

# **Impact of Country of Origin and Organic Certification on Consumer Food Choices in Developed and Emerging Economies**

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## **Abstract**

To investigate the influence of COO on consumers' food choices in the presence of other quality cues, a choice-based conjoint (CBC) experiment was conducted in Germany, France, China and Thailand. In each country, a sample of about 1000 consumers participated after being screened for responsibility for the household's shopping, consumption of the case product, and knowledge of organic food. The overall design is a full factorial with four COOs, three different organic label conditions and three price levels. The 36 different choice options were bundled in 12 choice sets of three alternatives, which were presented in random order. The study revealed a general tendency to prefer imported food products from economically developed over products from less developed countries. In Europe, this effect cannot be disentangled from a preference for nearby COOs. However, in Asia, distance to the COO seems less important. Country image linked to level of economic development seems to matter more.

**Keywords:** *Country-of-origin, organic food, economic development*

**Track:** *Exporting & International Marketing*

## 1 Introduction

Country of origin (COO) is probably the most intensively studied among the extrinsic cues consumers use to assess product quality (Carneiro & Faria, 2016). Consumers are consistently found to use the COO (i.e., “made-in”) as a cue in product evaluations, along with the price, brand name, and product labels (Dekhili & Achabou, 2014).

Such product labels (e.g., an organic label or a protected origin label) are also important quality cues for food products (Grunert & Aachmann, 2016). For example, in Europe, all countries have at least one certified organic label. In addition, food products marketed as organic in EU countries are mandated to carry EU’s organic label. The latter is expected to reduce barriers to trade created by differentiated national and private organization labels (Janssen & Hamm, 2012b). This might imply that the EU’s organic label reduces COO effects for organic food traded between different European countries. However, COO effects in the context of organic food labelling have only been studied little and recently (Thøgersen, Pedersen, Paternoga, Schwendel, & Aschemann-Witzel, 2017).

This paper investigates if and how COO influences consumers’ food choices in the presence of other quality cues: a certified organic label and the price level. It thereby sheds light on the interrelation between the COO and organic in international trade of added value products, such as organic food. In particular, it contributes to knowledge about consumer preferences for certified organic food products by investigating if and how preferences differ between export countries that vary in terms of geographical and cultural distance and economic development.

## 2 Prior research and hypotheses

When faced with a choice set of available options, it is generally assumed that consumers’ perceived relative value of the options (Sheth, Newman, & Gross, 1991) is the main determinant of their choices (Bettman, Luce, & Payne, 1998). For example, consumers typically evaluate an organic food product relative to similar conventional products and possibly also to other unconventional products, such as fair trade or GMO free, if they are available in the choice situation. In the same way, they evaluate an imported food product relative to similar domestic products and possibly also to products imported from other countries, if available. Often, desired product attributes come at a cost, such as the higher costs of producing and processing certified organic food products or the costs of transporting products from a distant location. These added costs lead to higher prices and thereby to lower economic value (Smith & Colgate, 2007). Hence, consumer choices often entail a trade-off between valued product attributes and economic value.

Key factors influencing how consumers compare and evaluate products originating in different countries include country image (Andéhn, Nordin, & Nilsson, 2016), consumer ethnocentrism (Balabanis & Diamantopoulos, 2004), geographical distance (Rosenbloom & Haefner, 2009), and trust (Rosenbloom & Haefner, 2009). It is generally found that consumers prefer products from an economically more developed country for products from a less developed country (Andéhn et al., 2016). There are multiple reasons underlying this preference, including quality perception, safety concerns and status seeking. Consumers in developing countries sometimes even prefer imported products from an economically developed country for similar products of domestic origin (Ortega, Hong, Wang, & Wu, 2016). Hence, we hypothesize:

*H1: Consumer preferences for different foreign COOs of food products is more dependent on these countries’ level of economic development than on geographical and cultural distance.*

Within the limited stream of research on COO effects for labelled food products, most studies have focused on preferences for domestic versus imported organic foods, and most of them find a preference for domestic products (Dransfield et al., 2005; Xie, Gao, Swisher, &

Zhao, 2015) - a domestic country bias (Balabanis & Diamantopoulos, 2004). Among the few exceptions is Ortega et al.'s (2016) study, which found that consumers in Beijing, China, were willing to pay more for Australian (but not for US) than for domestic (Chinese) beef.

Research in developing and emerging economies, such as Thailand and China, have found low trust in national organic labels (Grunert, Loose, Zhou, & Tinggaard, 2015; Nuttavuthisit & Thøgersen, 2017). There is still limited research on EU's mandatory organic label and how this label works in practice (Janssen & Hamm, 2012a), and no research on whether the label has weakened or strengthened individual European countries' image for organic food at different markets, in Europe or in other parts of the World. Hence, in relation to organic food and COO effects, we hypothesize that:

*H2a: European consumers evaluate organic food products more favourable when "organic" is communicated with their national organic logo than with the EU organic logo.*

*H2b: Consumers in less economically developed countries in Asia evaluate organic food products more favourable when "organic" is communicated with the EU organic logo than with their national organic logo.*

These hypotheses were tested by means of choice experiments in four countries at different levels of economic development, investigating the joint effect of country of origin, organic certification, and price on consumer choices of food products.

### **3 Method**

A choice-based conjoint (CBC) experiment was conducted in two European (Germany and France) and two Asian countries (China and Thailand), embedded in an online consumer survey. A choice experiment aims to 'unbundle' consumer product preferences into preferences for different components of the product (Green & Srinivasan, 1990). Its key advantage is that consumer preferences are revealed by their choices and the apparent trade-offs they make between different attributes and levels, rather than by their answers to hypothetical questions. For this and other reasons, choice experiments have become quite popular in consumer research, including studies on consumer preferences for organic food and/or COO (e.g., Hempel & Hamm, 2016; Xie et al., 2015).

In each of the four countries, a sample of about 1000 adult consumers participated in the choice experiment after being screened for (at least partial) responsibility for the household's shopping, consumption of the case product, and knowledge of organic food. The gross samples were drawn so as to be representative of the country (in European countries) or of selected major cities (in China: Beijing, Shanghai and Guangzhou, in Thailand: Bangkok) in terms of demographic characteristics (i.e., gender, age, geography).

The questionnaire was developed in English and translated to the four national languages. In order to control the translations, they were back-translated into English by a different person. The authors of this article controlled the back-translations, comparing them with the original English version and settled all uncertainties and ambiguities with the translators. Participant recruitment, data collection as CAWI-interviews and the organization and presentation of the data in SPSS files was handled by YouGov, an ISO certified, full-service online market research agency with a global panel of more than 3 million respondents.

In order to control whether preferences regarding COO and organic are product-specific or more general, participants were randomly assigned to one of two choice experiments: one involving a choice of drinking milk and the other one involving a choice of pork chops. In both cases, the following attributes were varied: Country of origin, organic labelling, and price, each with levels corresponding to a realistic choice environment. COO could be one of four countries, including the home country, two nearby countries and one distant country. Organic was communicated by means of the word "organic" (translated to the national language) and either the official, national organic label or EU's organic label. The third level for this attribute

was no information, implying that this was *not* an organic product. The price could be either the normal price of the conventional product in that country (“low” in Table 1), 50% higher (the approximate premium in the European countries – “medium”) or 100% higher (the approximate premium in the included Asian countries – “high”).

In order to investigate whether consumers in the Asian countries distinguish between European countries as COO, and vice versa, half of the Asian participants was offered Europe, while the other half was offered a specific European country, Denmark, as a distant COO option. Similarly, half of the European participants was offered China, while the other half was offered Thailand as a distant COO option.

The overall experimental design is a full factorial with four country-of-origins, three different organic label conditions (EU, national and none) and three price levels. This results in 36 (4\*3\*3) different choice options for each product. These 36 options were bundled in 12 choice sets consisting of three alternatives each. Hence, each participant made 12 choices, presented to them in random order. The design of the choice tasks was based on the principles of minimal overlap. (Because of the full factorial design, a “level balance” was also ensured.) The product presentation layout was designed with inspiration from existing retail stores’ websites, including a photo of the actual product (raw, un-packaged pork chops in a cut that is common in the country or an unlabelled carton of milk with a glass). To make the buying decision more realistic (Janssen & Hamm, 2012b), each choice set also offered the possibility of rejecting all three options.

#### 4 Results

Participants’ (stated) preferences were predicted from the alternatives’ characteristics, by means of an extended multinomial logit model using Latent Gold Choice 5.1 (Vermunt & Magidson, 2005). The key country-level results are presented in Table 1.

Country of origin was most decisive for participants when choosing among the alternatives. Only for Chinese consumers choosing pork chops, a different product characteristic, the price, was more important than COO. In all other cases, the price is second in importance after COO. The importance of both COO and the price depends on the range of alternatives offered. Had we extended (limited) the range further, these attributes would most likely have appeared as more (less) important. The importance consumers attach to the organic label differs little between the two product categories and between (especially European) countries. Organic labelling appears to be more important, relative to the other included attributes, for Chinese and partly (i.e., especially for pork chops) Thai consumers, compared to European consumers. Notice, however, that the ability of the statistical model to predict individual choices (the  $R^2$ ) is substantially lower for Chinese than for the other cases.

Not surprisingly, consumers in all countries and for both products prefer a lower to a higher price. Hence, the negative aspect of a higher price (i.e., as a cost, rather than as a cue to higher quality) dominates in all cases. With regard to COO, it is also not surprising – in the light of prior research (e.g., Balabanis & Nikoletta-Theofania, 2017) – that domestic origin is preferred in three countries out of four. The exception is China, where participants appear to prefer milk and pork chops from Europe, and even more so when the European country is specified to be Denmark. Further, participants in the European countries generally prefer products from nearer than from more distant countries. In the two Asian countries, it seems that the level of economic development of the COO means more than geographical distance. This finding is consistent with Hypothesis 1. However, animosity towards specific countries also seems to play a role (notably in China towards Japan).

Table 1: Estimates for aggregated multinomial logit model for the choice of either milk or pork chops, Germany ( $n = 520/471$ ), France ( $n = 512/494$ ), China ( $n = 675/665$ ) and Thailand ( $n = 497/468$ )

Attributes	Milk Beta	Wald	$p$	Importance <sup>c</sup>	$R^2$	Pork chops Beta	Wald	$p$	Importance <sup>c</sup>	$R^2$
<b>Germany</b>					.27					.25
<i>COO</i>		2530.46	<.001	.58			2175.43	<.001	.52	
Domestic	1.59					1.42				
Austria	0.15					0.18				
Denmark	0.05					-0.04				
China/Thailand <sup>a</sup>	-2.02					-1.60				
<i>Label</i>		42.01	<.001	.11			73.81	<.001	.14	
National	0.23					0.28				
EU	0.11					0.17				
No	-0.42					-0.53				
<i>Price</i>		1329.14	<.001	.28			1169.61	<.001	.30	
High	-0.82					-0.76				
Medium	0.16					0.07				
Low	0.90					0.96				
<b>France</b>					.29					.30
<i>COO</i>		3245.78	<.001	.54			3218.39	<.001	.51	
Domestic	1.80					1.64				
Germany	-0.17					-0.17				
Denmark	-0.29					-0.46				
China/Thailand <sup>a</sup>	-1.59					-1.34				
<i>Label</i>		62.22	<.001	.12			21.05	<.001	.15	
National	0.23					0.39				
EU	0.09					0.15				
No	-0.54					-0.45				
<i>Price</i>		1139.95	<.001	.31			1147.97	<.001	.33	
High	-0.91					-0.80				
Medium	-0.03					-0.04				
Low	1.06					1.08				
<b>China</b>					.10					.09
<i>COO</i>		946.40	<.001	.42			602.85	<.001	.32	
Denmark/Europe <sup>b</sup>	0.62					0.43				
Domestic	0.41					0.38				
Japan	-0.21					-0.20				
Thailand	-0.25					-0.25				
<i>Label</i>		204.62	<.001	.26			208.81	<.001	.28	
EU	0.35					0.32				
National	0.34					0.23				
No	-0.40					-0.36				
<i>Price</i>		597.23	<.001	.28			839.28	<.001	.39	
High	-0.18					-0.27				
Medium	0.17					0.13				
Low	0.41					0.55				
<b>Thailand</b>					.23					.19
<i>COO</i>		1302.30	<.001	.50			1132.78	<.001	.45	
Domestic	0.81					0.85				
Japan	0.45					0.46				
Denmark/Europe <sup>b</sup>	0.44					0.11				
China	-1.53					-1.10				
<i>Label</i>		152.00	<.001	.16			219.17	<.001	.21	
EU	0.35					0.37				
National	0.30					0.32				
No	-0.42					-0.56				
<i>Price</i>		1671.31	<.001	.32			997.74	<.001	.29	
High	-0.61					-0.48				
Medium	0.20					0.06				
Low	0.91					0.80				

Note: The “none of these” option is non-significant in all cases. Hence, it can be left out as a predictor of choices without biasing the estimates regarding other variables. <sup>a</sup> Milk: China, Pork chops: Thailand. <sup>b</sup> Milk: Denmark, Pork chops: Europe. <sup>c</sup> Relative.

Finally, consumers overall appear to prefer organic products over conventional. Which label is used to communicate organic production is of less importance, but not irrelevant. In the European countries, consumers prefer products labelled with their national organic label, as predicted in Hypothesis 2. Also, as predicted in Hypothesis 3, in the two Asian countries, consumers appear to (slightly) prefer organic products labelled with EU's label to products labelled with their national label.

## 5 Discussion

This study has investigated the joint effects of country of origin, organic labeling and price on consumer preferences (measured as stated choices) for food products across two different products (pork chops and drinking milk) and four different countries, two from Europe and two from emerging countries in Asia. Past research has found that consumers use both COO and organic labeling as cues to product quality, but also that the impact of the COO tend to be attenuated when other quality cues are present. Whereas the former finding is confirmed by this study, it partly contradicts the latter, revealing that COO is more important than organic labelling for consumer food choices. The study also confirms and extends prior research identifying a general domestic country bias, with some exceptions in less developed countries. First, a domestic country bias was found for both of the studied food products in both included developed (i.e., European) countries. However, preferences for imported products from economically more developed countries were found in the two Asian countries, especially in China where they were even preferred for domestic products.

Hence, there is a general tendency to prefer imported food products from economically developed over products from less developed countries. In the European countries, this effect cannot be disentangled from a preference for nearby, compared to more distant COOs. However, in Asia, distance to the COO seems less important. What seems to matter more is country image factors linked to level of economic development. It is interesting to note that historical relationships and country animosity also seem to play a role, such as the historically more harmonious relationship between Thailand and Japan than between China and Japan.

### 5.1 Limitations

Because of the screening of participants and the online experiment context, the samples are not completely representative of the studied populations. However, it is a key strength of our study that the gross samples are representative of real consumers of the studied products, screened for relevant knowledge, which ensures a realistic decision context. For the present purpose, it is more important that samples are comparable than completely representative.

### 5.2 Conclusion and implications

This study confirmed that COO is an important factor influencing consumer preferences and choices, also for food products and also when other quality cues are present in the choice situation. A large share of the COO effect is a domestic country bias, which may be rooted among other things in consumer ethnocentrism. However, the strong tendency to prefer products from developed over products from developing countries suggests that the COO is also used as a quality cue.

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