

Consumer willingness to pay a premium for safer and more hygienic pork: an experimental study in Vietnam

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Background

Vietnam has been a development success story transforming from one of the world's poorest nations to a middle-income country in the last three decades. As wealth has increased, so has meat consumption, and so also has consumer concerns over food safety. Pork is the most highly consumed animal source product in Vietnam, and most of it continues to be sold in traditional or wet markets. Numerous studies have found high levels of microbial contamination of pork sold in both traditional and modern retail. While modernisation is often seen as the solution to food safety, research shows this not to always be the case. Moreover, traditional value chains are preferred by customers and provide many additional livelihood, equity, and psycho-social benefits. The International Livestock Research Institute and partners had researched food safety in traditional markets for two decades and we argue that upgrading wet markets is possible a superior alternative to replacing them. However, upgrading requires investments and must be driven by incentives. We therefore conducted an experiment to see if consumer willingness to pay (WTP) for safer, cleaner, pork could be leveraged for upgrading traditional pork value chains.

Materials and Methods

We used a Becker-DeGroot-Marschak (BDM) mechanism with full bidding approach to measure the WTP of consumers for raw pork at traditional pork shops. BDM design provides an economic incentive for decision makers to reveal their true preference, reducing the problem that declared WTP is often higher than actual WTP. The subject decides a bid, which is compared to a price generated randomly. If the subject bid is higher than this price, they pay the price and receive the pork. If their bid is lower, they receive and pay nothing. Hence, bidding a true value is the most successful strategy.

The experiment was held in three traditional markets on a day the market was closed. Previously, 152 subjects were recruited by approaching every third consumer to enter the markets and, after consenting, a questionnaire was administered. Upgraded and typical pork shops were provided with pork. Upgraded pork shops had taken part in a food safety intervention study in which they received training, a hygiene package (sprayer, surface disinfectant, hand sanitiser) and a poster to motivate frequent cleaning and mentioning food safety to consumers. This was shown in another study to significantly reduce pathogen contamination.

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Participants did three practice rounds of BDM. For the actual game they received a coupon of amount unknown to the subject (\$4.50). Every second subject received a message with the results of a previous study showing one in five Vietnamese get sick each year from pork. Subjects were randomly assigned to upgraded or typical pork shops. All participants then observed and rated the shop assigned on hygiene scale and then offered a bid for pork. The enumerator drew a random price (not shared with participants). If the participant bid too low, they did not get pork and were given the coupon. If they bid higher, they got the pork, at their stated price, and received the remaining money deducted from the coupon.

Results

Participants were willing to pay a premium of around 0.3 USD (or 20%) for 0.5kg of raw pork (market price around 2 USD) from an upgraded shop compared to a typical shop.

Participants gave upgraded shops a hygiene rating of 9.6 (out of 10) compared to 7.3 for a typical shop. Hygiene rating was the only measured factor to significantly influence WTP a premium. More old people in the household, more consumption of pork, more food safety knowledge, self-reported foodborne illness, and higher concern over contaminated pork all tended to increase WTP for pork from an upgraded shop but were not significant. More children in the household and having received the message on number of Vietnamese falling ill from salmonellosis, tended to decrease WTP but were not significant.

Conclusion

The amount of premium consumers were WTP was lower and more plausible than previous studies, supporting the usefulness of the BDM design. Nonetheless, a 20% premium could help pay for the additional cost of the hygiene package, hence providing a powerful incentive for pork vendors to continue practicing good hygiene. While "Fear Appeals" can work, their failure to show significant in this context implies other messages are needed to promote willingness to pay extra for pork from upgraded shops.