

Fighting World Hunger can be a Win-Win: Innovating Firms can Do Well by Doing Good

A 2018 report by the Food and Agriculture Organization of the United Nations estimates that more than 820 million people around the world have been facing malnutrition and hunger.

CAFIO-PRG Research

Recognizing that malnutrition and hunger can be reduced through access to increased quantities of nutritious food offered at affordable prices, CAFIO-PRG research published recently analyzes the output/pricing strategies of innovating agri-food companies in hunger-stricken areas of the world. To do so, the research develops an empirically relevant multi-market framework of heterogeneous consumers and an imperfectly competitive innovating firm that seeks to maximize profits. To analyze the profit-maximizing strategies of the innovating firm in different regions of the world, we model the innovating firm's behavior in two regions – a hunger-stricken country/region that can benefit from a GM technology developed by the innovating firm, and the rest of the world where the innovation is marketed.

CAFIO-PRG Findings

Our research shows that:

- Under standard assumptions about the relationship between the hunger-stricken areas and the rest of the world, the profit-maximizing innovating firm finds it optimal to price discriminate and exercise its market power in each region. The optimal strategy of the innovating firm changes, however, when its GM technology can increase the supply of, and consumer access to nutritious food in hunger-stricken areas of the world, and consumers in the rest of the world care about this technology-enabled reduction in malnutrition and hunger.
- When the association of the GM technology with malnutrition and hunger reduction in food insecure areas of the world decreases consumer aversion to the GM technology in the rest of the world (as recent poll and survey findings suggest), the innovating firm will find it economically optimal to reduce its price and increase consumer access to nutritious food in these hunger-stricken areas.
- When the impact of hunger reduction on consumer attitudes towards the GM technology is relatively strong, the firm will find it optimal to offer its GM technology in the hunger-stricken areas for free as its losses in these areas are more than compensated by its gains in the rest of the world.
- This result is in contrast with the standard assumption of innovators' desire to exercise the market power conferred by their intellectual property rights and is shown to hold even when the innovation is purely rival.
- The results are consistent with observed innovating firm behavior (like Monsanto's recent donation of its DroughtGard™ tolerant maize technology to Water Efficient Maize for Africa, a private-public partnership aimed at developing maize varieties tolerant to drought for certain African countries) and provide analytical support to the strategic corporate social responsibility hypothesis.
- For the benefits from the firm's prosocial business practices to be maximized, it is important that the impact of the GM technology in hunger-stricken areas of the world is significant and it is broadly and effectively communicated.
- Given the conflict of interest, the innovating firm should probably not be the sole (or even the main) source of this information. Instead, trusted third parties with an interest in such humanitarian endeavors need to be identified and utilized to communicate the benefits of the technology to the public.

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