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Alliance Catering at Deakin: the Economics of University Cafeterias

Theresa Irene Patilaya, Thi Thuy An Pham, My Nguyen Nguyen, Zhen Wu & Yu Zhu

Introduction

University cafeterias are a common and crucial component of university life as they provide cheap and convenient meals for students. Ideally, university cafeterias should also be responsible for providing nutritious food at reasonable prices. In practice though, university cafeterias often provide less nutritious food and at high prices.

One reason for why this may happen is that cafeterias are aware of their unique market power. For instance, students consider the opportunity and transportation costs in the price they are willing to pay for on-campus services. The costs of preparing meals at home or walking to the alternatives are high, as students may prefer to use the time for studying or socializing. Thus, for a variety of reasons, university cafeterias become more practical in their delivery of services by placing less concern on the health quality of products and the fairness of prices.

In this paper, we study the market power of university cafeterias specifically due to a locational advantage by analyzing the case of the Alliance Cafeteria operating in Buildings La and Lb at Deakin University's Burwood campus in Melbourne. We begin by examining Alliance as a monopolistically competitive firm and assess how its location gives market power.

Alliance's Market at Deakin

The Alliance cafeteria operates in what can be understood as a monopolistically competitive market at Deakin University. There are usually three characteristics of monopolistic competition: a large number of firms, differentiated products and free entry and exit. At Deakin there are seven on-campus cafeterias providing a range of slightly differentiated fast foods and serving a small number of customers. During our interview with Alliance's supervisor we learned that this differentiation in the products also accommodates the preferences of Deakin's international student community. Finally, there are no barriers to open cafeterias at Deakin, as long as premises are available. Firms only need to sign a five-year-contract and qualify on the basis of some general conditions applicable to the food service industry in Australia.

Firms operating in a monopolistically competitive market are able to charge different prices from their rivals because they have customers with a certain degree of inelastic demand. This is affirmed by comparing Alliance's prices with its rivals for similar items as table 1 illustrates.

Table 1 below shows that Alliance charges higher prices than others for the same products. A key reason for this is that both Café Plateau and Coles are located further away from Buildings La and Lb where Alliance itself is located. This suggests that a key reason for the market power that Alliance enjoys is due to its more secluded location from its rivals; therefore, we now turn to examining how location provides a monopolistically firm with market power.

Table 1: A price comparison between Alliance, Café Plateau and Coles

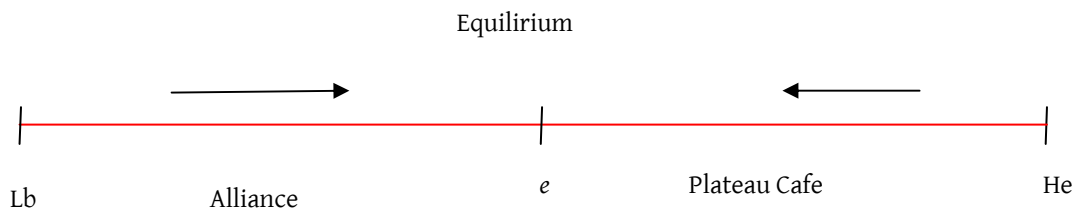
	<i>Alliance</i>	<i>Café Plateau</i>	<i>Coles</i>
<i>Donuts</i>	2.5	2.2	0.7
<i>Chocolate Bar</i>	2.4	2.2	2.0
<i>Fruit Bread</i>	2.5	–	–
<i>Coffee</i>	2.7	2.6	–
<i>Chips</i>	2.5	–	0.9
<i>Franklin Water</i>	2.5	2.2	1.75
<i>Soft Drink (600ml)</i>	3.2	3.0	2.8
<i>Red bull</i>	3.3	3.0	2.9
<i>Ham, Cheese & Tomato</i>	5.0	–	–
<i>Plain Croissants</i>	3.8	3.4	1.3

Location Models

Hotelling's Model

Hotelling's Model (1929, cited in Carlton and Perloff, 2005) is a monopolistic competition model explaining the location and pricing behaviour of firms. If there were two firms with identical products and prices, consumers simply purchase from the nearest store. So consider that the geographic space of Deakin is bounded between two extreme points on a line - Building Lb at one end and Building He at the other. Now suppose we have two firms, Alliance and Plateau Café. The Hotelling's Model suggests that both firms would move their locations until they reached an equilibrium location where the transportation cost incurred by consumers is equal for both firms and both firms maximize their respective profits. This happens to be at the centre of the geographic space as shown by point e on figure 1.

Figure 1: A Hotelling's Model Illustration for the location of Deakin's Cafeterias



However, this model is not applicable in Alliance's case since the locations of cafeterias are fixed and no further locations are available. Further, Deakin's cafeterias sell differentiated products instead of identical ones. Thus, we extend our analysis by considering Salop's Circle Model.

Salop's Circle Model

An application of Salop's Circle Model for our case would illustrate the cafeterias at Deakin as being located around a circle instead of along a line like in Hotelling's Model. Some cafes would be closer to each other while others would be located further apart

along the perimeter of the circle. Further, to particularise the analysis to Alliance's case, we could divide consumers into two groups. The first group is comprised of those whose main activities are centred in Buildings La and Lb. The second group are those whose activities are not concentrated in Buildings La and Lb.

To understand the utility of consumers in both groups, consider the following equation

$$U_{(t, t^*)} = u - c |t - t^*| \quad (1)$$

U : utility of eating at Alliance

u : utility of enjoying optimal products at other cafeteria

t : Alliance's location

t* : the location of the optimal cafeteria

|t - t*| : the distance of Alliance from the location of the optimal cafeteria

c : a parameter that scales how much consumers care or value the consumption choices being different from the optimal one

The equation suggests that that utility is less likely to be maximized for students located in Buildings La and Lb when the ideal cafeteria is located at a greater distance from Alliance. Therefore, for the first group, when students do not care intensely about a more optimal choice (i.e. c is not very high) due to greater distances, the utility of eating at Alliance 'U' will remain relatively higher. This happens as consumers consider the opportunity and transportation costs. So, for example, if a given student values socializing with peers but her peers have lower perceived utilities from travelling to the outlet she considers to be a more optimal choice, this would indirectly lower the level of c for her as well.

For the second group of students the analysis is reversed if Alliance is an optimal choice for them and would obviously not matter to those for whom Alliance is perceived as an inferior choice relative to the other options that are closer to them.

Since Alliance is located further from other cafeterias such as Café Plateau, for a certain set of consumers it can behave as a monopolistic firm. Therefore, Alliance can charge high prices or serve less nutritious food since the utility loss from buying these high priced products is less than buying the cheaper or more nutritious products at other cafeterias. In other words, the higher price is still lower when the costs incurred in eating at the other cafeterias are considered.

Further, using Salop's Circle Model we could consider the outside or off campus options available to Deakin students by considering the following condition

$$\text{Max}_{\text{Alliance}} [U_{(t, t^*)} - p] \geq u \quad (2)$$

where u stands for the surplus from the outside good and p stands for the prices of products sold by Alliance. This equation shows that students will only buy Alliance's products as long as the surplus from consumption at Alliance is the same or exceeds the surplus from off campus options. In Alliance' case, the outside options could be Hungry Jack's which is located at a comparable distance from Alliance as other on-campus cafeterias. Hungry Jack's even offers a special discount to attract students.

However, not many students go to Hungry Jack's, as going there still incurs higher costs. Therefore, as long as the utility from eating at Alliance is equal to or higher than the utility from the outside option, consumers will still buy Alliance's products.

$$\text{Max}_{\text{Alliance}} [v - c | t - t^* | - p] \geq 0 \quad (3)$$

This suggests the question about what would be the reservation price for students in the first group, or the highest price these students would be willing to pay or the highest price

Alliance could charge. Salop’s Circle Model provides an insight into this question in equation (3) where v is the reservation price. It reasonably suggests that students will shop at Alliance only if the surplus is positive.

Equation (3) also explains why Alliance’s demand must be elastic, a fact that verified in a survey we conducted on 100 students revealing that 19% of students would choose the alternatives if Alliance were to increase its prices by 10%. This elastic demand also explains the reasons of why Alliance is more monopolistically competitive than purely monopolistic.

Alliance’s Monopoly and Competitive Regions

The monopoly region, or the area within which Alliance can operate as a local monopoly (Figure 2) is applicable for students whose activities are in La and Lb buildings and for whom the values for c are low and v are high. The competitive region (Figure 3) is applicable for the second group of students, whose activities are not centred in La and Lb buildings and Alliance is not considered to be an optimal choice.

Figure 2: Monopoly Region for Alliance

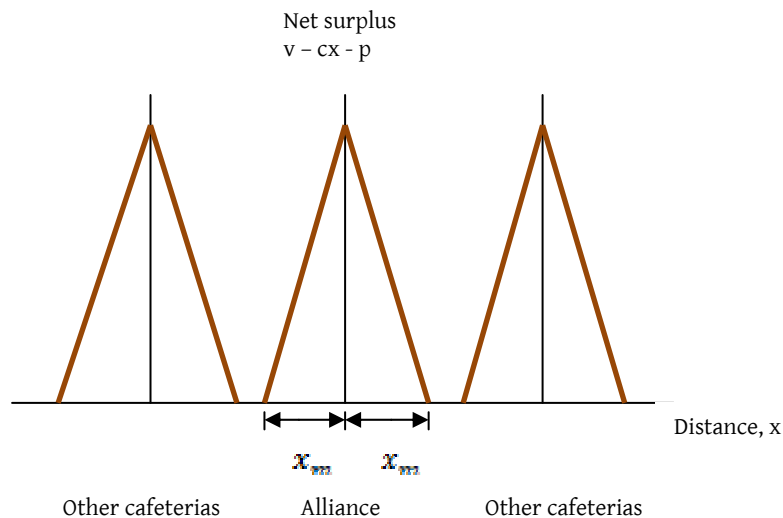
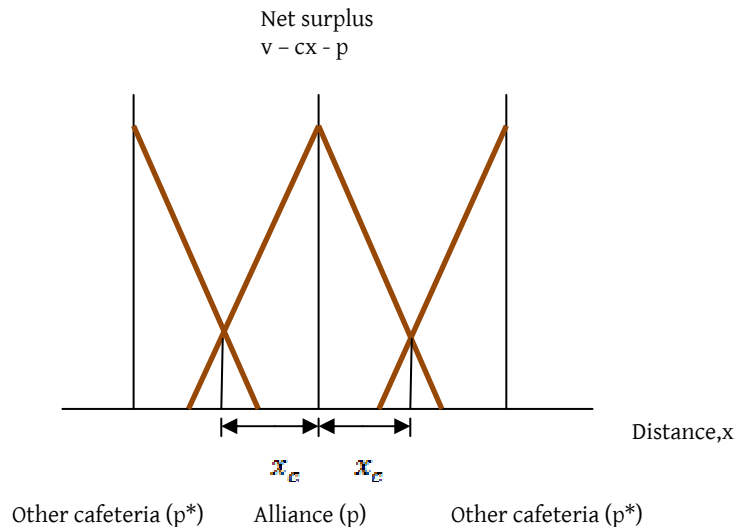


Figure 3: Competitive Region for Alliance



The differences between these two regions are in terms of the range of students they capture and the quantity demanded. Alliance’s monopoly region captures the students within the following distance:

$$x_m = \frac{v - p}{c} \tag{4}$$

Figure 2 shows that the further the other cafeterias’ locations are from Alliance, the lower the consumer’ surplus would be for Alliance’s customers. Alliance would capture consumers in ‘ $2x_m$ ’ circle distance. Thus, if there are ‘L’ students located uniformly near Alliance, the quantity demanded is ‘ $Q_m = 2x_m L$ ’ or:

$$Q_m = \frac{2L}{c} (v - p) \quad (5)$$

which suggests, as we should expect, that the quantity demanded demands inversely on how much students care about the quality of Alliance's products, both in terms of the reservation price as well as how they perceive the location of other, more optimal, options compared to Alliance.

Alliance also faces a competitive region for students that are located between two or more cafeterias (for instance, those students who have classes in buildings that are all over the campus and not just in Buildings La and Lb) and may purchase products from the cafeteria that gives the highest surplus. Hence, Alliance may lose such customers to other rivals.

Suppose that the two nearest cafeterias are located '1/n' distance from Alliance and charge 'p*'. Thus, Alliance gets the consumers within the 'x_c' distance where consumers get the same satisfaction from Alliance as from the other cafeterias:

$$v - cx_c - p = v - c\left(\frac{1}{n} - x_c\right) - p^* \quad (6)$$

The areas where the distance from customers to Alliance and to other cafeterias is equal in Figure 3 make the consumers to be indifferent to purchase Alliance's products or other cafeterias'. Therefore, the quantity demanded for competitive region is:

$$Q_c = \frac{L}{n} \left(\frac{c}{n} + p^* - p\right) \quad (7)$$

Market Externalities and Deakin's role

There are two types of externalities imposed by the activities of the Alliance Cafeteria in Buildings La and Lb at Deakin. The positive externalities are that Alliance provides some ancillary services for students such as free use of its microwaves and a place to gather centrally and socialize. However, these positive externalities cannot offset the negative externalities. For instance, Alliance charges high prices to students as we observed through our investigations of prices at other places. Moreover, and this is the key problem in our minds, Alliance tends to sell fast food with little nutrition, as it can be stored longer and sold faster such as candies and deep-fried foods. Even when Alliance does provide healthy food options such as salad or fruits, it charges its customers high prices. Consequently, students end up choosing relatively cheaper products (such as the fast food) instead. This implies that as Alliance engages in maximizing its profits, the social marginal costs it imposes on Deakin's students become higher than the social marginal benefits.

Interestingly, Deakin seems to have an insignificant role or ability in overcoming these market failures. For instance, the numbers of vending machines, and the alternatives to Alliance in Buildings La and Lb are limited.

We suggest that to overcome this problem Deakin should consider involving student organizations in monitoring the service of on-campus cafeterias. Greater surplus for students and higher social marginal benefits could be achieved if Deakin were to consider this information in making its decisions on contracts for on-campus cafeteria services.

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The Equity and Efficiency of Microfinance

Mahazarin Kanga, Juhi Bansal, Siddharth Verma & Ishani Bandaranayake

Banks are for people with money rather than for people without money. However, microfinance is banking for the unbankables. It brings credit, loan, savings and other essential financial services within the reach of millions of people who are too poor to be served by regular banks, i.e. almost 60-90% of the global population. It is one of the most intriguing features of financial economics today.

In the aftermath of the 2006 Nobel Peace Prize being awarded to the Bangladeshi, Mohammed Yunus, who is a champion of the cause for microcredit, the common presumption has been that microfinance creates undeniable social benefits such as poverty alleviation and more equal social opportunities. Indeed, this is true to a large extent; however, less acknowledged are the problems that lurk behind this facade of 'social service'.

Donning the caps of economists, this paper discusses the economic rationality of microfinance as an effective tool for achieving poverty alleviation. We ask the question on whether the theoretical objective of microfinance for 'helping the poor' is sullied in practice by rent seeking, profit seeking and corruption. We assess the fundamental economic model for the basis on which Microfinance Institutions (MFIs) provide loans to the poor and as whether the poor people eventually benefited from this financial innovation.

Some Background

Imagine what would happen if the universal banking structure would crumble and all the financial organizations stopped working. Banks would shut down, ATMs would not be operating, and credit and debit cards would no longer be accepted. Millions of families would not be able to provide food on their dinner table. Well, this is exactly the problem faced by more than 60% of the global population – a nightmare they endure every day.

Therefore, the need for microfinance is quite startling. One of the primary lessons in economics is that of ‘diminishing marginal returns’ which would suggest that enterprises with little capital (or poor entrepreneurs) earn higher returns on their investment because they utilize less capital. While the net output of such enterprises may not be high, on each additional unit of output, their marginal returns will be greater. Similarly, organizations with greater capital at their disposal (richer entrepreneurs) use more capital and hence produce a higher net output, but their marginal returns from each additional unit is smaller too.

According to this law, poor entrepreneurs will earn more on each additional unit and hence they will be able to pay higher interest as compared to a richer entrepreneur. This would suggest that the willingness to finance smaller enterprises and poorer entrepreneurs should be high. However, reality does not follow this law, primarily due to the risk associated to lending to unproven entrepreneurs and smaller enterprises. As a result, since generations, poverty has always reproduced poverty exacerbating income inequality in the process.

For mainstream financial institutions operating in the real world, the market of poor entrepreneurs is characterized by high operating costs and lack of financial information. Banks and many other commercial organizations as well as NGOs face huge transaction costs because the cost for handling a small transaction is very expensive simply because they cannot take advantage of economies of scale and scope in this market. Consequently, a majority of poor consumers are entirely avoided by the banks because they are seen as

risky and expensive, in other words, not trustworthy for repaying a loan. And this is where the need for microfinance was born and hence is seen as a method to break through this vicious circle of poverty. Seen as such, microfinance is not the first step towards poverty alleviation, but it is the most successful tool by far. (Armendariz and Morduch, 2007)

Microfinance in the Real World - The Case of India

To see how microfinance operates in reality, consider, for example, the usual delivery channels of microfinance in India. They include:

- Grameen Banks
- Self Help Groups (SHGs) including some NGOs
- Micro-financial Institutions (MFIs) such as banks
- SHG Bank Linkage Programme (SHG – BLP)

Since microfinance was initially started as “banking for the poor”, credit checks and collateral security is still not the basis for providing loans to the poor for most models of microfinance.

The most successful model in India in terms of scale and outreach is the SHG Bank Linkage Programme with other models lagging far behind. In 2004, around 800,000 SHGs were linked to the banks and together they have reached around 2 million households. Despite these huge numbers, their coverage covers barely 5% of all Indian poor rural households (Basu and Srivastava, 2004).

The different channels for microfinance in India seem to exhibit some interesting advantages compared to one another. For instance, informal microfinance institutions (SHGs) formed mutually among borrowers are closer to the grass root level and more capable at dealing with the credit assessment of the urban poor. They are thereby able to lower the transaction costs of loan processing. On the other hand, the formal financial sector has a wider resource base and the related ability to expediently mobilize the funds

required, thereby reducing the cost capital for SHGs. Further, both formal and informal sectors reduce overall transaction costs and increase their expected profit because of lower default rates on lending portfolios (less than 1% compared to banks 11 to 12%) (Tiwari and Fahad n.d). As for the borrowers, loans can be readily available at SHGs at lower rates because of the low cost of processing and easy access to finance through bank linkages.

This SHG model operates by forming a group to save capital, which is then deposited in an account at a bank. The group then applies for a loan by offering their savings and group guarantee as a collateral. Normally banks provide loans amounting to four times the accumulated savings which can be increased further on the basis of the group's track record on the previous loans. Borrowed and saved money are then circulated through lending within the group with usual monthly repayments. Any single default on part of the entire group has the consequence of the bank stopping further loan instalments, putting a stop on the flow of capital to the group which can lead to a loss in their business activities. This disciplinary mechanism results in loan repayments being around 98% in these cases. (Basu and Srivastava, 2004).

Microcredit also provides the poor with an opportunity to have some consumer surplus which occurs when the cost of the loans they receive is lower than their reservation price for entering into entrepreneurship. Through entrepreneurship the rise in income, standard of living, security, etc is worth more than the interest rate that they pay on the loan borrowed. There is also producer surplus as the expectancy of loan repayment is higher than in the normal case.

Now to further understand the in-depth coverage of microfinance let us look at its market model.

A Market Analysis for Microfinance

The kind of market in which the MFIs operate can be understood as being monopolistically competitive wherein there are number of buyers and sellers, there is free entry and exit

and the product sold is differentiated (viz. different maturity periods, terms, interest rates, etc.).

We shall assume that the demand curve represents the price a borrower is willing to pay to take a loan and the supply curve represents the number of loans offered by MFIs.

The existing market conditions in developing countries indicate that the demand for micro loans outstrips its supply. Therefore, at prices for such a loan that would reflect the purported benefits of microfinance most accurately, there is excess demand, whereas at the prevailing equilibrium price the benefits are arguably much more muted. In competitive market conditions, when there is excess of demand over supply in the market, new suppliers would enter the market so as to benefit from the potential to earn short term economic profit, shifting the supply curve towards right and adjusting the equilibrium price downward. Restricting this scenario are the government regulations preventing new entry by imposing stringent capital adequacy and complex supervisory and reporting requirements and further non supportive infrastructure facilities.

Unfortunately microfinance in India still has a lot to cover and many to reach. The particular models offered at present still result in a lot of spatial inequality in terms of the coverage of clients – microfinance remains more accessible in urban areas whereas it should ideally reach the most vulnerable clients in remote areas. Thus there is still glaring inequalities to access that requires addressing.

Externalities

Despite its theoretical positive impacts, the real world progress of microfinance is still very restricted owing to a number of reasons. First, microfinance is intrinsically a very convoluted service to comprehend and hence its uptake is very slow. Reduced uptake levels increase the transaction costs making microfinance costlier.

There is usually an inverse correlation (trade off) between the size of a portfolio and the break-even premium that plagues microfinance acutely. This is because if MFIs were to

raise their premiums, it would limit accessibility to the poor. Conversely, if the premiums are kept low and participation is encouraged it could potentially make microfinance financially unviable. The latter seems to be a more suitable approach but the problem is that any program has to survive until it reaches its break-even point. The ability of microfinance in assuaging poverty in the longer term without becoming financially unviable in the short term is essentially the crux of the problem.

Another problem is the *bundling* of microfinance programs which refers to different microfinance programs operating collectively. For e.g. the “group lending” model by Grameen Bank in Bangladesh, wherein if one individual fails to repay, the others in the group are held responsible. However, doing this may lead to collusion between the microfinance service providers which may increase their market power and give rise to competition concerns. (Islam, 2009)

Concluding Remarks

Microfinance has generated contradictory responses and divisive views. On the one hand are the people who think that microfinance is panacea and can extricate billions of people out of poverty. On the other hand there are critics who discount the real world benefits of microfinance as exaggerated.

We would like to conclude in the middle ground in that microfinance does seem to have a significant potential for poverty reduction, provided it can be put into practice in a manner that addresses the problems of asymmetric access and market participation.

Regardless of its criticisms, if implemented in its authentic sense, the following saying would ring true:

“Give a man a fish; he will eat for a day. Give a woman microcredit, she, her husband, her children and her extended family will eat for a lifetime.” Bono

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Is Soccer Played Fairly?

Neil Edmund Roy, Roberto Ayala & Azizur Khan

Introduction

Club soccer today is bigger than it has ever been. The passion people have for their respective clubs can almost certainly be paralleled to that of their national teams. As a sport soccer goes above and beyond the theatrics witnessed on the field. The mechanics involved behind the scenes more often than not determine a club's success, or lack of it. It is an international sport that elicits passion and pride among supporters culminating into a multimillion dollar business. And like any other firm in a market a club aims to maximise profits at the lowest possible costs.

An unavoidable result of the manner in which the soccer market operates is the rather evident disparity that exists amongst soccer clubs today. We have grown accustomed to viewing soccer in an environment tainted with disparity. Over the years, we have been desensitised to how bigger clubs such as Real Madrid and Manchester United seem to only grow bigger. While smaller clubs such as, Xerez and Portsmouth, have to contend with comparatively trivial issues pertaining to merely surviving.

Factors that contribute to the Disparity

The 'haves' and the 'have nots' in terms of resources, are labels that hold just as true in soccer as in any other economic environment. A natural question to ask would be what factors contributed to this disparity that is so apparent in soccer today. We will attempt to highlight some of these factors by analysing what clubs' and players' strive to achieve through their respective utility functions.

Applying economic theory, we could customize the soccer club's and players' utility functions as follows:

$$U = f(X^1 + X^2 + X^3 \dots X^n)$$

where U is the benefit pursued (objective-attainment) and the X^i are factors or motivators that help achieve that benefit

An Analysis of the Clubs' Utility Function

Several factors arguably motivate soccer clubs to maximize their utility on the field and on the business front as well. On the field they are primarily concerned with seeking recognition as a successful club, which consequently allows them to gain power and influence within the league that they compete as well as within their followers. On the business front soccer clubs are interested in developing a meaningful brand image through media coverage enabling more brand-loyal customers and a larger spectator base. This assists the club to enjoy economies of scale in production on and off the field, and attaining their main goal of profit maximization.

For the sake of exposition we could populate the club's utility function as follows:

$$U (\text{Profit Maximisation}) = \text{Revenues (merchandising and sponsorship, match-day gate revenue, Broadcasting TV)} - \text{Costs (high talent, effective team management, team infrastructure)}$$

NOTE: economies of scale is a result of growth but not a direct objective

Obviously soccer clubs would follow a causal logic chain that combines the above factors in order to achieve the maximum benefit possible. For instance, clubs recognise that their stock of high-talent players would increase their costs but would normally contribute more at the margin towards better team performance and an increase in their supporter base, culminating with an increase in the club's net profit. Therefore, a club's talent and its

management team in effect are the assets it purchases towards achieving successful outcomes, victories and championships. Such outcomes are usually the only way to gain a large fan base. This then transforms a soccer club into an attractive investment, attracting sponsorships, broadcasting TV rights as well as an increase in gate revenue.

As a result, soccer clubs now operate as rational firms that hire productive resources and organize them to produce and sell a particular product (performance and entertainment) in the pursuit of profit maximisation. Such products are traded in a market of monopolistic competition, where a club's brand image differentiates it from its rivals and creates brand loyal customers. As clubs grow in size they benefit from further economies of scale emerges as a key factor that leads to the efficient use of resources. Therefore, a larger stadium and a higher attendance coupled with a wider media and broadcasting coverage of soccer games would arguably facilitate the production of the club's product at a lower average cost.

However, the process described above seems to indicate that the above objectives are likely to only be achievable by a few soccer clubs that do attain success and are able to capitalize on that success with increasing returns enabling further economies of scale. For smaller clubs accessing such increasing returns that accompanies success is harder and they seem to be trapped in a situation where they simply cannot benefit from economies of scale. As a result the extant gap between the rich and poor clubs only seems to get bigger and more evident. Success is reserved just for those clubs that can invest vast amounts of capital in key resources that maximizes their potential to remain successful.

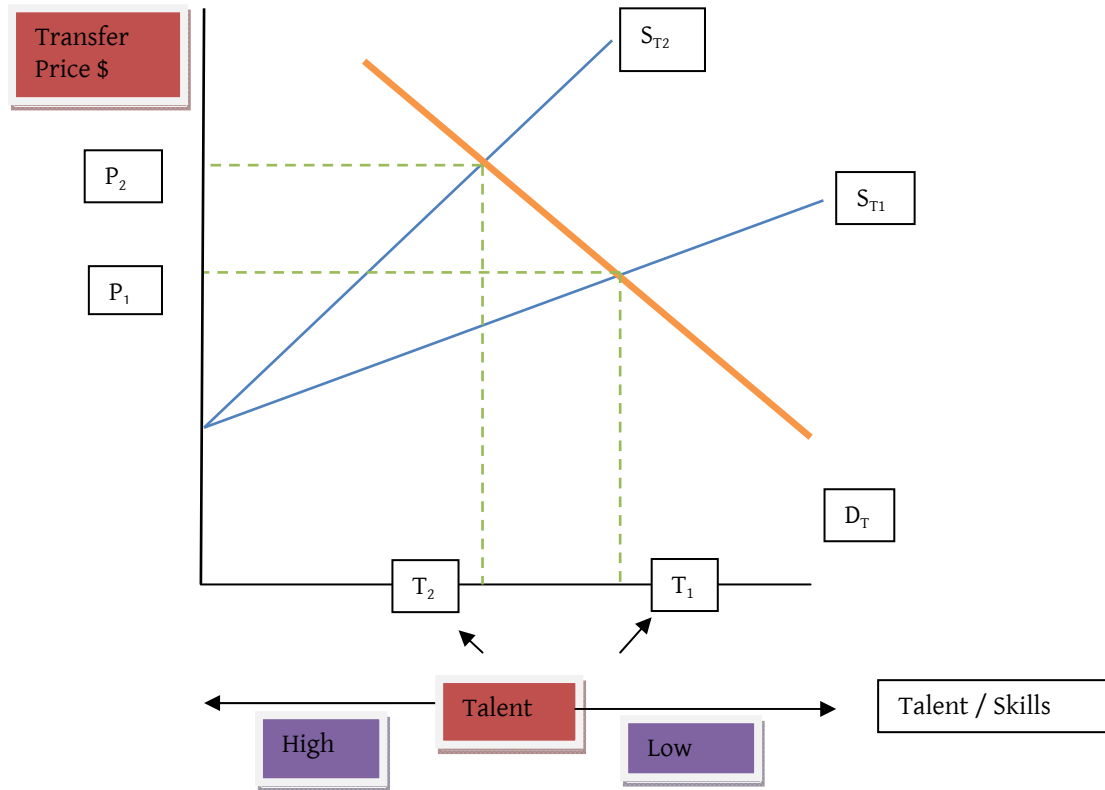
Talent price and the Soccer Transfer Market (STM)

In our view, the market characteristics of soccer clubs to some extent serve to increase this inequality. Consider, for instance, the Soccer Transfer Market (STM). Under the STM rules, soccer clubs buy and sell players by paying transfer fees that may even equal the GDP of certain small nations. The STM in effect allows certain clubs to flex their financial muscles. In 2009, Real Madrid made history in the STM by spending GBP136 million for Kaka and

Cristiano Ronaldo. This amount was approximately equivalent to the GDP generated by Tonga and Dominica in that year. (CIA, 2009).

How is it possible for a club to pay such an exorbitant sum of money for a soccer player? Certain clubs, such as Madrid, that value these exceptionally talented players, are willing to pay substantial transfer fees to employ their services. The more bargaining power a buying or selling club has, the more likely it is for them to negotiate mutually higher prices.

Figure 1 (Adapted from McTaggart D., Findlay C., Parkin M., 2007)



The figure above illustrates what happens in such an environment. Highly talented players, or “superstars”, are a scarce resource. Lower talent is not even considered a close substitute (T_1). Since talent is accumulated with increasing returns, the real and time cost of developing further skills to match those of a superstar is prohibitively expensive for lower talented players making the acquisition of the expertise and skill that the superstar already has a relative bargain. Based on these factors, the supply curve for superstars becomes less elastic, which means irrespective of the price, the quantity supplied tends to remain fixed. As a result, the player’s price is magnified (P_2) as his demand is concentrated to the few clubs that can afford it.

An Analysis of the Players’ Utility Function

What attracts a player to soccer in the first place? At the core is his primal love of the game. He grows up in a soccer influenced environment where he aspires to be the best. He would be exposed to the potential fame and fortune the game promises – the result of the phenomenal media coverage the game has always enjoyed. He would have had his favourites, and would have grown up idolizing them; hoping to someday parallel or maybe even surpass their achievements.

Consequently, a player’s utility function can be described as a positive function of success – be it recognition or career income as well as the joy of playing and a negative function of the costs or sacrifices he must make to achieve success the game, which could arguably be lower for a superstar player due to his innate skills.

$$U (\text{Fame \& Fortune}) = f (\text{professional success, joy of playing}) - c (\text{sacrifices such as time, effort to acquire skills, family life, etc.})$$

Herein lies another reason for what may drive disparity in soccer.

While it may be true that the interface between clubs and highly talent players occurs on the basis of the rational pursuit of utility, the history, tradition and overall reputation of

clubs matters a lot. Consider that the favourite former players of any new player would have at some point in their careers represented some top-tier club. In fact, it is when they were most likely to have attracted the admiration of the youngsters in question. In such a scenario, a self-selection process may arise whereby the next generation of aspiring soccer players would want to replicate the success of their idols by wishing to play at the same big clubs they played at. It makes for a rather interesting self-sustaining situation since these bigger clubs, are almost always guaranteed premier talent. This is of course assuming that the clubs have managed their finances well, allowing them to remunerate the services of these potential superstars.

Intervention

Recent decades have seen notable changes in the market for soccer. The most significant was the Bosman Ruling implemented in 1995, which removed restrictions in the European labour market for soccer talent, and the introduction of the Champions' League in its new format. (Haan, et. al., 2000)

Now, the Champions League single-handedly is not the setback either, but it's an outstanding example and a homespun one by UEFA at the same time. So we will stick to it for our purpose. The difficulty in broad spectrum is unequal booty for success. The upshot was that more clubs could benefit from a portion of the participating proceeds from the competition. This was done to regulate to promotion of a wider distribution of wealth.

Another such intervention is to be instituted by European soccer's governing body UEFA (Union of European Football Association) through 'Financial Fair Play'.

Currently, the major clubs' have asymmetrical access to external finance compared to smaller clubs owing to their brand name. Smaller clubs have to be content with operating from whatever little revenue they can generate internally. UEFA wants to introduce the concept of 'Financial Fair Play' by 2012 as a precondition to participating in the most lucrative club competition – the Champions' League. Clubs will have to adjust their accounts and function within their financial means, presumably making the European

game more equitable and stable since they believe that the current levels of transfer fees cannot be sustained.

Consequences

Even though this intervention institutes penalties for those soccer teams that do not meet the new rule, it perhaps does not attack the root of the issue. The *ex ante* status quo would very likely still remain and the big clubs will surely remain the big clubs *ex post* as well. As such, competitive rights for being the best and most affluent of the clubs, would only be the reserve of major clubs following these guidelines.

The latest English club to break through the elite circle of Arsenal, Manchester and Liverpool was Chelsea, a very unsustainable club that injected hundreds of millions into transfers and wages to play regularly at Champions League football and a shot at winning a big trophy in return. The new laws rule this out even as a possibility making Europe's domestic leagues even more likely to resist changes in the hierarchies, than they already are.

The tagline of spending “within financial means” focuses on promoting the idea of expenditures being derived from revenue generated through soccer alone. This will arguably reinforce the status quo inequality across clubs. Clubs based in bigger cities and clubs with a fan following across the globe have the ability to generate more soccer-related revenue. Financial fair play therefore does not seem to be capable of stemming the problems of the inequality across clubs and the diminishing aspirations among prospective upcoming clubs and players. It may further even divert interest away from soccer towards other more lucrative sports.

On a global level, while there have always been larger and smaller clubs. However, the globalization of soccer has made quite a few clubs bigger. Unfortunately, an even larger number of smaller clubs failed to benefit from this, thereby creating a disparity between the ‘haves’ and the ‘have nots’ of soccer clubs. This disparity is a glaring and embarrassing “own goal” in the game of soccer.

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Auto-economics: the Tata Nano

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The Nano has made news worldwide since its unveiling in January of 2008. This car is a milestone in the history of automobile manufacturing. As economists, we have found the Nano extremely interesting as it is expected to have far reaching effects not only in the automobile industry, but also spark the aspirations of millions of people for owning a car that were deprived of this pleasure prior to the launch of Nano.

Background

Cars are considered a luxury in developing countries, especially in a country like India where the ownership rate is just 7 cars for every 1000 people. This is unsurprising since India's average family annual income is around INR120000 (US\$3000), while the cheapest car available in the market is the Maruti Suzuki 800 at a price of INR 00000. This shows that owning a car is not a very affordable option for most households. Besides, in India, two wheelers are available between the price range of INR25000 to INR45000. These vehicles are preferred by the middle class, who account for about 20 % (300 million) of the population (Ramprasad 2007). Consequently, there are nearly 58 million two wheeler owners in India (Doval 2009). However, travelling by two wheelers is a risky option considering India has one of the highest road accident related deaths in the world.

Ratan Tata, the CEO of Tata Motors, launched the Nano not as an example of overdone opulence but because he wanted to provide the typical family of four currently travelling on a bike a much safer transportation option and at a comparatively cheaper price. None of the car manufacturers had ever thought of converting these people into car owners before. Tata Motors decided to provide a cheaper car for this section of the market expecting

households that own motor bikes would graduate to cars. Henry Ford had a similar vision in 1908 to mass produce cheap cars and did so by introducing the Model T. Tata Motor's efforts to develop a cheap car resulted in the launch of the Nano in January 2008 at a price of just INR100000 (US\$2500). This relatively low price was achieved by a number of innovations at the design, manufacturing and supply chain levels.

Economies of Scale and Scope

The Nano features some interesting innovations such as an entirely new rear mounted 623cc engine was developed. The use of light-weight composite materials, single wipers instead of two, car wheels at the extreme ends and three lug nuts instead of four on the car wheels have helped reduce the car cost. In addition Tata concentrated on the Nano's fuel economy and internal space efficiencies.

Similarly, it is the economies of scale and scope that are at the heart of the dynamics of the Nano's potential to become a success. For example, at the manufacturing level, common tooling processes were introduced. This reduced the cost of operations and increased the life of the dyes threefold. Besides, Tata Motors worked in conjunction with their suppliers like Krug to reduce paint shop costs (Tata Motors, nd).

They also plan to produce this car in the future by sending knocked down kits to franchisee based assembly plants where the car assembly would take place. This would reduce labour related costs for Tata Motors. At the supply chain level, Tata Motors have entered into long term agreement with suppliers. This has helped them obtain a maximum number of components from a minimum number of suppliers. These innovations have helped in reducing the price of the car, thereby drastically reducing the cost of an entry level car (Scanlon 2009).

The Impact of Price Discrimination

Henry Ford of Ford Motors was also successful in introducing the Model T at a cheap price mainly due to his innovation in mass producing cars on assembly lines. This had

significantly reduced the costs of the Model T. Similarly, a number of subsidies for the Nano were given by the state government of Gujarat to attract Tata Motors to set up the manufacturing plant in Sanand district of Gujarat as they were optimistic about the demand and success of Nano. These subsidies amounting to INR 60000 per car helped Tata motors to reduce the final cost of the car (Asia news network 2008). As a result, the cost of an entry level car in India has been reduced by 30% making cars suddenly more affordable. This would finally result in an affordable car to the 58 million two wheeler owners and could help in increasing the market size for cars by about 65 % in India, where most of the car owners in this market would be first time car buyers (CRISIL 2008).

Nano has been attractively priced between the previous existing cheapest car and two wheelers. Introducing this car at different price levels has helped Tata Motors follow third degree price discrimination in this market. Their models range from the Nano BS II at the price of INR115361 to the Nano LX BS III at the price of INR172361 (Tata Motors 2010). This practice enables Tata to capture more of the market surplus for itself as well as increasing the affordability to a larger set of consumers.

The Third Law of Demand is also applicable to an assessment of the Tata Nano. Consider that if two varieties of the Nano are transported and an identical additional fixed cost is applied to the price of both models, buyers would now find the more expensive version cheaper in terms of its relative price to the lower cost version. There is prima facie evidence of this effect when you consider that 80% of the bookings that have taken place thus far are for the top end models and just 20% of the bookings were for the lower end models (Business Standard 2009). Most of the lower end models have been booked by people who had never owned a car or who have only ever owned two wheelers perhaps making their relative price decisions being based on the basic Nano and a two-wheeler rather than two versions of the Nano. This fact also shows that the Nano is being purchased by first time car buyers. Besides a survey conducted in the small cities of the state of Punjab in India found that majority of the people owning bikes would move to the Nano (Batt 2008).

Price discrimination may well also be happening in terms of the geographic location of the consumers. Consider that the Nano has been envisioned as affordable and alluring for the lower middle class living in tier-2 with a population between 1 and 4 million & tier 3 cities with a population of less than 1 million as most of the bookings have not taken place in the major metropolitan cities. In tier 2 and tier 3 cities the average income is comparatively less than in metropolitan cities. Furthermore people in these cities consider buying cars as a matter of prestige and a source of one's achievement in life. The Nano's attractive price could easily satisfy this aspiration of the people.

Cross Price elasticity

The price of the Nano deliberately makes it a close substitute to some products in the two wheeler market. Besides, the Nano in a few years from now could adversely impact the second hand car market and reduce the price of second hand cars by around 20 to 30 percent and their sale by 35 percent (Reuters 2008). This could make second hand cars a lot cheaper bringing them even closer to the price of two-wheelers.

In smaller Indian cities, public transport is not very well developed and is also unreliable. As a result people there tend to rely on private transport. For example, school-going children in tier 2 cities travel by the three-wheeled auto rickshaw for transportation to schools. The Nano could provide a safer and better public transport alternative due to its affordability and revolutionise personal transportation. Conversely it could also contribute to congestion in the urban cities due to the sluggish development of urban transportation.

There exists a strong relation between fuel prices and the demand for automobiles as they are complementary to each other. Whenever petrol prices go up people tend to prefer fuel-efficient cars over fuel-inefficient ones. The population of consumers from whom the majority of the Nano's demand is expected is arguably extremely price sensitive. Hence, it is possible that there may be less demand for the Nano in those circumstances. While the mileage of the Nano is rather good at 26 km/l, it is far bettered by the average two wheeler

mileage of 50 to 60 km/l. If the price of petrol were to go up, then mileage figures could render the car a less attractive proposition.

Impediments for Nano

The current aggregate production of the Nano is just 30000 units a year against the current demand estimated by the 203000 bookings. As demand outstrips supply, economic theory mandates that the prices of the good would have to increase to clear the market or there would be a loss of surplus due to a condition of shortage at the announced price. This means the Tata has to strive hard to increase the production and to avoid losing consumers to other prospective manufacturers. Due to short supply, a black market is developing as some current owners and people waiting for their cars to be delivered are selling their cars at a premium of 10 – 30% (News Centre 2009). As a result, the Nano has become expensive for the consumers thereby decreasing consumer surplus.

The practice of Equated Monthly Instalments (EMI), a type of loan repayment, for the Nano further reduces the consumer surplus. Tata Nano bookings had to be made by paying 70% of the car's price. A majority of the Nano buyers have therefore had to book the Nano by taking automobile loans. This means that they have to begin making repayments right from the start of the loan. However, many of the car buyers have received delivery dates amounting to waiting periods of at least a year. If a buyer orders a Nano, he would have to pay INR 70000 as the booking amount for the base model. Suppose he borrows a loan at 11% interest per annum, for a 3 year period. He would then have to pay an EMI of INR2291.71 for 36 months starting from the day of taking the loan. This would result in the buyer paying around 16% more for the car than the actual car price while not being able to utilise the car for at least a year. This further decreases their surplus, and makes the car yet more expensive for them. As a result a number of buyers have actually cancelled their orders. These cancellations amount to around 10 to 15% of the orders (Rebello and Rishi, 2009). So, in the short run, the car seems to be more expensive than its actual cost for both consumers as well as for Tata.

Externalities

The most severe impacts of this car could be with respect to pollution in India. The carbon emissions in India for a motorbike are 29g/km while for the Nano it is 101g/km. If a family of four currently travelling by a motorbike would graduate to the Nano, the emissions per family would be higher. Besides if, just like Ford's Model T, conservatively, around 16 million Nano's were to be sold in 20 years, the amount of carbon emissions would be 3 times more than if the same people were to use bikes instead.

On the other hand, due to the Nano's innovations, global car manufacturers are now increasingly using Indian automobile engineering talent to develop their small cars. This can be seen by the increased R&D spends in India by Suzuki and Nissan (Reuters 2010 & NASSCOM 2009). Further, the subsidies offered by the different states to the car manufacturers will assist in increasing such manufacturing activities in India, which will have a positive impact on the development of this industry and the Indian economy in general.

At present the Nano seems to be unable to deliver on Tata's initial promise of providing a "one lakh car" (INR100000) due to the low production volumes of the car and the black-market and long queues this has resulted in. However, in the long run, as the new Nano plant becomes operational, Tata Motors would be able to meet the demand for this phenomenon of a car. However, the prices for a Nano would also depend on a lot of associated factors such as the cost of raw materials which Tata Motors would have to manage effectively to keep the car affordable to the masses. Otherwise the Nano would end up being just another car in the Indian car market.

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Corruption in Natural Disaster Aid: The 2004 Indonesian Tsunami

Nicole Brooks, Karin Klau, Joseph Orr & Chris Stanford

Background

The tsunami that affected Asia and African countries in December 2004 was one of the most destructive natural disasters in recent times. Aceh alone suffered an estimated 167,000 deaths and 566,000 displaced persons (USAID, 2005). The response by donor countries and individuals was swift and unprecedented in magnitude, however, after more than one year, thousands of families remained affected by corruption and were forced to huddle in tents instead of living in permanent housing (TI, 2010). Review studies such as Mitchell (2010), show that the outcomes achieved through the aid response were inefficient and inequitable.

Natural disasters, especially when they occur in developing countries, strain government budgets significantly. With large populations (among donors or beneficiaries) believing provisional aid is substantial when in reality it is small (Mitchell, 2010), powers amongst NGO lobbyists growing, and the media's willingness and ability to distribute damaging stories about corrupt aid practices (Oxfam, 2010), it is easy to see why national governments, eager to appease electorates (presuming they are democratic of course) and the international community, are motivated to provide effective natural disaster aid. In this context, giving aid to countries plagued with corruption poses a difficult dilemma. This paper highlights market failures in natural disaster aid using the case of Aceh, and recommends a strategy that adjusts government agents' incentives to take a path that could arguably assuage the problem of corruption by reducing the severity of the moral hazard problem in an afflicted government.

Market Description

A natural disaster creates an immediate and more inelastic demand for primary needs among its victims. However, due to the disruption of market mechanisms, excess demand for necessities, and the destruction of some factors of production such as land, labour and capital, buyers often suffer reduced affordability and sellers typically face the problem of an inability to supply. Consequently, this shortfall in domestic markets for such necessities as food, shelter, water and medical supplies are targeted by humanitarian aid, while the restoration and improvement of the factors of production and the infrastructure are funded through development aid. Natural disaster aid can therefore be viewed as a combination of humanitarian aid and development aid.

In order to characterize this market for disaster aid we could label the donors as the suppliers of natural disaster aid. These would include non-profit organisations, governments, private business and individuals. Similarly the consumers of natural disaster aid are those affected by the disaster.

Interestingly though, in a natural disaster situation, many factors such as communication breakdown and in-ability to meet exchange partners aggravate the difficulty of these suppliers and consumers engaging in market transactions. For example, when the infrastructure has been severely impacted, the willingness to supply aid is not enough to get it to its potential consumers. Also, suppliers are often international NGOs or foreign governments who must engage with domestic governments before they can access the affected consumers, which introduces a number of political economy concerns.

Following the tsunami, governments across the world (or various countries) played a critical role, dispatching significant portions of their stockpiled humanitarian goods and services to Aceh. Australia, too, had a large involvement, committing \$1billion in aid to Indonesia (Burford, 2005). The aggregate quantities of humanitarian goods supplied highlight the benefits of government intervention in what could be considered a public

good and would naturally be underfunded if left to its own accord due to the free rider problem.

The market of humanitarian aid following a natural disaster could be viewed as monopolistic competition, because there are a large number of suppliers all providing only slightly differentiated range of limited basic goods and services. Differentiation could also be on the basis of the donor's strategic location or history of foreign direct investment (FDI) in the recipient country, thus some donor countries may have a comparative advantage in supplying aid. Donor governments are also more likely to support and provide aid for other reasons such as maintaining trade links, engaging in a quid pro quo political game in the international community, relieving internal pressure from an electorate to show support for the impacted country, and so on.

However, often there are certain strings attached to the provision of aid, countries donating on the condition that the aid is used in a certain way. This type of situation creates a market that is more oligopolistic, because aid is supplied on the proviso for instance that reconstruction contracts are awarded only to the donor country's firms rather than to those from rival countries, or that only the donor country's goods and services are used. A quid pro quo scenario emerges in a situation of simultaneous strategic interaction with other donor countries and the recipient country. This creates a limited number of powerful suppliers, who, without trade practice acts, can enter collusive agreements forcing the price level higher. There was evidence of this in Aceh, where local construction groups won inflated contracts through strategic alliances (TI 2010). With high levels of corruption in Indonesia, it is reasonable to suggest that political rent-seeking from powerful local firms had a major impact on the decisions of local politicians in awarding contracts for goods and services for reconstruction.

Market Failure and Externalities

The outcomes of markets are usually assessed on the grounds of their efficiency and fairness. In the case of Aceh, according to victim surveys the natural disaster aid market failed to deliver aid efficiently or fairly (Mitchell 2010).

Aid can only be as effective as the political institutions in a country that deploy it. For every dollar of aid, a portion is taken by the recipient government reducing the real value of a donated dollar below its face value. Some of this loss may be necessary to enable the transmission of the donated dollar. However, the fact remains that the more a recipient government wastes in socially unproductive ways such political rent, or corruption, the less there is for the population affected by a natural disaster, reducing the consumer surplus and creating an inefficient natural disaster aid market. The more the political institutions of the recipient country are poorly managed, corrupt, or apathetic the more likely this situation would be exacerbated. Five years following the tsunami, Indonesia still ranked 111 out of 180 countries in the 2009 version of Transparency International's Corruption Perceptions Index, meaning it is still perceived as having significant corruption within its civil service and political system.

In such a case, aid can be seen as simply a wealth transfer that may only serve to entrench the recipient country's political inefficiency, and give the donor countries a false sense of altruism.

Market inefficiency can also arise from overregulation or 'red tape'. In this scenario, demand is high, supply of aid from donor countries is available, but bureaucracy delays the process of transferring the supply of goods and services to the consumers who demand it. Evidently, the excessively large queue dissipates surplus, this leads to deadweight loss in the market, and a large reduction in both consumer and producer surplus. Following the tsunami, the Indonesian government was suspicious of foreign assistance so it increased its regulation of foreign companies, and was quick to re-establish its own full control of logistics and funding for the redevelopment plan.

Even though demand is created by victims, they do not pay for aid. Construction companies for example are businesses that win contracts from the government, which is a case of business functioning as the buyer of natural disaster aid in exchange for the services rendered. Aid funds flow from the aid agencies such as the UN and other non-profit organisations such as Oxfam International to local business vendors, whom secure aid in exchange for providing goods and services. Therefore, in the ideal state, the victims, with-out payment, receive the benefits of aid due to the agency-business transaction.

Negative externalities in donor aid also occur. In a country as large and populous as Indonesia, using local labour, supplies and infrastructure enabled Indonesian firms to have a comparative advantage over foreign countries and their contractors. However, in Aceh, there were documented cases of protectionism (over-regulation), fraud, bribery, kick backs and a general mismanagement of funds, which inflated prices beyond 20 to 30 percent (Schultz & Søreide 2006), all of which reduced consumer surplus.

A negative externality of foreign aid is known as a donor country's moral hazard encapsulated in Buchanan's Active Samaritan - Passive Samaritan Dilemma (Raschky and Schwindt 2009). Comparing pay-offs between donor and recipient countries in the Active Samaritan Dilemma, Nash Equilibrium is achieved when the recipient offers a low level of effort, since the donor is always constrained to help - a fact that the recipient takes for granted and acts accordingly. In the Passive Dilemma, the donor contributes less when the recipient's efforts are high, so again the recipient chooses a low effort. The dilemma of the Samaritan is that they always get exploited (Raschky and Schwindt, 2009). Its "Moral Hazard" is that it can never commit to not helping, even though that is not its dominant strategy. Aid exacerbates the moral hazard problem for the donor country because the recipient (the government of the victims) counts on foreign aid from the donor, which allows poor political and economic management to linger. This ultimately impacts on the welfare and longer term development outcomes of the recipient country.

Intervention design and rationality

Corruption looms large when a natural disaster strikes because there is a need to be seen as acting quickly. Often regulations covering bureaucratic behaviour are relaxed in the name of expediency, reducing the likelihood of being caught in an ex-post investigation. Other factors that influence the corruption of a rational agent are the ability to influence decisions and the size of the potential rewards (Schultz & Søreide, 2006).

An intervention to mitigate corruption in the provision of donor aid following a natural disaster could involve reducing the incentives to create political rent-seeking, and create a more competitive market between local and donor producers. This paper proposes an intervention that would require that the number of contracts awarded in the reconstruction phase be reduced but their size be increased, while producers from the recipient and donor countries are put 'head to head'. To be awarded the contracts, as decided and regulated by donor country governments, local producers would have to match the contracts of producers from donor countries. In this way, all local producers are encouraged to reduce costly corruption or risk losing the contract. Pitting local suppliers against one another in a setting of local chaos culminates in increased uncertainty of information between the local producers. Local uncertainty of information in conjunction with the once-off nature of the contracts increases the incentives for local suppliers already in a collusive agreement to cheat one another, which has the end result of forming a more competitive market less ailed by corruption.

Focus must also be maintained on donor country suppliers. Donor country suppliers, although better able to collude due to communication and business processes still intact, still face the associated risk of being cheated by both donor and afflicted countries alike. This risk is exacerbated when the contracts are of the one-shot nature. Both donor country projects and local projects should be audited by experienced external auditors well-versed in corruption elimination practices, to ensure product and service homogeneity, quality and performance. External auditors should be given veto powers to both stop and reallocate either local or donor contracts depending on project progression. External

auditors would be highly compensated to reduce the likelihood of being corrupted, however, would face regular turn-over so that collusive relationships could not be established by the individual. Avenues for whistle blowing should be encouraged. Incentives of local suppliers would change with these measures; however, the long term result would be gains in producer surplus through the gradual mitigation of corruption.

Achieving this outcome would require a take it or leave it approach. If, perhaps through a global institution, all aid was administered by a single entity, take it or leave it could prevail. Donor aid organisations could use their market power to internally generate the incentive to eliminate malpractice thus reducing the moral hazard problem. These measures would require funding, most likely taken from the donated aid itself. Justification would be the trade-off between this funding and the cost of corruption. However, there is also always a risk that intervention can lead to regulatory failure, a case for further investigation.

The tsunami in Aceh highlighted the market inefficiencies and negative externalities inherent in natural disaster aid. Corruption within the recipient government exacerbates the inefficiencies, inequalities and the moral hazard problem. Our proposed intervention for disaster aid aims to limit corrupt practices, leading to a more efficient and equitable market for foreign aid.

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