Can For-Profit Business Alleviate Extreme Poverty in Developing Countries?

By

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ABSTRACT

In this paper, I investigate how for-profit business can address what is arguably one of its greatest challenges: lifting the poorest of the poor in developing countries out of their poverty. In the proposed framework, the core principle is that, to succeed, for-profit businesses needs to embrace the idea of "shared prosperity," in which the standard of living of its clientele is raised while the business makes profits. Multinationals, which are capable of performing R&D for products and technologies appropriate for the poor, need to team up with local enterprises to provide marketing and distribution. I show that partnerships of purely for-profit MNCs with NGOs dedicated to poverty alleviation are more effective than even mergers with local for-profit firms because the NGOs elicit trust more readily from the target clientele and so make marketing easier. Using a formal mathematical model, I derive testable predictions on when MNC partnerships would obtain with NGOs as opposed to local for-profit firms. I provide some simple examples of MNCs that have managed to alleviate poverty in the manner proposed. My framework does not invoke any notion corporate social responsibility.

Key Words: poverty, productivity-enhancing technologies, multinationals, NGOs, shared prosperity, marketing and distribution

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1. Introduction

Despite the fact that the Millennium Development Goal of cutting world poverty in half between 1990 and 2015 was achieved five years ahead of time, the alleviation of extreme poverty remains a very pressing issue [Chandy et al. (2013), Ravallion (2012, 2016)]. People living in extreme poverty in developing countries are also the ones least accessible to poverty-alleviating programs. Lack of education, skills, assets, access to credit, coupled with residence in remote regions with poor infrastructure (roads, electricity, safe water) condemns them to continued poverty. Adding to their woes is the fact that when the resources needed for survival are very scarce it impairs cognitive function, and this forces poverty to persist [Mani et al. (2013)]. It is imperative, therefore, that every possible avenue to reduce dire poverty be explored. There has been surprisingly little attention given in mainstream development economics to the question of whether business could contribute in this endeavor. While much has been written about this possibility, a formal analysis has been missing.[1] This paper offers a formal theory that delivers some insights into when we may expect purely for-profit businesses to seriously contribute to lifting the very poor out of their condition.[2] I strictly eschew corporate social responsibility as a possible vehicle.

By extreme poverty I shall roughly mean that per capita income is less than $1.90 a day, in 2011 international dollars [Chen and Ravallion (2010)]. The latest estimate of people in extreme poverty is around 1 billion the world over, with 551 million in Asia and 436 million in Africa [Roser (2016)]. In this paper, these people comprise the "Base of the Pyramid" (hereafter BoP) of the income distribution—to use a telling phrase coined by Prahalad (2004).[3] Those in extreme poverty spend most of their incomes on essential goods such as food, shelter, and fuel.[4] Their limited capacity to spend of other goods, is obviously one of the main reasons why business does not come up with products specifically earmarked for the BoP.

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[1] Academics in business schools have given considerable attention to this question. See Prahalad and Hammond (2002), Prahalad (2004), and the literature these studies have spawned.

[2] In our analysis, firms are assumed to pursue the dictum of Friedman (1970), namely, that they should confine themselves to maximizing shareholders' wealth within the confines of the law.

[3] In his work, Prahalad actually included people who earned higher incomes than the poorest 1 billion we are focusing on here.

[4] For example, in India this proportion is as high as 80% of the budget [Gangopadhyay and Wadhwa (2004)].

Porter and Kramer (2011) have emphasized that corporations need to change their vision from exclusive profit-orientation to generating shared value. I fully embrace this view and so in this paper the overarching principle that an MNC serving the BoP must generate *shared prosperity* forms the cornerstone of the theory. Multinationals cannot have the same view for the BoP consumers that they adopt for the affluent markets, where they can take their consumers' standard of living as given and seek to generate profits from serving them. Instead, MNCs must adopt a comprehensive view that incorporates the idea that their fortunes are intimately tied to those of the BoP consumers.

This importance of having access to technology that is appropriate for the environment cannot be over-emphasized in alleviating extreme poverty. Emerick et al (2016) found in a randomized experiment in Odissa, India, that when a new agricultural technology (flood-resistant rice) that is suited to the local environment is introduced, the subsequent increase in productivity is greatly augmented by a 'crowding in' of complementary inputs. As the authors point out, lack of access to such appropriate technologies condemns people to use low-productivity ones that also require low levels of inputs.[5]

Despite the attractive prospect of the claim made by Prahalad (2004) and others that business and poverty reduction are mutually compatible, there are relatively few success stories to be found in the real world. Navigation of the BoP market presents formidable challenges. To begin with, the prices of the potential products have to be very low because the willingness to pay is severely constrained by the incomes of BoP buyers. Since the absence of collateralizable assets puts credit out of their reach or is severely rationed, this willingness to pay is independent of how much the new product may increase a potential buyer's productivity.[6] Secondly, the consumers at the BoP have to be convinced that the product will be appropriate for the economic and social environment they live in and that it will be useful to them. In effect, the corporation needs to actually generate a market for its product, which requires a fair amount of credibility among potential buyers to pull off and multinationals do not typically inspire trust amongst the poor. Thirdly, potential consumers at the BoP are often distributed geographically across regions with

[5] The example of an expensive failed attempt is Procter & Gamble's water purifying powder [Hanson and Powell (2006)]. Contaminated drinking water kills 2 million children every year.
[6] See Collins and Morduch (2010) for a description of the financial portfolios of the 2.6 billion people who live under $2 a day per person. (We are focusing here on the poorest 1 billion.) For an overview of the problems constraining the poor in credit markets, see Ghosh et al (2000).

woefully inadequate infrastructure by way of roads, rails, electricity, telephones, etc. The costs of distribution are thus exorbitant; so, building an innovative and economically viable supply chain from scratch becomes a prerequisite for success. Fourthly, the corporation aspiring to serve the BoP must undertake product innovation from the ground up in the context of the BoP. Attempts to sell stripped down versions of products designed for developed countries invariably fail.[7]

The bulk of the people at the BoP barely engage in formal market transactions. Their behavior is not dictated by the explicit contracts common in market economies; rather, it is shaped and mediated by social relationships in which personal familiarity, trust, and norms are paramount. It is appropriate to invoke the classic sociological analysis of Granovetter (1985) to characterize their behavior as 'socially embedded'. To be successful in profitably serving the BoP, corporations would likewise be required to embed themselves in these communities, discover their needs, identify their constraints, and develop products that are suitable for them.[8] The aspiring firm, therefore, must be willing to devote itself to this endeavor for a considerable period of time. Only firms with substantial access to capital can weather this out, and for this reason multinational companies are good candidates for such ventures.

A survey of the business successes and failures in catering to the BoP suggests that there are two crucial inputs required by an MNC for success. One is research and development on appropriate but inexpensive products, and the other is marketing and distribution (shortened hereafter to 'marketing'). MNCs are experienced at R&D but lack the local knowledge to typically produce a product tailored to the context. In such scenarios, it is essential for the MNC to rethink marketing strategy and partner with a local organization. A local firm or NGO would have greater familiarity with the cultural and economic milieu of the BoP and can provide the MNC with detailed input on the sort of product that has a reasonable chance of being embraced. And importantly, they are likely to have informal networks and region-specific methods for marketing. In the model proffered in this paper, the MNC performs the R&D, while the local organization undertakes the marketing. The MNC has a choice between acquiring a local firm

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[7] A good example of this is Nike's 'World Shoe' intended for China [Hart and London (2004)].
[8] For a review of the literature on the social embeddedness of multinationals, see Heidenreich (2012).

(LF) or forming a partnership with an NGO.[9] We refer to the resulting organizations hereafter as MNC-LFs and MNC-NGOs, respectively. The R&D of the MNC generates a product and reduces the marginal cost of manufacturing the product. The product is profitable for the MNC if the price-marginal cost markup (as determined by R&D) and the sales (as determined by the local organization's marketing effort) are large enough that the MNC's revenues more than cover its R&D and fixed entry costs for the BoP market.

To my knowledge, this paper is the first one to model the BoP. The model offers some insights into when an MNC seeking to make profits in the BoP through shared prosperity might opt to partner with an NGO as opposed to acquiring a local, for-profit firm. At the BoP, NGOs have an advantage over local firms in marketing and distribution because they work with the poor, know their needs, and evoke their trust. This in itself, however, does not confer an advantage to an MNC-NGO partnership. NGOs have their own agendas—their nonprofit orientation being a distinguishing feature—that are usually inconsistent with those of profit-maximizing MNCs. But there is another aspect of poverty-alleviating NGOs that enables their superior marketing advantage with the BoP to benefit MNCs. In a market economy, the price of a new product should reflect the productivity improvement it can bring about. But these entities are divorced in the BoP because of their limited ability to borrow and pay. In this setting what matters to for-profit firms is the price of the product, not the productivity improvement it brings about. The NGO, however, which cares for poverty reduction is cognizant of the productivity increase the product brings about in the adopters. Thus the NGO's marketing effort increases with the productivity boost the product offers, irrespective of its price. Since the marketing effort is a natural strategic complement to R&D effort (in view of the larger market size the former brings about), this raises the return to R&D which in turn elicits an increase in the R&D effort. This lowers the MNC's marginal cost of production, making it feasible for the MNC to achieve a price low enough for the BoP. In this manner, even if the BoP clientele's willingness to pay is so severely constrained that an MNC-LF merger cannot viably introduce the product, I show that the productivity aspect of it may enable profitable entry through an MNC-NGO partnership.

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[9] There is a burgeoning literature in business on entrepreneurship for the BoP, including suggestions of partnerships with NGOs (see e.g. Prahalad and Hart (2002), Chesbrough et al. (2006), Dahan et al. (2010), Webb et al. (2010)), but there is no formal economic model which could evaluate such possibilities.

By placing value on poverty reduction and, therefore, on the productivity improvement the product generates, the NGO at least partly offsets the credit market constraints that plague the BoP. In the light of this, NGOs' marketing edge over local firms can potentially accomplish for the MNC what local firms cannot. This theory suggests one reason for the rising number of corporate-NGO partnerships that is being observed in recent decades across the world [Poret (2014)].

The rest of the paper is as follows. In Section 2, I set out the model for the BoP in which the profitability of an MNC of partnership with an NGO is compared to that of a merger with a local firm. I show that products intended for the BoP that are not merely consumer goods but also have aspects of producer goods are more likely to make an entry through MNC-NGO partnerships. The concluding section summarizes the findings of this paper and offers some additional thoughts.

2. A Model of Business Serving Clients in Extreme Poverty

Suppose a multinational company produces a new product/technology that is appropriate for people who are in extreme poverty. The product may be a consumption good or it may be a producer good which increases the productivity of a buyer and thereby her income. Denote this increase in income by φ, which might be zero in case of a pure consumption good. Since people in the BoP are very close to subsistence, they will buy the new product only if the price is within a narrow band. Assume, for simplicity, that they buy at most one unit of the good if the price is not greater than P, which is exogenous and, due to severe credit constraints, is independent of φ.[10] As a first cut, it is assumed that the demand is perfectly elastic *with respect to price* at price P.[11] However, the demand is restricted by lack of knowledge, lack of trust in the product, perceived relevance of the product to their economic environment, and many other factors. This

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[10] One way to rationalize this is to posit hierarchical preferences [Eswaran and Kotwal (1992)]. With a strict hierarchy in needs, the poor first spend their income only on essentials (like food, shelter) and are willing to spend only any additional income, if available, on other goods.
[11] For further defense of this assumption in this context, see subsection 2.5 below.

is why marketing effort is crucial to promoting sales meant for people in the base-of the-pyramid [Austin (2008)]. Such effort augments the sale of the product at the exogenously fixed price P.

As pointed out in the Introduction, a multinational company needs to innovate from the ground level, with full awareness of the reality of the poor—their needs and their economic, social, and cultural constraints.[12] Since multinationals typically lack knowledge in this, they must team up with profit-oriented local firms or with NGOs that are altruistically motivated to reduce poverty. Importantly, the local organization provides the marketing for the product because they have experience with navigating around the numerous constraints involved in serving the extremely-poor in their environment.

The sales of the product, Q, depend on the marketing effort, z, provided by the local organization. The sales will also depend on the productivity of this effort—and this productivity is determined by many factors such as the level of education of the poor, their cultural practices and beliefs, the trust that the local organization evokes, how closely or sparsely they are distributed geographically, and the ease of physical access to them (which depends on the existence and quality of roads and rails). The combined effect of the exogenous factors on marketing productivity is captured here by the parameter β, with higher values rendering marketing effort more productive. The sales function is written as

(1) $$Q = f(z; \beta),$$

with $\partial f / \partial z > 0, \ \partial^2 f / \partial z^2 < 0$ (f is strictly concave in z), and $\partial f / \partial \beta > 0, \partial^2 f / \partial z \, \partial \beta > 0$ (that is, β raises the sales and the marginal sales of marketing effort).

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[12] An example of the importance of social and cultural constraints is provided by ApproTec, a pump set for drawing water for irrigation [Chesbrough (2006)]. Early versions of this technology required women to operate them in a position that was not deemed socially and culturally acceptable in Africa. It was only after it was redesigned that ApproTec became a successful product at the BoP.

Denote by R the R&D expenditure of the MNC on the new product that it could sell to buyers in the BoP and c be the (constant) marginal cost of producing a unit of that product. R&D not only generates a relevant product but it also enables it to be manufactured at lower marginal cost. It is posited that the marginal cost of production is given by the function

(2) $$c = C(R),$$

with $\partial C / \partial R < 0$ and $\partial^2 C / \partial R^2 > 0$, that is, products or technologies that can be manufactured at low marginal cost (and hence could be sold at a low price) require more R&D and there are diminishing returns to R&D in terms of reduction in the marginal cost. One difficulty that MNCs have in serving the BoP comes partly from the fact that the R&D expenditure required to bring the marginal cost of production down into the viable range is too large. Also, the MNC incurs a fixed cost denoted by F in operating at the BoP. This fixed cost is usually quite substantial because the MNC often has to compensate for lack of infrastructure, find ways of making do without legal contracts, etc.

Assume that if the multinational manages to create a new product at a marginal cost that is below the reservation price P, it chooses to limit price (that is, set the price equal to P). This is reasonable because lowering the cost of the new product in order to sell to the poor is already a most formidable challenge that most MNCs fail at. Situations where the marginal cost is so low that the unconstrained monopoly price is strictly below P are empirically irrelevant scenarios.

Finally, assume that maximizing profit is the exclusive objective of the MNC. Since the goal here is to investigate how poverty may be reduced when corporations are strictly in the for-profit business, other motivations such as corporate social responsibility are suppressed.

2.1 Merging with a Local Firm

Suppose, first, that in catering to the BoP the MNC merges with (acquires) a local, for-profit firm. This circumvents agency problems arising from the non-contractibility of inputs, thus enabling the MNC to achieve the most profitable outcome with a local firm. This merged firm (MNC-LF) is assumed to be a monopoly in the BoP market.[13] The MNC innovates, develops, manufactures, and supplies the product while the acquired local firm undertakes the marketing. The MNC-LF's profit maximizing problem is

(3) $$max_{z,R} \quad [P - C(R)]f(z; \beta_f) - wz - R - F,$$

where w is the wage rate of the labor employed for marketing. The above function is assumed to be strictly concave jointly in z and R. The first order conditions with respect to z and R are given, respectively, by

(4) $$[P - C(R)]f'(z; \beta_f) = w,$$

(5) $$-C'(R)f(z; \beta_f) = 1,$$

where prime denotes derivative with respect to the argument of C and the first argument of f. In our analysis, it is presumed that $P > C(R)$, for if even manufacturing costs are not covered, entry into the market is doomed. Given the assumption of strict concavity of the objective function, the second order conditions for a maximum is satisfied. Denote the (unique) solution to (4) and (5) by $\{\hat{z}(P, \beta_f), \hat{R}(P, \beta_f)\}$ and the corresponding MNC profit in this scenario by $\Pi^F(P, \beta_f)$. This profit depends, of course, on the price P that the BoP consumers are willing to pay for the product but, for the reasons already given, it does not depend on the productivity improvement,

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[13] See subsection 2.5 below for a defense of this assumption.

φ, which the product may bring about in the buyers. Routine comparative static exercises readily show that, as expected, the functions $\hat{z}$, $\hat{R}$, and Π^F are increasing in both their arguments. The basic problem confronting MNCs attempting to serve the BoP is that P is too low to profitably elicit the marketing and R&D effort to cover the R&D and fixed costs.

2.2 Partnering With an NGO

Suppose, instead, that in its endeavor to reach the poor the MNC teams up with an NGO dedicated to reducing poverty. This MNC-NGO partnership, too, is assumed to be a monopoly in the BoP market. In contrast to the MNC-LF case, here I assume that, though the MNC and the NGO recognize the synergies in their activities (R and z, respectively), these activities are non-contractible. This is reasonable in this context because MNCs cannot monitor the NGO's activities in the rural hinterlands of poor countries and NGO's know little of the MNC's R&D efforts. So, I consider the non-cooperative outcome and we examine below the Nash equilibrium outcome within the partnership.[14]

Consistent with the stated goals of NGOs dedicated to poverty alleviation, I posit that the NGO is concerned with the increase in the aggregate income of the poor made possible by the new product or technology. This will be proportional to the sales of the new product and the productivity increase it brings about. Since the increase in income of a buyer is φ, the aggregate increase in income when the sales are Q is φQ. It is posited that the benefit to the NGO of the partnership may be written as $\lambda \varphi Q$, where λ can be interpreted as the weight that the altruistic

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[14] It might appear that I am introducing an asymmetry between the MNC-LF and the MNC-NGO by examining the cooperative outcome in the former but the non-cooperative outcome in the latter. Actually, since I argue in this paper that the MNC-NGO arrangement can be superior to the MNC-LF, such a comparison rigs the case against the MNC-NGO and thus bolsters my argument.

NGO puts on a unit increase in the income of a poor person. In other words, the parameter λ captures the intensity of the mission-orientation of the NGO. In what follows let $\Phi \equiv \lambda \varphi$ denote the NGO's valuation of the productivity increase brought about by a unit of the product/technology.

NGOs usually finance at least some of their own marketing costs through donations from private citizens, corporations, and the government. To keep things comparable between the MNC's arrangements with the local firm and the NGO, I assume that the MNC offers an endogenously determined lump sum grant to the NGO for its marketing expenditure.[15] Here z will denote the effort of labor hired by the NGO. It is presumed that the NGO has many poverty-alleviating projects it can undertake using the scarce resources obtained from various donors. It recognizes that there is an opportunity cost to its marketing expenditure (in terms of poverty reduction elsewhere), despite the fact that these expenditures are defrayed from donations. In other words, the NGO allocates its scarce funds in marketing to maximize net surplus value of the poverty reduction it brings about. Thus the objective function attributed to the NGO may be written as its perceived benefit from poverty reduction in this project less the marketing expenditure on it:

(6) $$\Phi f(z; \beta_n) - wz + G,$$

where G is a lump sum grant that the MNC offers to the NGO. In reality, the wage rate that labor is paid here may differ from that paid by the for-profit local firm. This is often because those who seek employment in NGOs are altruistically inclined and may be willing work to for less than the market wage because the NGO's profits cannot be distributed [Hansmann (1980)].

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[15] In the absence of such a grant, I would be stacking the case in favor of the NGO partnership because the marketing cost would not be borne by the MNC in the MNC-NGO case, whereas it would be in the MNC-LF merger.

However, I assume here that the wage rate is the same so as not to give the MNC-NGO this edge over the MNC-LF.[16]

The first order condition with respect to marketing effort of an NGO seeking to maximize poverty reduction net of costs is

(7) $$\Phi f'(z; \beta_n) = w.$$

Since the marginal benefit of marketing effort is independent of R, the NGO's best response function is, too. Given strict concavity of $f(z; \beta_n)$ in z, the second order condition is automatically satisfied.

In its partnership with the NGO, the MNC solves

(8) $$max_R \quad [P - C(R)]f(z; \beta_n) - wz - R - F - G,$$

The first order condition for the above optimization is the same as (5) with β_n replacing β_f. The MNC's best response function for R depends on z because the latter determines the market size and, hence, the return to R&D.

Denote the Nash equilibrium by $\{\tilde{z}(\Phi, \beta_n), \tilde{R}(\Phi, \beta_n)\}$ and the equilibrium profit of the MNC by $\Pi^N(P, \Phi, \beta_n)$. The endogenous lump sum grant, $\tilde{G}$, the MNC offers the NGO is given by $\tilde{G} = w\tilde{z}(\Phi, \beta_n)$. The Nash equilibrium is clearly stable. It is readily verified that both the equilibrium marketing effort, $\tilde{z}(\Phi, \beta_n)$, and the R&D effort, $\tilde{R}(\Phi, \beta_n)$, are increasing in Φ. The latter implies that the equilibrium marginal cost of production to the MNC is also declining in Φ. The MNC's equilibrium profit, $\Pi^N(P, \Phi, \beta_n)$, is increasing in P but is non-monotonic in Φ. The MNC's profit

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[16] One might wonder why only NGOs have preferences of the sort depicted in (6). Why can't the managers of local, for-profit firms be managed by altruistic managers who might care for the wellbeing of the poor? I postpone to subsection 2.3 the discussion of the strict advantages of NGOs over for-profit firms in this regard.

is given by the objective function in (8) but the marketing effort, which it pays for with a lump sum grant, is determined by the NGO. If the MNC had full control over the NGO's marketing effort, it would choose this to be the profit maximizing level $\hat{z}(\Phi, \beta_n)$; but it does not have this control. It is easy to see that $\Pi^N(P, \Phi, \beta_n$ increases in Φ when $\tilde{z}(\Phi, \beta_n) < \hat{z}(\Phi, \beta_n)$, reaches a maximum when $\tilde{z}(\Phi, \beta_n) = \hat{z}(\Phi, \beta_n)$, and is declining in Φ when $\tilde{z}(\Phi, \beta_n) > \hat{z}(\Phi, \beta_n)$.
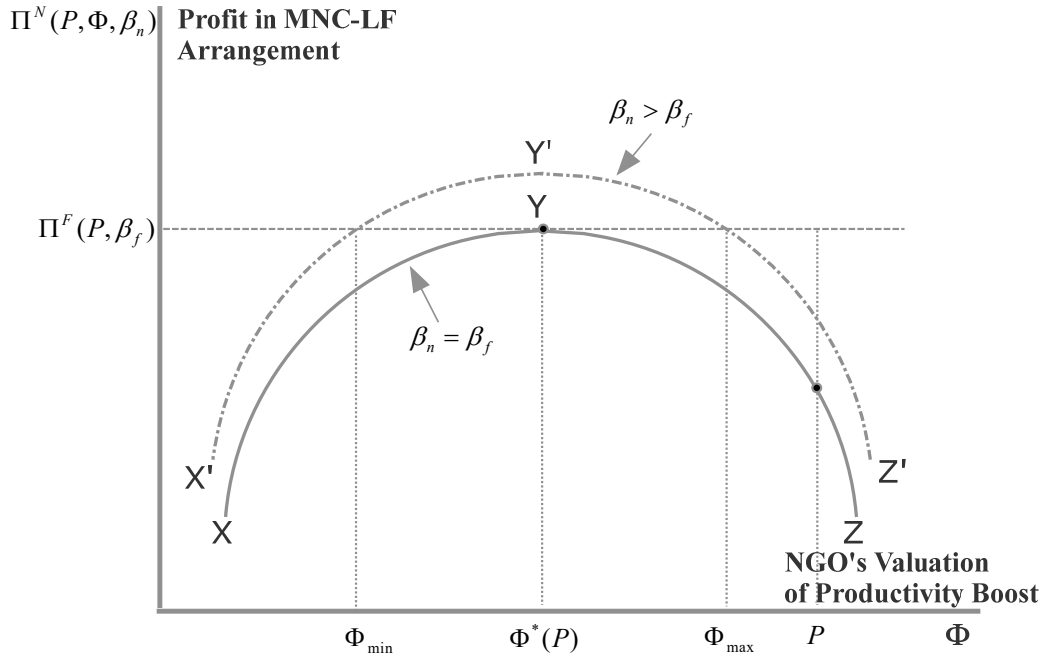
Note that, in contrast to the scenario where the MNC merges with a local firm, the MNC's profit when it partners with an NGO *does depend* on the productivity increase its product brings about in buyers—even though the price, P, that BoP consumers are willing to pay for it is exogenously fixed independently of Φ. Since the NGO cares about poverty reduction, when Φ increases, the NGO's marketing effort rises and sales increase. This stimulates the MNC's R&D through strategic complementarity, which increases the profit margin. This is one the main hitherto unrecognized advantages of the MNC-NGO tie-up.

If $\Phi = P$ and $\beta_n = \beta_f$, by comparing (4) and (7) we see that the MNC-NGO applies too much marketing effort compared to the MNC-LF, that is $\tilde{z}(\Phi, \beta_n) > \hat{z}(\Phi, \beta_n)$. This is because the NGO ignores the marginal production cost, which the merged MNC-LF firm accounts for. Since the NGO's marketing effort is increasing in Φ, we can always find a lower Φ, denoted by $\Phi^*(P)$, such that the NGO's marketing effort is the same that of the MNC-LF. Then from the common first order condition (5), it follows that the MNC's R&D effort is also the same in the two scenarios if $\beta_n = \beta_f$. In other words, when $\beta_n = \beta_f$ there is always a $\Phi^*(P) < P$ such that when $\Phi = \Phi^*(P)$ the MNC's profit in the MNC-NGO arrangement is exactly equal to that in the MNC-LF arrangement. We record these results in the following proposition.

Proposition 1: There exists a value of Φ, denoted by $\Phi^*(P) \equiv P - C\left(\hat{R}(\Phi, \beta_n)\right)$, such that when $\beta_n = \beta_f$, (a) $\tilde{z}(\Phi^*(P), \beta_n) = \hat{z}(P, \beta_f)$, (b) $\tilde{R}(\Phi^*(P), \beta_n) = \hat{R}(P, \beta_f)$, and (c) $\Pi^*(P, \Phi^*(P), \beta_n) = \Pi^F(P, \beta_f)\}$).

This proposition is graphically illustrated in Figure 1. The schedule XYX shows the MNC's profit in the MNC-NGO arrangement as a function of Φ. The profit of the MNC-LF merger is independent of Φ and is shown as a flat line. In the MNC-LF merger, the MNC's profit is at its highest possible level for given P and β_f because it chooses both z and R. For $\beta_n = \beta_f$ the profit of the MNC-NGO, $\Pi^N(P, \Phi, \beta_n)$, is increasing in Φ for $\Phi < \Phi^*(P)$, at $\Phi = \Phi^*(P)$ it reaches its highest value—which is the MNC-LF's profit—and declines for higher values of Φ because the marketing cost (reimbursed to the NGO through a fixed grant) becomes excessively burdensome. When $\Phi = \Phi^*(P)$, the MNC-NGO's outcome mimics that of the MNC-LF.

Fig. 1: Profit in MNC-LF Arrangement as a function of NGO's Valuation of Productivity Boost

The facts that the product price, P, is exogenously fixed by the BoP consumers' budgets and that they lack access to credit conspire to sever the link between what they are willing to pay and the contribution of the technology to their productivity. Nevertheless, when $\Phi < \Phi^*(P)$, the MNC's profit increases with Φ. This increase occurs for two reasons. First, since the NGO cares about poverty reduction, its marketing effort, and therefore its sales, increases in Φ. Second, as noted earlier, the marketing effort is a strategic complement of the MNC's R&D effort. An increase in the former, by raising the marginal returns to R&D, increases the R&D effort that, in turn, increases the profit margin. Despite having an orientation that is decidedly *not* profit, the NGO could potentially make it profitable for an MNC to penetrate the BoP market in which buyers are severely credit-constrained. But, as we see below, for this arrangement to dominate that with a local firm, the NGO requires another advantage (which it tends to possess).

When the NGO's marketing productivity parameter β_n increases, the Nash equilibrium values of z and R increase. This underlines the importance of several factors that impinge on sales. First, the reputation of the NGO is relevant because the more trusted the NGO is, the larger is β_n and this raises the likelihood that the product will be viable. The above proposition also brings out the importance of mission-orientation, as captured by λ, of the NGO that is embedded in Φ ($\equiv \lambda\varphi$). All else constant, those NGOs that have a proven track record of dedication to the poor and whose mission statements emphasize poverty alleviation are the best partners of the corporation. Although the MNC is assumed to be interested only in profits, such a partnership will usefully harness the synergy between the firm's R&D expertise and the NGOs marketing efforts to raise the firm's returns to R&D. It has frequently been argued that poverty alleviation can go hand in hand with profits [Prahalad and Hart (2002), Prahalad (2004)]. My model demonstrates that business profits and poverty alleviation are neither necessarily at odds nor mutually exclusive.

We may expect the MNC-NGO's profit, $\Pi^N(P, \Phi, \beta_n)$, to be increasing in the NGO's marketing

productivity, β_n, and it is—except for very large values of Φ. For given marketing effort, an

increase in β_n increases sales and therefore profit. But it also endogenously increases the NGO's

marketing effort and, therefore, increases the grant that the MNC has to offer the NGO. If the

increase in marketing effort is "excessive" for the price, P, that the MNC receives, its profit can

conceivably go down. But this is so only in the empirically irrelevant scenario where Φ is very

large. The following corollary follows immediately from Proposition 1 when the MNC's profit is

positive.[17]

Corollary 1: When evaluated at $\beta_n=\beta_f$, the derivative $\partial\Pi^N(P, \Phi, \beta_n)/\partial\beta_n$ is positive over a
range of values (Φ_{min}, Φ_{max}) which contain $\Phi^*(P)$, that is, when $\beta_n > \beta_f$, it is the case that,
$\Pi^N(P, \Phi, \beta_n) > \Pi^F(P, \beta_f)$ for $\Phi \in (\Phi_{min}, \Phi_{max})$.

This corollary is illustrated in Figure 1. The schedule $X'Y'Z'$ is the profit of the MNC in the

MNC-NGO arrangement when the NGO has a marketing advantage over the local firm (that is,

$\beta_n > \beta_f$). We see that for $\Phi \in (\Phi_{min}, \Phi_{max})$ this profit exceeds that of the MNC in the MNC-

LF arrangement. Thus, there is a range of productivity improvement, Φ, that the product brings

about in buyers for which the MNC would prefer a partnership with the NGO to a merger with a

local firm if the NGO enjoys an advantage over the local firm in terms of marketing. Put

differently, the MNC could form a profitable partnership with an NGO if its fixed entry costs

into the BoP market are so high as to render marginally unviable a merger with a local firm. I

discuss below why NGOs can be expected to possess precisely such a marketing advantage in

the BoP.

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[17] This can be easily seen by taking the derivative of $\Pi^N(P, \Phi, \beta_n)$ at the Nash equilibrium with respect to β_n and
evaluating it at $\beta_n = \beta_f$.

2.3 On the Advantages of NGOs in Marketing and Distribution

There are many reasons to expect that NGOs command an advantage over local firms in the marketing and distribution of products specifically earmarked for the BoP. This is especially so for goods which improve the productivity of buyers. Poverty-alleviating NGOs deal directly with the poor without intermediaries, and so have intimate knowledge of their needs. They work towards diverse ends such as providing access to education, health services, credit, pushing the adoption of appropriate technologies, helping with irrigation, delivering agricultural inputs (seeds, fertilizers, etc.), providing extension services, and ensuring that the development is sustainable when they leave. Since by its very nature agriculture is dispersed over the countryside, NGO involvement in agriculture, particularly, makes them a pervasive presence among the BoP.

Many of the services provided by NGOs are such that the organization providing them cannot capture the benefits they confer, partly because the clientele cannot afford to pay and also because some of the services are of a non-excludable public nature. Private firms have little incentive to provide them, and therefore, have almost no presence in isolated areas. Indeed, in many regions in the rural hinterland of developing countries, there is NGO presence but virtually no government presence. As a practical matter, therefore, NGOs are ideally positioned to utilize their existing infrastructure and social networks to persuade the poor to purchase productivity-improving products of MNCs.[18]

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[18] We do not suggest that NGOs manage to reach all of the poor equally. The point, rather, is that they have greater access than other organizations, be they commercial firms or governments—and this is what is relevant to my

But the advantages of NGOs go far deeper. Selling to the poor requires the trust of potential clients, especially in milieus where market transactions are few and far between and exchanges are embedded in social norms [Granovetter (1985)].[19] Social capital matters in economic development [Das Gupta and Serageldin (2000)]. Since people in dire poverty can ill afford to spend on what does not contribute to immediate survival, trust and social capital acquire an even great significance for poverty reduction at the BoP. As Stiglitz (2000) has emphasized, social capital undermines moral hazard. Among the extremely poor, to whom even the concept of a legally binding contract is an alien notion, there are good reasons to believe that NGOs evoke more trust and goodwill than do other organizations. For-profit firms stay away from the BoP precisely because individual members of these groups lack purchasing power.[20] The presence of NGOs is much more pervasive in the BoP because they are not motivated by profits.

In a seminal contribution on nonprofit organizations, Hansmann (1980) argued that nonprofits are altruistic in intent and the constraint that profits cannot be distributed to the owners signals this altruism and engenders trust. One line of argument hinges on the altruistic orientation of workers [Francois (2003)]. Workers can differ in their preferences and, in particular, some may derive utility by producing goods and services that deliver benefits to society, even if that entails donation of their labor for the cause. Since they receive satisfaction from the activity itself, the non-distribution constraint of nonprofits provides at least some assurance to them that their philanthropic contributions or `labor donation' will not be appropriated by the owners for private

argument. Riddel and Robinson (1996, p. 65) suggest from their case studies of poverty-alleviating NGOs that, while all of the poor do benefit from them, the poorest benefit less.

[19] On the importance of trust, see e.g. Webb et al (2010). Grootveld and Vermeulen (2016) provide a detailed description of the careful and time-consuming cultivation of trust in the BoP by an MNC. The study shows how Unilever engaged NGOs as essentially guarantors of its commitment to the local BoP communities in Tanzania in seeking to set up a supply chain for the oil derived from the nuts of the African Allanblackin trees, which are found only in remote and isolated regions in Africa.

[20] Though, by dint of sheer numbers, the aggregate purchasing power can be quite high [Prahalad (2004)]. But it is doubtful whether this is true of the poorest 1 billion I focus on.

profit. Thus, such workers will self-select into nonprofit organizations. We may expect workers in nonprofits to exhibit more job satisfaction than workers in for-profit firms. Using large samples from the U.S. and Britain, Benz (2005) provides persuasive evidence that this is indeed the case even after controlling for wages, fringe benefits, and industry types.

Given the differences in the presence of, and the trust elicited by, NGOs and for-profit firms, it is reasonable to expect that NGOs have an edge in marketing and distribution to the BoP, that is, $\beta_n > \beta_f$.[21] As long as marketing and distribution are undertaken by the local organization, this NGO advantage cannot be matched by the merged MNC-LF or, for that matter, by a partnership in which the MNC writes a contract with the local firm to align its incentives to mimic the NGO's performance.
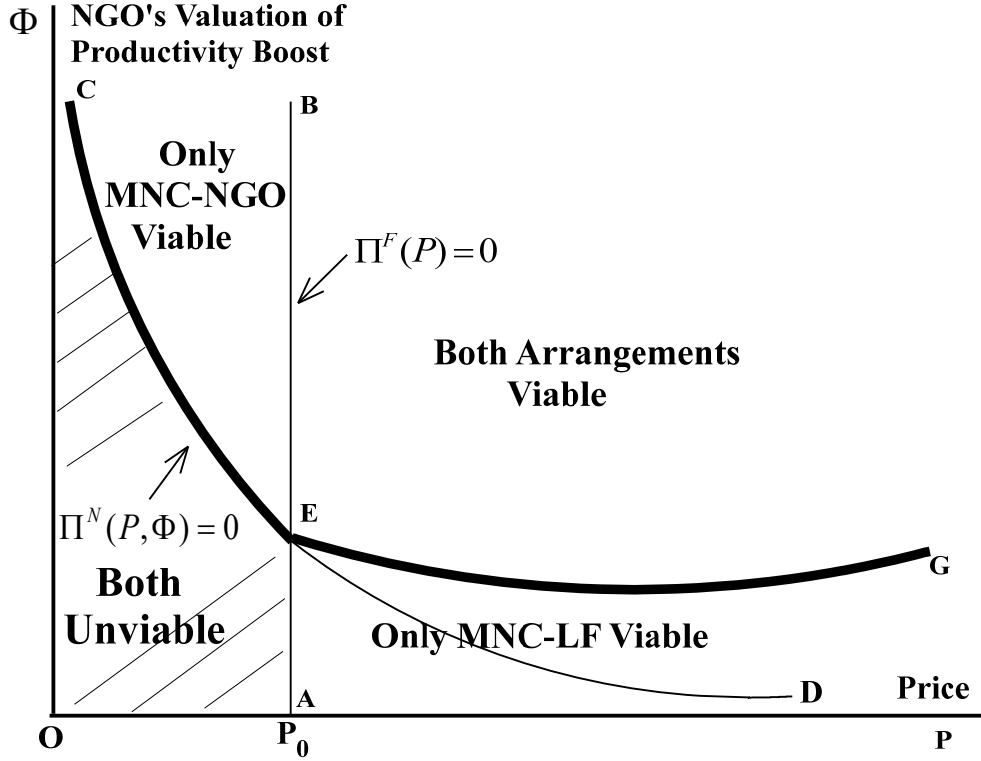
2.4 Comparison of MNC Merger with Local Firm and Partnership with NGO

In this section we inquire when a multinational would prefer an NGO to a local firm for its marketing. We examine this in (P, Φ) space, since all both parameters are exogenous to the MNC. In view of the discussion above, we shall presume that $\beta_n > \beta_f$. Consult Figure 2.

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[21] Of course, not all NGOs are more trustworthy than MNCs. Nevertheless, at an aggregate level, NGOs are the most trusted institutions in the world [Poret (2014)]. The 2016 Edelman Trust Barometer finds that, in a survey conducted over 28 countries, among the four broad categories of businesses, media, NGOs, and government, NGOs were deemed to be the most trusted institutions.

Fig. 2: Regions of optimal partnerships for MNC

Since the profit of the MNC-LF, $\Pi^F(P, \beta_f)$, is independent of Φ, the iso-profit contours of

$\Pi^F(P, \beta_f)$ are vertical lines in (P, Φ) space. We show, as line AB, only the iso-profit contour

corresponding to the zero profit in the MNC-LF case, $\Pi^F(P, \beta_f) = 0$, which occurs, say, when

the price is P_0. Furthermore, since the profit of the MNC-NGO, $\Pi^N(P, \Phi, \beta_n)$, is increasing in P

and also Φ (within limits), the corresponding iso-profit contours are downward sloping. As the

price of the product increases, the largest marginal cost of production compatible with covering

variable costs increases and so the MNC can economize on R&D if it so chooses. Thus the

minimal value of Φ required for the MNC to break even in an NGO partnership declines as P

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increases. The Figure shows, as curve CD, only the iso-profit contour corresponding to zero

profit, $\Pi^N(P, \Phi, \beta_n) = 0$ in the MNC-NGO case.[22]

At the point shown as E in Figure 2, the profits of the MNC are equal to zero in both sorts of

arrangements. In the Figure, it is unprofitable for the MNC to operate in the region to the left of

AE and below CE, and so no product will be provided to the BoP market by either arrangement

in the shaded region indicated.

Consider the locus of points in (P, Φ) space for which the profits of the MNC are positive and

equal in the two scenarios:

$$\Pi^N(P, \Phi, \beta_n) = \Pi^F(P, \beta_f).$$

The slope of this locus can be of either sign. However, since the derivative of $\Pi^F(P, \beta_f)$ with

respect to P is increasing in P (the profit function is strictly convex in P) while that of

$\Pi^N(P, \Phi, \beta_n)$ is independent of P, even if the locus under consideration declines at first, it must

ultimately have a positive slope. This locus is shown in Figure 1 as EG. In the region CEB, only

the MNC-NGO is viable. The price fetched by the product is too low for a local firm to put forth

the marketing effort to generate a profit. Nevertheless, an NGO would put forth the required

effort because it is motivated by the productivity improvement (and, therefore, the poverty

reduction) the product would bring about. Hence, in the region CEB the MNC will only find a

partnership with the NGO to be viable. In the region AEG, the partnership with an NGO is not

viable because the productivity improvement the product brings about is not high enough to

motivate the NGO's marketing effort. However, in this region the price of the product is high

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[22] Strictly speaking, the contour CD should turn backwards for very high values of Φ because then the NGO chooses excessively high values of marketing effort (increasing the grant the MNC needs to pay) and so there would need to be an accompanying increase in P to compensate. But given that the inability to achieve adequate scale is the fundamental problem confronting MNCs in the BoP, this is a pedantic theoretical curiosum.

enough to elicit the required marketing effort from a local firm. Thus is the region AEG, the MNC's merger with a local firm will be profitable while a partnership with an NGO will not. In the region BEG, both arrangements will be viable. In this case, which arrangement will be more profitable, however, cannot be determined without knowledge of the precise values of the exogenous parameters.

What is clear from Figure 1 is that when the price that BoP buyers are willing to pay is above a threshold indicated by P_0, the only scenario where mergers with local firms, but not partnerships with NGOs, will be viable for the MNC is when the goods are mostly consumer products (with low or near zero Φ). But such products offer members of the BoP very limited increases in wellbeing, even though they might make profits for the MNCs. If the products are producer goods that significantly increase the productivity of the extremely poor, as in the region CEB, we see that partnerships with NGOs are viable. In fact, when the BoP's willingness to pay falls below the critical level P_0, a MNC-LF is not even viable. These are precisely the scenarios where the willingness to pay in the BoP diverges greatly from the market value of the product were credit constraints absent. Thus, productivity-enhancing technologies of MNCs, which could make a significant dent on poverty but would fetch low prices in the BoP, are best marketed profitable through NGOs.

Furthermore, large expenditures on unfamiliar durables will require a great deal of trust in the MNC on the part of the BoP consumers. This trust will very likely not be placed in MNCs or any for-profit firm. In such scenarios, the intervention of an NGO can crucially assist the MNC in selling the durable to the BoP. These implications provide a firm theoretical foundation for the observation that the success of MNCs at the BoP is tied to the shared prosperity of the poor [Rangan et al (2011), International Finance Corporation (2014), Karnani (2007)]. When the

difference $(\beta_n - \beta_f)$ increases, the locus CEG in the Figure shifts down and, therefore, the region in (P, Φ) space in which an MNC's partnership with an NGO is feasible, but a merger with a local firm is not, becomes larger. And the region AEG in which a merger with a local firm is profitable, but a partnership with an NGO is not, shrinks.

Some of the above claims are testable implications of the theory. For convenient reference we summarize below the core hypotheses of my analysis.

Hypothesis A: When the MNC offers a good that can increase the productivity of the poor in the BoP and which requires knowledge and trust in the worth of the product among the BoP clientele, the MNC will partner with a poverty-alleviating NGO rather than a for-profit firm to do the marketing.

Hypothesis B: When the MNC offers a product that is more in the nature of a consumer good that does not require much knowledge or trust, with relatively little effect on long-term productivity, the MNC will most profitably partner with a local for-profit firm to do the marketing.

Some examples relevant to Hypothesis A are farming technologies, cell phone technologies, and goods/services offering long-term health improvements. Some examples relevant to Hypothesis B are goods like soaps, detergents, cosmetics, footwear, and cement.

This theory, it must be noted, identifies a role for MNCs to alleviate extreme poverty without invoking the notion of corporate social responsibility through which the MNC tries to communicate to potential customers that it is a socially responsible citizen. In the model constructed here, the MNC partners with an NGO or a local (for-profit) firm because the core

comparative advantages of the two entities are complementary and both better achieve their respective goals (profits and poverty reduction) through such an arrangement. In the case of the NGO, its marketing effort to reduce poverty compensates the MNC for the dampening effect of the credit market constraints facing the BoP and, aided by its advantage in marketing, makes it profitable for the MNC to undertake the required R&D for appropriate technologies.

2.5 In Defense of the Assumptions

My model of the BoP invokes two important assumptions that may warrant further explanation. The first is that the model takes the price of the product as exogenously fixed. For any other market, this would be a deemed a severe and arbitrary constraint. *In the context of the BoP*, however, this is not an unreasonable assumption. One of the major impediments that business faces in serving the poor is precisely that their budget constraints are very binding; there is not much room to spare for goods that are deemed necessaries, especially when access to credit is virtually nonexistent. In the light of this, their price elasticity of demand for MNC goods would be very high. From a conceptual point of view, there is not much qualitative violence done to reality in replacing a highly elastic demand curve by an infinitely elastic one, which implies that the price is exogenous. It is this assumption—that the willingness to pay for the product is exogenously fixed at a very low price when poverty is coupled with no access to credit—that captures the fact that *this is a model specific to the BoP*. If the potential buyers were well-off and had access to credit, such an assumption would be untenable.

On the analytical side, the above assumption offers an advantage that is exploited to much benefit in the model. The assumption facilitates the modeling of the MNC's R&D activity, which is crucial to this theory of poverty alleviation in the BoP. Endogenizing the choice of R&D and

the equilibrium price of the product (which one might have to do for any other market than the BoP) would make the model intractable. Thus, on the grounds of modeling reality as well as for affording tractability, it is appropriate in this 'first cut' analysis of the BoP to invoke the simplification of an exogenous product price.

A second important assumption made in my model is that the product is provided by a monopoly. It might be thought, especially in a world that is so globalized, that competition not monopoly may be the appropriate assumption. Furthermore, it is commonly believed that competition alleviates poverty for the standard reason that it lowers the price of products [OECD (2013)], and so competition would solve the problem of the BoP. However, both competition and its effect of poverty are secondary considerations here. The cardinal difficulty at the BoP is in eliciting the R&D required to generate products that are useful to the extremely poor. Businesses tend to stay away from the BoP precisely because of their lack of purchasing power and access to credit. Added to these, there are formidable difficulties associated with logistics (remoteness of sites, absence of infrastructure, etc.) For all these reasons, there are no firms serving this segment of the population. The burden of this paper is to ask when it may be possible for *at least one* firm to profitably enter the market for the BoP. Competition, therefore, is a far cry in this context.

Competition—were that posited—would dilute the already-weak incentives to innovate by reducing profits further. Thus there is little scope for competition in the BoP. There may be a remote possibility of entry if a second product that is sufficiently differentiated from the first can be profitably introduced. Even in such a scenario, the efficacy of competition may not derive from the usual effect of reductions in prices. Its benefits to the BoP would likely derive from its effect on marketing effort and the attendant *penetration into the unserved parts BoP market*. By undermining profitability in easy urban markets, for example, competition would force firms to

serve more rural clients in the BoP. Hindustan Lever, for instance, started making serious inroads into the long-unserved and isolated villages of India only after profits in its lucrative urban markets started getting eroded by the entry of multinationals with the liberalization of India's economy. The benefits to the BoP from entry came not from a lowering of the price—which are essentially determined by the BoP's paltry budget—but rather from the extension of the market to include previously unserved regions. In any case, there is no compelling reason to believe that the core testable implications of interest here, Hypotheses A and B above, of the theory are vulnerable to the assumption of monopoly. The intuition behind the forces that drive these predictions does not rely on the degree of competition that prevails in the market.

3. Some Examples of MNCs Successful at the Base of the Pyramid

In this brief section, I give some examples of MNCs that seem to fit Hypotheses A and B stated in the previous section. Multinationals are playing an increasing role in delivering healthcare to the extremely poor not only as part of corporate social responsibility but also as for-profit business. An example of the latter is the case of the multinational Novartis, which in 2007 started a non-profit organization called Arogya Parivar (meaning 'Healthy Family') that operates in some states of India. This non-profit employs a large number of health educators who are trained to communicate with people in the BoP about health issues in rural areas and raise the level of awareness, often by relying on local NGOs to increase exposure. Simultaneously, Novartis's

sales force liaises with doctors, hospitals, and NGOs to set up health camps for screening, diagnosis, and remedies.[23]

The endeavor of Novartis here is, through Arogya Parivar, to create a profitable market for pharmaceuticals while also improving the health of the BoP in the process; the initiative turned profitable within two-and-a-half years since its inception. With its network of 45,000 doctors and 28,000 pharmacies, Arogya Parivar has improved access to healthcare in 33,000 villages in 10 Indian states, benefitting up to 50 million people.[24] For the poor in developing countries, good health is more than a consumer good. Since the ability to work and survive depends very much on being able to work, improving health increases productivity and, therefore, is a producer good. And since healthcare also requires trust on the part of the clientele, consistent with Hypothesis A, Arogya Parivar relied on the help of NGOs.

The importance of NGOs in the profitable alleviation of poverty by firms can be seen starkly in the case of the American firm called Female Health Company (FHC), a spin-off of Wisconsin Pharmacal, which acquired the patent for a female condom in the 1980s.[25] After several years of development and final FDA approval, the product went on sale in the U.S. in 1993. American women did not take to this prophylactic that not only prevented pregnancy but also sexually transmitted diseases. The firm was on the brink of bankruptcy when it received the invitation to provide the product to women in Zimbabwe, Africa. As is well known, HIV/AIDS is very prevalent in the continent of Africa and women are particularly prone to it because it is culturally

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[23] *Business Call to Action, Novartis: Commercial Innovation for Improved Health*, Case Study, http://www.businesscalltoaction.org/case-studies/2013/10/novartis-commercial-innovation-for-improved-health/

[24] IFC-WISH (2014), Inclusive Business Models of Healthcare in India: Brief Profiles, http://www.wishfoundationindia.org/node/28

[25] See the case study by Powell and Yemen (2014), from which much of the following details are drawn.

acceptable for even married men to have multiple sexual partners. Since men often refuse to

wear condoms, many African women sought to protect themselves with female condoms.[26]

Access to female condoms, in addition to saving the lives of thousands of women and the

associated economic costs, also reduces the number of children who are orphaned to HIV/AIDS.

Zimbabwean women themselves were too poor to offer a price that could cover costs, and FHC

teamed up with non-profit organizations like the WHO, USAID and, to facilitate the marketing

and distribution of the product, with NGOs. Even though the stipulated price was low, the

volume was large. Thus FHC first marketed its female condoms to Zimbabwean women in

poverty who were vulnerable to HIV/AIDS, and gradually marketed its product in around 90

developing and 17 developed countries. FHC has now, ultimately, become a profitable company

[Werhane et al (2010)]. Since reductions in HIV/AIDS incidence and deaths due to the female

condoms is tremendously productivity improving, as in the previous example, FHC had to rely

on NGOs—consistent with Hypothesis A.

The Mexican cement multinational CEMEX provides an example of poverty alleviation by a for-

profit firm that did not use NGOs for the purpose. In 1998, CEMEX created a subsidiary called

Patrimonio Hoy with the intent of providing low-cost housing for Mexicans in the BoP who

could not afford the large lump sum amount needed to purchase the materials required to self-

build their small (one-room) houses.[27]

Patrimonio Hoy hired 'promoters' (mostly women), who set about identifying creditworthy

borrowers interested in building better quality houses than they could have managed with their

limited incomes and access to credit. On a model not dissimilar to Grameen's group-lending

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[26] Anderson (2018) has recently shown that the bargaining power of African women in insisting on safe sex depends on whether the law of the country's European colonial masters derived from common law or civil law.
[27] See Segal et al (2007) for a discussion.

scheme families were allowed to self-select into groups of three, with the understanding that the members would be jointly liable for each-others' borrowing. The materials were arranged for---with the cement sold by CEMEX but distributed through local distributors---and construction proceeding at a steady clip with expert advice and supervision by Patrimonio Hoy. The arrangement was beneficial to Patrimonio Hoy (which became self-sustaining in 2004), to CEMEX, to the poor in the Mexican BoP, to the people hired as promoters, and to the distributors. Since cement for housing is more of a consumer good, the quality of which can be ascertained without trust, the fact that CEMEX's arrangement was with another for-profit firm, Patrimonio Hoy, is consistent with Hypothesis B.

4. Conclusions

This paper examines with a formal model a neglected avenue for alleviating extreme poverty: for-profit business. It builds on the insight, originally due to Porter and Kramer (2011), that to be successful in this endeavor firms have to shift their focus from being exclusively on their own profits to a vision of shared prosperity. Unlike in the rich countries, at the base of the pyramid a multinational cannot take their customers' incomes as exogenously given and expect to make profits by supplying their needs. Rather the companies must seek to increase the productivity of their clients even as they make profits in the process. In this paper, I offer what is to my knowledge the first model of for-profit firms serving extremely poor clients.

The obvious Catch-22 in business serving the extremely poor who cannot access credit is that their willingness to pay in not in line with productivity enhancement products or technologies can bring about and, anticipating this, for-profit firms do not make the effort. In the face of this

real-world constraint, NGOs confer an advantage on MNCs seeking local partnerships for marketing and distribution. NGO effort is determined by the productivity enhancement--and hence the poverty reduction--the product can bring about and not by the price of the product. Thus public-private partnerships offer a way in which for-profit MNCs can benefit and thereby contribute to the reduction of extreme poverty.

If the 'first-cut' formal characterization of the BoP market offered here has some validity, several insights follow. First, entry into the BoP is often best made through partnerships with mission-oriented NGOs that seek to alleviate poverty because the latters' altruistic marketing effort, which is a strategic complement to the MNC's R&D, increases the size of the penetrated market and this in turn lowers production costs and increases profitability. Second, the MNC-NGO partnership is particularly attractive when the product that is offered is not merely a consumer good but one that raises the productivity of the adopters. The disincentive firms experience due to the disconnect between BoP consumers' willingness to pay and the productivity increase the good or technology can bring about is partly attenuated by the actions of the NGO, which cares about poverty reduction and makes projects scalable. It must be noted that, when the introduction of a product by raising the productivity of its adopters increases the demand for other products and may encourage their introduction. In sum, the model of this paper identifies conditions that are conducive to the alleviation of extreme poverty through for-profit business, and partnership with NGOs appears to have many advantages precisely because of the latter's non-profit orientation. Corporate social responsibility, however, is no part of the argument here.

There is an additional advantage that can be derived from business partnerships with NGOs in the endeavor to reduce extreme poverty in developing countries. In developing countries (as also

in the developed), relative to men, women are over-represented among the poor.[28] Women are

also known to spend a greater portion of their incomes on the health and the nutrition of their

families than do men [Thomas (1990), Duflo (2012)] Thus for a given penetration of a

productivity-enhancing technology among the extremely poor, the multiplier effects on income

generated for women will be higher. This specific targeting of women is more feasible for NGOs

than for local firms because NGOs devoted to poverty alleviation often also have gender equality

as a goal. For example, Hindustan Lever (a subsidiary of Unilever) launched Project Shakti in

India as a way of making inroads into India's remote villages and engaged NGOs in the

recruiting of women who sold its products door-to-door [Rangan et al (2007)].

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[28] See e.g. United Nations (2015).

REFERENCES

Anderson, S. (2018), "Legal Origins and Female HIV," *American Economic Review*, 108 (6), pp. 1407-1439.

Austin, J.E. (2003), "Marketing's Role in Cross-Sector Collaboration," *Journal of Nonprofit & Public Sector Marketing*, 11(1), pp. 23-39.

Benz, M. (2005), "Not for the Profit, but for the Satisfaction? Evidence on Worker Well-Being in Non-Profit Firms," *Kyklos*, 58(2), pp. 155-176.

Chandy, L. et al (2013), "The Final Countdown: Prospects for Ending Extreme Poverty by 2030," The Brookings Institution, Washington, D.C.

Chen, S. and M. Ravallion (2010), "The Developing World is Poorer than We Thought, But No Less Successful in the Fight Against Poverty*," Quarterly Journal of Economics*, 125 (4), pp. 1577-1625.

Chesbrough, H. et al (2006), "Business Models for Technology in the Developing World: The Role of Non-Governmental organizations," *California Management Review*, 48(3), pp. 48-61.

Collins, D. and J. Morduch (2010), *Portfolios of the Poor: How the World's Poor Live on $2 a Day*, Princeton University Press, Princeton, New Jersey.

Dahan, N.M. et al (2010), "Corporate-NGO Collaboration: Co-creating New Business Models for Developing Markets," *Long Range Planning*, 43, pp. 326-342.

Das Gupta, P. and I. Serageldin (2000), *Social Capital : A Multifaceted Perspective*, World Bank Publications, Washington D.C.

Duflo, E. (2012), "Women Empowerment and Economic Development," *Journal of Economic Literature,* 50, pp. 1051-1079.

Emerick, K. et al (2016), "Technological Innovations, Downside Risk, and the Modernization of Agriculture," *American Economic Review*, 106, pp. 1537-1561.

Eswaran, M. and A. Kotwal (1993), "A Theory of Real Wage Growth in LDCs," *Journal of Development Economics*, 42, pp. 243-269.

Francois, P. (2003), "Not-for-Profit Provision of Public Services," *Economic Journal*, 113, pp. C53-C61.

Friedman, M. (1970), "The Social Responsibility of Business is to Increase its Profits," *New York Times Magazine*, September 13.

Gangopadhyay, S., and W. Wadhwa (2004), "Changing Pattern of Household Expenditure," SERFA, Planning Commission, Government of India, New Delhi.

Ghosh, P. et al (2000), "Credit Rationing in Developing Countries: An Overview of the Theory," Chapter 11 in *Readings in the Theory of Economic Development*, (eds.) D. Mookherjee and D. Ray, Blackwell, London, pp. 283-301.

Granovetter, M. (1985), "Economic Action and Social Structure: The Problem of Embeddedness," *American Journal of Sociology*, 91, November, pp. 481-510.

Grootveld, P. and P.A.M. Vermeulen (2016), "Building Trust at the Base of the Pyramid," in *Strategic Challenges for the Base of the Pyramid*, (eds) P. Vermeulen and E. Hutte, Elgar, Northampton, Mass.

Hansmann, H.B. (1980), "The Role of Nonprofit Enterprise," *Yale Law Journal*, 89 (5), pp. 835-901.

Hanson, M. and Powell, K. (2006), "Procter & Gamble PuR Purifier of Water™ (A): Developing the Product and Taking it to Market," Fountainebleau, France: European Case Clearing House (Case # 706-057-1).

Hart, S.L., and T. London (2005), "Developing Native Capability," *Stanford Social Innovation Review*, 3(2), pp. 28-33.

Heidenreich, M. (2012), "The Social Embeddedness of Multinational Companies: a Literature Review," *Socio-Economic Review*, 10, pp. 549-579.

33

International Finance Corporation (2014), *Shared Prosperity Through Inclusive Business: How Successful Companies Reach the Base of the Pyramid*, World Bank Group.

Karnani, A. (2007), "The Mirage of Marketing to the Bottom of the Pyramid," *California Management Review*, 49 (4), pp. 90-111.

Mani, A. et al (2013), "Poverty Impedes Cognitive Function", *Science*, 341, pp. 976-980.

OECD (2013), "Competition and Poverty Reduction," Policy Roundtables, OECD Global Forum on Competition.

Poret, S. (2014), "Corporate-NGO Partnerships in CSR Activities: Why and How?" Department of Economics, Ecole Polytechnique, France.

Porter, M. E. and M.R. Kramer (2011). Creating Shared Value. *Harvard Business Review*, *11*, January-February, pp. 1-17.

Powell, L. and G. Yemen (2014), "The Female Health Company," in Chapter 3, *Global Poverty Alleviation: A Case Book*, (eds) P.J. Albert et al, Springer, New York, pp. 143-165.

Prahalad, C.K. (2004), *The Fortune at the Bottom of the Pyramid*, Wharton School Publishing, Pearson Education Inc., New Jersey.

Prahalad, C.K. and A. Hammond (2002), "Serving the World's Poor, Profitably," *Harvard Business Review*, September, pp. 4-11.

Prahalad, C.K. and S.L. Hart (2002), "The Fortune at the Bottom of the Pyramid," *Strategy + Business*, 26, First Quarter.

Rangan, V.K. et al (2007), "The Complex Business of Serving the Poor: Insights from Unilever's Project Shakti in India," Chapter 13 in *Business Solutions for the Global Poor: Creating Social and Economic Value*, (eds.) Rangan, V.K. et al, Jossey-Bass,Wiley Imprint, San Francisco.

Rangan, V.K. et al (2011), "Segmenting the Base of the Pyramid," *Harvard Business Review*, June, pp. 113-117.

Ravallion, M. (2012), "Why Don't We See Poverty Convergence?" *American Economic Review*, 102(1), pp. 504-523.

Ravallion, M. (2016), *The Economics of Poverty: History, Measurement, and Policy*, Oxford University Press, New York.

Riddell, R.C. and M. Robinson (1995), *Non-Governmental Organizations and Rural Poverty Alleviation*, Oxford University Press, New York.

Roser, M. (2016), "World Poverty," published online at OurWorldInData.org.

Segel, A.I. et al (2007), "Patrimonio Hoy: A Groundbreaking Corporate Program to Alleviate Mexico's Housing Crisis," Chapter 14 in *Business Solutions for the Global Poor: Creating Social and Economic Value*, (eds.) Rangan, V.K. et al, Jossey-Bass,Wiley Imprint, San Francisco.

Stiglitz, J.E. (2000), "Formal and Informal Institutions," in *Social Capital: A Multifaceted Perspective*, (eds) P. Das Gupta and I. Serageldin, World Bank Publications, Washington D.C.

Thomas, D. (1990), "Intra-Household Resource Allocation: An Inferential Approach," *Journal of Human Resources*, 25, pp. 635-664.

United Nations (2015), *The World's Women 2015: Trends and Statistics*, New York.

Webb, J.W. et al (2010), "The Entrepreneurship Process in Base of the Pyramid Markets: The Case of Multinational Enterprise/Nongovernment Organization Alliances," *Entrepreneurship Theory and Practice*, May, pp. 555-581.

Werhane, P.H. et al (2010), *Alleviating Poverty Through Profitable Partnerships: Globalization, Markets and Economic Well-Being*, Routledge, New York.