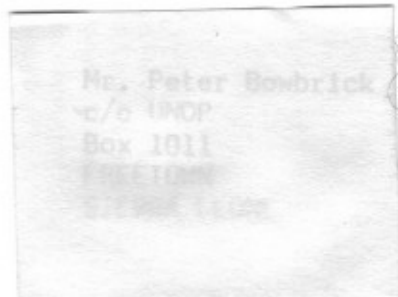


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SWIFTAIR

30th July 1986

Dear Mr. Bowbrick,

Thank you for your letter of 10th July and for enclosing your rejoinder. I have to say that, while the tone of this whole debate has left much to be desired - and detracted from the issue - I found Sen's reply to your article astonishing, and I had many misgivings about publishing it.

While I was at pains to ensure that he had the opportunity to respond to your arguments, I was not at all happy with the way in which he did. I did not think he was helping his case by sinking to snide remarks and these were edited out. Sen insisted that many of these asides were reinstated. I don't think Sen can really answer your criticisms so he is trying to mock them.

I think I forgot to send you a copy of George Allen's letter, which has just been published in the August issue. I do apologize for this oversight. If this has any bearing on your rejoinder, the last deadline for the November issue is 13th August. You can make alterations up to that date.

I will send Sen a copy of your rejoinder, but I do not intend to publish anything from him on this unless it is significantly different in tone and content from his last piece.

Yours sincerely,

Colin R. Blackman
Editor - FOOD POLICY

PS I have sent a copy of this letter to your Oxford address.

The causes of famine

A reply

Amartya Sen

This is a response to Peter Bowbrick's article which appears in this issue of *Food Policy*.¹ It is argued that Mr Bowbrick's alleged refutation is based on an affluent combination of conceptual confusions, empirical misstatements and systematic misrepresentations of the views he seeks to refute.

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Mr Bowbrick's alleged refutation of my analysis of famines consists largely of: confusing different concepts, misstating empirical evidence, and misdescribing my views. He makes profuse use of all of these bemusing genres. I shall take up Bowbrick's use of each of these genres, in this reply. But I must also confess to a certain amount of bafflement at the vehemence of Mr Bowbrick's presentation. I am, of course, deeply flattered by the importance he evidently attaches to my writings on famines, but he does seem to take them to be unbelievably powerful. Even the title of the earlier version of Mr Bowbrick's paper, presented at the 1985 Annual Conference of Agricultural Economics Society, was: 'How Professor Sen's theory can cause famines' (no mean feat, that).

There is even a hint of battiness in the way Mr Bowbrick traces the evil effects of my 'wrong theory' to periods *earlier* than its publication. Not only do we learn that during the famine of 1943, the government of Bengal fell to 'adopting the measures that Sen recommends' and 'the result was a famine in which three million people died' (p 122), but we are also informed that the entire 'Bengal Famine Code' (1895) '... appears to be a reaction against the disaster caused by diagnosing the 1883 Orissa famine as a Sen-type famine, and applying the measures Sen advises' (p 118). Given these beliefs, it is easy to understand Mr Bowbrick's intense anger – expressed liberally throughout his heady rejoinder – in the light of his evident conviction that 'Sen's recommendations' and 'advice' have been stimulating famines for nearly a century before their publication.

Conceptual confusions

Although Mr Bowbrick's anger cannot be faulted, the same, I am afraid, cannot be said of his arguments. Among his many confusions, one particular one distorts his analysis throughout the paper, to wit, that between 'food availability decline' (FAD) and the 'shortage' or 'inadequacy' of the current stock of food. To claim that a particular famine was not caused by food availability decline does not imply, as Bowbrick seems to think it does, that 'there was adequate food available' (p 121), or that 'there was no real shortage' (p 122). FAD refers to a decline of food supply *over time*, whereas the notions of

¹P. Bowbrick, 'The causes of famine: a refutation of Professor Sen's theory', *Food Policy*, Vol 11, No 2, 1986, pp 105–24.

adequacy or shortage – ambiguous as they may be – must refer to the size of food supply *vis-à-vis* something else (eg demand or needs) at a particular *point of time*, eg there being currently no excess demand at the ruling prices.² Neither entails the other.

As I have discussed in some detail elsewhere,³ there was tremendous pressure on supply given the rapid expansion of demand during 1942 and 1943 (connected with the war efforts and related economic activities), but the intense excess demand was certainly not caused by any sharp decline in food availability. Bowbrick is quite right when he says: 'If one accepts that there was a shortage, the price rises are easily explained' (p 116). But a shortage in this sense (essentially the existence of excess demand in the market), can occur without FAD, ie without any *decline over time* of food availability, since the market demand can sharply rise over time. That market demand rose rapidly over 1942 and 1943 is a central part of my analysis of the Bengal famine. Bowbrick's discussion of famines in general and of the Bengal famine in particular is rendered rather chaotic by his persistent confusion between 1) availability decline over time, and 2) supply inadequacy and shortage at a point of time.

This confusion also affects Bowbrick's understanding of policy needs, and he manages to confound the policy discussion by some additional – admittedly secondary – confusions. In commenting on my argument for 'a large food stock', Bowbrick is kind enough to quote a part of that argument (including my statement that 'no matter how a famine is caused, methods of *breaking* it call for a large supply of food in the public distribution system'⁴). But he remarks that 'since Sen does not recognize that there is a shortage, he does not accept that any food has to be imported at all' (p 108). This is a total misrepresentation of my view. (I had discussed in some detail the terrible folly in the 1943 famine of not having 'larger imports from outside Bengal'.)⁵ But I suppose, it does reflect Bowbrick's own belief that if a famine is not caused by what he calls a 'shortage', then there is no need for food imports.

Since Bowbrick also confuses 'shortage' with 'food availability decline', he is led to the view that if the Bengal famine had not been caused by FAD (as I claim), then there would be no need at all for food imports into Bengal. The anti-import view – attributed to me by Bowbrick, which contradicts what I had in fact said, reflects Bowbrick's conviction, on the one hand, that the case for food imports must rest on the existence of shortage, and his confusion, on the other, between shortage and FAD. Even if a massive expansion of demand leads to a sharp rise in food prices and to the failure of many occupation groups to command food in the market (I have argued that this was indeed the case in the Bengal famine), Bowbrick would not accept the merit of food imports, simply because the excess demand happened not to have resulted from a decline in total supply!

I fear that any government in a famine-prone economy that is persuaded by Bowbrick to the view that 'famine prevention measures of producing a surplus in normal years and building up an emergency stockpile are not appropriate if famines are not caused by supply shortage' (p 107) is likely to come to grief sooner or later. The role of food stocks in dealing with excess demand can be as important when the problem arises from demand expansion as it is when it results from supply contraction. Indeed, Bowbrick's rejection of food imports would be mistaken not only with his own confusion of shortage with FAD, but

²Shortage at a point of time can, of course, be defined in many different ways, eg as excess demand in the market or, alternatively, as shortfall *vis-à-vis* some 'requirement' norms. Ambiguities in the concept of 'shortage' played some part in misdirecting contemporary official analysis of the Bengal famine of 1943; this is discussed in my *Poverty and Famines*, Clarendon Press, Oxford, UK, 1981, pp 78–83.

³A.Sen, *op cit*, Ref 2, pp 54–5, 63–70, 75–7, 179–183; Sen, 'Starvation and exchange entitlements: a general approach and its application to the Great Bengal Famine', *Cambridge Journal of Economics*, Vol 1, 1977, pp 33–59.

⁴A.Sen, *op cit*, Ref 2, pp 78–9; see also pp 158–9. After quoting this section, Mr Bowbrick remarks: 'In his reply to my paper at the Development Studies Association Conference 1985, Professor Sen stated that his prescriptions are the same as mine' (p 108). This, I am afraid, is just not true, though I quite recognize that Mr Bowbrick must find it easy to believe that everyone suffers from great temptations to agree with him. There are, of course, remarks here and there in his paper that seem very similar to things that others say. For example, though he is critical of my statements (quoted by him), he in fact does begin his concluding section with the remark: 'The only way to be sure of curing a famine, however caused, is to import more food' (p 123). But then the next sentence immediately denies this cause-independent defence of food relief (pp 123–4).

⁵A.Sen, *op cit*, Ref 2, p 79; see the discussion on pp 78–82 and also Chapter 10; Sen, 'Starvation and exchange entitlement: a general approach and its application to the Great Bengal Famine', *op cit*, Ref 3; and Sen, 'Famines', *World Development*, Vol 8, No 9, September 1980.

also with more sensible definitions of shortage, eg the existence of excess demand for food. In a 'slump famine' (as opposed to a 'boom famine', of which the Bengal famine of 1943 was an example⁶), there may be no excess demand for food at all and prices can be stationary or even falling, and still some occupation groups may lack the means to command food in the market and thus be decimated. Even in a slump famine – with no upward pressure on food prices – if there are food stocks in the public distribution system, hunger can be substantially reduced through food distribution programmes (eg food relief, food for work, food-supported cash relief).

Thus, the usefulness of food stocks is confined neither to food availability decline, nor even to the existence of excess demand in the market. It was for such reasons that I had argued that 'no matter how a famine is caused, methods of breaking it call for a large supply of food in the public distribution system'.⁷ By failing to distinguish between effective demand (backed by purchasing power) and real need, Bowbrick manages to confound the usefulness of food stocks with the existence of market shortage, and – through a further confusion – both these are confounded by him with the occurrence of food availability decline.

Food availability decline?

I turn now to Mr Bowbrick's empirical observations. His rejection of my critique of food availability decline as the explanation of the Bengal famine is central to his rejoinder (though because of the conceptual confusion already noted, he often misdescribes my denial of FAD: 'Sen's argument depends on his analysis of the production figures showing that there was no shortage', p 111). He rejects the output figures that I had used, taken from the report of the official Famine Inquiry Commission, but he does not go so far as to produce any alternative set of production figures. Instead, Bowbrick's disputation is based on arguing that the official statistics are unreliable and the calculations derived from them erroneous (with a 'margin of error', he says, 'of 3000%'). There is no doubt that all such figures are subject to possible errors (though I shall not comment on the possibility of a 3000% error).

There are two different issues here that should be distinguished. First, there is the question as to what government policy should have been given the *beliefs* that the government had about production statistics. For this analysis, what is relevant is the picture presented by the official statistics, even if later analysis were to show them to be inaccurate. Part of my exercise was concerned with this question,⁸ and for this the later corrections, if any, are not directly relevant. The second issue concerns the correctness of the FAD view of the Bengal famine, and for this issue, the question of acceptability of the output statistics is indeed relevant. It is on this latter question that I shall now concentrate.

Bowbrick presents two lines of attack on the production figures that I had used to reject the FAD explanation of the Bengal famine. First, he mentions that the Famine Inquiry Commission itself was critical of the official production estimates and the methodology used in that estimation, and he supplements quotations from the Commission with criticism from others, in particular from Professor P.C. Mahalanobis, the noted statistician (pp 111–2). Second, Bowbrick also cites the view

⁶The distinction between 'boom famines' and 'slump famines' is discussed in A. Sen, *op cit*, Ref 2, pp 164–5. The Bengal famine of 1943 is a clear example of a boom famine, whereas the Ethiopian famine in Wollo in 1973 is almost certainly a slump famine. Food prices rose relatively little during the latter famine and in fact food could be purchased in Dessie, the capital of Wollo, during the famine at prices not much higher than (and in some cases actually lower than) before the famine (see A. Sen, *op cit*, Ref 2, pp 94–5). There is also some evidence of food moving out of Wollo during the famine, attracted by higher food prices elsewhere. Such 'food counter-movement' was an important feature of the Irish famines of the 1840s, which were also slump famines (see A. Sen, *op cit*, Ref 2, pp 160–1, 164–5). Famine relief even in slump famines would obviously be helped by public stocks of food.

⁷A. Sen, *op cit*, Ref 2, p 79.

⁸*Ibid*, p 78–82.

of some contemporary traders that the December 1942 crop was especially small, and he quotes the Famine Inquiry Commission to the effect that 'the trade was talking of the worst crop in 20 years' (p 114).

As far as the first argument is concerned, what Mr Bowbrick does not mention is that the Famine Inquiry Commission had criticized the official production statistics (pp 206-7) as a prelude to making its own corrections, and the Commission presented 'adjusted' output and supply figures making 'reasonable allowances' for 'errors and omissions'. My empirical analysis was based on examining both the official estimates and these 'adjusted' figures given by the Famine Inquiry Commission.⁹ The corrections made by the Commission (and incorporated in my statistical analysis) included, as the Commission noted, those suggested by 'Professor Mahalanobis who has studied the subject'.¹⁰ I had discussed these different estimates and also those done later by G. Blyn.¹¹ None of the estimates suggested a major decline of food availability per capita.

It would be foolish to claim great accuracy for any particular set of figures like these, or even for the combined picture of a number of different estimates. But if all the available estimates point in a clear direction (in this case *against* FAD), it is odd to insist on a contrary picture *without any contrary estimate at all*. While all statistics may well be doubtful, Bowbrick's preference for doing without any statistics whatsoever is remarkable.

However, although Bowbrick does not give any statistics at all, he does refer to the fact that 'the trade had its own way of estimating supplies (including stocks) and did not rely on official estimates' (p 114). Here we come to his second argument. Bowbrick notes, apparently quoting the Famine Inquiry Commission, that 'the trade was talking of the worst crop in 20 years' (p 114). What Bowbrick does not mention is that the Commission's reference to this comes in a quotation from 'a note prepared at that time by the Civil Supplies Department of the Government of Bengal' and that the reference is in the context of identifying the 'psychological' causes of the high price of rice. In fact, among the psychological influences, the note discusses 'fears as to the result of the Midnapore cyclone and exaggerated statements as to its effects on the supply position of the province as a whole', and 'propaganda, sometimes perhaps interested, in certain trade circles, making out that the coming crop was to be the "worst for the last 20 years"'.¹²

It is from this interested 'propaganda' and 'exaggerated statements' that Bowbrick draws his 'evidence' for the truth regarding food output in Bengal. (In his presentation, Bowbrick suppresses altogether the context of the Commission's reference to the 'trade circles'.) And it is this piece of 'propaganda' by trade circles - quoted as such by the Famine Inquiry Commission - that provides Bowbrick's basis for rejecting both the official estimates of food production and the Famine Inquiry Commission's own adjusted figures, used in my empirical analysis. Mr Bowbrick's faith in the gullibility of the reader is evidently boundless.

Carryover variations in 'rescuing' FAD

Mr Bowbrick says that in calculating food availability I assumed 'zero carryover' (p 123), and apparently 'he [Sen] states that there was no

⁹*Ibid*, Table 6.2, p 61.

¹⁰Famine Inquiry Commission (FIC), *Report on Bengal*, government of India, New Delhi, 1945, pp 206-7. The 'adjusted' figures are given in Statement III (p 215).

¹¹See G. Blyn, *Agricultural Trends in India 1891-1947: Output Availability and Production*, University of Pennsylvania Press, Philadelphia, PA, USA, 1966. Though Blyn makes a slightly misleading summary statement in the direction of FAD (a sentence I quoted in *Poverty and Famines*, *op cit*, Ref 2, p 58), in fact the figures he gives for both the acreage and the yield of rice per acre are higher for 1942/43 than for 1940/41. Bowbrick criticizes my reference to Blyn's estimates since 'they are based on the same poor data' (p 111). Blyn's analysis reflects the state of knowledge on output data, taking note *inter alia* of the various points made during and after the famine. It is, in fact, no accident that Blyn chooses to use what Bowbrick calls 'the same poor data'. The various sources of information have been discussed in my *Poverty and Famines*, *op cit*, Ref 2, pp 58-9.

¹²Famine Inquiry Commission, *op cit*, Ref 10, p 33. The note quoted by the FIC also refers to 'exaggerated reports of exports from Bengal'. Only for 'one or two districts' in Bengal is the note ready to concede that 'high prices are probably due to poor crop' (p 33). In the context of the influence of Calcutta on raising rural prices (my claims on which are disputed by Bowbrick - a question that will be taken up later), the note refers to high prices in places 'which have easy means of transport to Calcutta and so can be easily drawn upon' (FIC, *op cit*, Ref 10, p 33).

carryover from year to year' (p 113).¹³ Not only did I not make any such statement, nor any such assumption, I had in fact made extensive use of moving averages over two-year and three-year periods respectively to take note of possible variations of carryover from year to year.¹⁴

The purpose of my doing the moving-average analysis (over two and three years respectively) was to avoid making an arbitrary assumption about carryover on which no direct data exist for the relevant years. It is because of the absence of statistics on carryover that the Indian government could later make an entirely arbitrary assumption regarding 'variations of carryover' to adjust availability figures sufficiently to remain faithful to a FAD explanation of the Bengal famine, despite the production and import data that suggested otherwise.¹⁵ Even the Famine Inquiry Commission's qualified support of a FAD explanation of the famine came from making untested and largely untestable statements about carryover changes.¹⁶ My point was not that there was 'zero carryover', but that we cannot just arbitrarily make those assumptions about carryover variations that would be needed for the validity of FAD and then, on the basis of those dreamed-up assumptions, assert that FAD is okay after all.

On the positive side, I had argued that 'a reasonable way of looking at the carryover problem in the absence of direct information is to examine moving averages over two or three years ending in the year in question'.¹⁷ It was for this purpose that I had calculated the moving averages of the 'supply' figures (output plus net import) given by the Famine Inquiry Commission (both 'official' and 'adjusted' ones). These time series gave no support whatever to the FAD explanation of the Bengal famine.

I should emphasize that I do not believe that moving-average analysis is a good method of dealing with carryovers in *all* contexts. For one thing, it ignores the effects of demand variation and concentrates only on production (and net import). It is possible that there may be a smaller carryover from a larger output if current consumption and demand are relatively larger. In fact, such a possibility cannot by any means be ruled out for carryover from 1942 to 1943, since demand was rising sharply already in 1942, for reasons that I have discussed.¹⁸ Despite the high food output for 1942 (December 1941 had produced a bumper harvest), rice price had roughly doubled already between December 1941 and December 1942,¹⁹ and the explanation of this has to be based on taking note of sharp increases in demand.

The possibility of such a process cannot give any comfort to the FAD theory, since that process – unlike food availability decline – is thoroughly dependent on demand variations. In general, the analysis of carryover would have to go into demand as well as availability, which is in line with the general approach outlined in my book. However, in critically examining an availability-centred hypothesis about famines (in particular FAD), the moving averages of output (plus net import) provide a good approach to assessment, precisely because FAD concentrates on the supply side only and treats demand variations as irrelevant. It was in the specific context of FAD that moving averages of output (plus net imports) were used, and no support for FAD could be found in the time series of moving averages.²⁰

Mr Bowbrick has nothing to say on the procedure of moving averages used in my examination of FAD for the Bengal famine – in trying to make do without carryover statistics, which don't exist in any case. Mr

¹³In fact, Bowbrick attributes a truly enigmatic set of statements to me: '[Sen] states that there was no carryover from year to year, or if there were, which he denies, there was a larger carryover into 1943 than into 1941' (p 113). Two imaginary statements, both attributed to me without any evidence, are not made credible by their evident internal contradiction.

¹⁴A. Sen, *op cit*, Ref 2, Table 6.2, pp 61–3.

¹⁵I have discussed this question in *Poverty and Famines*, *op cit*, Ref 2, pp 82–3.

¹⁶Famine Inquiry Commission, *op cit*, Ref 10, pp 15, 77. In my study of the Bengal famine, I found no occasion for rejecting any major statistical table of the Commission. (The only exception was the Commission's figure for famine mortality, which had to be substantially raised – from 1.5 million to around 3 million. But this was done by a procedure very similar to the Commission's own, using data that only became available later, eg the 1951 census; see Appendix D of *Poverty and Famines*, *op cit*, Ref 2.) The Commission's statements on carryover were quite informal and the Commission was obviously quite unwilling to make up quantitative statistics when none existed. My differences with the Commission are in matters of economic analysis and general qualitative conclusions drawn, and not about their statistical statements. See *Poverty and Famines*, *op cit*, Ref 2, pp 57–63, 75–83.

¹⁷A. Sen, *op cit*, Ref 2, p 62.

¹⁸*Ibid*, pp 75–78.

¹⁹*Ibid*, pp 54.

²⁰*Ibid*, pp 62–63.

Bowbrick does actually present figures alleged to be for 'stocks of rice in Bengal' for the relevant years, in his Table 1 (p 114). One's expectation is, thus, aroused about the possible existence of some hitherto unknown source of data on carryover. However, it turns out that there are no new data on carryover. The support that FAD apparently gets from Bowbrick's table comes entirely from what Bowbrick himself 'arbitrarily' introduces in the figures. These involve a peculiar (and oddly undefended) set of consumption assumptions and, as he confesses, an 'arbitrarily chosen' carryover figure ('I have arbitrarily chosen a carryover of 8 500 000 tons at the beginning of 1941', p 113). It is, of course, not surprising that figures could be 'imagined' that would support FAD; no one has disputed the power of imagination.²¹ The real issue is whether the figures thus imagined have any empirical basis at all. Bowbrick provides none. His silence on the actual procedure that I had used to deal with data unavailability regarding carryover in examining FAD is matched by his complete silence on the empirical basis of his 'arbitrarily chosen' figures regarding carryover. It is only when misrepresenting my claims (eg 'Sen's assumption of zero carryover', p 123) that Bowbrick manages to move from silence to eloquence.

Uneven expansion of purchasing power and Calcutta

In arguing against my view that the Bengal famine was related to the 'uneven expansion of purchasing power', Mr Bowbrick begins by taking, out of context, an illustrative example used in a paper of mine to outline the general nature of the conflict (which can be between one group of the poor against another) involved in a boom famine. Since I had made the general remark that 'something of this nature happened in the economy of Bengal in 1943', Mr Bowbrick promptly takes the illustrative figures to be *exactly* those of Bengal in 1943. Then by producing unsupported income elasticities of demand,²² he concludes that those illustrative numbers would be quite inadequate in generating the total excess demand needed to explain the Bengal famine from this cause alone (p 117). It is hard to decide whether to protest more at threadless arguments (eg treating simple illustrations of analytical points as if they were meant to be exact figures for Bengal 1943, or taking contributory factors as 'the' cause), or at baseless calculations (eg using imagined income elasticity figures, or ignoring price elasticities).

Mr Bowbrick then examines the role of demand pull from Calcutta in the development of the famine. Despite quoting my statement that increased demand came from several sources, eg 'those involved in military and civil defence works, in the army, in industry and commerce stimulated by war activities, and almost the entire population of Calcutta',²³ Bowbrick tries to work out how much more the Calcutta population would have had to eat for this *alone* to be single-handedly adequate for the necessary excess demand, as if the other groups had not even been mentioned (p 117). The necessary expansion of Calcutta demand for this to happen would, not surprisingly, be very large, but since I had not suggested that this was the *only* cause of the increased demand, the calculation is of no relevance to my thesis about the causation of the Bengal famine.

Regarding the actual demand pressure from Calcutta, Bowbrick argues that 'the preferential schemes [of food distribution] never covered more than a quarter of the population' (p 117), and this seems

²¹There are, however, some conceptual problems with arbitrary imagination, eg the meaning of *negative* stocks (minus 1.056 million tons of rice in November 1943) in Bowbrick's Table 1 (p 114). Imagination can, I suppose, run wild.

²²Bowbrick is reticent in explaining how he has done this, but circumstantial evidence suggests that he has simply taken the demand effects of income rise as the same as the difference between average consumptions of two different groups (p 117).

²³A. Sen, *op cit*, Ref 2, p 77.

Table 1. Time series of wholesale prices of rice in Calcutta.

1942	
15 May	89
19 June	112
31 July	111
21 August	130
18 September	142
16 October: the cyclone occurs	
30 October	142
13 November	133
11 December	190
1943	
15 January	204
12 February	204
12 March	295
16 April	306
21 May	428

Source: *India Trade Journal*, quoted in A. Sen, see text, *op cit*, Ref 1, p 54.

Note: The index for the price on 19 December 1941 is 100.

to permit him to dismiss the role of Calcutta in the development of the Bengal famine. This is based on three factual errors.

First, rather than concentrating only on the food distribution scheme devised by the Bengal Chamber of Commerce, if account is also taken of the other 'foodstuff schemes' (run by the Bengal National Chamber, the Marwari Chamber, the Indian Chamber and the Muslim Chamber of Commerce, and also by the Central and Provincial governments for their own employees, the railways, the Port Trust, etc), we get from the Famine Inquiry Commission the total figure of 1.09 million employees.²⁴ With their dependents, these 1.09 million could have scarcely been no more than 'a quarter of the population of greater Calcutta' (even if we take the high figure of six million as the total number of residents of Calcutta).²⁵

Second, in addition to these 'foodstuff schemes' directed at employees, Calcutta was served also by 'controlled shops' and 'approved markets', and both classes of shops 'were under an obligation to sell at retail prices fixed by the Government' and they received 'Government supplies'. 'Anybody', as the Famine Inquiry Commission made clear, 'could purchase from a controlled shop if he was prepared to stand in a queue and wait, perhaps for hours'.²⁶

Third, the greater demand of Calcutta came not just from the price subsidies, but also from the expansion of purchasing power due to the war boom, as I did discuss in *Poverty and Famines* (pp 75-7). Incidentally, the role of the 'pull' of Calcutta with its large purchasing power (comparatively speaking) was noted by many contemporary writers, eg by Mr M. Afzal Husain, a member of Famine Inquiry Commission: 'Calcutta was on the Bengal market, armed with a huge purchasing power'.²⁷

The cyclone and the price rise

Mr Bowbrick favours a cyclone-based explanation of the Bengal famine. His claim that this produced a great reduction of output, which 'the trade estimated to be the worst crop in 20 years', was dealt with earlier in this reply and shown to be false.

Bowbrick does, however, also attach importance to his claim that the rise in the price of rice in Bengal was a direct result of the cyclone, after which cost of living in Bengal 'rose rapidly in line with price rises' (p 116).²⁸ Table 1 shows the time series of wholesale prices of rice in Calcutta in the open market and shows that the timing of the price rise was not really connected with the cyclone. I have discussed the causal links in the development of this inflation, in *Poverty and Famines*; it is hard to diagnose the cyclone as a sharp point of break.

I had made this point in the meeting of the Development Studies Association on Bowbrick's paper; although Bowbrick refers to that exchange in his rejoinder, he does not do so in this context. However, he responds to my point by making a number of special-pleading remarks. It appears that 'news of the cyclone was censored as a military secret for two weeks' (p 109). In fact, the censoring was hardly successful (cyclones are hard things to hide), but even if it were, it does not explain why eight weeks (not just two) after the cyclone, the price of rice was no higher (133) than before the cyclone (142). The other arguments used by Bowbrick are equally specious, but Mr Bowbrick is consistent in always rejecting statistics on grounds of their unreliability ('Nearly all agricultural price statistics, and particularly prices in such

²⁴See Famine Inquiry Commission, *op cit*, Ref 10, pp 30-1.

²⁵The calculation is made complicated by some ambiguities in the statement regarding 'dependents', but it should be noted that the units were 'messing units' and not 'individuals', and individual-based rationing was not introduced in Calcutta until later (see FIC, *op cit*, Ref 10, p 65). For some categories of employees, the food requirements of a messing unit were determined by assuming 'one adult worker, one adult dependent and two children' (FIC, *op cit*, Ref 10, p 63).

²⁶Famine Inquiry Commission, *op cit*, Ref 10, p 59.

²⁷Famine Inquiry Commission, *op cit*, Ref 10, p 190.

²⁸Mr Bowbrick also refers to 'the stoppage of interprovincial trade'. Among the various influences on prices, this was certainly a contributory factor (see A. Sen, *op cit*, Ref 2, p 77).

markets, are subject to enormous errors', p 109) in favour of no statistics at all.

Speculation, causation and influence

Mr Bowbrick says that 'Sen sees speculation rather than shortage as the cause of famine' (pp 109-10) and he repeats this belief many times (see pp 108-9, 118-19, 123). He even refers to 'Sen's bald statement that the famine was caused by speculation' (p 120). My statements, I guess, may well be regrettably lacking in foliage, but this particular one was never made. What was said was that 'the speculative price increase in rice in Phase II led to further deterioration of exchange entitlements, covering additional occupation groups'.²⁹ Bowbrick also produces some odd price diagrams, one of which (Figure 4) he labels, 'Expected rice price if there was no shortage and excessive speculation (Sen's hypothesis)' (p 119). I suppose the distortion and misrepresentation in all this are just standard parts of 'Bowbrickia', but it is interesting to ask why Bowbrick has such evident difficulty in distinguishing between 'an influence' and 'the cause'.

Indeed, Bowbrick seems to identify every attribution of influence as an assertion of 'the' causation. As a result, various contradictory views of 'the' causation are attributed to me, to wit: 'switches in distribution [of purchasing power] caused it' (p 118); 'the famine was caused by speculation' (p 120); 'he also talks of panic hoarding from March to November 1943 as being the cause of the famine' (p 120); and so on.

On the substantive point of speculation, Mr Bowbrick points out that 'uninformed layman's criticisms of speculation are unfounded' (p 119), and he refers to Adam Smith. As it happens, Adam Smith and 'uninformed laymen' do not exhaust the world. If Mr Bowbrick wishes to find out how speculation can be destabilizing, he should perhaps look at some recent economic literature on the subject.³⁰ The literature would not, of course, show that the Bengal famine, or indeed any famine, was *caused* simply by speculation, but then even the 'uninformed' have not claimed that that was the case.

A concluding remark

If I am left with any residual feeling at the end of reviewing Mr Bowbrick's rejoinder, it is a sense of wonder at his remarkable ability to distort with seemingly effortless ease. In the context of examining his various arguments, I have given a number of examples of distortions already. I could have added plenty more.

Some are gently slipped in, eg 'unlike Sen, I consider that one cannot discuss famines without constantly taking into account aggregate food supply' (p 106), which insinuates that I *ignore* supply, rather than *reject exclusive concentration* on supply. Others are effortless too, if not quite so nimble, eg taking my criticisms of 'government policy' covering the Bengal government and the governments of India and Whitehall as if they were criticisms only of 'the Bengal government' (pp 110, 122).³¹

Aside from his factual misrepresentations these distorted attributions also play a major part in the arguments that Mr Bowbrick presents in his rejoinder, and I have discussed many of these misattributions in the context of examining the validity of Mr Bowbrick's arguments. I must, however, say in Mr Bowbrick's favour that he is commendably neutral between distorting my views and misreading the implications of his own arguments. Perhaps there is justice in the world after all.

²⁹A. Sen, *op cit*, Ref 2, p 76.

³⁰I would recommend beginning with Oliver Hart, 'On the profitability of speculation', *Quarterly Journal of Economics*, Vol 91, 1977.

³¹There was some attempt in *Poverty and Famines* (pp 78-83) to differentiate between the distinct roles of the three parts of 'the government' affecting the lives of the Bengalees. Mr Bowbrick perhaps will not be interested in such 'fine points' of distinction, since he seems to prefer 'broad-brush pictures', eg describing Indian commentators on the famine as 'Hindu and Muslim nationalists' (p 109), and favours placing Lahore in Pakistan in 1944, three years before Pakistan was formed (Ref 8, p 109). I suppose when you have higher things in mind, it does not pay to be too fussy about details!