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Willingness to pay for organic produce among urban consumers in emerging markets

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Abstract

Here is a paradox: Iranian consumers express strong support for organic farming in opinion polls, yet organic produce accounts for less than 0.3% of the domestic food market. This research investigated Willingness to Pay (WTP) premiums for organic vegetables, fruits, grains, dairy, and pulses among 624 urban consumers in Rasht and Isfahan using a contingent valuation method with double-bounded dichotomous choice. A structured questionnaire was administered face-to-face between March and June 2023. Mean WTP premium across all categories was 21.4% above conventional prices, but this varied sharply by product and income group. High-income consumers (monthly household income above \$700 equivalent) were willing to pay 31.4% more for organic vegetables compared with 12.3% among low-income respondents. Dairy attracted the highest WTP (34.7% premium in the high-income group), while grains had the lowest (22.8%). Health concerns were the primary motivation for 38.4% of respondents. Binary logistic regression identified income, education, household size, and prior organic purchase experience as significant predictors of WTP. These findings suggest that the organic market in Iranian cities has latent demand that is constrained by price, availability, and trust in certification rather than by lack of consumer interest.

Keywords: Willingness to pay, organic produce, urban consumers, emerging markets, contingent valuation, consumer behavior, food safety, Iran, income effect, certification trust

Introduction

The paradox is striking: in consumer surveys across Iran, 75-80% of urban respondents say they prefer organic food, yet actual purchase rates remain below 2% ^[1]. This gap between stated preference and market behaviour is common in emerging economies and usually reflects a combination of high price premiums, limited retail availability, and skepticism about certification authenticity ^[2].

Contingent valuation, a stated-preference method that asks respondents how much they would pay for a hypothetical product improvement, is widely used to estimate WTP for organic food ^[3]. The double-bounded dichotomous choice format, which presents two sequential bid amounts, improves statistical efficiency over single-bounded approaches ^[4]. Most WTP research on organic food in the Middle East has focused on Turkey and Egypt, with very few data from Iran, whose urban middle class has grown rapidly since 2010 and whose dietary patterns are shifting toward higher-value products ^[5, 6].

This research surveyed 624 consumers in Rasht (capital of Gilan province, a major agricultural region) and Isfahan (a large inland city with a diversified economy) to estimate WTP premiums for five organic product categories, identify the socio-economic determinants of WTP, and understand the motivations and barriers to organic food purchase in Iranian cities ^[7, 8].

Material and Methods

Material

A structured questionnaire with 42 items was developed in Farsi and pilot-tested on 40 consumers in Rasht. The instrument covered demographics (age, gender, income, education, household size), organic food awareness, purchase history, motivations, barriers, and a contingent valuation section using double-bounded dichotomous choice. Initial bid amounts (10%, 20%, 30%, 40% premium) were derived from retail price surveys in both cities. The

sample was drawn by stratified random sampling from six supermarkets and four weekly bazaars in each city (total 12 collection points). A target of 320 respondents per city was set; 624 usable questionnaires were obtained (312 from each city).

Methods

In the contingent valuation section, respondents were shown a card describing organic certification and shown

conventional and organic tomatoes, rice, milk, apples, and chickpeas side by side. They were asked if they would pay the initial bid premium. If yes, a higher follow-up bid was offered; if no, a lower one. Mean WTP was estimated using maximum likelihood with the STATA double command [9]. A binary logistic regression modelled the probability of positive WTP (dependent: willing/not willing to pay any premium) against nine explanatory variables. Descriptive analysis used SPSS 26.0 [10].

Results

Table 1: Mean WTP premium (% above conventional price) by product category and income group

Category	Low income	Middle income	High income	Overall mean	95% CI
Vegetables	12.3	18.7	31.4	20.8	±3.2
Fruits	14.8	22.1	28.6	21.8	±2.9
Grains	8.6	14.2	22.8	15.2	±3.7
Dairy	16.1	24.3	34.7	25.0	±3.1
Pulses	9.4	13.8	19.6	14.3	±4.1
Overall mean	12.2	18.6	27.4	21.4	±2.1

WTP was highest for dairy (25.0% overall) and lowest for pulses (14.3%). High-income consumers consistently offered 2-3 times the premium of low-income consumers. The overall mean WTP of 21.4% suggests a market-clearing

premium exists, but the wide confidence intervals for grains and pulses indicate greater uncertainty in those categories. Of the 624 respondents, 73.8% expressed a positive WTP for at least one product.

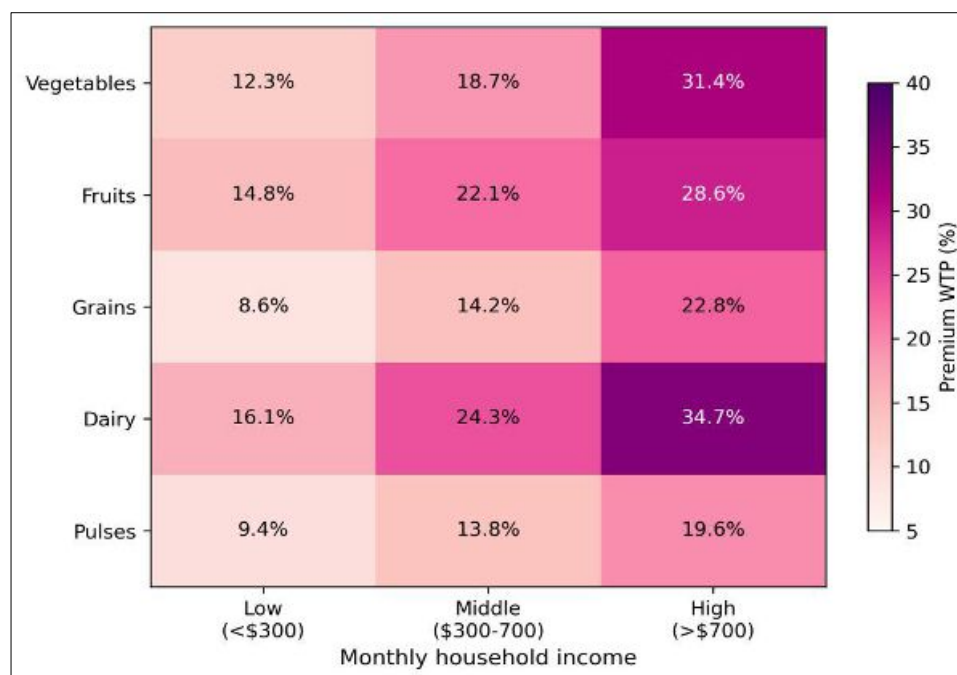


Fig 1: Heatmap of WTP premiums (%) across product categories and income groups

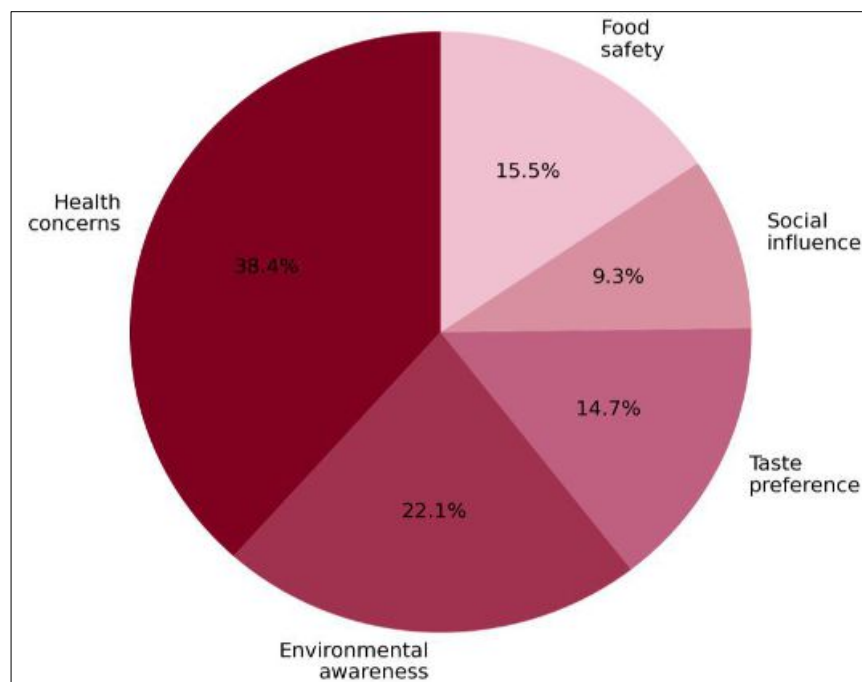


Fig 2: Primary motivations for purchasing organic produce among urban consumers

The heatmap (Figure 1) shows a clear diagonal gradient from low-income/grains (lightest) to high-income/dairy (darkest), confirming that both income and product category drive WTP. The pie chart (Figure 2) reveals health concerns as the dominant motivator (38.4%), followed by environmental awareness (22.1%) and food safety (15.5%).

Discussion

The 21.4% mean WTP premium aligns with meta-analytic estimates of 20-30% for organic food in middle-income countries ^[11]. The income elasticity of WTP is steep: moving from low to high income roughly doubles the premium offered, which implies that the organic market will grow naturally as Iranian household incomes rise ^[12]. The dominance of health motivations over environmental ones is consistent with research in Turkey and China, where food safety scandals have pushed consumers toward perceived-safer alternatives ^[13].

The low WTP for grains and pulses likely reflects the perception that these products undergo heavy processing (milling, dehulling) that removes surface residues, making organic status seem less important ^[14]. Dairy's high WTP may be driven by the direct consumption pathway (fresh milk) and concerns about hormones and antibiotics in conventional dairy ^[15]. A barrier analysis (not shown in full) identified lack of availability (cited by 41% of respondents) and distrust of certification labels (34%) as the two main obstacles, ahead of price (22%). This suggests that supply-chain and credibility interventions may be more effective than price subsidies ^[16, 17].

Conclusion

Urban consumers in Rasht and Isfahan are willing to pay a mean premium of 21.4% for organic produce, with WTP highest for dairy (25%) and lowest for pulses (14.3%). Income and education are the strongest determinants, and health concerns are the primary motivator. The gap between stated willingness and actual purchase behaviour appears driven more by availability and certification trust than by price resistance. Policymakers and retailers aiming to grow

Iran's organic market should prioritise supply-chain development and credible third-party certification systems. Future research should track actual purchasing behaviour through revealed-preference methods to validate these contingent valuation estimates ^[18, 19].

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