

Professor Nurkse and the Marketing Boards

by

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Professor Nurkse presented a compelling case against the price stabilization policies of national marketing boards for primary products based on the fact that these policies may reduce the quantity of foreign revenue accruing to the primary producing country [1]. If they do, they may act to restrict the rate of economic development. To maximize export earnings, he proposed elimination of the marketing boards' function of insulating domestic producers of primary products from demand fluctuations on the world market. These demand fluctuations were considered to be the result of cyclical fluctuations within the advanced countries, hence they were treated in a short-run context.

To see Professor Nurkse's argument, consider a marketing board which has as its objective the stabilization of the price of a primary product, X , to the domestic producers of X in country A by use of a buffer fund¹. This will be accomplished by the board, as a domestic monopsonist, if it fixes a price for its purchases of the product, then sells on the world market for whatever it can get in light of world demand conditions. Assuming that stabilization of price is its sole objective, it will select a domestic price which represents the anticipated weighted average of the world market price over some time period so that the board itself will, hopefully, show neither a profit nor a loss at the end of the period from these tax and subsidy operations. While the short run free market supply function, S_f (which we assume to be linear, of positive price elasticity, stable, and responsive without lags), still exists, the stabilization of domestic price at p in Figure 1 will yield a supply function to the world market, S_m , which is perfectly inelastic at the quantity, Q .

Assume that the linear demand curves shown in Figure 1 represent world demand for the commodity X from country A over the cycle and, essentially, that we can dismiss any oligopoly problems arising from the competitive reactions of other national producers of X . Given a cyclical increase in world demand represented by the shift from D to D' and, on the other side of the cycle, a downward shift to D'' , world prices under marketing board intervention would

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¹The following discussion applies, too, to variable export taxes and subsidies and to variable exchange rates if, in both cases, the sole objective is domestic price stabilization.

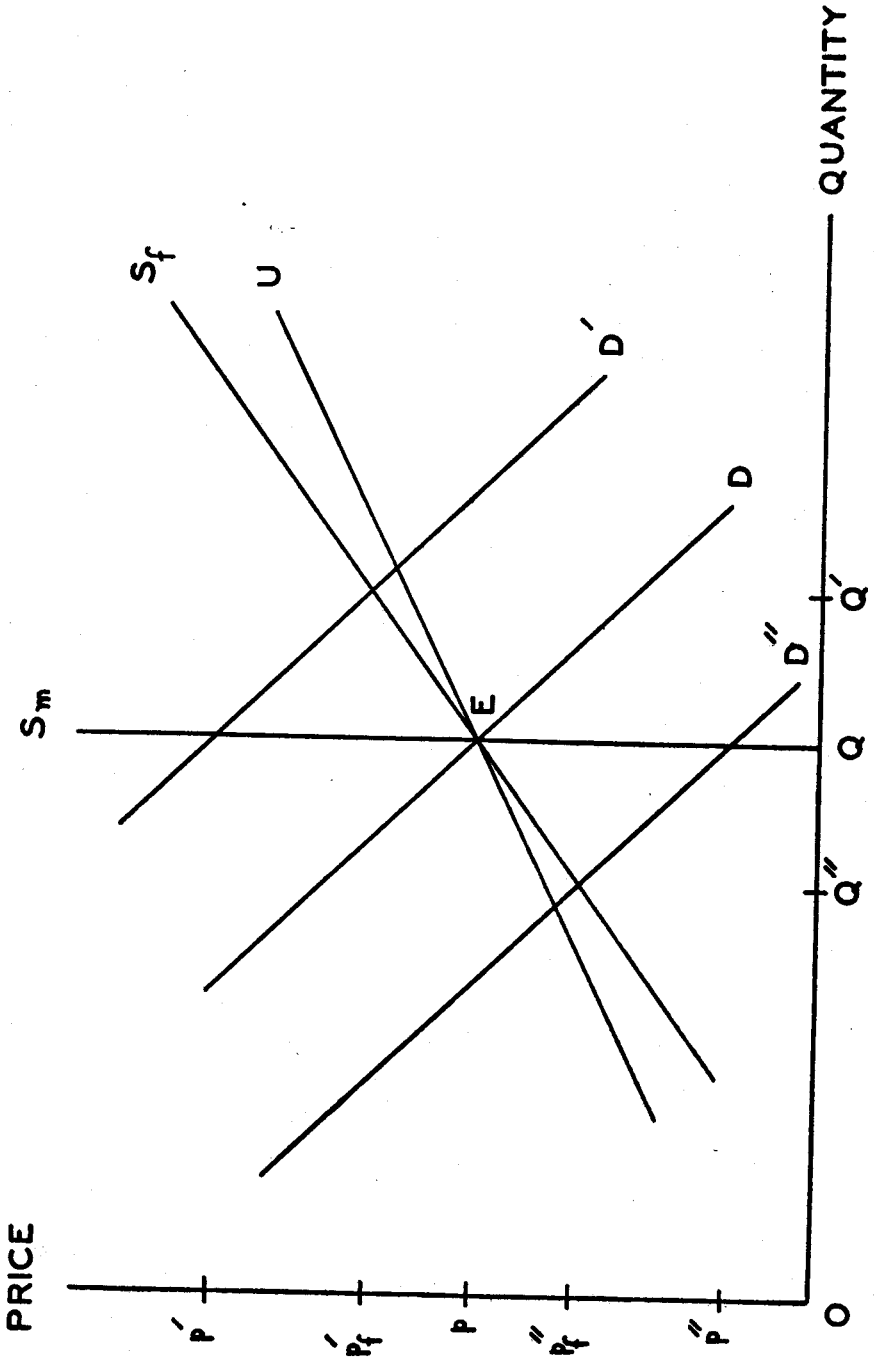


Figure 1

fluctuate between p'' and p' while quantity supplied and domestic price remained constant. The result of the marketing board's insulation of the domestic producers from world demand fluctuations is to stabilize domestic producers' earnings at OPEQ.

But this, said Nurkse, may cut down on the quantity of foreign revenue which the country earns from its sale of X on the world market. In the absence of intervention by the marketing board, an upward shift in world demand from D to D' would result in a price rise to the producer to P_f' and give an incentive for an increase in quantity supplied to Q' . If D' were elastic over the range bounded by the two supply functions, this free market response would clearly represent a gain in total foreign earnings over those yielded by the marketing board's policy. On the other hand, a reduction in demand from D to D' would yield a free market price of P_f'' and a quantity of Q'' . If the demand function, D'', were inelastic in the range between S_f and S_m , this, too, would represent a gain in foreign earnings. The free market response of supply can thus be shown to yield more foreign exchange earnings than that of the marketing board on both sides of the cycle.

This is the essence of Nurkse's case against buffer funds for domestic price stabilization. What is interesting is the strictness of assumptions about the elasticities of world demand and domestic supply for the product X which are necessary in order to reach Nurkse's conclusions.

Referring again to Figure 1, we can consider the points of unitary price elasticity of demand on each of the demand curves, D, D' and D''. Since these three demand curves are representative of a family of demand curves which describe a particular pattern of cyclical fluctuations in world demand, the points of unitary demand elasticity on all of the demand curves in this family will describe a curve like that shown by U. U is then a locus of unitary demand elasticities for the family of demand curves represented by D, D' and D''. Assuming conveniently linear demand functions, any point to the left of the line, U, will fall on an elastic portion of a demand curve in this set while any point to the right of U will fall on the inelastic portion of a demand curve.

In Figure 2, five such loci of unitary demand elasticities have been drawn, representing five possible families of demand functions which might describe the cyclical fluctuations in world demand for the product X from country A.

The only case in which Nurkse's admonitions against buffer funds is entirely justified is that described above in which shifts of world demand over the cycle trace out a locus of unitary elasticity points like that illustrated by U in Figure 1 and U_1 in Figure 2. Under these demand and supply conditions the Nurkse

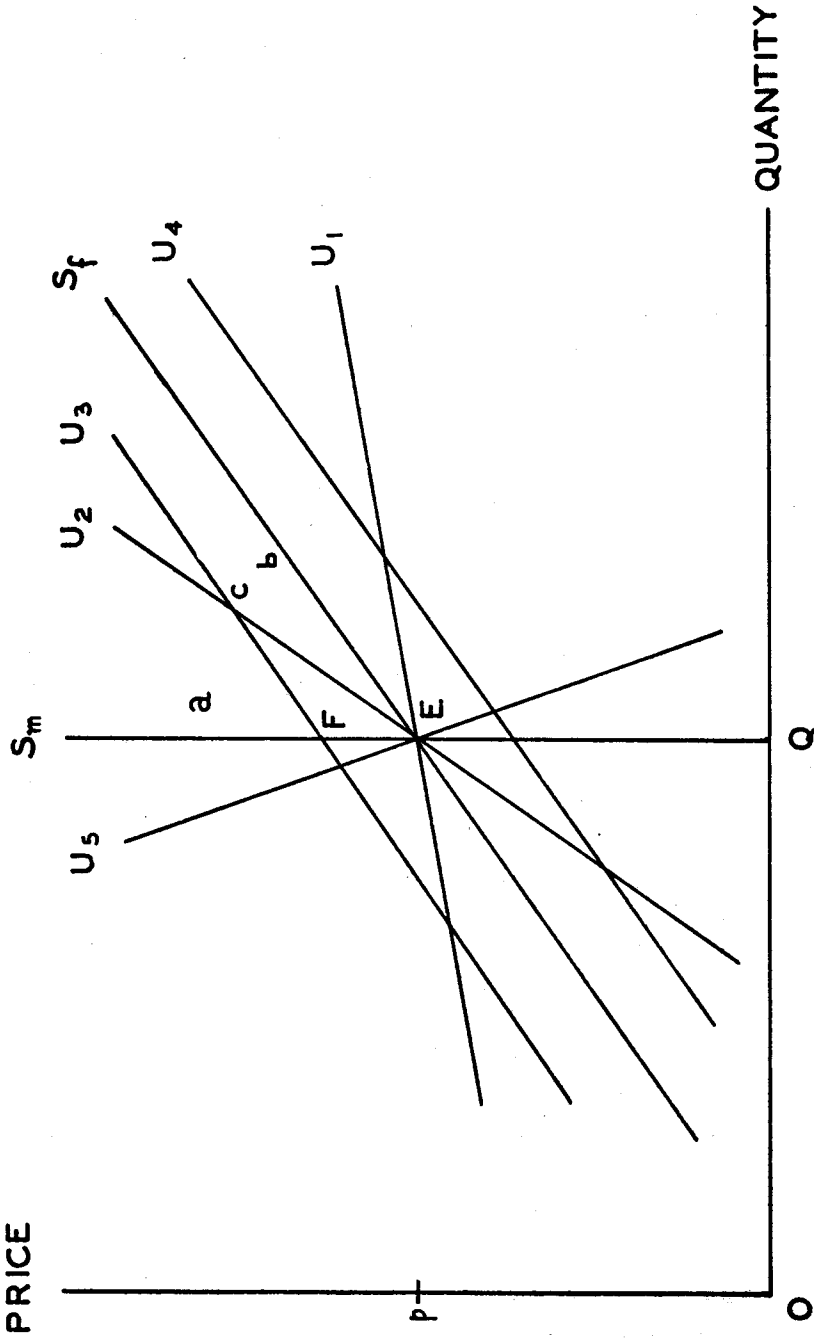


Figure 2

case is fully satisfied. At any price and at any phase of the cycle a movement along a demand curve *from* the marketing board solution *to* the corresponding free market solution would increase total earnings of foreign exchange.

But once we leave this particular case, Nurkse's conclusions do not necessarily follow. The cyclical fluctuation in demand for X might trace out the curve U_2 so that the locus of unitary demand elasticities falls between the marketing board's supply curve, S_m , and that of the free market, S_f . The superiority of the free market's ability to generate foreign earnings will then depend on where U_2 falls relative to the two supply functions. If it is "closer"—in the sense of the difference in total revenue with a given demand function—to the free market supply curve, S_f , then the free market solution will provide greater foreign earnings than the marketing board. If, on the other hand, U_2 lies closer to the marketing board's inelastic supply function, S_m , the free market solution will produce relatively *lower* foreign earnings than will the marketing board solution. Put in terms of Figure 2, in moving from the marketing board solution *a* to the free market solution *b* on the same demand curve, the economy will increase its foreign earnings over the range *a* to *c* by lowering price with an elastic demand. But since the free market solution requires that the movement of price and quantity continue to point *b* which is on an inelastic portion of the demand curve, this latter movement from *c* to *b* over the inelastic portion of the demand curve subtracts from maximum earnings of foreign revenue. Total foreign revenue, *per se*, would of course be maximized if the country's supply function to the world coincided with the locus of unitary demand elasticities for any world demand configuration.

It might appear that we could reach the same conclusions if we consider different free market supply functions rather than different demand configurations since these conclusions rest on the positions of the short-run free market supply function and the loci of unitary demand elasticities relative to the marketing board supply function. But the results are sensitive to this change. This is apparent from Nurkse's exposition. He used simpler but similar diagrammatics [1, pp. 248-249] but considered different free market supply functions with a fixed demand configuration. A restrictive construction such that all demand curves over the cycle had a slope of -1 gave him a U curve—in our terms—which was both linear and ran through the origin at an angle of 45° . It followed by construction, then, that *any* free market supply function which was positively price elastic would earn more foreign exchange than the perfectly inelastic marketing board supply function. The analysis we have developed by considering different demand configurations with a fixed free market supply function is more complete since it does not depend for its conclusions on any particular

shape of the fixed free market supply function, except that it be positively price elastic.

If elasticities of world demand curves over the cycle were those described by U_3 or U_4 which lie, respectively, entirely above and entirely below the free market supply curve, the results of marketing board stabilization policies on total foreign exchange earnings would again be impossible to determine, *a priori*. Looking only at the case of U_3 (since U_4 would give symmetric but opposite results), the movement from marketing board to free market solutions would give an increase in foreign revenues *if* world demand were so low that it intersected the marketing board's supply function below E where the two supply functions cross. When world demand increased so that it cut the marketing board supply function between E and F, movement down the demand curve from the marketing board to the free market supply function would involve a loss of foreign earnings since it would call for a fall in price over an inelastic portion of the demand curve. When the world demand rose even further, cutting the marketing board supply curve above F, movement along a demand curve from marketing board supply to free market supply would at first increase foreign earnings (over the elastic portion) and then decrease foreign earnings (over the inelastic portion). What the net outcome would be would depend on both the distances between (again in the sense of differences in total revenue) and the shapes of the free market supply curve and the locus of unitary elasticities.

A final point, and an important one, is to consider the implication of an even less well behaved change in demand elasticities over the cycle than we have assumed to this point. If, as seems reasonable, boom periods brought world demand shifts which, for any given quantity of the product X, carried not only high prices but also an urgency of demand in the form of price inelasticity while, on the other hand, slack periods brought shifts in world demand to positions of lower price and greater price elasticity, then the foreign revenue earning power of the marketing board clearly could be superior at all levels of demand to that of the free market. The locus of points of unitary demand elasticity would have a negative slope like U_5 and movement *from* the free market solution *to* the marketing board solution would, on each side of the cycle, increase earnings of foreign revenue. Once again, were it the objective of the marketing board to maximize earnings of foreign exchange rather than to stabilize domestic prices, the marketing board should attempt to generate a supply function which coincided at all points with the locus of unitary demand elasticities—in this case, it should create an artificial backward-bending supply curve.

The concern of this paper has been with a minor aspect of marketing board policy. We have not included their fiscal function in taxing the export sector

nor their sometimes considerable political and economic function of replacing an existing foreign-owned buying organization for the nationally produced primary product. But even having accepted Professor Nurkse's maximization of foreign revenue as the sole criterion for judging their worth, we must conclude that in all but one fortuitous case, a marketing board following a strict domestic price stabilization policy might better serve the end of foreign revenue maximization than the free market.

REFERENCES

1. Nurkse, Ragnar, "Trade Fluctuations and Buffer Policies of Low-Income Countries" and "Epilogue", *Kyklos*, Vol. XI, 1958, pp. 141-154 and 244-265 respectively.