

Health and environmental consciousness, costs of behaviour and the purchase of organic food

This study examines environmental and health consciousness, as well as behavioural costs and their effects on the purchase of organic products.

The consumption of organic products is regarded as an investment in individual health. The survey conducted in three German cities in 2006 using self-administered questionnaires (n=521) does not investigate willingness to pay but rather self-reported behaviour.

The results of the regressions using the Heckman correction show that income does not affect the regularity of organic food consumption but that it does influence individual expenditure on organic food. Furthermore, there is an inverted u-shaped relation between age and the purchase of organic products. Although health consciousness has a stronger association with organic food consumption than does environmental concern, the interaction between behavioural costs and health or environmental consciousness shows no effect. Thus, the low-cost hypothesis is not supported when applied to organic food consumption.

Research Hypotheses

Health investments

Organic food is often described as healthier than conventional food (Woese *et al.*, 1997; Magkos *et al.*, 2006). Thus, consumption of organic food may feature especially among consumers who are more willing to invest in their health in general. This applies to people of the middle age groups and to more educated people.

Willingness to invest in health is highest in the middle age groups, since it is then that people typically recognise the importance of health for their productivity and also when the expected life-span is still long enough to gain benefits from investments made now (Kuhn *et al.*, 2007). Higher education increases health investments to ensure that investments in education will pay off. Furthermore, people with higher education are more efficient in health production (Grossman, 1972).

Health and environmental consciousness

Ecological and health motives are the main factors discussed as predictors of attitudes and consumption in relation to organic food. According to Hamm and Gronefeld (2004) food safety is the most important buying motive in most European nations. Also, Zanoli and Naspetti (2002), Makatouni (2002), Chinnici *et al.* (2002), Magnusson *et al.* (2003) and Ureña *et al.* (2008) all find health to be the most important purchase motive. This is based mostly on the absence of pesticides and additives. McEachern and McClean (2002) reveal better taste to be most important.

Nonetheless altruistic motives are identified as meaningful purchase motives, too. In particular these motives are environmental protection (Lockie *et al.*, 2002; Ureña *et al.*, 2008) and animal welfare (Honkanen *et al.*, 2006; Zepeda and Deal, 2009).

Behavioural costs and the low-cost hypothesis

The predictability of behaviour from attitudes decreases with increasing behavioural costs, where cost refers to the input of all required resources, not simply monetary. Following this argument environmentally driven behaviour is more likely to occur in situations where both cost and inconvenience for the actor are low (Diekmann and Preisendörfer, 1998). This constitutes an interaction effect of attitudes and behavioural costs on behaviour.

H1: There is an inverted u-shaped relation between age and the purchase of organic products.

H2: Higher education will positively affect the purchase of organic products.

H3a: Higher income will positively affect the purchase of organic products.

H3b: Higher income will positively affect expenditure on organic products.

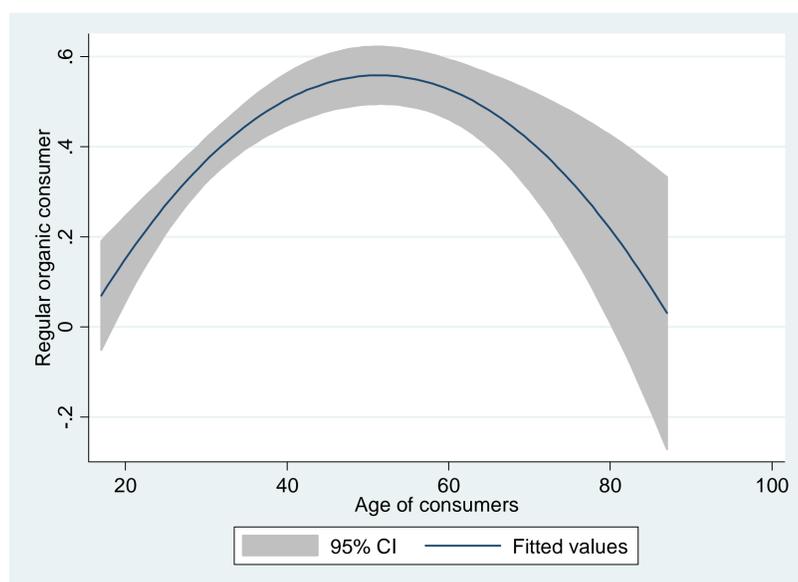
H4a: Health consciousness will positively affect the purchase of organic products.

H5a: Environmental consciousness will positively affect the purchase of organic products.

H4b: Health consciousness and low costs of behaviour will positively affect the purchase of organic products.

H5b: Environmental consciousness and low costs of behaviour will positively affect the purchase of organic products.

Inverted u-shaped relation between age and the purchase of organic products



Heckman correction (step 1: regular organic consumer, step 2: expenditure on organic products, all independent variables are grand mean centered)^{a)}

	Model 1	Model 2	Model 3	Model 4
	Coef. (z)	Coef. (z)	Coef. (z)	Coef. (z)
<i>Expen. on organic products (Step 2)</i>				
Income (100 €)	0.98 (3.27)***	0.97 (3.27)***	0.99 (3.27)***	0.99 (3.27)***
Constant	67.89 (11.30)***	63.71 (8.76)***	67.23 (11.28)***	66.97 (11.12)***
<i>Selection (Step 1)</i>				
Woman	-0.14 (-0.91)	0.04 (0.32)	-0.15 (-1.02)	-0.16 (-1.07)
Higher education ^{b)}	0.40 (2.67)**	0.41 (2.71)**	0.39 (2.63)**	0.38 (2.53)*
Age	0.08 (2.67)**	0.10 (3.21)**	0.08 (2.52)*	0.08 (2.44)*
Age squared ^{c)}	-0.01 (-2.48)*	-0.01 (-2.85)**	-0.01 (-2.36)*	-0.01 (-2.31)*
Young children	0.62 (3.17)**	0.47 (2.29)*	0.59 (3.06)**	0.58 (2.92)**
Income (100 €)	0.00 (0.13)	-0.00 (-0.20)	0.00 (0.12)	0.00 (0.13)
Washer D ^{d)}	0.32 (2.43)*	0.34 (2.55)*	0.32 (2.41)*	0.34 (2.53)*
Motiv. for healthy eating (MHE)	0.50 (5.22)***		0.49 (4.99)***	1.23 (2.19)*
Environmental consciousness (EC)		0.23 (2.28)*	0.14 (1.36)	0.21 (0.35)
Behav. costs (BC)	0.30 (3.25)**	0.33 (3.35)***	0.32 (3.43)***	0.90 (1.45)
MHE * BC				-0.20 (-1.33)
EC * BC				-0.01 (-0.09)
Hours of work	-0.00 (-0.17)	-0.00 (-0.77)	-0.00 (-0.30)	-0.00 (-0.29)
rho	-0.41 (-3.99)***	-0.29 (-1.78)	-0.39 (-3.67)***	-0.39 (-3.54)***
Wald test: Chi ²	12.5	2.80	10.76	10.05
N	430	431	428	428
Censored obs.	202	202	201	201

^{a)} Results are weighted; ^{b)} university-entrance diploma, ref.: all lower levels of education; ^{c)} 10 years

^{d)} Hypothetical purchase of a washing machine: A (high water consumption, high power consumption, low purchase price) to D (low water consumption, low power consumption, high purchase price), ref.: Washers A to C

* p<0.05; ** p<0.01; *** p<0.001