

The Simple Analytics of Cash versus Food Price Subsidies

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The draft National Food Security Bill calls for the government to undertake reforms in the Targeted Public Distribution System, including “introducing schemes such as cash transfer, food coupons, among others, to the targeted beneficiaries in lieu of their foodgrain entitlements.”² In this, the Bill follows the recommendation of the Expert Committee on the National Food Security Bill, which said:

As an alternative to the existing PDS we may switch over to the use of smart cards which simply means that the food subsidy may be directly transferred to the beneficiaries instead of to the owners of the PDS stores. This in turn gives the people an opportunity to go to any store of their choice and use their smart cards or food coupons to buy food.³

This proposal has been taken up by Basu,⁴ although he expresses some reservations about it, and particularly by Kotwal, Murugkar and Ramaswami,⁵ who argue that “the proposed alternatives to PDS such as food coupons and smart cards (effectively cash transfers) ... will be much more effective in the long run from the point of view of the poor.” Their argument is based primarily

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2 The National Food Security Bill, 2011, draft, September 2011, Schedule IV, item (3)(g), p. 27, accessed online on October 24, 2011 at http://fcamin.nic.in/dfpd_html/Draft_National_Food_Security_Bill.pdf.

3 Economic Advisory Council: “Report of the Expert Committee on National Food Security Bill,” para 24, p. 15, accessed online on October 24, 2011 at http://eac.gov.in/reports/rep_NFSB.pdf.

4 Kaushik Basu: “India's Foodgrain Policy: An Economic Theory Perspective,” *Economic and Political Weekly*, Vol XLVI No 5, January 29, 2011, p. 44.

5 Ashok Kotwal, Milind Murugkar, and Bharat Ramaswami: “PDS Forever?” *Economic and Political Weekly*, Vol XLVI No 21, May 21, 2011, pp. 72-76.

on the practical aspects of the problem, suggesting that cash transfers would deliver more to the poor than the problem-plagued PDS.

In a recent paper,⁶ Khera has presented evidence from a new survey indicating that there may have been a significant improvement in the performance of the PDS, mostly because of changes being made at the State government level. This work calls into question the need or desirability for cash transfers as a better practical alternative to the PDS in delivering benefits to poor recipients. Further, Khera specifically surveyed respondents in the nine states covered by her study on the question of whether they would prefer to receive cash transfers instead of food allocations through the PDS and found that there was a widespread preference for food allocations rather than cash. It is possible, despite the best efforts of the surveyors to convey the guaranteed equivalence of the monetary value of the cash transfers to their food allocation, that the respondents mistrusted the unfamiliar cash option. Nevertheless, it seems worthwhile to pause and examine whether there might be reasons why rational and fully-informed benefit recipients might prefer direct food deliveries to cash transfers.

The purpose of this paper is to step back from the practical details of benefit delivery under the different options and to examine the basic economic theory behind the question of cash versus in-kind transfers. Although the theory tells us that cash transfers are better, we will look at circumstances when this is no longer true, and situations where the advantage rests with price subsidies. We will also look at the theory underlying another alternative to the PDS as it stands now: the introduction of subsidised “coarse” grains into the system.

6 Reetika Khera: “Revival of the Public Distribution System: Evidence and Explanations,” *Economic and Political Weekly*, Vol XLVI No 44-45, November 5, 2011, pp. 36-50.

The Basic Argument for Cash Transfers

The superiority of lump-sum taxes over commodity taxes is a well-known, standard result in Economics, of which the superiority of a cash subsidy (which is effectively a negative lump-sum tax) over a food price subsidy (a negative commodity tax) is a corollary. The government could provide to consumers the same welfare benefit at lower cost with a cash subsidy, or could provide a greater benefit with the same outlay on a cash subsidy rather than a food subsidy.

The essential argument goes as follows. Suppose a typical consumer's budget constraint is

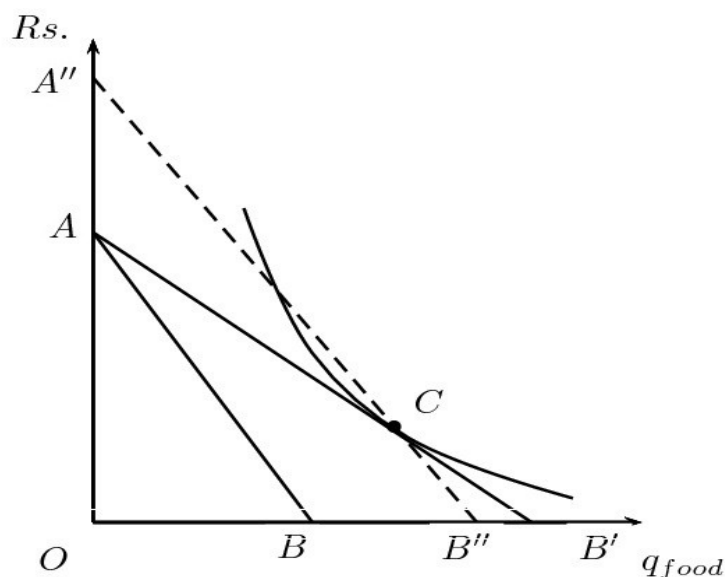


Figure 1

represented by the line AB in Figure 1. We will measure the quantity of food on the horizontal axis and the vertical axis will represent all other goods and be measured in money. Suppose the government offers a price subsidy on food, i.e., they buy food at the open market price (or the minimum support price) and then sell it to consumers at a subsidised price lower than the market price. Let the budget constraint faced by the consumer now be AB' , which is flatter than AB to reflect the subsidised price of food that she now faces. Suppose she chooses the bundle C on this new budget constraint. Draw a line through C parallel to AB and label this $A''B''$. Then the cost to

the government of providing the food subsidy will be AA'' . Since the slope of $A''B''$ represents the market price of food (since it is equal to the slope of AB), the cost of the bundle C at market prices is OA'' . But the consumer is able to buy it with her budget of OA . The difference AA'' must then be the cost to the government.

Now suppose, instead of the food subsidy, the government gave this consumer a straight cash subsidy of AA'' . The consumer would then face the budget constraint $A''B''$ and we can see clearly from the figure that she would now be better off, since there is a section of the constraint $A''B''$ that lies above the indifference curve through C . There must be such a section because the slope of the indifference curve at C is equal to the slope of the line AB' , which is flatter than $A''B''$. Thus, the consumer would be able to choose a bundle that is on a higher indifference curve than the one through C , thereby demonstrating that a cash subsidy involving the same rupee outlay on the part of the government as a food price subsidy could lead to higher welfare for the recipient.

Alternatively, government could, by using a cash subsidy, boost the consumer's welfare to the same level as it does with the food price subsidy at lower cost. To find the minimum outlay needed under a cash subsidy to take the consumer to the utility level at C in Figure 1, we would need to draw a line parallel to AB (and $A''B''$) and tangent to the indifference curve. Clearly, this line would be lower than $A''B''$, indicating that the outlay needed would be smaller than AA'' .

This is the essential theoretical underpinning for the proposal to introduce cash subsidies to replace the present food subsidy system. The fundamental reason why the cash subsidy turns out to be better is that a food price subsidy alters the prices faced by the consumer, thereby distorting her optimal consumption choice. She sub-optimally substitutes the subsidised food for other goods. With a cash subsidy, there is no change in prices and hence no distortion of the

consumer's choice.

Exceptions to the Basic Theory

There could be several caveats to this analysis. We will consider three:

- (1) the subsidy programme provides only a limited amount of food,
- (2) the consumers are extremely poor, and
- (3) the food market is not perfectly competitive.

1. Limited subsidy programme

If the government's food subsidy programme provides only a limited amount of food at the subsidised price, after which the consumer has to enter the open market, as is the case with the present PDS, the superiority of a cash subsidy is no longer guaranteed; it depends upon whether or not the consumer does in fact buy food on the open market or not. If she does buy food in the open market, then the food price subsidy acts effectively as a cash subsidy and there is no theoretical benefit to be had from using a cash subsidy.

To see this, consider Figure 2, which shows the budget constraint under this kind of subsidy scheme. It would look like the kinked line ACD, where the slope of the line segment AC reflects the subsidised price of food, \bar{X} is the maximum quantity of food the consumer can buy at the subsidised price, and the slope of the line segment CD (equal to the slope of the original budget constraint AB) reflects the price of food in the open market. If the consumer ends up choosing a bundle on the line segment CD, as in panel (a) of Figure 2, she would be using the open market price of food in her optimality calculation and so her consumption of food would not be distorted. Therefore, nothing would be gained with a cash subsidy. The consumer would

have to consume at a point somewhere along the segment AC (that is, choose not to buy her entire allocation under the fair price scheme) in order for the analysis of the previous section to apply. If the consumer chooses the bundle C, as in panel (b) of Figure 2, then a cash subsidy would be beneficial, as shown in the figure, but the benefit may not be as great as in the previous case where the amount of food the consumer could purchase at the subsidised price was not limited.

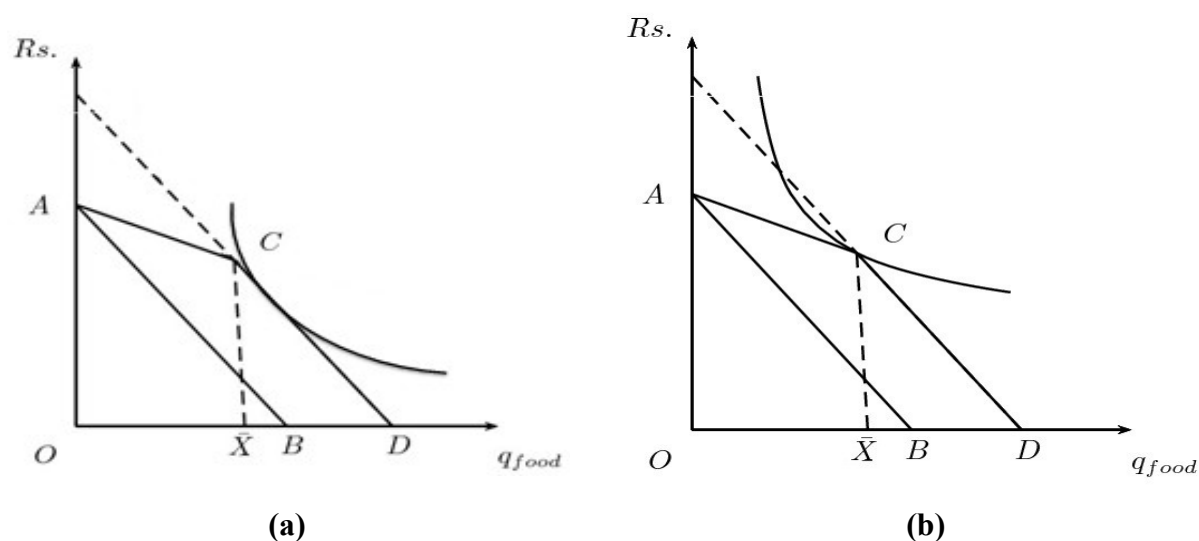


Figure 2

In any case, Khera's data shows that the vast majority of consumers do in fact want to buy their full allocation under the PDS and need to supplement their subsidised food purchases with other sources of grain, since the normal allocation of 35 kg of grain per household is much smaller than the per person consumption requirement of around 15 kg per person and an average household size around six. For such consumers, Figure 2(a) would apply and a cash subsidy would, in principle, be no superior to the food price subsidy. It might be quite expected that these customers would prefer the known system over a theoretically equivalent but unknown system.

2. *The Poverty of the Consumers*

The indifference curves drawn in the analysis so far are the normal ones drawn in any standard micro-economics textbook, but they may not be valid for very poor consumers. These standard indifference curves emphasise that most consumers generally prefer “balanced” bundles of goods, i.e., bundles that contain moderate amounts of a wide variety of goods that enable a “balanced” lifestyle. But a consumer who is extremely poor, perhaps at the very margins of subsistence, may not have the luxury of consuming a balanced bundle; he may simply not be able to afford it. Such a consumer may have a dire need for the most important commodity needed for survival, food, and may need to consume an “unbalanced” bundle consisting largely of food, supplemented by small amounts of other goods perhaps gathered in kind rather than by purchase.

Such “preferences” may be represented by a quasi-linear utility function. This function has the property that all the indifference curves are horizontally parallel to one another (that is, they have the same slope along any horizontal line), and the utility function has the form

$$u(x_1, x_2) = x_1 + v(x_2)$$

Here, x_1 represents foodgrains and x_2 represents all other goods. A possible indifference map for this utility function, appropriate for the case of an extremely poor person being discussed here, is illustrated in Figure 3. What is important for our purposes about this indifference map is that the indifference curves can slope down steeply and intersect the horizontal axis; it is possible for x_2 to equal zero. An extreme version of such a map, appropriate perhaps for someone at the brink of starvation, would have the indifference curves all be vertical straight lines. Even in the case shown, if the consumer faces the budget constraint AB, he will choose the bundle B in order to maximise his utility, a corner solution where he spends all of his limited budget on food.

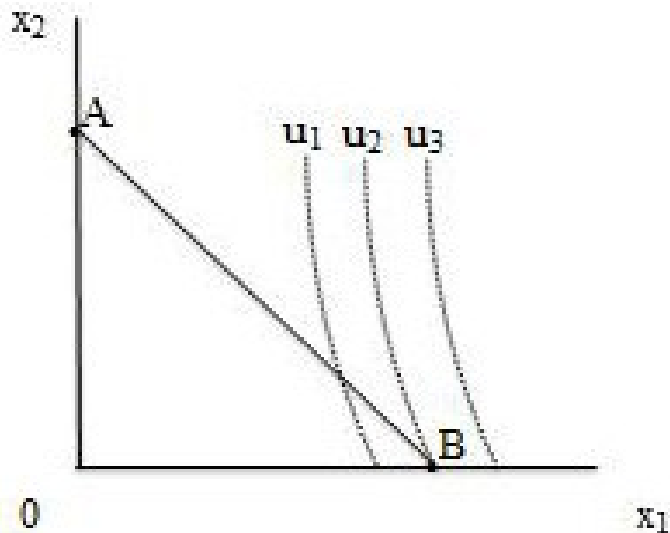


Figure 3

The reason this case is of interest in the context of our discussion is that the standard analysis on cash versus food price subsidies breaks down in this case. If the government started to provide this consumer with food at a subsidised price, so as to rotate his budget constraint out to AB' in Figure 4, the consumer would choose the consumption bundle B' since the constraint AB' is flatter than AB and the indifference curves are all horizontally parallel. Thus the consumer does not engage in any substitution as a result of the relative price change and therefore there is no distortion in his consumption choice; there would be no benefit to be gained from replacing

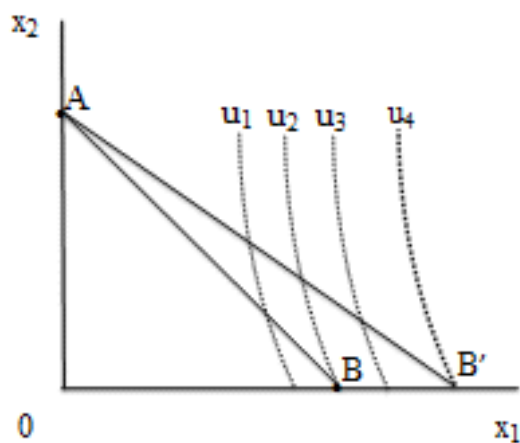


Figure 4

the price subsidy with a cash subsidy. If government wanted to boost this consumer's utility to u_4 by means of a cash subsidy, they would still need to provide enough cash to allow him to purchase the bundle B'. The same analysis would apply if the food allocation were limited and the consumer faced a kinked budget constraint like the one in Figure 2. Thus we see that it is quite possible that a cash subsidy is no superior to a food price subsidy for very poor consumers, arguably the most important group of consumers the government wishes to reach under the PDS. Khera remarks in her survey report that the “sense of security that poor households derive from getting an assured quota of grain ... was palpable ... especially ... for single women (often widows), the elderly and also poor households.”⁷

3. Non-competitive Food Markets

In the previous two sections, we saw two situations in which the cash subsidy loses its theoretical edge over the price subsidy, so that a consumer might express a preference for “the known devil” over “the unknown devil.” But the fact of the matter is that, in both those situations, the two policies become equivalent, and a rational consumer should therefore be indifferent between them. In this section, however, we consider a case in which the food price subsidy is clearly better than the cash subsidy, and where, therefore, a rational consumer would have a clear preference for the food price subsidy. This is the case of non-competitive retail food markets.

The typical Indian village is a small market. Looking at 2011 Census data, if we take 72.2 per cent (the percentage of the rural population) of a total population of 1.21 billion, we get roughly 873.6 million. Dividing this by the 641,000 villages in the country, we get an average

⁷ Khera, *ibid.*, p. 45.

population per village of just 1,363 people. By any measure, this is a small market for a foodgrain shop to serve, especially considering that many households satisfy part of their requirements with their own production. We would therefore not expect to see a shop in every village. This expectation is borne out by Khera's data. In assessing people's preferences between cash and food, she mentions that households who preferred food to cash were, on average, 2.8 km from a bulk grocery store and 5.6 km from the nearest market, while those who preferred cash to food were, on average, 1.9 km from a grocery store and 3.7 km from the nearest market.⁸ Clearly therefore there is not ready access to a private foodgrain trader in many villages; rather, there must be a single private outlet for several neighbouring villages. Were the PDS shops to be withdrawn from the scene, it would appear that the private traders might have considerable monopoly power in their local markets and we would expect to see increases in foodgrain prices.

Of course, the shortage of private traders is no doubt exacerbated by the PDS, whose fair price shops are located in a large number of villages. If the PDS shops were to disappear, it would be reasonable to suppose that more private traders might enter the market and thereby limit any food price increases. Any proper analysis of the effect of the elimination of the PDS must therefore consider the level of entry to the retail foodgrain market.

Much of the literature on spatial competition follows on the seminal paper by Hotelling, in which the space was modeled as a finite line with customers spread evenly along it.⁹ This model does not have a price-cum-location equilibrium, but it can be modified to have such an equilibrium by converting the finite line to a circle, as in the model by Salop.¹⁰ However, this model, and others that follow it, continue to assume a uniform distribution of consumers over the

8 Khera, *ibid.*, p. 45.

9 Harold Hotelling: "Stability in Competition," *Economic Journal*, Vol. 39, No. 153, March 1929, pp. 41-57.

10 Steven C. Salop: "Monopolistic Competition with Outside Goods," *Bell Journal of Economics*, Vol. 10 No. 1, Spring 1979, pp. 141-156.

available space. In our context, it is not clear that this is a reasonable assumption. Rather, it seems more appropriate to assume that consumers are bunched together in villages, which are then spaced somewhat widely apart.

For simplicity, we could assume that villages consist of points in space, with demand concentrated at each of those points, and the points in turn being spread uniformly one unit distance apart. If “transport costs,” that is the cost of a villager traveling from her village to another (mostly the opportunity cost of time), are sufficiently high, equilibrium would involve traders locating themselves evenly in the space, charging monopoly prices, and villagers always traveling to the nearest trader's shop. If one village is equidistant from two (or more) shops, it seems reasonable to assume that the shops would split the demand from such a village equally.¹¹

Under these assumptions, it is easy to show that, if space is modeled as a circle with villages located around the circumference at a unit distance from each of its neighbors, trader shops located d units apart would each enjoy a monopoly over the demand from d villages. If, instead, the villages are organized on a two-dimensional infinite “plain” on a rectangular grid, with the grid lines a unit distance apart and travel possible only along the grid lines, shops located d units apart would enjoy a monopoly over the demand from d^2 villages. The important point is that there would be a location-price equilibrium in either case with the shops located an equal distance apart and charging monopoly prices. How far apart the shops are located would then be determined by the entry condition. If entry is free, the distance between shops would be such that each shop would be profitable, but all shops would be unprofitable if the distance between shops were reduced by one unit. That is, if π_i represents the profit per firm if the firms

¹¹ In the case where a village is equidistant from two shops, it might be argued that the monopoly price might not be an equilibrium price, since a shop might try to capture all of the demand from the subject village by lowering price below the monopoly price. This problem can be avoided by postulating that shops assume any price reduction would be matched by their competitors. Thus an equilibrium with tacit collusion would emerge.

are i units of distance apart, d will be an equilibrium spacing between firms if

$$\pi_d > 0 \text{ and } \pi_{d-1} < 0.$$

What is important about this solution is that the equilibrium will involve trader shops that enjoy monopoly power in their local neighbourhood and will therefore use monopoly pricing. If we can assume the marginal cost is constant, since it is just the cost per unit at which they have to buy grain for re-sale, the monopoly price will not depend upon the extent of their monopoly region (that is, how many villages fall into their “catchment area”). However, it *will* depend on the size of the market per village. This must be substantially smaller as a result of the introduction of the PDS, since many customers in every village are able to satisfy a significant portion of their demand at the subsidised prices of the PDS shops. If the PDS were to be withdrawn, this demand would pivot naturally to the private trader shops, and the price faced by customers would be substantially higher. Entry by more traders into this more profitable market will not reduce the monopoly price, it will affect only the catchment area per shop in order to control the aggregate profit per shop. Thus customers would definitely face higher prices because of the increased market power of the traders they face.

That this case is important is seen clearly from Khera's survey results on why people often prefer food over cash. In this context, she reports:

A ... factor brought up often – directly or indirectly – was the lack of trust in local markets and traders. Respondents said that if the PDS shop closes down, there is every likelihood of local private traders taking advantage of the lack of that fallback option for poor households and raising prices. Even when respondents did not articulate this distrust of local traders directly, they expressed apprehensions regarding being entirely reliant on private traders. The current situation, where they are only partly dependent on private traders (with the rest of their needs being met out of home-produce and the PDS) seemed a source of comfort for them.¹²

12 Khera, *ibid.*, p. 45.

Khera's respondents may not express it in the same terms as an economist would, but they seem to clearly understand how the PDS shops are a significant check on the monopoly power of traders and therefore cause prices of foodgrains in the private market to be lower. They would lose this check if the PDS is abolished.

An Alternative Cost-Saving Mechanism: Inclusion of Coarse Grains in the PDS

At the same time as we see there are strong theoretical reasons why benefit recipients might prefer to receive food price subsidies rather than cash subsidies, there exists an alternative cost-saving mechanism that has received insufficient attention: the inclusion of “coarse” grains such as *jowar*, *bajra*, and *ragi* within the PDS gambit. While this idea may seem fairly obvious, modeling it and presenting it in a manner compatible with the standard theory on cash *versus* food price subsidies is not trivial. In this section, we look at a simple model that demonstrates the benefit of including these grains.

The basic assumption underlying the model is that these coarse grains fulfill the same role in people's diets as do the major grains like wheat and rice. This assumption may be particularly true of people who buy mostly wheat through the PDS; they might just as well use one of the coarse grains to make their *roti*. However, they might have a taste preference for one, say wheat, over the other. To keep things simple, I will assume that their total demand for grain will be fixed, and the major choice will be to decide how much of the different grains they would buy. For illustrative purposes, I will consider just two grains: wheat and *bajra*. Thus the typical consumer's utility function will be $u(b, w, y)$, where the arguments represent the quantities of *bajra*, wheat, and all other goods consumed. The quantity y could be measured in money terms.

The slight modification to the standard model will be that the consumer will face not just the usual budget constraint:

$$p_b b + p_w w + p_y y = I \quad (1)$$

where I is the household income of the consumer, but a constraint on the total quantity of grain consumed:

$$b + w = G \quad (2)$$

where G is the fixed amount of grain each household would buy, assuming they can afford it.

Solving the consumer's utility maximisation problem with two constraints requires us to write the Lagrange function:

$$L = u(b, w, y) - \lambda_1 (I - p_b b + p_w w + p_y y) - \lambda_2 (G - b - w).$$

Differentiating and simplifying, the first-order tangency condition can be written as:

$$\frac{u_w - u_b}{u_y} = \frac{p_w - p_b}{p_y}. \quad (3)$$

This first-order condition is very interesting, as it differs from the usual condition of the form

$$\frac{u_x}{u_y} = \frac{p_x}{p_y}$$

but is nevertheless similar. Normally, we set the ratio of marginal utilities equal to the ratio of prices, but here we have replaced the numerators by a difference in marginal utilities and a difference in prices. The reason is that, because of the constraint (2), b and w form a kind of composite good. If a household increases its consumption of wheat, it must reduce its consumption of *bajra* by the same amount in order that (2) continues to be satisfied. Thus the rate at which utility rises is the *difference* $(u_w - u_b)$ rather than just u_w . At the same time, the

cost of increasing the consumption of wheat is not the usual p_w but is $(p_w - p_b)$. Thus the condition (3) seems quite intuitive.

Even though there are three goods in this model, we can illustrate the situation in a two-dimensional graph. In Figure 5, the quantity of wheat is measured on the horizontal axis and the quantity of all other goods is measured on the vertical. The quantity of *bajra* is not shown directly; however, it will be shown indirectly. G is the maximum amount of wheat the household

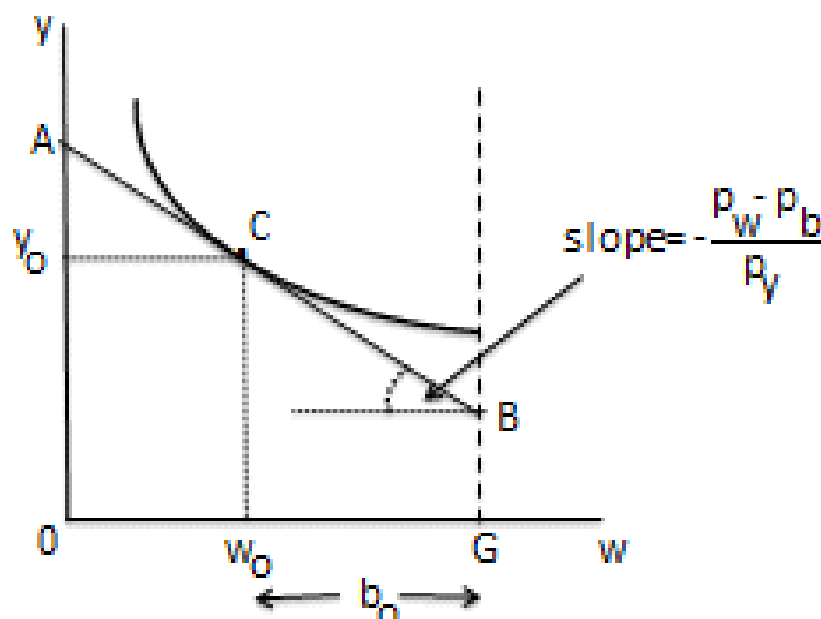


Figure 5

will buy. Then, if the consumer actually buys w_0 of wheat, she will buy $b_0 = G - w_0$ of *bajra*.

The consumer's budget constraint is shown as the line AB in the Figure. A represents the amount of other goods the consumer can buy if she buys no wheat and therefore satisfies her entire demand for foodgrains by buying *bajra*. Similarly, B represents the amount of other goods the consumer can buy if she buys no *bajra* and therefore satisfies her entire demand for foodgrains by buying wheat ($w = G$). At point A , the consumer starts out by purchasing no wheat and G

units of *bajra*, spending the rest of her income on other goods. As she increases her purchases of wheat along AB , she simultaneously reduces her purchases of *bajra* by an equal amount so as to continue to satisfy the foodgrain constraint (2). The slope of AB is therefore $-(p_w - p_b)/p_y$. As it is drawn, the budget constraint implies that $p_w > p_b$, which is why the constraint is downward-sloping. If $p_w < p_b$, the constraint would be upward-sloping, since the consumer would be able to buy more y as she bought more wheat, since she would be reducing her purchases of the more expensive *bajra*.

In like manner, the indifference map used in the graph represents the same process: increasing w implies an equal reduction in b . The slope of the indifference curve is therefore $-(u_w - u_b)/u_y$. The indifference curve shown in the Figure, with its normal downward-sloping convex shape, reflects the implicit assumption that $u_w > u_b$, since the curve would be upward-sloping if the inequality went the other way.

The consumer would choose the bundle along AB where her utility is maximised. In Figure 5, we see an interior solution at C , which satisfies the first-order condition (3), but clearly other solutions, notably corner solutions, are possible. In Figure 6(a), for example, the consumer's indifference curve is very steep (implying that u_w is much greater than u_b), and this results in a corner solution at B , where the consumer buys only wheat and no *bajra*. Such an outcome might be typical for consumers who are relatively wealthy. On the other hand, a poor consumer may not be able to afford to be choosy in her choice of grain and therefore might have indifference curves that are relatively flat, as in Figure 6(b). Such a consumer would end up at corner A , choosing to buy no wheat but only *bajra* to satisfy her demand for grain. Indeed, an extremely poor consumer might not even be able to afford a consumption bundle such as B , since

her budget constraint might meet the horizontal axis to the left of G . Her consumption choice would almost certainly be at a corner such as A where only *bajra* is purchased.

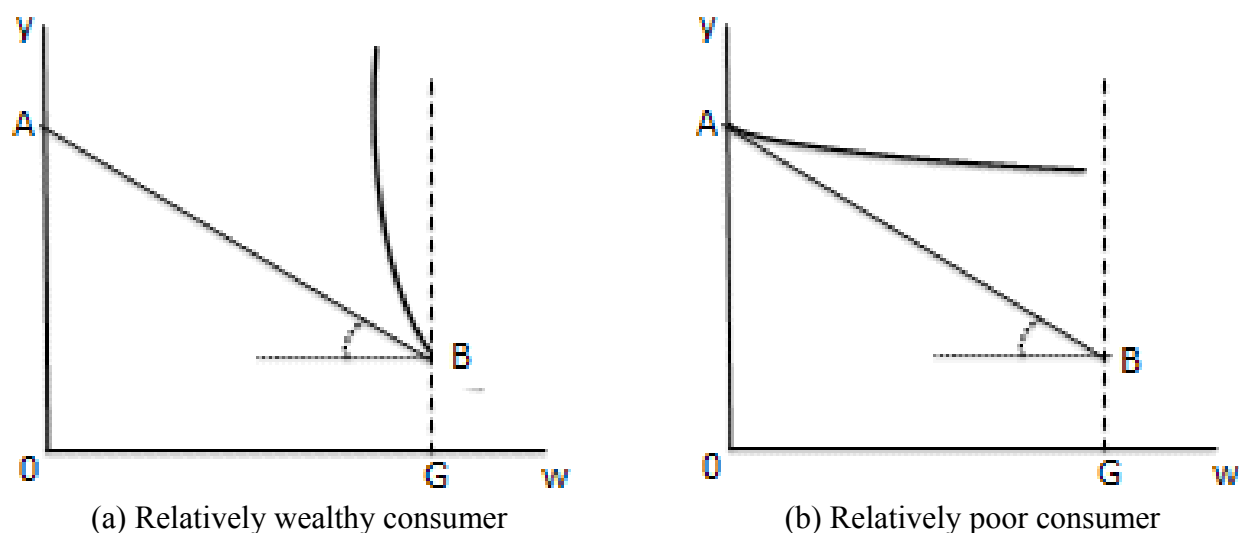


Figure 6

What is the effect of the introduction of the PDS in such situations? In a PDS where only wheat is subsidised, to the exclusion of the so-called “coarse” grains, and where the extent of subsidisation is so great as to result in a subsidised price of wheat below the price of the coarse alternatives, the natural outcome is a shift in the consumption pattern from coarse grains to wheat. Figure 7(a) illustrates what happens to the typical consumers budget constraint under a PDS with unlimited availability of wheat at a subsidised price of $p_w^* < p_b$: the budget constraint becomes upward-sloping! This is because each time the consumer buys an additional unit of wheat at the subsidised price, replacing a unit of *bajra* at the unsubsidised (higher) price, she saves money and can buy more y . If, on the other hand, the quantity of wheat available at the subsidised price is limited, say, to $W < G$, the budget constraint will take the shape of the kinked line ACB in Figure 7(b). The segment AC represents the part of the constraint where the consumer is able to buy subsidised wheat, while the segment CB represents the fact that if she wants to buy

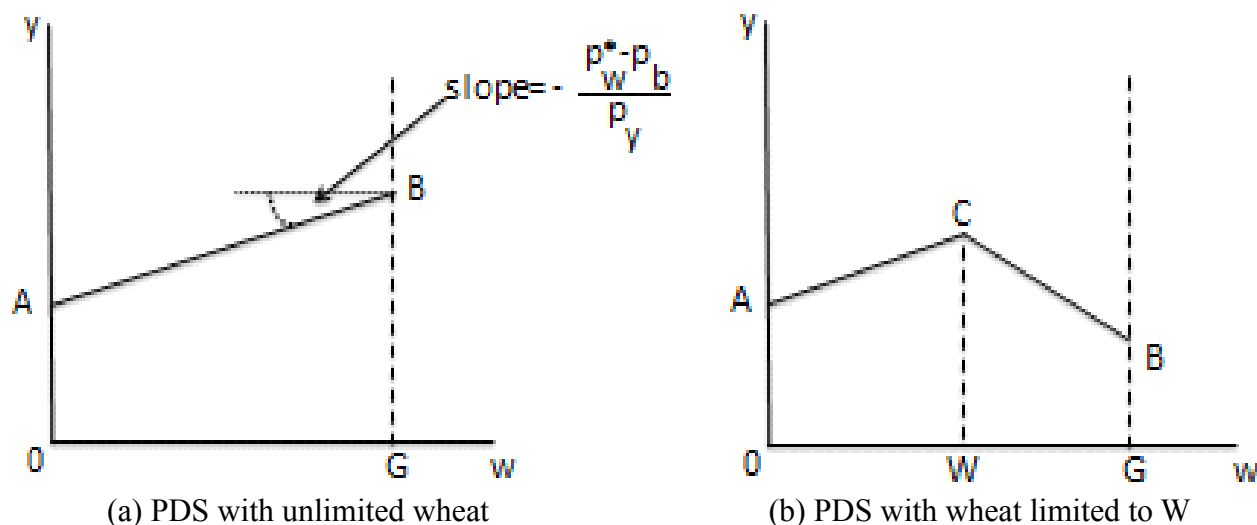


Figure 7

more than W units of wheat she must do so at the market prices.

What will the introduction of the PDS do to consumers' choices? Relatively well-off consumers of the type whose situation was described in Figure 6(a) will continue buying only wheat, albeit now at lower cost. There is no cheaper way to get them to the same level of utility; a cash subsidy would be equivalent to the food price subsidy.¹³ But relatively poor consumers of the type illustrated in Figure 6(b), those who would have bought only *bajra* in the pre-PDS equilibrium, will now switch to total - if Figure 7(a) applies – or partial - if Figure 7(b) applies – wheat consumption. Government could save considerable sums of money with such consumers by either providing a cash subsidy or, if trader monopoly is a potential problem, by subsidising *bajra* instead of wheat.

If we focus on the actual PDS practice of providing limited amounts of food grain, the

¹³ The alert reader may wonder how that is so, considering that there *was* a way to reduce cost in the previous section. The reason for the difference is that here we are assuming that the total demand for grain is fixed at G , while previously the consumer was free to choose the level of grain consumption. This points to another factor arguing against a big advantage for cash subsidies in the general case: the demand for grain may be highly inelastic (here we have assumed the elasticity to be zero) and, as a result, the availability of a subsidised price may not cause a significant distortion in the consumption pattern.

constraint in Figure 7(b) would apply and Figure 8 illustrates the consumer's choice. Since the indifference curve is quite flat, utility is maximised at point C, where the consumer purchases her entire allocation of subsidised wheat and then buys *bajra* to meet her target level of consumption G of foodgrains. If we normalise prices by setting $p_y=1$, the cost to the government of serving this consumer is equal to AA' . However, government could boost this consumer's utility to the level she enjoys at C by providing a cash subsidy of AA'' instead, since she would then be able to buy the bundle A'' , which contains only *bajra* and no wheat and will therefore be cheaper than the bundle C. Alternatively, government could attain the same end at the same cost by subsidising *bajra* such that the consumer faced the budget constraint $A''B$ (if an unlimited amount of grain were made available at the subsidised price), or the budget constraint $A''DB$ (if the amount of grain available at the subsidised price was limited to W). Thus including coarse grains in the PDS could possibly result in significant savings to the government.

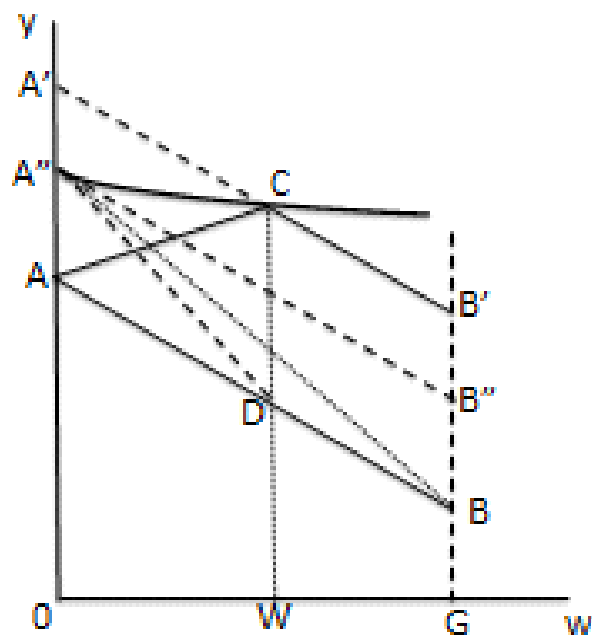


Figure 8

Conclusion

In this paper, we have looked at the current debate over whether India's food distribution system should rely on a Public Distribution System which supplies free or highly subsidised foodgrains to consumers or on a cash subsidy scheme that relies on a private distribution system in which consumers can buy food with cash or food vouchers given to them by the government. Much of the debate has focused on practical aspects of the two alternatives, with proponents of the cash or voucher schemes arguing that the PDS is irretrievably inefficient. However, some recent evidence has pointed to a revival of the PDS. It therefore seems appropriate to step back from the practical considerations and to at least be clear on which of the two systems is better on theoretical grounds. It was shown here that the standard argument in Economics in favour of cash transfers does not fully apply in the Indian context and there might be strong reasons to prefer the PDS as a possible counter to potential monopoly power in the retail food market. However, it was argued that a major source of possible efficiency improvement in the PDS is presently being left untapped: the subsidisation of so-called “coarse” grains such as *bajra*, *jowar*, and *ragi* in addition to wheat and rice.