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PRODUCT TRADING — AN ALTERNATIVE TO TRANSFERABLE WHEAT QUOTAS

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This note examines the implications of permitting producers to trade wheat amongst themselves. The outcome, in efficiency terms, is identical to that achieved with transferable quotas. For some producers, there may be advantages in product trading that are not available in transferable quotas.

In 1954, Brinegar and Johnson [1] proposed a system of transferable market quotas for U.S. agriculture. The objectives were to regulate the supply of agricultural products, to reduce the Treasury cost of agricultural support policies, and to remove distortions on the production side of agricultural markets. In Australia, the first major proposal of this kind was made in the 1959 submission of a group of agricultural economists to the Dairy Industry Committee of Enquiry [4]. Until 1968, most interest in transferable quotas was related to the problems of the dairy industry. However, in that year the expansion in wheat acreage, favourable seasons, and a change in the international supply/demand relationship for food grains focussed attention on the Australian wheat industry.

Negotiations between the Australian Wheatgrowers' Federation and the Commonwealth Government, resulted in legislation introducing wheat quotas, beginning with the 1969-70 season. Each State was responsible for the administration of the scheme within its boundaries and minor differences in approach, allocating committees, and appeal committees occurred. Some of these have been noted by Jarrett [9] who discusses in detail the South Australian situation while Connors [5] and Cass [3] discuss the introduction and administration of the quota scheme more generally. A number of matters such as the rights of sharefarmers [12] have been raised since wheat quotas were first discussed, but most comment relates to the non-transferability of the quotas themselves [5, 9].¹ This means that the value of the quotas is capitalized into land values.

In Australia, the case for transferable quotas has rested on promoting efficiency in resource allocation rather than reducing Treasury payments to the industry [11].² Proposals for transferable quota schemes involve

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¹ Victorian growers are able to increase their quotas up to 8,000 bu. by either purchasing or leasing quotas subject to the approval of the Quota Committee. In N.S.W. transfer is possible subject to the approval of the Grain Elevators Board. Transferability of quotas is scheduled for introduction in the 1973-74 season in Western Australia. Other States do not allow quotas to be transferred apart from special cases such as the sale of land used in wheat production [3].

² In the long run, however, there may be sufficient structural adjustment to phase out present direct assistance.

specifying the amount of production eligible for support prices, while the remaining output receives the free market price (generally the export price). The quota level may be fixed equal to domestic consumption plus any exports covered by a price guarantee. In this way, the amount of subsidy per unit of production is not diluted by increased production which may be stimulated by incentives included in the stabilization/equalization arrangements.³ A quota system, transferable or not, will yield advantages by preventing producers responding to these incentives, and by diverting resources artificially attracted into the industry to other uses. If the quotas are transferable, or if product trading is permitted, other gains arise from the relocation of the industry to areas having the greatest comparative advantage.

Transferability gains

Two sources of gains can be identified. The first arises from farms taking advantage of existing differences in the comparative advantage of wheat production. These gains have been demonstrated by Lloyd [11] and investigated by Hunt [8] for the transferable quota case. They are demonstrated below for the product trading case. Hunt provides evidence of potential gains for farms in close proximity. The potential for such gains is also indicated by the Powell [13] and the B.A.E. [2] evidence of significant cost differences between regions. Although the latter does not necessarily mean differences in comparative advantage in wheat production, it seems likely that significant differences exist. On this basis, there are potential gains able to be realized by allowing transfer of quotas.

The second source of potential gains arises from changes through time which affect the comparative advantage in wheat production between farms and between regions. These changes may emanate from either demand conditions, such as the market preference for northern N.S.W. and Queensland wheats, or supply conditions, particularly technological developments. Further, these changes can arise in relation to the product in question, wheat, or in the products competing for the resources used in wheat production. For some time after the introduction of quotas this source of potential gain would be small. However, since 1969-70, a number of factors suggest that there have been changes in the comparative advantage between regions. These include increased demand for Northern N.S.W. hard wheats, development of feed wheat markets and significant changes in the prices of wool and meat.

The first source of potential gains can be realized by enabling quotas to be transferable at some point in time, or by auctioning the initial quota allocation. However, the second source of potential gains means continuing adjustment in quota allocations through time. Administrative

³ In the case of the wheat industry, quotas exceed the amount of home consumption and guaranteed price exports (about 280 million bushels in all). Quotas are attuned to market prospects and generally exceed the subsidized quantity so that an equalized price is paid to growers for quota wheat. The equalized price is derived from domestic sales at the home consumption price, 200 m. bu. of exports at the guaranteed price and the remainder of the quota at the export price. Thus, an increase in quotas will result in more sales at the export price, and if the export price is lower than the home consumption price and the guaranteed price, then the equalized payment for quota wheat will be decreased.

procedures are possible, such as suggested by a group of Sydney economists for the dairy industry [6], but a less arbitrary and fairer way (the individual makes his own decision) is to let the market for quotas perform this task.

The Constitution divides administrative powers between the Commonwealth and the States so that quota schemes are the responsibility of the States. Thus, intrastate quota transfers as permitted in some States, are more likely than interstate transfers. However, Section 92 of the Constitution will permit interstate dealings in wheat,⁴ which could be a partial substitute for interstate transfer of quotas [11]. This type of product trading is a poor substitute for quota transferability on two counts. Firstly, most of the interstate movements involve the disposal of over-quota wheat, so that there is very limited rationalization of the production of quota wheat. Secondly, the wheat must be physically transported across the border so that transport costs have to be included in deriving the net gains to the persons involved. Thus, the benefits will accrue largely to producers of wheat located near border areas—an inequitable situation which favours some growers relative to others. In the next section, more liberal facilities for product trading are discussed with a view to enabling producers to trade wheat among themselves and so enable all growers to realize the gains from rationalizing the production of quota wheat.

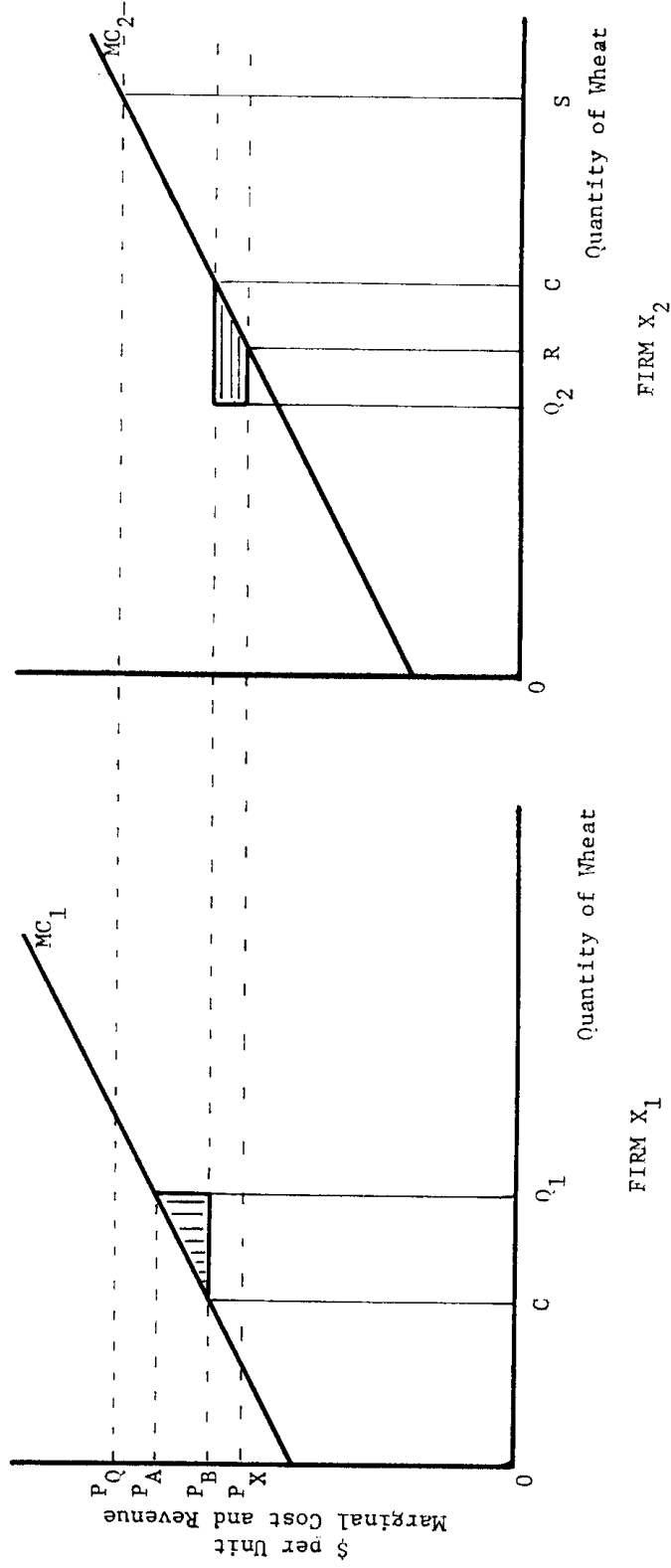
Product Trading

The importance of transport costs is dependent on the delivery requirements imposed on growers. If growers must deliver wheat at their local silo, then product trading will be profitable only if the wheat is transported a short distance. However, if no such delivery requirement is specified, then a quota holder would be able to purchase wheat to fill that quota from anywhere in Australia, and it would be delivered to the silo nearest the place of production. In these circumstances, the same result, in terms of efficiency, would be achieved as with freely transferable quotas.

Lloyd [11] expounds the situation with respect to transferable quotas and here, with the aid of Figures 1, 2 and 3, product trading without transport costs is elaborated. Firms X_1 and X_2 are represented⁵ by Figures 1 and 2 which show the price obtained for wheat sold under the quotas, P_Q and the price for other sales on the free market, i.e. the export price, P_X . The supply curves for each firm are labelled MC_1 and MC_2 and assumed linear for simplicity. Each firm has a quota entitlement of Q_1 and Q_2 respectively. Firm X_1 will produce only his quota under conditions of no product trading. Wheat sold above his quota, Q_1 , will return the export price of P_X which is less than his marginal cost of production, and so he will not produce beyond Q_1 . Firm X_2 is a more

⁴ Section 92 of the Constitution guarantees freedom of trade between States, and has been interpreted so as to prevent both the States and Commonwealth from regulating the interstate movements of goods. For discussion of this provision see Hardaker, Lewis and McFarlane [7].

⁵ Throughout this discussion, subscripts 1 and 2 indicate Firm X_1 and X_2 respectively.



Figs. 1 and 2—Hypothetical Firms X₁ and X₂ showing wheat supply and market conditions.

efficient wheat producer, and without product trading, will produce more than his quota Q_2 , because for production levels between Q_2 and R , revenue earned, P_X , exceeds the cost of production, and so this production is profitable.

If wheat trading is permitted, then the more efficient producer X_2 , is a potential seller of wheat to the less efficient producer, X_1 . Firm X_2 would initially fill his own quota entitlement, because X_2 would obtain the supported price, P_Q , for that wheat, and it would not be profitable for X_1 to offer a higher price to X_2 to induce him to sell elsewhere. Once X_2 has filled his quota, then he would be prepared to supply wheat depending on the export price P_X , and his marginal costs. His supply curve for wheat over and above his quota, is shown in Figure 3. Over the range $Q_2 - R$ in Figure 2, he will not supply to X_1 at less than P_X because he can obtain this price by selling for export. Beyond output R , the supply curve is analogous to his marginal cost curve. Hence X_2 's kinked supply curve of wheat for product trading SX_2 , is derived as in Figure 3.

Firm X_1 will purchase wheat to fill his quota if he can purchase at a lower price than he can produce it himself. His costs are indicated by the marginal cost curve, MC_1 . Thus, the highest price he would be prepared to pay for the marginal (i.e. last) bushel of his quota, is P_A (Figures 2 and 3) which is his marginal cost of producing that bushel. Analogous reasoning indicates that X_1 's marginal cost curve is the

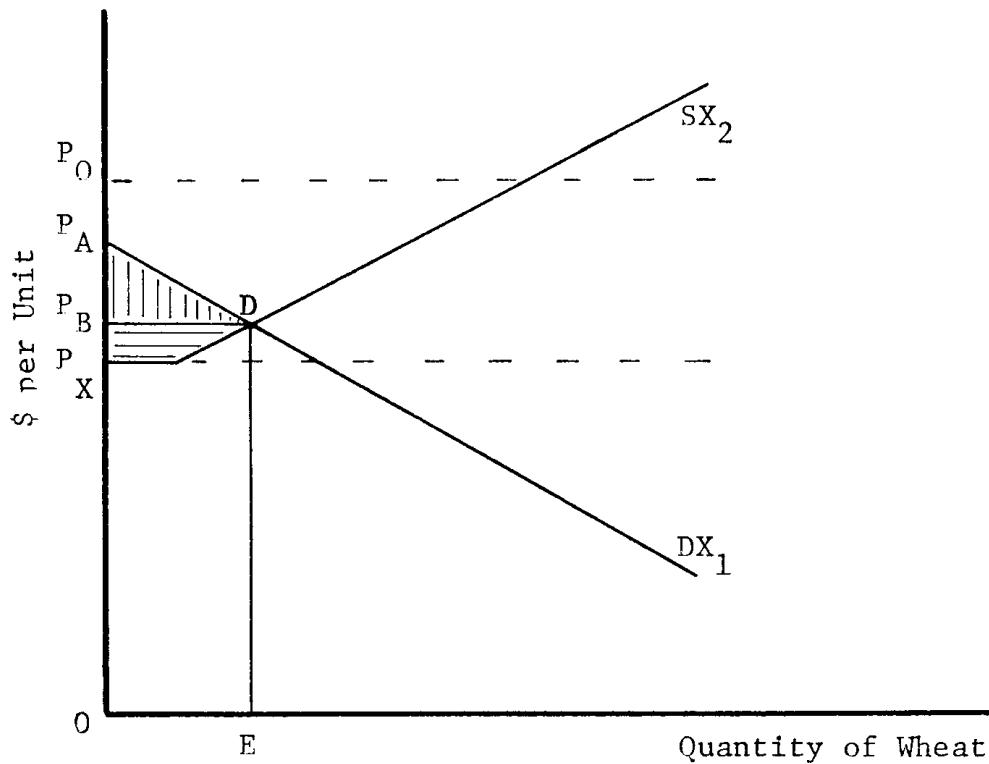


FIG. 3—Hypothetical wheat trading market for firms X_1 and X_2 .

maximum price he would pay to purchase wheat in various quantities, i.e. his demand curve for wheat. Thus, reversing MC_1 from Figure 1, gives X_1 's demand curve for wheat, DX_1 in Figure 3.

The market for wheat trading between growers shown in Figure 3 indicates that an equilibrium will be reached where a quantity OE is sold by X_2 to X_1 at a price P_B . Each producer is better off. X_1 gains the shaded area of Figure 1 by purchasing wheat at a price P_B which is lower than his own production costs. X_2 gains the shaded area indicated on Figure 2 by selling at a price P_B which is higher than he would otherwise have obtained by selling for export and receiving P_X . The sum of these gains are indicated in Figure 3 by the area $P_A DP_X$. This result is identical to that obtained by Lloyd for the transferable quota case.

While the supply and demand curves of Figure 3 can be extended over a large price range, the equilibrium price will be contained between P_X and P_Q . The floor is imposed by the price obtained for exports, P_X , so no seller will offer wheat below this price. The ceiling is imposed by P_Q , because this is the price obtained by a quota holder for his quota wheat, so he will not offer a price higher than P_Q .

The Advantages and Disadvantages

Arrangements allowing quota holders to deliver wheat at any silo may be seen to favour those who purchase wheat rather than those who produce it themselves. Purchasers of wheat would deliver the wheat to the silo nearest the place of production. This outcome is the same as in the case of transferable quotas, assuming that the purchaser of quota rights can deliver wheat pertaining to that quota to his nearest silo. Thus product trading under these conditions is identical to the transferable quota situation.

Quota transfers can take place on terms ranging from annual sale of the delivery quota to permanent or outright sale of the quota right. Similarly, growers can negotiate wheat trading arrangements annually or on a longer term basis. Annual transactions would probably be preferred, particularly around harvest date. Farmers could use wheat trading to compensate for the under or over production in relation to their quota which arises from varying yields.⁶

The advantages of product trading in terms of efficiency of resource use are essentially the same as with transferable quotas, i.e., a shift of production from inefficient farms and those with a low comparative advantage in wheat, to farms efficient in wheat production or with a high comparative advantage in wheat production. Further, total asset values derived by capitalizing net returns will be identical under both product trading and transferable quotas. This will include the relatively larger benefits to producers with a low comparative advantage in wheat production compared to producers with a high comparative advantage in wheat production as described by Lloyd [10].

The composition of asset values will differ in the case of product trading without quota transfer. A transferable quota scheme has the advantage of capitalizing protection out of land values and into quota values. Thus, total assets include both the land and quota values sep-

⁶ The author is grateful for an unnamed referee's comments on aspects of product trading in conditions of production uncertainty. However, these complications are considered areas for further consideration in future.

arately, with land value determined by returns from the next best alternative enterprise, and the quota value determined by the market price for quotas. However, under product trading without quota transfers, there is no quota market and so no value is attributable to quotas. All of the net returns are capitalized into land values, so that land values will remain higher than they would under transferable quotas. There may be advantages in maintaining land values, but these would be minimal providing the security value of a transferable quota is recognized by the financial institutions. On the other hand, product trading without transferable quotas denies the adjustment benefits of allowing quota holders to sell the capitalized protection, i.e. the quota, and so obtain funds for retirement, development of alternative enterprises, etc. without having to sell land [10]. If product trading and transferable quotas exist together, then there will be a transfer of asset values from land to quotas as in the transferable quota situation.

Product trading may be preferred by many growers on the basis of a better understanding and "feel" for a product market than a quota market. There is little evidence on these aspects which are similar to some of the moral arguments advanced against quota trading. Lloyd [11] refutes these arguments, but product trading would help overcome these doubts.

A disadvantage of product trading compared to quota transfer is that a further contract is required between the buyer and seller of wheat and some costs would be incurred in arranging such contracts whether they cover only one year or a number of years. The cost incurred in drawing up these contracts would probably be small, particularly if the agents handling the trading developed standard contracts to cover most transactions. With quota trading however, where the quota right itself is traded and the conditions specified by the quota allocating committees apply to the purchaser, the trading operation is relatively simple. Some brokerage or commission charges would be levied but they would most likely be less than the cost of product trading contracts. In the case of selling the delivery quota annually, the contract costs could be similar to the costs incurred in arranging wheat trading each year.

The effect on domestic marketing arrangements would not be substantial. Product trading involves permitting bona-fide wheat growers, i.e., those holding wheat quotas, to purchase wheat from other growers, quota holders or not, prior to delivery to the wheat board or its agent. A check that those delivering wheat to the silos hold quotas, would prevent non-quota holders from buying wheat just as the present legislation prevents it. The problems arising from the blackmarket purchase of wheat under the protection of Section 92 would still exist while high home consumption prices are maintained. But, as with tradeable quotas, product trading would tend to reduce blackmarket trading in over-quota wheat. This would arise from production relocation on comparative advantage lines so that some wheat presently produced as over-quota wheat would be supplied to quota holders who find it profitable to direct resources from wheat production to alternative production, and instead purchase wheat to fill the quota. Overall, the effect of product trading on the domestic market would be small and likely to be favourable.

Conclusions

The objective of this discussion has been to show that trading of wheat between growers can achieve the same results as quota transfers, providing quota holders can deliver wheat at any silo. The present fixed quota system is creating substantial costs which could be overcome by either product or quota trading. Furthermore, both product and quota trading between growers could exist together, enabling producers to make resource use adjustments on whichever basis they find cheapest. Finally, benefits currently accruing to producers from product trading across state borders will be available to all producers on a more equitable basis.

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