

## Income and price as a barrier to organic food choice

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**Key words:** price, income, perception, barrier, review, children

### Abstract

*From the barriers said to potentially hamper the further development of the sector, the consumer demand side and herein the high prices are handled as crucial. We reviewed the literature since 2000 regarding the role of perceived price and income. We find that self-report based studies nearly unequivocally find price is the primary barrier to choice, deviations from this appear to occur when researching organic consumers and developed organic markets. There are mixed findings regarding income, but representative studies tend to indicate a significant influence. Number and age of children and income level are found to impact the influence of income on intention to or purchase of organic food.*

### Introduction

Despite considerable growth rates, organic farming is still practiced on only less than 1% of the world's agricultural land (Willer et al., 2013). Many national governments have defined goals for increasing the organic share in farming. In order to reach these goals, demand has to increase as well. The high price is often discussed as the crucial barrier (Padel, 2005; Jensen et al., 2011). Price, however, serves a double role, given that it is also used as a cue to quality (Völckner & Hoffmann 2007). Findings about the influence of income, assumed to be impacting the relevance of price, have been found to be mixed (Hughner et al. 2007). We aim to explore consumer behaviour research findings regarding organic food prices by reviewing the state of research. The following contribution focuses on the question of price as a barrier to purchase and the extent of the influence of income on organic food choice.

### Material and methods

We searched databases such as organic e prints, Science Direct, Business Source Complete and Web of Science. The search terms used were 'organic', 'price' and 'consumer', in both title and abstract. We applied the following criteria for inclusion in the review: 1) research published between 2000 and 2013, given that roughly around that date, the market changed to a structure similar to the current (Aschemann et al., 2007; Hamm et al., 2002; Wier et al., 2008) so that results are relevant for today's situation, 2) studies conducted either in Europe or North America, given that these continuously represent advanced and comparable markets during the time frame (Willer et al., 2013), and 3) research included in English with the exception of German, given the sizable research on the specific issue at hand available only in German language.

Five research questions were phrased to be posed to the current state of knowledge, of which we focus on the following two: 1) How important is price as a perceived barrier to organic food choice? and 2) Which role plays income as an explanatory factor for purchase of organic food?

This approach resulted in 69 articles considered. Among these are reviews addressing the question of how organic consumers are characterised (Aertsens et al., 2009; Hughner et al., 2007), how consumers perceive or whether consumers prefer organic versus conventional food (Yiridoe et al., 2005) or which research has been done on organic consumer behaviour (Hamm et al., 2012), the remaining are research articles or reports.

### Results

#### 2.1 How important is price as a perceived barrier to organic food choice?

Arguing that perceived importance must be seen in relation to other factors, we focused on findings on a) self-reported importance of price in comparison to other barriers, or consumer elaborations that allow inferring on this comparison, and b) assessment of the influence of self-reported price perception of organic on self-reported or actual organic purchase behaviour in comparison to other factors.

With regard to a), most studies allow the conclusion that consumers express price to be the major barrier to purchase of organic food. However, some results appear to contradict. They indicate that availability

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(Fotopoulos & Krystallis, 2002), lack of information or identification (Zakowska-Biemans, 2011), taste and appearance (Hamm & Buder, 2011) and poor assortment (Jensen et al., 2011) can be overriding price as major barrier.

With regard to b), five studies find that expressing price to be a major barrier (Soil Association, 2004), the perception of organic food prices being high or expensive (Verhoef, 2005; Briz & Ward, 2009), price orientation (Zagata, 2012) or perceived importance of price for food shopping (Padilla Bravo et al., 2013) negatively influence frequency or self-reported or actual purchase.

### *2.2 Which role plays income as an explanatory factor for purchase of organic food?*

We included findings on a) influence of income level on stated preference surveyed as self-reported intentions, purchase or willingness-to-pay, and b) influence of income on revealed preferences (panel or scanner data) observed as organic purchase, frequency and budget share.

With regard to a), nine studies indicate that income is positively explaining stated preference for organic. However, equally many are counted that do not find significant results for the income variable. Six studies report mixed findings or find income significant in one, but not in the other country. With regard to b), five studies find a significant effect and five do not, with two reporting mixed results.

We explored possible patterns between the studies. Contrary to conclusions from Aertsens et al (2009), no differences are observed for the US versus Europe. Also, no clear results can be found for income relevance being dependent on the product category studied (e.g. milk). A further possible explanation is the methodology applied. It appears that studies with (fairly) representative data tend to find a significant influence of income (e.g. Fotopoulos & Krystallis, 2002; Padilla Bravo et al., 2013; van Loo et al., 2011; Bartels & Reinders, 2010).

Furthermore, number and age of children in the household are of relevance – believed to be grounded in income constraints. It is found that the likelihood of organic purchase is lower for households with children (van Loo et al., 2011; Zepeda & Li, 2007; Loureiro & Hine, 2002; Jonas & Roosen, 2008), especially, though, with older and a higher number children (Schröck, 2011; Wier et al., 2008).

Quite a number of studies highlight that sociodemographics lack in explanatory power (Bartels & Reinders, 2010; Zakowska-Biemans, 2011; Michels & Hamm, 2010; Gracia & Magistris, 2008) and that they fall behind psychographics such as attitudes and lifestyle (Aertsens et al., 2009; Padilla Bravo et al., 2013; Tranter et al., 2009). Lastly, studies report interesting findings on how income level influences organic purchase behaviour, e.g. that income exerts an influence only unto a certain level (Yridoe et al. 2005), for the lowest income group (Buder, 2011) or only in terms of trying organic, but not considerably buying (Dettmann & Dimitri, 2009).

## **Discussion**

Based on the literature described above, we conclude that price clearly is a major perceived barrier to organic purchase. This does, however, not show in an equally unequivocal significance of income, where findings are mixed, although tending to show a positive influence. Factors such as children, income level and psychographics are major variables influencing the relation.

The findings imply that marketing efforts should focus on decreasing the high price perception, while pricing and price-value communication strategies might target the low income groups and families with children differently.

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