86	-0.02	0.08	-0.10	0.13	-0.14	-0.01	0.83	0.70	1						
10	Market's firms[1]	5.22	0.76	-0.01	0.31	0.10	-0.01	-0.22	-0.04	0.02	-0.03	-0.06	1					
11	Market concentration	0.02	0.03	-0.01	-0.12	-0.18	0.06	0.01	0.04	0.05	0.03	0.07	-0.68	1				
12	Attention to natural products[1]	5.88	1.03	-0.01	0.44	0.06	0.63	-0.59	0.18	0.13	0.07	0.11	0.17	-0.01	1			
13	Year	2002	7.14	-0.02	0.43	0.02	0.62	-0.62	0.18	0.14	0.07	0.12	0.16	0.00	0.98	1		

[1]Variable is transformed by taking the natural log.

Table 2 - Logistic Regression Models Estimating the Attachment of Additional Green Claims to Natural Products, 1985-2012

	1	*2*	*3*	*4*	*5*
Industry greenwashing criticism (t-1)		0.177***	0.109*	0.179***	0.176***
		(0.041)	(0.047)	(0.041)	(0.041)
Firm specialization in natural		1.083***	0.756***	0.509**	0.812***
		(0.069)	(0.133)	(0.163)	(0.083)
Firm specialization x Criticism			0.102**		
			(0.039)		
Market avg. generalism in natural products (t-1)		-0.465*	-0.443*	-1.503***	-0.464*
		(0.187)	(0.187)	(0.351)	(0.186)
Firm specialization x Generalism				1.637***	
				(0.466)	
Market poor quality natural products (t-1)		-0.085***	-0.086***	-0.086***	-0.169***
		(0.02)	(0.02)	(0.02)	(0.028)
Firm specialization x Poor quality natural products					0.133***
					(0.03)
Product conventional claims	0.556***	0.56***	0.559***	0.56***	0.561***
	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)
Firm products	-0.198***	-0.053	-0.053	-0.045	-0.048
	(0.059)	(0.057)	(0.057)	(0.057)	(0.055)
Firm brands	-0.204***	-0.128**	-0.13**	-0.127**	-0.13**
	(0.047)	(0.041)	(0.041)	(0.041)	(0.041)
Firm markets	0.127*	0.066	0.068	0.06	0.063
	(0.056)	(0.054)	(0.054)	(0.054)	(0.053)
Firm other claims	0.106**	0.126***	0.129***	0.123***	0.131***
	(0.035)	(0.033)	(0.033)	(0.033)	(0.033)
Market firms	-0.884***	-0.845***	-0.843***	-0.839***	-0.843***
	(0.066)	(0.069)	(0.069)	(0.069)	(0.069)
Market claims	1.819***	1.643***	1.638***	1.64***	1.643***
	(0.083)	(0.092)	(0.092)	(0.092)	(0.091)
Market concentration	-2.435*	-1.907†	-1.947†	-1.852	-2.033†
	(1.058)	(1.136)	(1.134)	(1.141)	(1.118)
Attention to natural products	0.31***	0.284***	0.286***	0.278***	0.27***
	(0.078)	(0.079)	(0.079)	(0.079)	(0.079)
Year	-0.092***	-0.083***	-0.083***	-0.082***	-0.082***
	(0.011)	(0.012)	(0.012)	(0.012)	(0.012)
Constant	180.125***	161.696***	162.473***	160.576***	159.74***
	(20.923)	(23.172)	(23.201)	(23.191)	(23.09)
N	52,567	51,868	51,868	51,868	51,868
Degrees of freedom	61	64	65	65	65
Wald $\chi 2$	2530.42	2529.12	2556.87	2537.01	2560.41

***p≤.001 **p≤.01 *p≤.05 †p≤.10; Note: robust standard errors clustered around firms in parentheses and all models contain fixed effects for markets.

Table 3 - Logistic Regression Models Estimating Identity Cloaking for Natural Products from Conventional Companies, 1985-2012

	1	*2*	*3*
Industry greenwashing criticism (t-1)		0.064	
		(0.081)	
Market avg. natural product specialization (t-1)		0.24	
		(0.362)	
Market avg. additional green claims (t-1)		0.295	
		(0.183)	
Market high quality natural products (t-1)		0.888†	
		(0.506)	
Index of movement pressure (t-1)			0.345***
			(0.105)
Product green claims	0.256***	0.24***	0.24***
	(0.053)	(0.055)	(0.055)
Firm products	-1.385***	-1.381***	-1.38***
	(0.108)	(0.109)	(0.109)
Firm brands	2.056***	2.05***	2.049***
	(0.139)	(0.139)	(0.139)
Firm markets	-0.084	-0.08	-0.081
	(0.152)	(0.152)	(0.152)
Market firms	-0.149	-0.209	-0.219
	(0.139)	(0.137)	(0.14)
Market concentration	-2.832	-6.645*	-6.681*
	(2.829)	(2.606)	(2.665)
Attention to natural products	0.353*	0.201	0.202
	(0.143)	(0.152)	(0.155)
Year	-0.049*	-0.03	-0.031
	(0.022)	(0.021)	(0.023)
Constant	97.126*	57.271	62.556
	(44.076)	(42.03)	(45.847)
N	27,775	27,457	27,457
Degrees of freedom	57	60	57
Wald $\chi 2$	570.77	587.45	585.74

***p≤.001 **p≤.01 *p≤.05 †p≤.10; Note: robust standard errors clustered around firms in parentheses and all models contain fixed effects for markets.