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Apples - Marketing
U.S.

J. L. Loo

AN EXPERIMENTAL TEXT IN HORTICULTURAL MARKETING

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MARKET POWER FOR APPLE GROWERS

Including some observations on the
application of modern marketing
practice to horticultural crops.

by

R. R. W. FOLLEY

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An Experimental Text in Horticultural Marketing

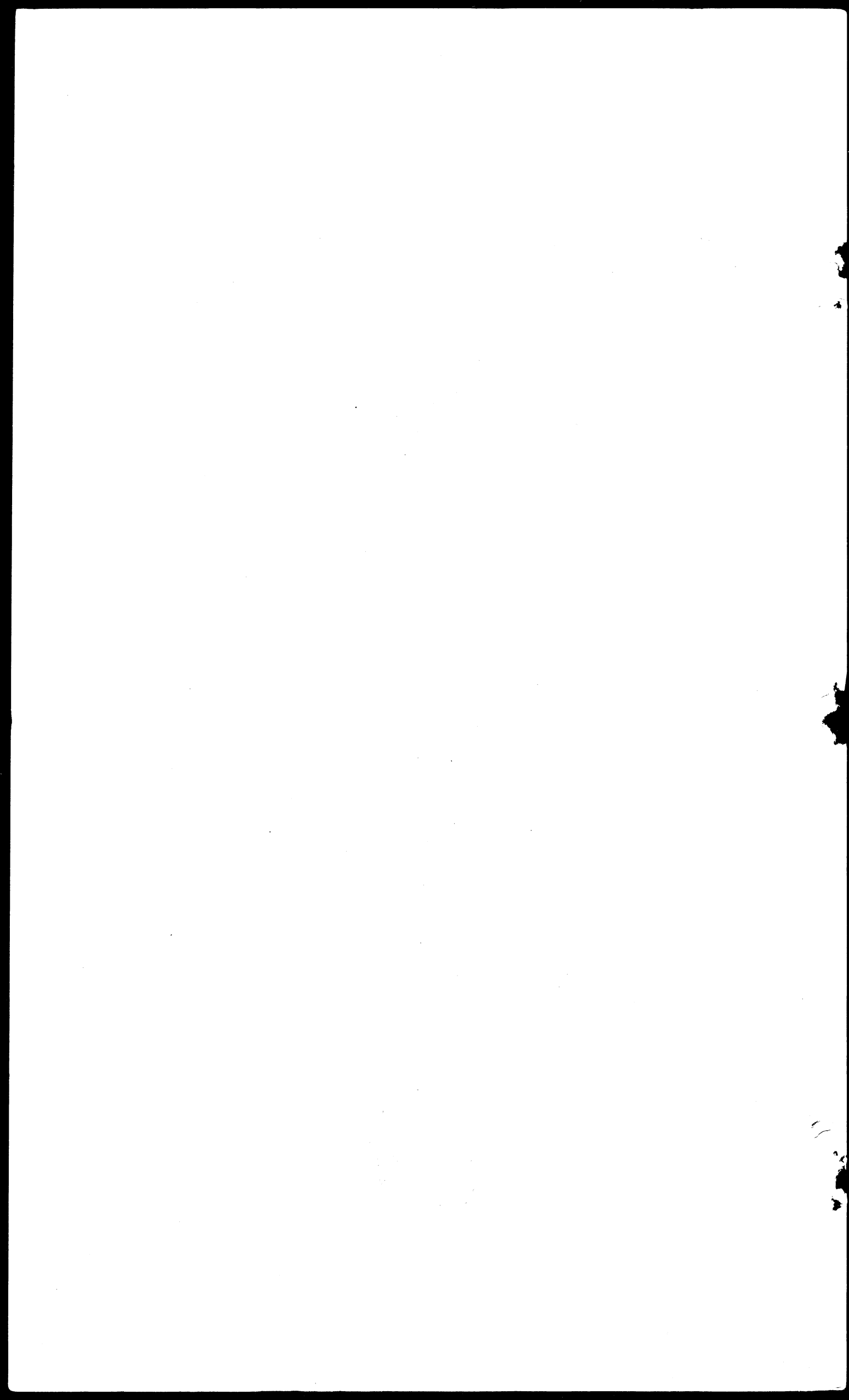
MARKET POWER FOR APPLE GROWERS

Including some observations on the application of modern marketing practice to horticultural crops.

--oOo--

The effort to sell more home-grown dessert apples in Great Britain is considered in the light of contemporary marketing theory. The relationship between producers and consumers is examined, also the effects of fruit production organisation, of the perishability of the product and of competition from imported apples.

The producers' status in the market is kept always in mind, and market situations and solutions are explained in elementary applications of economic theory.



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ABOUT THIS TEXT

It concerns fresh food.....

Much of the food we eat daily is fresh - which is another way of saying that it is perishable and that, as a consequence, it has to have special consideration if it is to reach the consumer before its freshness has been impaired. Fresh food is a most valuable part of a diet, and considerable cost is incurred in marketing it so that consumers will be attracted by its freshness. This is true whether the produce is to be eaten raw, or, as more frequently happens, it is to be cooked before it is eaten. Produce for cooking may be of lower quality (i.e. less attractive than produce for eating) than produce to be eaten raw, but it is desired equally fresh. Some products necessarily cooked (e.g. meat) are more perishable than some usually eaten raw (e.g. cherries), so it is unlikely that marked distinctions can be made between marketing produce for eating raw and produce for cooking: it is all 'fresh food'.

.....and the peculiarities of horticultural produce.

Considering that meat, milk, bread, soft fruits and most vegetables are perishable, they must account for almost half of British housewives' expenditure on food. At the same time, dieticians are concerned lest the intake of fresh food should fall too far. How can this be explained? It is because a lot of initially fresh food is preserved in the course of marketing and so ceases to be fresh when consumed. Preservation (including processing) is a way of increasing overall consumption of produce, and as applied to horticultural produce should not be confused with techniques of marketing that keep the produce fresh. Refrigeration for meat, and pasteurisation and cooling for milk are two such techniques.

There is a weak parallel in horticulture of apples and pears being kept in controlled-atmosphere stores pending release for consumption, but in general horticultural products are less nutritious, less valuable and bulkier than other perishable foods (e.g. ice cream) and so no particular techniques are involved in the day-to-day marketing of horticultural produce. The effort is put into getting the produce to the consumer as quickly as possible - say, by a system of daily deliveries: and one consequence is that housewives may have to make three or more visits to the shops every week to buy her fruit and vegetables. In every other line of business this is a thing of the past: and as long as it continues it will enhance the attraction of the so-called 'convenience' foods which are not fresh, but far less perishable.

.....with an eye to the future.

It is, of course, the most perishable produce that determines the speed of delivery of horticultural produce in general. At some stage the relative advantage of a short-term preservation technique is bound to be examined, but it is likely that vestiges of the present order in marketing fruit and vegetables will persist longer than in other sectors of the food trade. What the grower offers is automatically what the housewife wants: he is not, as it were, producing a beast when all the housewife wants is a joint of meat. There is the minimum of obstacles to produce passing in its pristine fresh state from producer to consumer: and, in fact, producers can, to a small degree, move towards this market and minimise transit time in this way.

.....and the welfare of producers.

On balance, however, trends are all against producers of horticultural crops being able to cash in on the value of fresh produce. More and more they will be drawn in to a marketing effort that assigns them the role of producers of a raw material.

In other walks of life, producers have been able to organise or otherwise act to fortify their own economic position - perhaps in response to organisation among those with whom they trade. In horticultural marketing it seems to be the rule that producers are slow to organise. Their selling organisations are rarely the equal of the buying organisations with whom they deal; and as time goes on this disparity will tend to increase. In other words, producers need to consider now how they can strengthen their position as sellers.

A marketing code for horticultural produce will undoubtedly be difficult to formulate. In the last resort, the State may be called upon to intervene, although what has been done for growers is probably less successful than what they have done for themselves. Neither the agricultural marketing legislation of 1931 to 1933 (which gave rise to the farmers' Marketing Boards) nor three specific Committees of Enquiry since 1924 have contributed anything both notable and durable to the horticultural marketing scene. Fruit growing has shown the greatest capacity for advance in self-organisation, and it is in terms of marketing dessert apples and pears that this text was conceived. Apples and pears, however, have special features as products and what is written here about fruit marketing is by no means equally applicable to other products, although the procedure of looking for sources of other producers' strength as sellers would evoke the same observations upon

wholesale markets, publicity and supply management.

To be more specific, the text looks ahead in terms of producer-consumer relationships, which is the nub of market power, and which would seem in danger of complete suppression when the grower is reduced to the role of raw-material supplier. It is thus not directly concerned with the present controversy of the comparative efficiency of different systems of distribution (e.g. supermarkets or independent greengrocers' shops).

.....in a certain sort of way

There are various ways of theorising (or thinking) about horticultural marketing. The ideas presented here are developed from economic theory and utilise elementary economic concepts. They are essentially long-term and not specifics for solving this year's particular problems. A little previous awareness on the part of readers is thus assumed, but the diagrammatic presentations will be familiar to anyone who has made even a cursory study of demand-and-supply analysis in any textbook of economic principles. Similarly, the 'marginal cost' approach to fruit marketing on the national scale is a simple derivation from theory. The references to the economic power of big businesses and to the mentality of consumers "en masse" should be familiar to any occasional reader of articles on marketing.

The danger of adapting economic theory in this way is that readers will mistake the shadow of economics for the substance of reality. For the sake of clarity, the economic thoughts used here have been clothed with horticultural marketing practice, but it is most important that readers understand that it is notions that are most frequently being presented, not informed or inside comment upon a real-life situation. What is consistently offered in this text is one way of thinking about the subject, which, if not approached on some basis, looks terribly involved and difficult to analyse constructively. To increase facility in dealing with these matters, four or more conclusions are presented at the end of each section with the intention that the conclusions could be debated, utilising both the preceding text and other sources in arriving at a reasoned opinion.

.....but please note

that the text begs the question about whether or not horticultural marketing and distribution is efficiently carried out. Presumably, an answer to this question could be given if any estimate of an average

rate of return on capital for the industry as a whole could be prepared, and if it could be agreed what allowance for overall risk in the industry would be fair to producers. Alternatively, the earnings of producers of equal managerial skill in horticulture and elsewhere could be assessed, and this would provide a clue - provided it could be agreed what combination of talents in the growers were equivalent to those of proprietors in other walks of business.

Such enquiries would be more fundamental than the present one and would need to be on an altogether greater scale. But whether the present system is efficient for producers or not, it will not remain, and this is the justification of this text. If producers do not contest the changes going on all around them, they will suffer change. "Grow what the consumer wants" was a good enough philosophy for a half-way stage, but when marketing has really got hold of growers their rallying call will be "the consumer has the money you want - go out and get it".

PART 1 CONTEMPORARY MARKETING

Section 1. Horticultural Crops are a Special Case

The Marketing Maelstrom

There could hardly be a bigger contrast in economic activity than between growing orchard fruit and selling it. Production of orchard fruit - in Great Britain at least - frequently takes place in isolation from other crops in a circumscribed, sheltered and rather private way. Fruit growers engage in a prolonged scientific duel against the elements of Nature, and play a waiting game. In the markets, however, both privacy and waiting are at a discount. The battle of wits hots up; and decisions have to be made quickly, in a far from sheltered environment. It is not surprising then that fruit growers, rather more than vegetable growers, tend to shun the hurly-burly of commerce and to do very little actual selling of their own produce, or of overseeing the selling of their produce.

One possible result of their natural avoidance of the market place is a failure always to recognise that their fruit meets totally different sets of values once it is off the farm and whipped away into the vortex of commerce. A grower can and will accept a share of the responsibility for failure to get a good crop: but he thinks differently about failure to get a good price - he will be prone to put the responsibility elsewhere. It is not endemic to fruit growing that the grower should have to make excuses to himself in this way - and it is not only fruit growers who are concerned. It is more a sign that commercial horticulture is in its infancy as a business. There are real impediments to its growing up to be like other businesses, and the purpose of this chapter is to outline those impediments by reference to contemporary marketing theory.

There is, of course, one obvious practical present-day difference between a food-growing firm and a food-manufacturing firm as regards the potentialities of marketing. The manufacturer is in direct and constant touch with his 'market' (that is, consumers) through his representatives: one packet of his product is exactly like all the others, and by branding and advertising his goods he creates 'a public' for them. Moreover, if sales are not 'on schedule' at any time of the year, the manufacturer has the potentiality of process control and so can re-vamp his product, give it a boost by advertising, re-create consumers' interest and so restore the volume of sales to the desired level. Homogenisation is another artifice that can be used in marketing when the product undergoes treatment. There is a presumption that orchard fruit, along with

fresh horticultural produce generally, is not amenable to this sort of forceful marketing treatment. This may well be true: but it is equally true that any product can be sales-promoted - the question is whether such promotion is advisable. To account for the big difference in treatment between manufactured and fresh products we have to look at the production and marketing environment and, in the case of fresh products, the divorce of selling from production. These are at least as important as the nature of the product in determining the present low 'state of the arts' in horticultural marketing.

Marketing (synonyms, merchandising, selling) has become vastly more important during the last twenty years, largely as a result of new thinking that originated in the U.S.A., and made certain firms that adopted it the recognised leaders in their field. So much so that a strong marketing element within a firm is now identified with good business. Firms are shown to succeed - that is, to grow and achieve economic power - which make a study of the market for their product(s) and then adapt and control production with consumers in view.

English fruit growers may claim - many of them justifiably - that this is just what they have done. They have produced what consumers gave evidence of wanting to buy; they have extended the period of marketing, and met consumers' desires for better colour and quality; they have grubbed trees of unwanted varieties, and planted trees of more promising varieties. Yet no one refers to fruit marketing as a success story, and fruit growers have not made large fortunes. Why not? Marketing theory can provide a number of good reasons, but clearly efficiency in and scale of production are concerned as well.

Establishing Value

Looked at in its entirety, without a focal point, the business of selling (and buying) the plethora of goods and services in contemporary commerce defies simple explanation. Separate trades, or types of product, have over the years acquired a characteristic method of establishing market value. For example, produce Exchanges suit the marketing of internationally-traded agricultural products. In the marketing of oil the few oil-producing firms have avoided any sort of 'market': and to safeguard their immense investments in plant have as far as possible kept control of their product right down to the retail stage. For marketing (disposing of) rare or unique objects - the demand for which is, by assumption, greater than the supply - sale by auction is most widely used: by this means demand can be concentrated, which is to the seller's advantage. None of these ways of selling is appropriate to horticultural

produce. Fruit, vegetables and flowers have a background and history of relative perishability and variation in quality; and this, in association with pronounced seasonal changes in strength of demand and day-to-day shifts in the equilibrium between a relatively volatile demand and fluctuating supply for each product individually, originally made handling horticultural crops a risky business. For a while, presumably, only individuals were prepared to take the risk in buying produce for re-sale. Enlargement of the firm came and individuals became established in a market. There is still a big personal element in the firms in the distributive trade: but this is not unusual. Much produce broking and speculation (in no anti-social sense) is in the hands of private firms.

The peculiarity of horticultural produce, however, was that buyers needed to see the produce on offer and to pass it on quickly. Accordingly, an appropriate mode of trading developed. It is not known whether produce markets sprang up throughout western Europe more or less simultaneously, or whether the stage when producers travelled with their wares to a market-place was preceded for a time by a stage of itinerant buyers; but it is known that wholesale markets developed alongside the consumption of horticultural produce and were for centuries unchallenged as the marketing medium. There was no Guild of growers in Britain: entry both to the producing and selling trades was free. Somehow, however, it became the custom for producers to travel to towns (possibly because only a short walk was involved), and to regulate the trade civic authorities provided specific market places. Probably, it is not too much to say that buyers found an itinerant role altogether too costly when consumers were wanting a range of produce all the year round, while enough sellers to decide the issue, although prepared to sell on the farm, thought their (own) produce to be worth more than the buyer offered, and so they went in search of actual consumers. If this is so, history is repeating itself at the present time.

This marketing practice culminated in the characteristic wholesale markets in the larger towns and cities. Here, fresh produce is on show early in the day so that buyers can make their daily purchases. Again, horticultural produce is not alone in this respect. Other commodities - bread, for example - are best enjoyed before they have become stale. The production of bread involves baking: and baking and the subsequent distribution are most efficiently carried out in large units. Small bakers have thus almost disappeared, and the familiar signs of 'good marketing' are beginning to appear everywhere, including the short-term preservation (wrapping, in this instance) to avoid the tyranny of perishability. Moreover, baking is a mechanical process and the amount

of bread baked is under the control of the baker. Delivery records will tell him how much more bread is wanted on Saturdays than on other days. He can prepare for this - and by one means and another the price of bread is kept stable, notwithstanding that demand varies both in the long term and the short. Unsold loaves do not mean cheaper bread: they are taken out of circulation.

Thus, the product itself is not entirely the cause of the retention in horticulture of an original marketing system. Fundamentally, the causes lie in the features of horticultural production. Has one grower, for example, been known to buy out others supplying the same market for the sake of strengthening his own hand there? Why is co-operation so much fostered in horticulture (and agriculture) and scarcely mentioned in any other context? Horticultural producers suffer open-market competition because they have not sought hard enough to avoid it. It is invidious to say that the competitive system in horticulture does best for the consumer. From the consumers' angle any product is best handled this way - until producers get to know better.

Competition and Choice

The heyday of the central wholesale market came with the development of road transport during the first half of this century. Latterly, more attention has been given to ways in which markets could be by-passed. This type of change was begun by firms customarily selling goods not distributed via a market. Such firms, notably the large retailers, have succeeded in getting produce physically past a market, but have not entirely supplanted other facilities like importing, pricing and knowledge of the fruit and vegetable trade. Further comment is made later in this chapter about the effects on the producer of the current attempts to press horticulture into the mould of a manufacturing industry. For the present, it should be clear that the different users' notions of what horticultural distribution system suits them best creates a highly competitive situation. Consequently for want of a better image, trading in horticultural produce has been likened to a 'jungle'. This metaphorical allusion is not helpful if it creates in the mind ideas of a lawless environment, predatory behaviour, difficult communications and an unimproved state of Nature.

What occurs in horticultural marketing is an imperfectly competitive contest between a number of firms, some large, some small, some fixed, some specialised; but they operate in accordance with both written laws and unwritten rules. The firms pursue their aims amicably on the whole and there is little likelihood of overt conflict until two (or more)

firms decide on the same exclusive objective and begin working to that end. Then there will be conflict in the sense that one firm's actions will be expected to frustrate or possibly damage another firm's chances of realising its aims, requiring the second firm to take counter measures with the intention of negating the first firm's move. The jungle analogy is appropriate here, because already large firms 'swallow' small firms by merger or 'take-over'. Distributors, like most other people, are motivated by self-interest, but a market is not a jungle because distributors are not a law unto themselves: they operate with someone else in mind - the consumers.

Without the focal point of consumption, modern marketing practice loses much of its relevance. Relative to their total desires consumers' spending power is limited: they are forced to make choices - perhaps to do without apples on one occasion because they preferred to buy pears and bananas instead. Distributors of horticultural produce have the job of anticipating what demand is going to be - no one can say precisely - and exercising their judgement in buying appropriately. Their demands of producers are derived in anticipation from those of the actual consumers.

The totality of choices thus expressed in buying horticultural produce may be almost impossible to classify and may appear to give a confusing or even irrational result to anyone who has preconceived notions of normality. All that is known about one day's trading in a market is the prices that eventuated, those prices being agreed between buyers and sellers who were acting rationally but in a variety of ways. Any apparent confusion (for the most part market prices behave as expected) in market price movements arises from the great variety of individuals' preferences when they are able to make a free choice. So long as individuals exercise self-interest there will be a demand for a range of qualities and quantities of produce. On any horticultural wholesale market in Great Britain, retailers are numerically the biggest class of buyers: they buy predominantly in small mixed lots, necessarily for a day or two at a time if the produce is highly perishable. The retail trade serves all sorts of consumers under all sorts of circumstances, and their short-term requirements of produce are variable and almost as much affected by price as contributing to price formation. There are no grounds for thinking that consumers' foibles are in the nature of repeated and reactionary attempts to obtain a notional 'standard' article which is often not obtainable.

The complexity of trading in a wholesale produce market probably accounts for another phenomenon of the marketing system - commission selling. The typical primary wholesaler who has a stand in the market more often than not is selling growers' produce on commission. Other

things being equal, this practice could only have arisen where produce to be delivered to the market could not be given a close specification, in quantity or quality, and where satisfying demand could not be foreseen as the placing of given consignments with regular buyers. Under the commission system the wholesaler insured himself against loss at the grower's expense when prices were low but gave his suppliers the benefit when prices were high. Commission selling in markets still persists, in spite of the modern paraphernalia of grades, telephones, teleprinters and packaging. Apparently, the hazards in dealing in home-grown horticultural produce as it leaves the farm are still considerable. Consumers, in turn, are given a choice of produce - which they appreciate. Unfortunately, to provide a choice must often entail a somewhat higher price, quality for quality, than when consumers are offered a single, standardised product. The big issue in horticultural marketing in the next twenty years is to draw the frontier between opposing ideals of giving satisfaction to consumers.

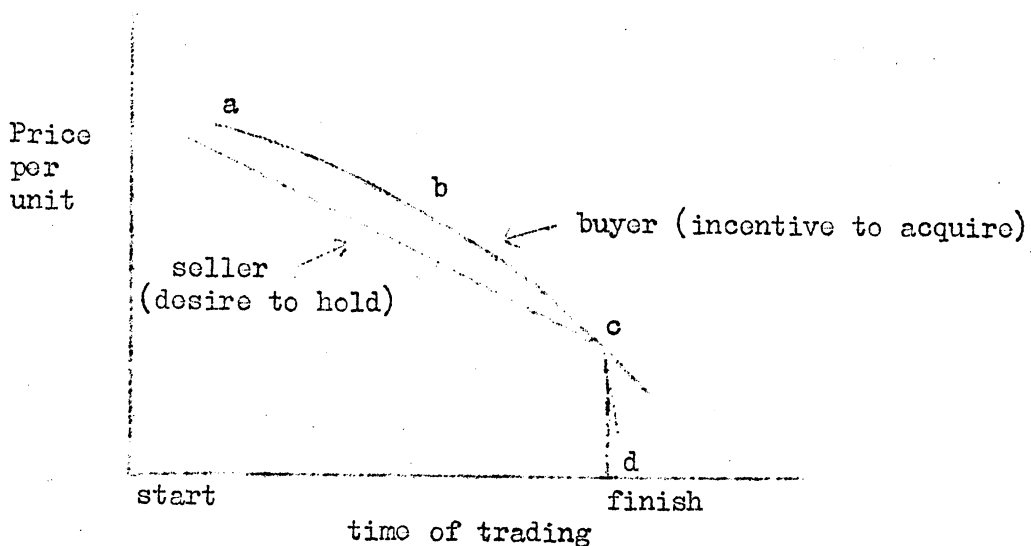
Distribution, then, is still competitive. And if the competition is at all perfect (in the text-book sense) distributors' profits will be kept down to 'normal'. The growth of individual firms, however, contradicts the notion that there is perfect competition in the distributive trade. Rationalisation and 'streamlining' of operations have proceeded much faster in marketing than in production. It cannot be claimed for the distribution system, then, that it is a minimum-cost system in the text-book sense. In a context of modern marketing this is not important. Marketing is much more than getting a product to retailers at minimum cost: it is, in effect, a complex of services which should strengthen the producers' hand. The particular failing of the competitive system of marketing in this context is its preoccupation with cost (no doubt justified when the producer is a residual beneficiary) to the exclusion of the allied services. Producers themselves were late into this field of activity, and distributors quite neglected things like market research, advertising and product promotion among consumers. The initiative in the sales promotion field is now largely in the hands of the big retailers, with the exception of Home Grown Fruits, which is perhaps the best-known producers' organisation. The new-found potentialities of marketing, in the sense in which it is shortly to be described, together with all it implies in the way of control, will mean the end of free competition in distribution. It will also mean higher prices, but greater satisfaction, for consumers.

Perishability as a Factor

Perishability has already been referred to more than once, and it is time now to take a closer look at its effects. The knowledge that produce will be losing value once it is harvested will make potential buyers keener to buy and producers readier to sell, than would otherwise be the case. It will also influence buyers to act quickly - they have no time, for example, to travel round several markets looking for good produce: they must make their choice of market, and will obviously prefer a large and concentrated offer of produce to a dispersed one, other things being equal. The auction markets of the Dutch producers have long been recognised as a good example of concentrated supply. Nowadays, however, many single auctions are now thought to be too small, and the 'auction clock' system of selling individual lots, as practised in Holland, is proving unsuitable for modern buying. (Denmark has a rather more modern version of the 'clock').

There is nothing in the fact of perishability, however, which in theory, prevents a producer getting a fair price (the 'equilibrium' price) for his produce. The novelty in horticultural trading is that a "fair" price is not one single, hard-and-fast price. It is several simultaneous prices and they can change during one trading session. In practice, perishability can be of less importance than level of supply and level of quality in determining price. In theory (see Figure I) buyers and sellers should be able to form in the usual way a price that is above or equal to the price of non-perishable produce, subject to a time limit which is the duration of pristine freshness of the produce.

Figure 1. Short-term price formation for a given uniform quantity of perishable commodity, instancing
(a) buyers' incentive to acquire and
(b) sellers' incentive to hold on to produce.



The notional course of price during a day's trading is a, b, c, d.

Curves, of course, will be differently positioned each day; but in the circumstances shown, trading will be active at the a b level of prices while buyers who want produce badly make their purchases. There will be slow trading with prices in the b c range, because buyers' readiness to buy is falling faster than sellers' readiness to release produce. Active trading will follow again within the e d range of prices when sellers, as it were, capitulate.

N.B. because price formation as conveyed in Figure I is largely a result of individual human emotions, it could perhaps be labelled price formation in an unimproved market situation.

One characteristic of the most perishable practice is thus its loss of intrinsic value during marketing. This is something that 'successful' marketing of horticultural produce will have to take into account. The price of produce of unimpaired freshness can be lifted higher than that of produce of impaired freshness. Realisation of this aim requires either speed in delivery or short-term preservation during marketing. Preservation is the obvious way of simplifying horticultural distribution; but if it is expensive, it will by no means become universally adopted. Marketing from the field direct on to the market lorry may still be the cheapest practice for field vegetables. Most edible produce, of course, can be picked and marketed before it is ready for eating. Even so, perishable produce at the farm gate and ripening produce in the market place have a common element in that time will erode their value. This principle, again, is embodied in the Dutch practice of withdrawing from market and from consumption produce that has failed to make a minimum price by the end of the day's trading.

It follows from this way of looking at marketing that in theory growers get most advantageous prices by selling in a market in the producing area rather than in a city market if the latter is distant. This principle seems to be observed in the way markets have become established in production areas when a long travel for the produce is involved and in cities when long travel is not involved - as in the case in Great Britain. In practice, some important production areas are so far removed from their market that communication and market intelligence are inadequate for producers' guidance. Producers have responded to this situation by organising to give themselves bargaining strength with distributors (e.g. Outspan and Sunkist in the citrus industry). Market hours, too, are theoretically a matter of concern to producers; but there are few instances of growers owning markets or operating selling

in a way that is designed to give them the advantage by putting pressure on buyers.

A Growing Sophistication of Demand

Having outlined some of the features of horticultural produce as a range of commodities, and postulated that it requires a particular marketing system and speed in price-formation, it is time to look beyond the produce itself to the economic features of its supply and of the demand for it.

The traditional system, in which produce was sent by the grower to a commission salesman/wholesaler in a city market, there to be bought by a secondary wholesaler and carried within reach of retailers, now seems almost classical in its simplicity. As is well known, the traditional system has been undermined by the procurement practice of the large retailing organisations. They have applied to horticultural produce - as far as they are able - their direct approach to the producer and demands for large runs of produce of specified quality. By and large, growers' firms are not so large, nor extensible enough, for this to be an easy practice to assimilate. The once typical aggregation of thousands of small individual transactions (bargains)* between buyers and sellers in the market still characterises retail buying, but has lost its former significance: more produce is now sold outside market premises in bulk lots. There is no lack of comment upon the changes in buying habits that chain stores and supermarkets have fostered, and how producers' marketing must change with it. The system of individual bargains had its uses when produce was highly variable in quality. It obviously allowed great scope for acumen in buying and gave great satisfaction to buyers; but it is under economic pressure nowadays and is expected to decline in importance. For one thing, a small-scale process of exchange - buying and selling - ('atomistic' is the technical word which will be used henceforward) is expensive to maintain at present-day costs of labour and market accommodation.

The prevalence of the characteristic large horticultural markets - and indeed the present variety of marketing methods in horticulture - can be traced to the way in which production of horticultural produce has been

* in this context a 'bargain' is more in the nature of a deal than something acquired cheaply.

carried on. Few products are marketed all the year round in significant volume from one area; one area is important at one time of the year but not at another. Many producers sell one product only, or a range of similar products, for a few months. A horticultural crop may be of little significance to the grower, so growers as producers do not develop aspirations of market power. They do not expect miracles of their salesman. Until the ramifications of economic growth in the community as a whole had its impact upon horticultural trading, there was little cause for producers to take marketing into their consciousness.

On the other hand, there is nothing in the industrial sector which is analogous to the peculiarly 'shifting' character of production round the year. A potential buyer of artificial fertilisers, for example, would be able to obtain them (or order them) from Billingham every week of the year. Not so with horticultural produce: areas of production and comparative supply prices in different areas are different for each month. Apart from anything else, this situation disposes towards a body of intermediaries, part of whose function is to smooth out delivery. The agreed way of doing this up to the present has been through markets.

Also, as consumers' spending power increases year by year, the process of choosing between alternative purchases becomes less onerous: but consumers are inclined to feel that time is pressing and buying has to be done quickly. Also, more rein can be given to pleasurable spending: purchase of basic or elementary goods such as fruit and vegetables is made to yield something more than their plain basic utility even if that something is only speed in doing it. In other words there is a growing sophistication in consumers' demands. Purists might well describe this as a debasement of demand, but nevertheless consumers are now conditioned, over a large part of their expenditure on consumers' goods, to buying (unconsciously, maybe) more than the bare, physical commodity; and this must affect their attitude to the purchase of fruit and vegetables. For example, they certainly appreciate being helped to make a choice by having goods made to look attractive. Distributors are similarly affected: they are aware of "good selling points" in produce for their own convenience as well as for consumers' welfare.

Sophistication in consumers, however, does not on the whole relax the processes of competition between sellers, although it might well entail transfers of competition between areas in a market. The emergence of a good standard line of produce, for example, which is an almost automatic choice for 60 per cent of consumers, reduces the exercise of choice in the respect: but loss of trade is a serious matter for any firm, and the emergence of a best-selling line offered by one firm will profoundly

stimulate other sellers in the market to compete with rival products.

The present upheaval in horticultural marketing and distribution arises because buyers from firms which are used to handling standardised manufactured products (e.g. grocery, textile or confectionery goods) are now making their presence felt in horticultural markets. Horticultural marketing is being 'pressured' to bring it into line. There is a need to see what is involved in this movement.

Adjustment in Horticultural Marketing

There are reasons in the little that has been written already for thinking that horticultural products are a separate class of commodities, and that this has been recognised in their customary mode of distribution. It happens that vegetables and fruit are perishable, and variable in quality, and that there are at least 60,000 points of origin of marketable produce, most of them having - for good reason - small and seasonal output. It also happens that, in the nature of things, there are fewer, larger and fixed points of origin of manufactured articles, because a large factory tends to be more efficient than a smaller one. So, in the somewhat mechanical distribution of manufactured and packeted goods, a streamlined system tends to reduce costs. The same system applied to horticultural produce would tend to increase costs of distribution, because it is relatively inflexible. Higher costs, of course, may be well justified if higher prices follow as a result: this aspect of efficiency is not under discussion here. In the circumstances quoted, competition between firms will lead to distribution becoming a matter of a narrowed range of goods, each branded and with its own zone of distribution. Consumers have lost something as a result of this rationalisation, and that something is their freedom of choice. No sooner do manufacturing firms reach a streamlined stage in production and marketing than they see the benefits of adding variety to, and extending choice in their product.

This concession to the consumer, of course, is not necessarily in the form that consumers would really prefer: it is what the manufacturer sees it in his interest to supply, anticipating a 'yes' rather than a 'no' from the customers he seeks. In no sense is this concession synonymous with the 'consumer choice' which used to be called "sovereign" in economic text books. This is the concept of market power which will recur throughout this book. It is not brute bargaining strength, but something much more subtle - a sort of leading consumers along a prepared path. As an ethical concept, the sort of marketing that leads to power with consumers is flattery to deceive. The precept "grow what the consumer wants" is a step towards consumer-consciousness in growers. It

is inadequate as a recipe for market power, and if slavishly followed, or pursued by proxy, it may prove a grower's downfall.

Over a large part of the trade in consumers' goods, then, untrammelled choice has proved incompatible with mass production, but, because there have been such tremendous gains in production efficiency following standardisation, such products are far more fully available and also cheaper than they would have been otherwise. This philosophy cannot be carried over "en bloc" into horticulture, because, (i) horticultural produce, in general, cannot be grown (produced) so that one article is identical with all others, and (ii) it is not supplied significantly more cheaply by concentrating production in large units. There will be hundreds of separate horticultural producers for as far ahead as one can see. Traditional marketing of horticultural produce acknowledged these features. They are unwelcome in modern concepts of marketing, however, and it is being made abundantly clear in statements by 'marketing men' that horticulture will have to change its ways.

It is only to be expected that sales promoters whose experience has been with packeted and manufactured foods should fail to recognise the constraints that handling living material puts upon customary marketing methods. In particular, growers are quite unable to produce at will minor innovations in their product and label them 'new'. To change their product might take years of plant-breeding work, with something lost as well as gained in the process. A good deal of special knowledge is also involved. Two packs of raspberries or plums may look alike but contain fruit of significantly different market qualities.

Those who look for such a change in marketing and distribution have the onus of showing how their system can be superior when:

- a. small firms will continue to predominate;
- b. uniformity of product cannot be secured; and
- c. no guaranteed description of the eating quality of the product can be given, while
- d. large-scale production will not confer its customary benefits;
- e. producers have no control over prices; and
- f. too rapid a change away from the 'fresh' state will meet consumers' resistance.

Ways may be found of negating the postulated obstacles: they will certainly be expensive, and the fact that progress towards a reformed system has been slower than the reformers anticipated suggests that there are real obstacles in the way.

Attempts have been made to offset the direct effects of the first three obstacles listed above by imposing marketing regulations on the trade, both in Britain and abroad. For instance, some of the undesirable effects of small-scale production can be offset, as regards delivery to market of regular, sizeable loads of known quality over an extended period of time, if producers co-operate in making up full loads on market-bound lorries. And so co-operation has been officially fostered throughout western Europe. Again, the disadvantages of having varying sizes and colours of apples - even of one variety of fruit from one orchard - to offer a buyer, can be overcome by grading. That is, let it be admitted that produce is variable, but let all produce that looks alike be put together in one package so that there shall be less doubt about what the package actually contains. Grading regulations now abound, and they certainly help in describing a crop and are necessary when, say, a price-support scheme is in operation but applies only to Class I apples. There must be a description of a Class I apple. As a marketing artifice, grades are open to objection but, failing other means, they do help to make clear to growers the superior value of certain sorts of produce.

The advance from a 'sorting' of a crop on the farm prior to consignment to market to a statutory requirement to grade produce is another example of how consumer choice is restricted in the course of good marketing. Statutory grades are arbitrary and imposed, and are thus not comparable with a chosen range of products marketed by a manufacturer. Grading has also less potential for reducing the final cost of the standardised product than is the case with manufactured products because grading adds to producers' costs. (There is the further anomaly that official grades tend to create a rigid element in the marketing framework, whereas a manufacturer is free to vary his product specifications as he wishes).

So, in theory, statutory grading restricts consumers' choice - by implication reducing their aggregate satisfaction from purchase and hence the amount of money they will be prepared to spend - without commensurate advantages to producers. It will be shown later that a manufacturer has a means of restoring consumers' interest - the same means not being available (at present) to horticultural producers.

A custom of grading to buyers' requirements was developing in the English fruit trade during the 1960's. Co-operative supply and grading have enabled produce to be diverted from markets and to pass direct to retailers' depots or shops. This move by producers complements retailers' desire for regular deliveries of a long run of a popular product. And with the accompanying accent on quality, much home-grown horticultural

produce has improved greatly at the same time. However, it has not yet been clearly shown how much of advantage to producers there is in allying themselves to a big buyer. The onset of 'good marketing' coincided with a distinct improvement in quality of supply, and it is likely to be this improvement rather than any other that has led to increased satisfaction in purchase of horticultural produce.

As regards the third obstacle quoted earlier, marketing regulations can be made applicable to the appearance of produce, but not, infallibly, to its eating quality. So far, consumers have tolerated this state of affairs. Good appearance probably has a lot to do with satisfaction in purchase in most instances. In a sophisticated world this obstacle is perhaps of little consequence; but it is erroneous to conclude that best appearance and best eating quality are one and the same thing. Good marketing may at some stage separate them.

In drawing attention to the two remaining obstacles in the list we are verging again upon the real subject matter of this text. Much more is involved in the adjustment of the marketing of horticultural produce to the re-alignment of buying (e.g. supermarket retailing) than simple devices like co-operative packing and produce grading. Mass production and mass consumption are not isolated phenomena. They are symbols of a 'developed' form of industry, comprising firms that pay great attention to marketing and have a possessive attitude to their products; that can stimulate consumption and would at all costs try to avoid the raw competition that horticultural produce undergoes in a wholesale market. Big industrial firms exercise market power and they use marketing as a means of advancing their own aims through the medium of consumers' interests. Horticultural producers are known to lack bargaining strength; they also actually and potentially lack market power. Market power is not simply the difference between being a 'price maker' and a 'price taker'. It is also a capacity to marshal resources to achieve a chosen end. Horticultural producers could have bargaining strength without market power. So long as they have neither they are likely to find themselves disadvantaged by the distributor. Bargaining strength seems to be the one desideratum that horticultural producers could achieve in the space of a few years: market power, in its accepted sense, seems many years away.

In horticulture's composite marketing system market power becomes diffused and attenuated: but a composite system is not a novelty. After all, in the motor car trade there is a well-marked dual system (for durable goods). New cars do not get smoothly marketed through producers' agents showrooms without the indirect help of the dealer in lower-quality cars.

Section 2. Focusing on the Consumer

The Impact of Production Organisation

This section expands the left-over idea from Section 1 that horticultural producers would have difficulty in trying to emulate, with fresh produce, manufacturers' successes in marketing. There are four main reasons for this:

- first, growers cannot influence consumers through their products as effectively as manufacturers,
- second, growers are working with biological material: to change their product may involve breeding a new variety of plant;
- third, single firms, being very much smaller, are not in a position to affect their particular market by acting independently; and
- fourth, buying horticultural produce is made more complicated by the 'shifting' of production areas.

Before proceeding to a further consideration of this, it must be made clear that comparisons are being made only within the field of household goods. The articles of commerce are conventionally classified into (a) investment and (b) consumers' goods, consumers' goods being further classified into (a) durables and (b) expendables, which include (c) food as an important item. Our term 'household goods' thus includes both the durable and expendable things, including manufactured food products, which a majority of British households buy and consume; and it is against the assumed background of the consumers' awareness of these products that we shall consider the place of modern marketing in business and its relevance to fresh horticultural produce.

The perishability of fresh produce has already been referred to: it has been seen that it leads to a distinctive type of market and special features of pricing. Perishability, of itself, does not debar a product from being well marketed: but it has given rise to a commercial reaction in the form of preservation. There is a form of preservation in which the product is changed, and another form in which the product is unchanged. The former is traditionally used where a radical adjustment of consumption to production involving transport over great distances and a large time-lag has to be made - for example, canned fruit from the southern hemisphere. Drying (dehydration) of produce is another process that leaves a stable, preserved product. Since 1950, deep-freezing has become a widely-used method of preservation, but the product is unstable and must be kept cold. Certain techniques of freeze drying produce a

stable preserved product but do not yet cover a wide range of products. Irradiation is another method of preservation which will certainly become more popular when its present risks to health are known to have been overcome. At this stage another word will be necessary to describe 'fresh' produce, because numbers of large buyers will certainly prefer to handle the preserved ("fresher than fresh" may well be the selling point) produce than continue to take the risks in handling perishable fresh produce. Marketing of preserved horticultural products can be organised along familiar lines. The produce has to be assembled for preservation, automatically giving a 'bulking' of produce and allowing industrial-type processes of quality control, uniformity of product to be introduced, as well as giving predictability of output. Ownership of short-term preservation stations by producers would be a first step towards market power for producers: but, in general, producers' prospects through integration with processors are better than their prospects as suppliers of fresh produce.

Short-term preservation without change of product already encroaches upon the marketing of fresh produce, and when developed commercially will have a notable effect on the 'fresh'. A technique of preservation by irradiation is already understood. Holland has a process of using radioactive cobalt to inhibit bacterial action: its use is said to keep vegetables permanently fresh. Once it is proved that there is no hazard to human health in this form of preservation (or any other equally effective process), quality differences will persist but horticultural produce thus treated will have a more normal 'shelf life' in the shop and the revolution in horticultural distribution will have begun. Examples of present encroachment of preservation are the cold-storing of flowers or water cress over the week-end, and the gas-storing of apples and pears, pending their regulated release over a period of four or five months. Milk offers another good example of short-term preservation. From the marketing standpoint the stored apple or pear - apart from the fact that it has a 'season' and is not sold every week of the year - has much in common with preserved produce, but is thought to be less effectively marketed. It is here that the indirect effects of perishability impinge on marketing practices. For example, the 'industrial' stage in marketing is lacking. The same effects operate more thoroughly, of course, upon produce which gets no preservation treatment at all. Bananas are one instance, possibly unique, of a fresh product requiring a process (ripening) during marketing that has led to unusual concentration of supply for distribution.

We thus come to consider the case of fresh produce, which is said to be overdue for the marketing 'treatment'. So far, there are few market-

ing successes to be chalked-up in this connection. Neither 'good marketing' practice nor modern methods of distribution and retailing have given fresh produce a boost. The longest week-end shopping queues are still to be found at the traditional greengrocers' shops. Evidently, there are plenty of consumers who have not responded to 'good marketing' practices with fresh produce. Some of the reasons for this lack of success are as follows:

- i. ability of the traditional system to provide a full range produce, at a range of prices;
- ii. cost and difficulty of organising regularity of supply of good quality produce in competition with other buyers;
- iii. failure of wrapping and pre-packing as an agent of short-term preservation.
- iv. untrained and inexperienced staffs.

In other words, it seems that those who sought to improve the marketing of fresh produce misjudged the efficiency of the traditional market system, and failed to take into account the fact that producers lack the power of control over their product to which buyers of 'packeted' food had grown accustomed to expect. For instance, a manufacturer who has a 'popular' product can give numerous buyers equal satisfaction because he can, say, put in an extra shift of work to meet the demands of an increased number of buyers. Buyers can then pack in their branded cartons, and will tend to be satisfied. A 'popular' line of horticultural produce is more likely to be physically limited, and some buyers will have to be content with purchases of lower (or higher) quality than they would ideally like.

These marketing features of fresh produce have their origin in production organisation. Production organisation will occur again and again as a subject for comment, but at present it is relevant to the special circumstances of marketing perishable produce in the following ways:

- i. growers' businesses are mostly small, absolutely and relatively - absolutely because small businesses predominate numerically, relatively because the output from the few large businesses is inadequate to meet the demands of all large buyers.
(Proviso: this statement is less true of coarse vegetables and some flowers than of other types of produce).

- ii. production is dispersed throughout the country, and this interferes with centralisation of supply.
(Proviso: production of a few commodities, such as roses, cucumbers, carrots and cherries is relatively localised).
- iii. few good producers fail to find satisfactory outlets for their produce. Large suppliers are already well established in markets. Small suppliers have good local outlets for the quality of produce the big buyers seek. Items ii and iii provide reasons for efforts at improved marketing having begun with the distribution of imported perishable products (e.g. South African citrus.)
- iv. production as a whole is divorced from selling: producers do not have the same interest in retail selling of their product; and they cannot exercise control of supply to the same extent as a large manufacturer can.
- v. the variation in quality of original supply attracts a variety of buyers: so far, this had led to reasonable prices for all types of produce which weakens the incentive to standardise.
- vi. production units can move piecemeal towards markets.

The 'spread' of demand for horticultural produce that the dispersion and smallness of the production unit allows is possibly limited to a range of products, including eggs, that have freshness as a particular case of quality in the product. This freshness, in fact, is an added dimension in the marketing of perishables: produce which reputable buyers in the market might reject, may easily find a good local buyer because, despite other failings, it is fresh, and that is how consumers like it. There is a class of most perishable products, such as lettuce, soft fruits, cut flowers - and even rhubarb - for which any form of preservation is at present ruled out, and for which pristine freshness is a great selling-point. On the other hand, there is more scope with products like apples, pears and celery. In the marketing sense, however, what differentiates horticulture from manufacturing is the ease with which producers can deal direct with consumers. More than anything else this contributes market power to the producers' situation, although at the same time it would tie them to small-scale production. If the production of horticultural crops becomes more tightly organised, it can be expected that, increasingly, produce will only be available from "stockists" or retailers, unless 'freshness' acquires greater premiums than at present.

Item vi. above may require less explanation now. The natural location for production of highly-perishable produce is close to the point (or area) of consumption. The capacity of production to locate itself near markets is a novel feature in marketing, and cuts across the accepted principles of (a) 'organising' distribution from a central point for greatest efficiency, and (b) interposing promotional marketing between producer and consumer. To supply a local trade is not the same thing as selling direct to final consumers: in fact, it constitutes the direct contact between producer and consumer that remote producers assiduously cultivate, and it minimises distribution costs. Production for local consumption in the less naturally-favoured areas has been surprisingly long-lived in the face of competition from ostensibly preferable produce, supposedly better marketed. The potential strength of local marketing as a national feature of horticultural marketing is vitiated at present by the low level of marketing expertise in most small businesses.

'Marketing' Concepts

The text now continues with an account of the contemporary concept of 'marketing' as a direct aid to the producer, and the reservations previously made about carrying over into horticulture the philosophy of marketing industrial consumers' goods are set aside. But there are still some divergences of thought in this connection which have to be recognised, even if they cannot be quickly overcome in practice. As assayed in industry, 'good marketing' increases the producer's profits - or at least maintains them in the face of adversity. We would look for the results of good marketing of, say, custard powder in the trading profits of the manufacturer of the product. If the firm were to make high profits, it would be assumed that it had a good product, and handled it well. In the marketing of fresh food, - including fruit and vegetables - a certain cost-consciousness persists, and other criteria than the producers' profits are conventionally applied to it. The conventional attitude is set aside here. The tenets of 'good marketing' carried over into horticulture, should operate to increase producers' profits. Accordingly, this text is written with producers' welfare in mind, and gives attention to policies that would tend to increase producers' profits by augmenting their market power, using the marketing of English dessert apples as a case in point.

There are two basic concepts governing marketing activity for those consumers' goods that are widely considered to be most effectively marketed. The first concept is the nature of the appeal of the product - its innate attraction for buyers. Superimposed on this is an appraisal of how effectively the particular firm's product can be made distinct from

similar products, and how vulnerable the demand for it will be to competition from other types of product (for example, sewing cotton is not vulnerable in this context because there is no good alternative to cotton for sewing). From this knowledge a marketing strategy can be developed. The second concept concerns market structure, which is a matter of how the supply of the product is shared between producers, how buyers are organised and how trade is carried on. These three elements provide the framework within which marketing takes place and must be recognised and heeded - by changing them, if necessary - by the interested firms. A marketing strategy, of course, must also pay heed to market structure. Unfortunately for horticultural producers such products are either novel products or are manufactured by firms which, as Professor J.K. Galbraith explained in the Reith Lectures of 1966, are in a fair position to command success. It will be seen that horticultural producers are at greater relative disadvantage to manufacturers in this regard.

Marketing Strategy

Marketing strategies necessarily vary from product to product. In all cases a marketing effort will be directed to increasing sales - often to increasing a firm's share of all sales of a product, but the methods adopted will differ. For instance, a product which few people can be expected to buy (a limited market) will be handled differently from a product thought to be suitable for mass consumption. The rarer the product the less apposite are the mass media for advertising - Rolls Royce cars, for example, are not advertised on television. To increase sales of rare products is necessarily expensive per unit of sale. In all probability a new rare product would have to be brought directly to the notice of selected potential buyers: if it were a household product it may be necessary to kindle a family interest in the product.

In contrast to rare products are products that can be sold in units which are within most consumers' means. In marketing products of this kind the effort is designed to increase sales, and involves keeping the product or the brand of product - more usually the brand - in the public eye, and giving consumers the idea that, in the act of purchase, they are showing discrimination and good sense. If this sort of mental reaction can be superimposed on an intrinsically good product it means that the product has an 'image' with consumers. Their loyalty to the brand can be expected in return, and a marketing success has been scored. This loyalty will help (a) to secure a share of the market for the producer and (b) to blunt the sharp edge of price competition. Altogether, it will tend to deter potential new entrants to the industry and facilitate planning of production. Once the 'image' is established, however, everything about

the product - its performance, the design, shape and colour of its package, its mental associations as experienced by eye or by ear - must conform to the 'image'. Often enough, this entails an increasing sophistication in marketing.

Marketing strategy is thus a real force in present-day commerce, when consumers are better-endowed financially than ever before, and a latent 'take it or leave it' or whimsical attitude to buying has to be prevented from becoming a reality. Transferring these ideas in English fruit growing for a moment, it would seem good strategy for a marketing institution to be promoting the Cox apple hard in the present circumstances, with the intention of widening its circle of consumers and of confirming consumers' wisdom in buying this variety. Straight away, difficulties in operating such a promotion can be seen. Cox is not one firm's prerogative; and obviously all growers' money could not be spent on promoting this variety, much less on any one 'pack' or brand. Also, growers will think "Will additional consumption of Cox be at the expense of my other varieties?" The same question is of less moment to the individual large firm, because production can be adjusted to meet the anticipated switch of demand by consumers. Once again, we see how production organisation in horticulture interferes with the operation of 'good marketing' precepts.

Market Analysis

Alongside its sales promotional efforts the Marketing Department of a large commercial firm will be pursuing (or paying someone else for) research into the composition of demand. The aim of this type of activity is to get an indication of where, within a population of consumers, the demand for a product exists and where it is made effective by purchase. Awareness of latent demand is not usually obtained without a pilot or 'test' marketing of a product: but an analysis of actual sales is a valuable guide to demand. In this context, analysts will be looking for clues that the product interests a particular social class, say, an age - or geographical grouping. Common interests, even a common feature like the ownership of a car - or even a new car - may be important in the demand for a product. Having this kind of knowledge a firm begins to appreciate the factors affecting demand for its product(s) and will realise its sales will fall if, say, new car registrations fall. Its strategy would then be to advertise new uses for the product. Thus, it would not be good marketing strategy for horticultural producers to assume that all types of consumer want all sorts of produce. Some horticultural products - tomatoes for example - probably have as wide and diverse a public as honey or frozen fish, but not every consumer will buy

all three products in the same proportion. The larger and more diverse the body of consumers is, the more general a marketing strategy has to be. Notable successes in marketing have come where a large and definable potential area for sales exists, as in the case of (a) teenagers and (b) males of the middle social class.

In the case of household-word products which are well advertised and branded (e.g. the oil firms) producers are very concerned with their share of the market, because so long as they are retaining their share of the market they are getting some assurance that their marketing is not less effective than their competitors. Marketing strategy is often important when competing firms are few in number and known to each other. A working equilibrium between them may be reached where one firm is larger than the others and acts as a price-leader, leaving small parts of the total demand available to smaller firms. These firms will specialise and produce either a cheaper, a more expensive or a 'novelty' line. Or, where firms are of roughly equal size and importance, each firm may gamble mildly upon an 'image' for its products and hope therefore to net a marginal advantage over and above the merit of the brand or product by itself.

In the mass, consumers show too many preferences for any single firm to attempt to meet the entire demand. To the uninitiated, a cigarette may be just a cigarette, but even in as distinctive a product as a cigarette there is room for numerous brands to co-exist, so subtle are the actual or subjective differences between the various brands, and, by implication, the range of satisfactions which cigarette-smoking provides. A single, uniform-kind of cigarette is not the ultimate in cigarette marketing. It is unlikely to boost consumption - in fact it might dissuade some regular buyers from buying any more: and, as a strategy forceful or compelling methods of dissuading consumers from buying brand 'B', 'C' or 'D' in favour of brand 'A' would be prohibitively expensive.

More topically, in the fruit market, the same reasoning will show how concentration on the dessert apple Cox's Orange Pippin is inconsistent with maximum consumption of dessert apples. Some other varieties should be available as well. Alternatives are welcome because, on the occasions when Cox habitues feel like a change, they may still buy another variety of apple, instead of buying another kind of fruit: and similarly a small section of the public who buy apples but would not normally buy Cox would find greater satisfaction in apples, and might buy Cox as an exception to their habit. Overall consumption would thus be increased by supplementing the sought-after product.

Continuing the explanation of market analysis as contributing to strategy, once a buying public has been identified and the competition for this public's favours has been weighed up, firms would give attention to closing any loopholes through which the intended consumers might be spirited away by competing attractions. In this context the ideal subject for a marketing programme is a new product: there are no previous loyalties to be weakened. And if the product is likely to be price-elastic (this means that a reduction in price per unit of scale will induce a larger increase in consumption and so add to sellers' revenue) and income elastic too (this means that more of the product will be bought as income per head increases) a costly marketing programme can be launched with every confidence that it will succeed. Income-elasticity will enlarge consumption in the long term, apart from any gains from lowering selling prices. No firm could be in a happier position than this, because the obvious strategy is a cycle of: more production, more consumption, higher revenue, more investment in plant and machinery; more production.....and so on.

At some stage, however, (whether or not competitors have entered the field and spoiled the market) the advantages of having a new product to sell will disappear. Once a product has, over two decades or more, been part of the everyday experience of most consumers, its price-elasticity has fallen and any given marketing expenditure will be less efficacious than before in promoting sales. The product will be in a groove. As an accepted product it will be subject to the ordinary market wear-and-tear arising from changes in consumers' tastes, emergence of alternatives, out-of-dateness for the service it provides, raw materials procurement and so on. When this happens, the accent in a marketing programme will change and greater efforts will be made to keep the product 'alive' by various sorts of innovation. In fact there will be competition in innovation where formerly there was competition in price. Innovistic competition, as it is called, will be considered again shortly.

When a new product does appear on the horizon, large firms likely to suffer from its introduction to commerce will not sit back and await the inevitable. The classical stratagem for a large firm to stay large in these circumstances is to acquire a financial interest in the new type of product - the means chosen being decided by circumstances, notably, the extent of the new firm's protection of its processes by patents, production possibilities in the acquiring firm's factories, and so on. In the case of an active small firm pushing into, say, the jam and preserves 'market' with tea-time packs of frozen, sweetened fruit pulp that are cheaper than jam and obviously going to develop into something big, the big firms in the trade would at once seek to 'take-over' the small firm and thereafter

regulate its growth in their own interests.

Closing the Loopholes

The 'loopholes' previously mentioned consist of a number of characteristics of the demand for a product. Price-elasticity and income-elasticity have already been mentioned briefly. The other characteristics may be listed as:

- a. cross-elasticity of demand, which is concerned with the readiness of consumers to switch to an alternative brand or product if its price falls; and
- b. complementarity of demand, which is concerned with the products' importance in a chain of related demands.

Cross elasticity of demand is given full expression in the buying of fresh fruits and vegetables, because few 'brand loyalties' have yet been formed in this part of the food trade. It is thought to be of more importance in vegetable-buying than fruit-buying, but it also operates in the demand for canned fruits. Take fresh vegetables as a case in point: in anticipation of providing a meal, a housewife may wish to buy two sorts of vegetable, one of which was carrots. In the shop she goes to there are many vegetables on display, including some short-stemmed celery at an obviously advantageous price. So she buys celery in place of carrots. Notwithstanding that the carrots were well grown, well-presented and not over-priced, the housewife's demand switched to celery. If this kind of switching occurs frequently, producers of carrots, however well-organised they are, will find that they cannot raise their total net returns from the crop to an anticipated level. Another way of saying this is that each fresh vegetable is part of a general demand for all fresh vegetables - and there is, of course, a weaker cross-elasticity of demand between fresh vegetables and preserved vegetables.

It will be found from experience that single-product firms that have grown to dominant size have done so in the absence of strong cross-elasticities. A giant firm which found itself cumbered with products for which there were good and readily available cheaper substitutes would necessarily be diversified into an 'empire' covering many products. Mergers of firms would be the order of the day, until finally, perhaps, one company's board of directors was making decisions covering a whole sector of the nation's business.

Complementarity of demand is less menacing than cross-elasticity.

Firms experiencing complementary demand find that the demand for their product is swayed not only by any marketing move of their own, but also by the demand for a product in the consumption of which their product is an adjunct. For example, if a new coating for toffee apples, irresistible to children, were invented, the resulting clamour for apples would be a sort of bonus to a fruit-growing 'firm' which, perhaps, had been trying to promote the sale of apples as fresh fruit. Any form of complementary demand which is important to a large firm will almost certainly be discovered in the course of market research. It is usually not practicable for a firm to secure its position by 'buying in' to every industry contributing to the complementary product. For example, the demand for salad dressing may be complementary to the demand for tomatoes and lettuce. So far as is known, however, no manufacturer of salad dressing is actively participating in tomato and lettuce production, and vice versa.

A knowledge of the extent to which success in marketing depends upon a knowledge of demand should help to make more credible the pioneer work sponsored in its day by the Horticultural Marketing Council. Many of its reports were surveys by market research teams of consumers' reactions to a particular horticultural product. As such, they were most valuable to any firm which was in a position to act on them. The response from the horticultural industry, of course, was not that of a large industrial firm similarly informed. Market-wide surveys are of limited use to firms which cannot operate on a market-wide scale. We are thus thrown back again upon production organisation in horticulture, and we now look at it in terms of market structure.

Market Structure

In modern marketing the knowledge of the buying habits of consumers is complemented by knowledge of (a) the number, size and vigour of the firms producing similar or competing products, and (b) how buyers and sellers organise their dealings with each other - i.e. what is the framework of conventions, sales associations and institutions through which they act.

The structure of a market is a feature of the number of firms, whether buyers or sellers, active in the market in relation to the volume of business transacted. Taking commerce as a whole, there is a great variety of types of confrontation of buyers and sellers. It will do no harm to refer to market structures alien to horticulture, as a contrast to the typical market structure in horticulture. For ease of understanding it is useful to think of the numbers of buyers, or sellers, on the market

as giving the market its characteristics, and - what is far more important - as determining the market power of buyers as a group and sellers as a group. A French jurist^{*}, for example, believes that in his country and in Paris particularly, horticultural producers were originally and perhaps intentionally put in a weak bargaining position in the market by decree. Monarchs took pains to see that Parisians were well-provisioned, and what monarchs did in Paris was copied in the provinces. The declared aim was to 'let abundance be seen' (faire paraître l'abondance), and in pursuance of this aim it was decreed that no sales of produce could be made within a radius of several miles of an authorised market place - all the produce for sale had to come into the market. A single supplier would no doubt have benefitted from this concentration of demand as well as of supply in markets, but in practice individual growers were in competition with each other, assumed the burden of transport, and, furthermore had to be satisfied with lower average prices than was merited because, in the final analysis, they were relatively keen to sell at any price - the alternative being to take the produce away again. As a gesture to consumers, the right of access to market-places was given to the general public: they soon chose to exercise their right by buying-up surpluses left by the trade buyers - which might mean physical relief for producers but lighter pockets on their way home.

A consideration of market structure necessitates the use of several technical terms: most of the terms used here occur also in text-books of economics. Where new terms are used the equivalent text-book term is quoted as well. What the terms used have to describe consists of different arrays of buyers and sellers - almost as if two armies of foot-soldiers were opposing each other on a battlefield. Continuing the analogy, two longdrawn-out lines of troops would engage each other on equal terms, whereas if one side were to concentrate an attack in depth on a section of the opposing long line, the attackers would expect to win some ground. Buyers and sellers are found to have different dispositions of their troops in commerce, so to speak, and some dispositions are tactically superior (for the ends in view) to others.

The analysis of market structure that has stood the test of time is outlined in Table 1. In moving down the table, an increasing number of participants in trading, and hence in price formation and in the terms

* M. Martineau : quoted by M. Delatouche in Comptes Rendu de l'Academie d'Agriculture de France. Séance de 10.vi.64.

of trading, is postulated.

Table 1 Outline Scheme of Different Relationships between
Buyers as a Class and Sellers as a Class

State of the SELLING sector	Number of Participants (firms or individuals)	State of the BUYING sector
Monopoly	ONE	Monopsony
Oligopoly	A FEW (say, five to twenty)	Oligopsony
Myriapoly*	MANY (say, one hundred or more)	Myriapsony*

In the real world, monopoly may face myriapsony, or oligopolists may have to deal with monopsonists. The important thing to remember is, that in passing down the scale of Table 1, buyers and sellers, considered separately, are losing their power to influence the terms on which they will deal. In no case is this control absolute, but a monopolist, for example, may be in a position to influence the trade in his product to his own advantage. A myriapsonist is much less likely to be in a position to influence trade to his own advantage.

In theory there are methods of organising trade between buyers and sellers appropriate to their circumstances. For example, it should be clear that myriapoly and myriapsony have characterised the trade in horticultural produce carried on in wholesale markets. In practice, there will be a strong tendency for any party which feels itself at a disadvantage in trading (i.e. oligopsony facing monopoly) to attempt to strengthen itself so that it can deal with its opposite number as an equal. An example of this is the way in which producers, particularly in the U.S.A., have, in their price negotiations with processors, abandoned the market type of confrontation and turned to a system of direct 'bargaining' between a buyers' association and a sellers' (co-operative) association. Also, of course, pockets of imperfect competition are to be found in overtly atomistically competitive situations. While it must be borne in mind as well that small-scale production is not necessarily subject to atomistic competition. A condition of survival of many small firms is the imperfection of competition in their 'market'. Ideal forms of market organisation have not yet been worked out in practice, but by way of illustration, a further scheme can be presented of what eventuates in the dealings between buyers and sellers when like meets like. Table 2 relates to three 'pure' market structure situations.

* In these terms the new root 'Myria' is introduced. An appropriate term has been wanted for many years, and 'Polypoly' and its analogue were never popular.

Table 2 Outline Scheme of 'Pure' Market Structures

<u>BUYING sector</u>	<u>Result</u>	<u>SELLING sector</u>
Monopoly	no competition	Monopsony
	↓ power bargaining	
Oligopoly	imperfect competition	Oligopsony
	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> collusion between firms </div> <div style="text-align: center;"> ↓ ↓ ↙ ↘ </div> <div style="text-align: center;"> product differentiation </div> </div>	
Myriapoly	atomistic competition	Myriapsony
	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> monopolistic competition </div> <div style="text-align: center;"> ↓ ↓ ↙ ↘ </div> <div style="text-align: center;"> pure competition </div> </div>	

Table 2 complements Table 1 in explaining the characteristics of 'pure' market structures. It shows how radically different marketing organisation is when thousands of participants have to be accommodated from when there are one or only a few participants. Note that it has not yet been established that imperfect competition is 'better' than atomistic competition. So far, there is a presumption that producers stand to gain by the change.

Very briefly, what Table 2 is intended to report is this. There will be no 'market' as normally understood when one buyer and one seller decide terms of trade between them. For example, when a Trade Union meets an Employers' Association, the price of labour, say, is agreed 'across a table'.

When the terms of trade concern only a few sellers or a few buyers, action to promote firms' self-interest becomes feasible, and the firms concerned will try to stifle most kinds of competition. If their products (sellers) or requirements (buyers) are unavoidably interchangeable, they are likely to get together and agree not to make separate agreements with their opposite numbers - buyers or sellers - as the case may be. This is one example of imperfect competition at work. Another example is the trouble that firms will take to make their product, or their demand, less interchangeable with others than it might be. The familiar device of 'branding' goods is one way of doing this. Imperfect competition, accompanied by growth in individual firms, will result in a slow abandonment of the 'atomistic' (i.e. horticultural) type of market, because neither its price-setting function nor its bulk-breaking function are required to the former extent. The firms themselves will decide upon conditions of trading, whereas they formerly accepted the disciplines of the market.

Where, however, a large number of buyers and a large number of sellers wish to trade with each other, a market-place of some sort seems inevitable. In other words, a market is appropriate to atomistic competition. When numbers of small suppliers are offering the same kind of produce, and numbers of small buyers are free to make choices, pure competition is in operation. It is often thought that horticultural producers sell in a purely competitive market, and that this accounts for the low level of prices of horticultural produce. Relative to that of many other industries, the market structure for horticultural is still atomistically competitive. At the same time, monopolistic competition exists in the largest wholesale markets; and product differentiation is rife throughout the industry in the form of local retailing of produce. According to Table 2, horticultural producers will be at a disadvantage vis-a-vis monopolistically competitive buyers. In theory (as will be shown at a later stage) market forces will conspire to realise what is a notionally 'fair' or equilibrium price. At the same time it is shown that dessert apple producers in particular may have something to gain if they can get away from an atomistic structure.

Marketing strategy and market structure thus have real meaning for horticultural producers: the big question is how far the industrial approach is appropriate, and how much it will need to be modified to suit horticulture's needs. Already, some associations of fruit growers (Home Grown Fruits Limited) are beginning an independent marketing strategy: and there is at least one example of monopolistic competition. On the whole, however, progress in horticulture towards industrial strategy and structure in marketing has been and will remain slow. Horticulture is a long way from realising that degree of producers' control of production and marketing which underwrites positive and successful marketing.

Forms of Competition

Competition is an overloaded word in economics and marketing: it can have several different meanings. So far in this account it has been used in the general sense of a constraint on a buyer's or seller's freedom of action imposed by the presence of other buyers or sellers - i.e. that a seller may not be able to get the price he wants for, say, his asparagus because buyers consider it not worth the asking price, and can buy more cheaply from one of the other growers. So the particular grower is not free to sell at his intended price. In short, competition tends to keep everyone in line. Two ways in which it can operate are now described.

We deal first with price competition (which is part of the contents

of any economic text book) and then with innovistic competition. This term needs some explanation. The preceding account of marketing in its highest state of development was not intended to inspire horticultural producers to blind emulation of the apparently favoured large manufacturing businesses. The latter can in no sense rest on their laurels. The economic treadmill is the same in principle for all producers, but it takes different forms. Producers (manufacturers) who unlike horticulturists, have a say in the retail prices of their products are kept on their toes by the operation of innovistic competition. This form of competition can be just as harassing as can the better-known form of price competition that the smaller producer usually has to contend with.

Price Competition

Much of classical economic theory, no doubt founded on observation, was formulated in the belief that price was all-important in determining a consumer's decision about buying or rejecting a product. And where cross-elasticities abounded the price of a product relative to that of good alternatives (the relative price) was even more important than the actual price. A highly-priced product was necessarily a product with a limited market, because consumers did not have the money to buy many expensive products. Classical theory further implied that any departure from a ruling level of price (i.e. a change in relative price) was likely to have considerable effect upon demand. Assuming an homogeneous product, and knowledge of prices in the market by consumers, an attempt by a seller to ask more than the market price would deter his customary buyers and send them elsewhere; whilst if one seller reduced his selling price, in the same circumstances, because he had a lot to sell, he would attract a great deal more custom, but he would also depress prices throughout the market. In this way, price is an equilibrating agent between supply and demand.

Buying and selling in the real world, as everyone knows, does not take place under the idealised assumptions of economic theory. In the real world there are manifold impediments (imperfections) to the working-out of the direct effects of pure price competition. For instance, very few market goods - detergents, say - are homogeneous. Where homogeneity would naturally occur, manufacturers' first efforts will be to create imperfections - slight differences that appeal to one section of consumers - so that they (the manufacturers) are spared the worst effects of price competition. But even with market goods which are fully interchangeable, such as similar packets of the same brand of tea, retail prices can vary (in the absence of resale price maintenance agreements). One good reason for the existence at retail of several prices for the

same article is that varying amounts of service are offered with the product itself. A more spacious shop in an upper-class area, wherein shoppers can buy in greater comfort and with a greater sense of well-being, is likely to have high selling prices. Prices may also be high in contrasting circumstances: small turnover, involuntary credit and long hours all lead to high retail mark-up; it is only the fact that their customers could not buy as readily elsewhere (constraint on competition) that supports this sort of pricing.

Distance is another factor in the consumer's evaluation of service. The occupier of remote premises may well have to sell at reduced prices in order to induce consumers who think the saving worthwhile to come and make their purchases there. Most consumers, no doubt, will on most occasions prefer to pay a normal price and avoid the dis-service of having to travel to get the saving. These are but two examples of the gamut of subtle personal and non-personal distinctions which are germane to marketing where price competition applies. In this context the idea of one market price for all produce of the same sort is erroneous - fortunately, it is now a thing of the past. If a market is behaving properly it is throwing up different prices for either grossly or subtly different consignments. It is thus open to any small supplier to offset price competition, in an individual way, even under a cloak of atomistically competitive trading.

It seems to be evident, then, that variation within the supply of a product could be a source of strength to sellers: if the variations in production just coincided with the range and extent of consumers' desires, a market could not be in a better state. The drawbacks to such an approach to marketing in practice are (a) that production and consumption are unlikely to be harmonised in detail, and (b) that consumers' preferences are not always experienced strongly enough to make it worth while adapting production to suit them. In practice, the more notable and widespread preferences held in common among consumers are catered for, the remainder are met by chance or not at all.

Once it is realised that aggregate demand for a product is a composite demand, a composite (or varied) supply of a product is seen to be appropriate to the type of demand. Standardisation can properly apply to units within demand, but any extension of the principle of standardisation towards uniformity of product is likely to have a deleterious effect upon aggregate demand.

The fact that at the present time some of the pressures in

horticultural marketing are inclining standardisation towards uniformity negates, to some extent, the free play of consumers' preferences and perhaps accounts for the queues at the greengrocers'. Actual marketing is a compromise between meeting consumers' preferences and the cost of doing so. It is very expensive to try to meet too many preferences. For example, there are times when a consumer would like to buy a pound of dessert plums all equally ripe: there are other times when the same consumer might prefer the plums to ripen separately one after another. It is thus apparent that supermarket trading offers some service with its lower prices but not always enough service. In the example above, a private retailer might well provide the service of picking out the plums the consumer particularly wanted. And 'one-stop shopping' is a mockery for the housewife who has to go elsewhere to buy apples for her children.

The example given above illustrates another important principle. It shows how economic pressure, in the form of competition by new products and greater output of products, operates to restrict consumers' choice in a sector of consumption at the same time as providing new sectors. This pressure finds expression as a drive for standardisation: but standardisation is no more than a false front on an economic phenomenon. Standardisation is a traders' device: narrowing of choice is the economic reality or necessity, and this is a matter of degree. Mr. J.D. Sainsbury is on record* as saying that he wants all his consumer-units of produce identical so that none shall be seen to be inferior and get left on the shelf. Yet in his chickens and his cuts of ham he is prepared to give his customers some latitude and some choice. Standardisation in this context negates producers' market power. When extensions of standardisation cease to promise higher profits, the self-same firms whose present strategy is to foster standardisation will be seeking ways of differentiation of produce - particularly if consumers have grown richer in the meantime and there is less pressure upon distributors' margins. Thus, variety is a more durable strategy than standardisation: but standardisation may have the limelight during the transference from a consumer-led to a producer-option type of production.

Standardisation of intrinsically variable produce without financial advantage is thus not a pre-requisite of mass consumption. The more fundamental virtue is rather high suitability of product for purpose, or, more relative value for money. There is a mass market for a vast number of products. But the type of products which can be made by the million in unchanged form, to sell by the million at the same retail price is limited to cheap, expendable articles. Large-scale consumption of other

* in his address to the British Growers Look Ahead Conference, 1968.

products not on a price-incentive basis is achieved only by varying the type of appeal a product makes. By this token, no one chain of retail stores generates mass consumption, although the combined sales of all chain stores might constitute a mass market. The point at issue is that it takes several kinds of retail outlet to induce all effective buyers to make their purchases: mass consumption is not mass preference: a uniform commodity or product is not part of the economic significance of consumers' requirements: it may, however, be significant in distribution, particularly in reducing costs of distribution.

It seems to follow, then, in theory, that distributors' interests do not coincide with consumers' desires or producers' wishes. In practice, this could mean that in horticulture distributors take over from producers the kind of 'management' of supply and of consumers referred to in Section I as the prerogative of manufacturers. Again, the atomistic state of horticultural production disposes to this actuation; and, unfortunately, if distributors' notions are not the best, producers will also suffer.

Innovistic Competition

This development arises as a consequence of (a) oligopolistic market structure, (b) an extending range of consumption, and (c) consumers' increasing capacity to indulge their preferences. It has already been explained how imperfect competition operates to shield producers from the worst effects of price competition. Producers individually have, in theory, a small capacity for keeping prices up, and if all producers are like minded, there will be the notion of a 'fair' market price for the industry's products.

Having got prices as high as the market will bear, manufacturers are particularly sensitive to any fall in price. This is because a big business is unwieldy. If a big-business firm has grown into an accustomed position in its market it must at all costs strive to retain (at best) that position. If a firm's revenue begins to fall, its profits will be more severely reduced, because costs cannot be reduced pro rata to sales. Consequently, under established oligopoly, prices will be regarded as sacrosanct by the few firms concerned. Each firm will have a vital interest in its share of the market, and will try to win more customers by offering more satisfaction in purchase (it is probably misleading to say better value) at the ruling price. Having cleverly induced consumers to buy his product instead of a competitor's at the same price, a manufacturer's trials, however, have only just begun.

He will thereafter have to keep abreast of changes in consumers' preferences and of his competitors' innovations and improvements to their products. Firms engaging in innovistic competition are unlikely to contest each other's territory in the traditional way, that is, with price cuts - this is the last thing they want.

The attraction of new forms of consumption which extend the range of satisfactions that consumers can experience, is thought to have the effect of dulling consumers' desires for longer-established forms of consumption. Consequently, if demand eases in the way suggested, some prices will tend to fall, or remain steady when some others are rising. This is a phenomenon of which horticultural producers are only too well aware. And the fact that market structure does not lend itself to imperfect competition and recourse to innovistic competition no doubt has a bearing upon the course and level of prices of horticultural produce in the last twenty years. In other words, producers do not have much opportunity to 'refresh the image' of their product in consumers' minds.

However, horticultural producers have benefited from the third factor mentioned above, the increased capacity for indulgence of individual preferences. Consumers are now less inclined than formerly to be deterred from buying anything because its price is thought to be high, provided the product complies with the consumers' idea of value for money. More frequent small extravagances are also part of the new situation. Producers have responded to this development in demand by offering better quality of produce, and average prices are certainly higher than they otherwise would be. In fact, the opportunity to pay a slightly higher price for slightly higher satisfaction in consumption, in association with a process of rejecting a somewhat inferior product, may induce additional consumption.

Price still has meaning under innovistic competition but not the customary meaning. Whilst firms are engaged in building a market, price reductions will be in order where demand is still elastic: but once a product has, so to speak, matured and established itself in the economy, price cuts which are meant to give consumers an incentive to switch brands or products will be a last resort. Relative price having lost its impact upon consumers, price is taken as given, and marketing strategy, in the case of many food products is nowadays directed towards maintaining or increasing consumers' loyalty to a brand or product. To this end, the product must appear from time to time in an improved package, its quality must be seen to be improving all the time, special-purpose packs must be introduced, and so on. Innovistic competition leads to a mounting scale of expenditure to maintain a level of revenue, but this is preferred by

most large firms to a freely-determined market (selling) price and possibly lower production and marketing costs. The former arrangement gives the firm more control of its own destiny.

If market power for growers is ruled out, what scope is there for improving their position by other means? In Parts II and III, the growers' relations with consumers and growers' capacity for helping themselves are respectively discussed.

Propositions - Part I

1. Market power is just a dream as far as the typical grower is concerned.
2. Pressure towards standardisation is not in the growers' best interests.
3. Producers' associations in horticulture can act like an oligopolist would in industrial marketing.
4. Consumers' buying of horticultural produce could be made more interesting if producers themselves were sufficiently interested.

PART II. MARKET ACCEPTANCE OF ENGLISH DESSERT APPLES

Section 1. Growth of the Market

The Supply of Dessert Apples To judge from appearances, the market for English dessert apples is in a healthy state. Within the last ten years they have certainly become a more attractive product, and give distributors greater satisfaction in handling them. Size and colour of fruit is better than ever before. At the same time, it is possible that the good returns per acre in 1965 and 1966 have been realised from crops below their peak level of 1964 (i.e. there has been a relative shortage). Fears of over-production have been revived in anticipation of the next full crop. When today's bearing trees were planted growers could not have taken the Common Market into their reckoning. Now the government of the day is persisting in attempts to gain entry to the European Economic Community, much freer entry of foreign apples to British markets in the future has to be allowed for. The question looming is "How will British growers fare when their market is wide open?" A tentative answer is given in Part IV.

It is customary to argue that English growers cannot hope to compete in production efficiency with French and Italian growers because of the latter's superior yields per acre. It is probably true that, on average, a box of graded and packed apples cost less ex-packhouse on the continent than in the U.K., but it has not yet been shown that the good English grower will be priced out of his own market if he turns to higher-yielding varieties. But even if the English grower is not competitive in price (i.e. delivered cost per box to U.K. consumers) this may not be important if he is competitive in market acceptance. There has not been a repetition of the plague of small apples that were on the market in 1963, and growers should have learned the value of fruit thinning. If they produce what a majority of consumers prefer, and the alternatives are cheaper, consumers will think a small extra price worth paying and English growers can retain the lion's share of the British market. To do so, of course, they will have to be reasonably efficient producers; and not all English growers are reasonably efficient. A number of growers fail to grow adequate quantity or quality of fruit sufficiently regularly: their costs per unit will be high, and, because the consumers' alternative to a small, green English apple may well be a more attractive-looking imported apple, growers with a low quality crop can only expect a low average price: their future largely depends upon having especially favourable outlets; for large markets will reject them as suppliers.

Within markets, however, evidence of the compositeness of demand

for dessert apples has been accumulating in the last few years. Overall prices have satisfied most growers, but in each year one category of apple has sold at relatively high price each year - say, large, or small or highly-coloured or uncoloured apples. The one-time best size of apple ($2\frac{3}{8}$ "- $2\frac{1}{2}$ " diameter for Cox) has lost some of its former premium in price because it is not as scarce as it was and more consumers now prefer a slightly larger fruit. There is a saying in produce markets that once a 'line' is known to be scarce, buyers' interest in it increases immediately (and vice versa) and its price becomes distorted relative to the amount available. In this way there is a 'market within a market' on a small scale. This is one of the features that tends to be suppressed when the number of participants in trading is reduced and 'block' buying and 'block' selling take over.

The fact that the demand for English dessert apples is still a composite demand will, in due course, complicate judgement on whether there is or is not over-production of dessert apples. Over-production is an emotive word. It is considered more fully in a later chapter. For the present, it may be said that production of, say, colourless small apples in excess of the demand from buyers of that sort of apple is not truly over-production of apples. It is more in the nature of a technical maladjustment of supply to demand. The serious over-production situation comes when the industry has long-term excess capacity in the sense that sheer volume of produce will invariably depress prices of all categories of dessert apples to an uneconomic level.

An appraisal of the present position of English dessert apples in the United Kingdom market is given an historical treatment in this text. We look first at the volume of supply - the quantitative aspects - and then at the composition of supply - the qualitative aspects - and only then (in Section II) enter upon the discussion of the role of marketing strategy. Strategy is taken up again, in a more practical way, in Part IV.

A. Quantitative Aspects of Supply

Before proceeding to a summary of thirty years' development in the volume of supply, comment must be made upon the way in which figures for volume of fruit become known, and upon the accuracy of the figures obtained. Neither of these matters is out of place in a work on horticultural marketing. Existing volume of production (or, output) is a starting-point of most price-analysis projects. Anyone wanting to use a set of figures which described supply and demand in a market would naturally ask: "How were the figures obtained?", followed by "How correct are they?"

Fruit Crop Estimation

Very few people have seen the fruit-crop estimating process in action. The first thing to be learned is that any figures of national apple production that are published are estimates. There is no stage in the marketing of any of the home-grown fruit crops at which the fruit passes a "counter" as does imported fruit in the Customs sheds at the sea- and air-ports. There is good reason for checking on deliveries of fruit from abroad because the fruit may be dutiable at a certain rate per unit. How many units are there in the consignment? The expense of similarly recording the movement of English fruit into commerce through the many ways which it travels to consumers - by wholesale markets, chain stores' depots, supermarkets' back doors and greengrocers' front doors, for example - rules out any attempt actually to establish how much fruit reaches retailers. Instead, an assessment is made of the amount of fruit that is grown, and for this purpose the crop(s) on the tree is estimated at the time it is ready for picking. This estimate gives at least an upper limit to the amount of home-grown fruit available for consumption - it cannot be more than was grown! The amount which passes into consumption will be reduced by (a) fruit not sold by the grower, and (b) wastage and spoilage of fruit during distribution. The estimation procedure can allow for the fruit grown but not picked and the fruit picked but not sold: but once off the farm the fruit is out of the estimators' surveillance. At one time, there was thought to be significant (i.e. 2% to 10% in individual cases) wastage of horticultural produce in retailers' shops, although now there is a higher general standard of quality, instances of high wastage are rare. In spite of its shortcomings the orchard basis of estimation is the most satisfactory method yet devised in countries where there are no points of concentrated handling of fruit. Given a limited number of places of sale and a unified marketing administration - as in Holland - the amount of home-grown fruit passing into distributors' hands can be known with certainty.

Production of the estimates of national production of fruit each year in Great Britain are in the hands of the Ministry of Agriculture, Fisheries and Food. At the Ministry's instigation, each fruit growing county in England and Wales has a Crop Intelligence Committee. The members of the Committee are growers and others who have first-hand experience of fruit growing and marketing. Each member brings knowledge of the fruit crop in a certain area, or knowledge of deliveries to market and market conditions, to the Committee's regular meetings. Collectively, each county committee is able at the start of each season, to report upon the prospects for fruit crops, adjusting its expectations as the season progresses in accordance with what has been observed about

the development of the crop. By long usage, the 'look' of the fruit trees as observed can be translated into a notion about the size of the crop.

The key concepts in moving from a knowledge of what the crop looks like on the trees to being able to make an estimate of a national 'Gross Production' of separate orchard fruits are the Standard Maximum Yield and the Crop Index. This is the way in which the Ministry quantifies the county committees' observations. It also leads into a consideration of the second preliminary topic for discussion - the accuracy of the estimates. For the purpose of indicating what the actual yield of fruit in each county is (this is not the Committees' sole function), the Ministry asks Committees to make their estimates in the form of an index (or percentage) of the Standard Maximum Yield for their county. This yield is the average yield per acre which would be realised under the best local growing conditions likely to be experienced - assuming, in fact, that every producer has a good crop, with no losses from frost, and minimal effect from pests and diseases. Actual yields of orchard fruits vary greatly from farm to farm, of course, but it is thought that the standard maximum yield achieves the required blend of the yields of old trees and young trees, on good farms and neglected farms, for each important variety or group of varieties of apple, pear, plum and cherry in the area concerned. With their knowledge of current prospects and conditions, in relation to the notion of a standard maximum yield, committees are able to judge how much of the maximum yield will be realised in each year. They express this as a proportion of the maximum and call it the Crop Index.

When in possession of its county yield indices, the Ministry is able, through its knowledge of the planted area of the crop (derived from the annual 4th June acreage returns) to multiply the estimate of yield and acreage each year and thereby estimate the gross production in the leading fruit growing counties. In simplified, hypothetical terms - that is, without the refinements added in practice - the exercise is carried out in Table 3.

Table 3. Example of Estimate of National Gross Production of Dessert Apples, 19.. Variety: Laxton's Superb

County	Acreage of Varieties	Standard maximum Yield (tons/acre)	Crop Index	Average yield (tons/acre)	Gross production (tons)
Kent	2,000	8	75	6	12,000
Essex	1,500	7½	80	6	9,000
(all other producing counties	..	..	..	..	say 15,000
Sussex	500	7	70	4.9	2,450
National gross production of variety					38,450

As regards the accuracy of the statements obtained by this method, it should be noted that the gross production estimates are the product of one determinate quantity (acreage) and one indeterminate quantity (yield per acre). The yield per acre is actually derived from two indeterminate quantities, (standard maximum yield and percentage realisation of maximum) for neither is known with any degree of certainty. It is just possible, therefore, that any bias in the yield estimation could be compounded. Some fruit growers are convinced that there is a bias, and that the estimates of national production of dessert apples are exaggerated as a result. The French figures for their fruit production have been similarly criticised. Although growers are prone to make generalisations on the basis of their own experience, it has to be conceded that the committee's experience will tend to be more in the field of good practice than of bad, and as a result their members may have inflated notions of average yields.

While it may be true that, for a period starting in 1947, estimates of gross production of fruit were on the high side, it is likely that standard maximum yield figures have not kept pace with the rise in average productivity of orchards in the last five years. In other words, if the estimates were high in the post-war period they are now likely to be closer to reality than before: and there is no doubt that Committees gauge very well the changes from one year to the next that occur in the amount of dessert apples produced. For this reason the recent estimates of 'net production' or production of fruit having value, which are obtained from gross production estimates with wastage of all kinds deducted, can be used with reasonable confidence.

The Ministry's Orchard Census of November 1966 asked producers to state their production of fruit alongside the acreage and age of their orchards. Except for fruit which is sold on the trees, this census return will provide immeasurably greater knowledge of fruit yields than has been available previously and will give a firm basis (for one year) for future estimates.

Market Development Since 1932

The present-day scale of production of dessert apples in Britain is not of long standing. Its origins go back more than thirty years, and were not impressive prior to 1939. If the past has any bearing on the future, there is something to be learned from a backward looking view of development in the last thirty-five years. Prior to 1932, North American apples were most English consumers' choice for eating. These were of good average quality, and there was little else to choose from.

In 1932, to help to restore the nation's external finances at the time of the Great Depression (1929-1932), an import duty was imposed on apples from the U.S.A. but not from the Commonwealth countries (e.g. Canada) following the Ottawa Agreement of that year. Fewer U.S. apples were seen here for the next four years, and Britain's shortage of dollars after the Second World War continued the virtual banishment of U.S. apples from the U.K. market.

It was after 1932 that the pioneers of specialised dessert apple growing in England saw their chance and began planting. Development after 1945 was on a much larger scale, and had a different justification. The Ottawa Agreement did not measurably reduce total imports of dessert apples: its effect was to give Canadian apples a larger share of the market, at the expense, temporarily, of U.S. apples. Among the U.S. apples thus restricted in quantity were a few high-priced varieties such as the Oregon Newtown Pippin. Whether by accident or design, the English Cox's Orange Pippin grown before 1939 had a place in the market as a substitute for the formerly high-priced apples no longer available - with this difference, that the Cox was not a long-keeping apple. After 1945, however, the market situation was totally different. For the next five years, annual imports of apples were some 225,000 tons less than in the 1930's. There was a shortage of apples of all sorts, and for a time, the market was wide open to British growers. Keen as they were to supply the goods, producers' response was necessarily slow. One may suppose that had fruit growing had industrial characteristics, a few large firms in similar circumstances would have boosted production, undertaken sales promotion - successfully according to the Bureau of Commercial Research - and won much earlier the market position of English apples to which producers are just now aspiring.

From the consumers' point of view - and this is where we look for effects upon demand - the pre 1932 situation was a sort of Golden Age of apples. Fully as many were sold during the autumn and winter at that time as nowadays, although the population was smaller and personal incomes much lower than today. (It is in circumstances like this that the reliability of recent production estimates becomes an important matter. We are fairly sure of national levels of apple consumption at times when they were nearly all imported. We cannot be equally sure that consumption is low, by comparison, today. Home production may be underestimated.) Prices then were relatively high by modern standards - largely, it is thought, because there were then fewer alternative food products to apples. If we can believe the figures, only after a lapse of twenty-seven years (1939 to 1966) is autumn and winter consumption back to its pre-war national level. Consumption per head must be lower.

In this period of a quarter of a century there must have been many instances of ingrained buying of apples failing to pass from one generation to the next.

Thus, while consumption of apples during the spring and summer months has increased about 50 per cent in the same period, English growers have succeeded in restoring availability of apples during autumn and early winter to its long-term pre-war level. It is too early yet to say that the dessert apple market has thereby been reconstructed in an enduring form. Some further change must be expected if and when consumers are allowed a wider choice. Not that the pre-1932 situation is likely to recur: the North American varieties, which appeal to some consumers, can now be had from almost all European countries.

B. Qualitative Aspects of Supply

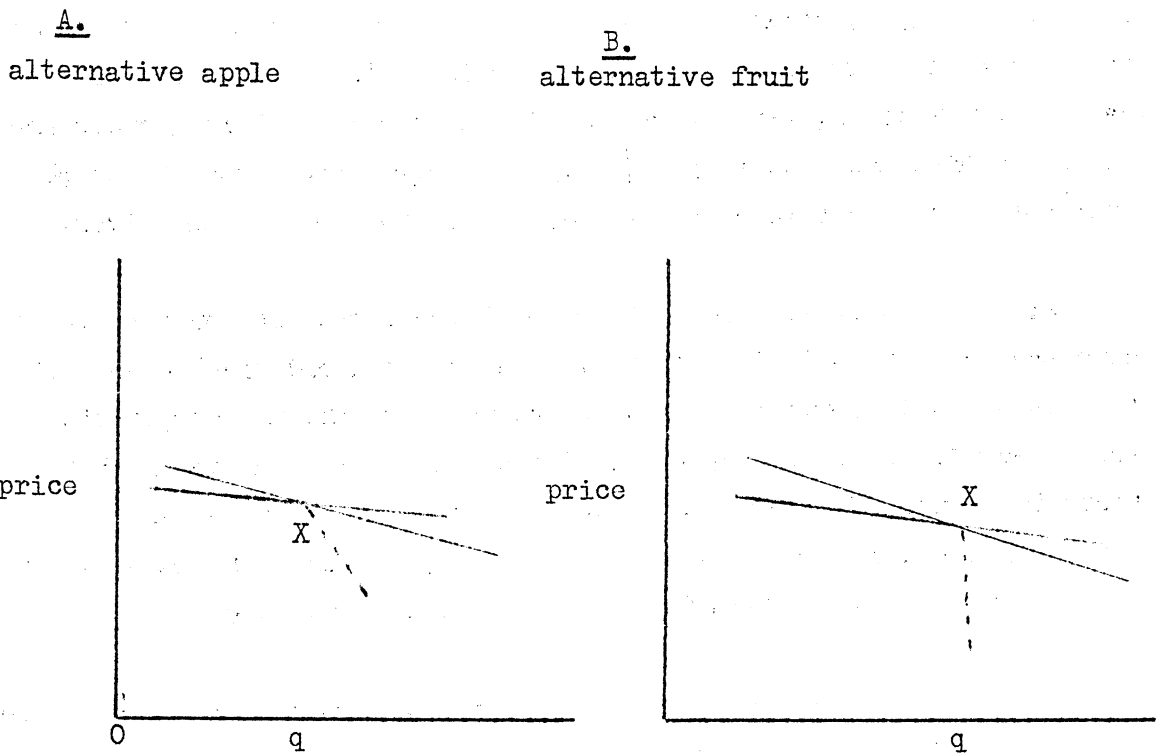
Thus a relative but limited success for the English dessert apple has been demonstrated. English-grown varieties of English origin have certainly sold. Other varieties, at a different time of year, have sold better. It is time to ask why demand for English apples has not been higher, and which market factors, if any, may be putting the brake on demand and therefore deserving of attention as a matter of market strategy.

To put the question in this way begs the larger question of availability of apples. Statistics show that apple consumption per head in Britain is low in comparison with that of other industrialised nations, and is growing only slowly, if at all. We look at the "plateau" in consumption of twenty years' duration in the U.S.A., and conclude that there is a ceiling to apple consumption. There probably is such a ceiling, but equally probably consumption in Britain is not at its ceiling. What the statistics for Britain record, indirectly is production. It is very much to the horticultural industry's benefit and an enviable state for producers to be in, that they can sell all they grow. With minor exceptions - and in the case of dessert apples one may refer to the surplus of Worcester Pearmain for two or three years around 1963 - English growers produce without wastage of their crop. Looking at the world at large this is little short of a phenomenon.

If maximum consumption be an aim in marketing, it is apparent that realisation of the aim can only be recognised in the appearance of regular surpluses. If Britain were self-sufficient in dessert apples, occasional national surpluses would perhaps not matter very much, because producers' average prices for the fruit they sold would, in the long term, be

adequate. Once the British market is thrown open, doubtless some wastage of fruit destined for market must be anticipated. Any wastage may well be more serious for English growers when they have only a share in the national market, because then their prices will be partly determined by the prices of complementary apples and a price 'war' will tend to be destructive. In a market situation of consumers being more ready to buy another (cheaper) apple than another sort of fruit when English apples have a certain price, a lower price is likely to be reached at a smaller output of English apples than in a market situation of the alternative to an English apple being another sort of fruit. This is explained in demand-and-supply terms in Figure 2.

Figure 2. An Effect of Market-sharing upon Pricing of English Dessert Apples



- the distance Oqa is greater than the distance Oqb

Diagram A purports to show how the attempt to sell more English apples when they have only a share of the market will produce a price, X, at a comparatively low quantity marketed. The heavy black line shows the demand curve for the product until it meets competition from the alternative - an apple in diagram A or, say, peaches in diagram B. As more of the two products continue to be offered, the price of apples falls in accordance with the broken line. Up to the present time, English

growers have tended to set limits on consumption by not over-producing. It is argued in Chapter III that it is better for producers to stop short of maximum consumption: and to engineer this when a market is shared calls for considerable powers of supply management. For the present we are mainly concerned with the difficulty of measuring actual consumption.

The apparent hesitancy of the British growers to 'test' the market is more a matter of accident (or bad luck!) than design. The relative shortage of English dessert apples can be explained by: (i) a short marketing season for the potentially popular and cheap variety (e.g. Worcester Pearmain), (ii) concentration in production upon a low-yielding, high-cost variety (Cox's Orange Pippin) and (iii) a belief that high yields of any variety were not practicable under English conditions. Thus, a variety of apple which is cheap to grow and good to eat does not have pride of place in English apple-growing: the lack of such a variety helps to explain the consumption statistics. Many growers are aware of this, and what they fear most is competition from the supply from abroad of the type of apple they failed to produce themselves.

If they could have their choice most fruit growers would no doubt have preferred to sell dessert apples in the 'bad old days' - when there were fewer food products available, and nothing like the competition from sweetmeats, ice cream, prepared foods and meals and so on that there is today. The demand for apples is not what it once was because consumers now have more alternative ways of providing for themselves the satisfaction in consumption that dessert apples used to give.

We can account in this way for most of the changed market situation for dessert apples. Consumers can now spend more money on other things. Almost wholly, however, the alternatives are more expensive. The contemporary difference between Britain and some other countries is that in other countries apple consumption has expanded on the basis of comparatively cheap apples. In France, for example, apparent consumption of dessert apples is more than twice that in Britain during October, prices being about two-thirds of the British. Some change from the 1920's and 30's was necessary, because some varieties popular then would not sell today. In the 1930's there were clearly-defined social and income classes, and the apple supply was harmonized with the class structure. Before the time of the Ottawa Agreement, the composition and the relative prices per bushel of constituent parts of the dessert apple supply were as follows: (Table 4).

Table 4. Composition of the Autumn/Winter
Supply of Dessert Apples c.1930

<u>Source and Variety</u>	<u>Amount (tons)</u>	<u>Price per Bushel</u>	
		<u>(s.</u>	<u>d.)</u>
English: Cox's Orange Pippin	7,000	21.	0.
U.S.A.: Newtown Pippin } MacIntosh Red }-	88,500	13.	8.
British Columbia: Jonathan } MacIntosh Red }-	55,000	11.	9.
England: Worcester Pearmain	26,000	10.	0.
Nova Scotia: Baldwin } Ribston Pippin }-	43,500	8.	10.
	<hr/> 220,000 *		

Source: R.R.W. Folley. The Economic Background to Apple Marketing in Great Britain. 1957 (unpublished).

* some 85,000 tons of summer (Australian and New Zealand) apples completed the supply.

In those days, presumably, a policy of widening the market by having about one-third of supplies cheaply priced, was an important factor in inducing high consumption.

Is the present policy equally appropriate to the needs of the 1960's? The suitability of the supply of English dessert apples is now considered in greater detail under the headings of (a) range in quality, (b) range in variety, and (c) price, and the strength of the English growers' position is considered before the weakness in each case.

Quality Obviously, consumers having become wealthier and 'choosier' in the last thirty years, it was a good move to concentrate upon quality - which is partly a matter of quality in eating flavour and flavour and freshness and partly good appearance. To concentrate so largely upon Cox's Orange Pippin for most of the season satisfied the consumers who wanted a good eating apple, but the fact that not all producers could supply a good-looking sample left something lacking in total satisfaction from the purchase. And the stress which distributors invariably put upon appearance has not helped this variety. It is unrealistic to say that Cox as the mainstay was not enough: its very success pushed other varieties into the background - Cox was far and away the best variety available: nevertheless, in the general terms of the present argument one or two satellite main season varieties would have been welcome. Cox is often rejected by consumers who like a soft-fleshed apple, and the down-graded, green or small Cox is not everyone's idea of a cheap apple.

Variety. It is unrealistic, too, to say that English producers have failed to supply a good keeping dessert apple. Until the Golden Delicious variety came along there was no variety which could be considered to have palatable ripeness all through the marketing season. In pursuit of the 'freshness' dimension of fruit quality, the dessert apple trade has utilised a succession of varieties. Arguing from first principles, this should be a source of strength to producers. Consumers are able to eat apples that are always in their prime. Here is a good opportunity for 'marketing' as outlined in Part 1 - i.e. to educate consumers about the progression of varieties and sustain their interest in consumption. Unfortunately, marketing control has not been strong enough, or publicity loud enough, for producers to benefit much from leading consumers through the delights of a succession of varieties. There may not be general agreement that the varieties suitable for such a programme are actually available. And, of course, the programme for consumption would have only a short life: as matters stand, it would have to peter out with the advent of Cox after only eight weeks of marketing.

Price. It will be affirmed at a later stage that English dessert-apple growing is still in the formative stage. It has so far grown up under the shelter of restricted imports during the main marketing season. For most of the period since 1945, prices of apples in British markets have been high in terms of European prices. A high price per bushel was thought necessary to compensate the English producers for their low yield. English producers' yields per acre are increasing, but are still relatively low internationally other than for Cox: the best Cox growers are competitive with any in the world. It is a mistake to think that high yields must always be associated with the ability to supply fruit at low market prices. For example, very high yields do not reduce unit costs so much in proportion to high yields as high yields do in proportion to low yields. And the costs in the orchard are perhaps only 20 per cent of the total cost of foreign fruit when packed and delivered to the English distributor.

Failings. In short, probably more than half the supply of English Cox's was becoming competitive on a world scale until 1966, when new low levels of price were experienced in Western Europe. What does this mean for English growers? Is it good enough? Cox has apparently been a boon to English growers. It has dominated the market for English apples and generated a widespread preference for this variety. English producers have thus created imperfections in competition with other suppliers, to their own advantage; but since this differentiation of Cox has not been 'won' so to speak, and producers are in no way organised to exploit or

defend their share of the market, there is no similarity with an industrial market situation.

On the other hand, consumers have had precious little choice. Cox has not established itself in competition with other good varieties and seems to be important solely among English varieties. That is, exporters of apples to Britain have not met the English consumers' apparent preference for this variety in anything like the same degree as English growers. South Africa, for example, includes less than 10 per cent of Cox in her early summer deliveries but gets higher average wholesale prices per bushel than the English grower does for his Cox. English growers must surely begin to enquire then, how far a variety of apple that could be produced at lower unit cost than Cox could earn them the equivalent revenue or profit.

In the present situation, production of Cox will go on increasing until the consumers who are setting its market price are those who buy without discretion (i.e. those who just want an apple). When this happens any former element of preference by the buyer will have been lost, and the price will be that much lower. Producers will, in effect, be 'giving away' the element of greater satisfaction in purchase which they originally set out to supply. Utilising what we know of the composite nature of demand, it can be inferred that when apples more appropriate to separate purchases are available, some Cox purchases will be relinquished. We can anticipate that Cox will slowly revert towards its place as a premium variety, and that some growers will in the meantime have taken up production of a rather inferior variety which yields 600 bushels an acre as a normal yield.

The Need for Marketing Strategy

Reference can be made again at this point to the need for good statistics of production and consumption, and the related prices. In this context there is a presumption that the industry must wait until the government can provide a quick and reliable guide to producers - that is, a long time. Marketing, however, is more often than not a firm's endeavour; and it is open to any large fruit marketing concern to prepare its own market statistics. They will not be ideal, but they will serve. Ideally, what is required is answers to questions about the whole field of trading that sooner or later an analyst will come up against. For instance, is demand really as volatile as it is said to be ... and how volatile is that? We do not know, for example, whether a slack day's trading means 5 per cent or 15 per cent fewer apples sold than is normal

for the day of the week in question. Neither do we know the extent to which volumes are sold are fairly constant and prices the variable element. Only if there were perfect competition between commission salesmen would one firm's experiences be typical of the whole market. Progress towards price stabilisation is also handicapped by the relative ignorance about market movements. Economists would like to know whether there was, for example, a typically frequent and widespread situation of short-term price instability over a four-day period, or a three-day period: because, if this were so, a stable price over the three or four days might serve just as well and suppress the side-effects of instability.

Without this information producers are in no position to come to conclusions about the elements of a common marketing strategy. The proper field of study for a marketing strategy is the dessert apple market, not the supply of English dessert apples. As regards the whole market, two relevant, related and largely unanswered questions are:

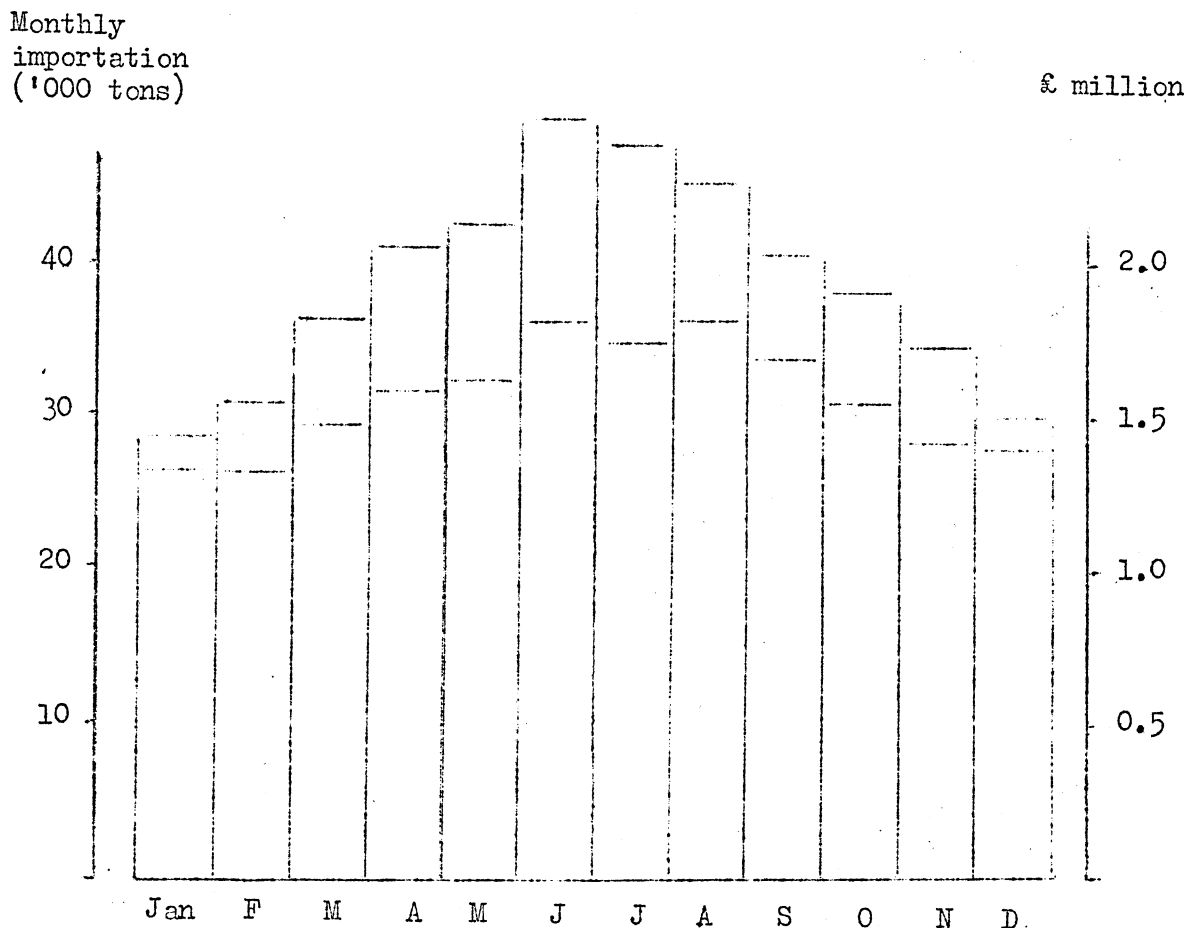
- (a) How strong is consumers' demand for non-Cox apples?
- (b) Is spring or autumn the natural time for eating apples? and
- (c) Should English producers be sounding-out a much-extended season, or are apples easiest to sell during the autumn and winter? Are apples prized more highly in season, or out-of-season?

Simple as these questions seem, they are difficult to answer. For one thing, the supply of all fruits cannot be overlooked in trying to answer them. Consumers will, perhaps take apples in spring when they could not in autumn because in spring there is less fruit of all sorts available. In autumn, when there are (usually) plenty of apples there will also be more opportunity to buy other fruits. It is not very satisfactory to know this sort of 'conditional' demand. If demand for apples in spring really is weak, apple-growers will be vulnerable to increases of supply of other fruits and the demand for apples will not be as strong as the figures represent. In Part III it is suggested that the amount of money consumers spend on apples should provide the key.

Looking for a moment at prices and supplies on the British market of another fruit - bananas - there is no doubt that summer is the time when consumers buy them more readily. Prices as well as supplies are higher in June, July and August. Wholesale buyers apparently anticipate consumers' spending to be 25-30 per cent higher in summer than in winter; but bananas are not a standardised product and we do not know how much

the apparently lower demand in winter is due to consumers having had unsatisfactory purchases of bananas more frequently in the winter months than in summer perhaps as a result of the ripening of them more frequently going wrong and leading to a prevalence of "cheap offers" in the winter. Figure 3 gives the monthly prices and supplies of bananas for 1965 and 1966.

Figure 3 Monthly Supplies and Prices of Bananas (av. 1965 & 1966)



The sort of demand analysis that could throw light on these questions of the relative strength of seasonal demands is highly complex and none too reliable in its findings. For instance, the same varieties of apple are not available in summer as in winter. What allowance should be made for this? Or are summer apples, being out-of-season, more in demand for that reason, without regard to variety? Such evidence as there is is circumstantial and tends not to confirm that the autumn and winter, whilst the 'natural' time for apple-buying, is unquestionably the time when sales promotion will succeed. It is generally easier to get consumers to spend more money on a product when they are already inclined to spend than when they are not. In the context of marketing the English dessert apple crop, the distinction - and the decision - has to be made

between the necessity of advertising apples as a product for long-term gain and of promoting them as an established item in a series of short-term campaigns.

The evidence referred to above is this: Summer consumption is higher, relative to pre-war, than winter consumption. Average prices per lb. at wholesale of imported apples have consistently been higher than average prices of home-grown apples. And M. Reifenberg, a respected figure in the French fruit industry, is on record* as saying that, apropos dessert apples in France, expenditure varies little throughout the year - rather more being spent and less consumed during the summer months.

Unless, therefore, summer apples were more successfully marketed, or the average quality of the English crop was lower, it appears that consumers held home-grown apples to be less desirable than imported apples partly because of the time of year. We unconsciously think of apples being in greatest demand during and shortly after harvest. If this is the correct state of affairs the lower price for the English dessert apple becomes more inexplicable, because it is not the time of greatest competition from other fruits. It may be, of course, that the English practice of marketing three qualities of each variety rather than one quality of several varieties makes all the difference. Another possibility is that either an element of price guidance or other uses of bargaining power entered more largely into the marketing of imported apples. Certainly in dealing with the Marketing Boards of Australia, New Zealand and South Africa, English buyers face monopolistic sellers, although the three Boards are in a degree competitive in the English market. This reversal of the usual situation in which buyers and sellers find themselves cannot surely be unconnected with the fact that importers are said to have been used to bearing 75-80 per cent of the financial risk in importing Australian apples and pears.

There are signs that demand for English dessert apples was strengthening after 1961 - probably because good-looking apples from young trees were more in evidence in the shops: whether these apples had to be Cox to sell in quantity cannot be determined. Increasing quality-consciousness in consumers may account for their partial rejection of the variety of Australian and the New Zealand consignments in 1964 and again in 1966. Freshness, good flavour, bright appearance and absence of irritating physical features in the fruit are the selling points of dessert apples: the fairest deduction is that any variety which can meet these requirements will sell, whether English in origin

* in the Amos Memorial Lecture, March 11th, 1968.

or not. From the standpoint of strategy, the evidence casts no great credit upon Cox and disposes to an hypothesis that, for numbers of consumers, Cox was just another apple, but a good one.

Demand in the Long Term

While some elements of a marketing strategy are inconclusive, there is more conclusive evidence that in the long term the trend in real* prices of dessert apples is the downwards, unless positive efforts are made to alter the trend. A continuing fall in real price can be traced back to 1938; and as long as an increasing supply meets a static demand, a declining price must be expected. The conventional demand- and supply-curve diagrams of the text books of economics are used in Figure 4 to show the trend. The whole diagram covers a period of forty years, back to 1938 and forward to 1978. The positioning of the curves was decided by working with the following assumptions: (a) unitary price-elasticity of demand, (b) income elasticity of demand of +1.0 in 1938, declining by 0.15 in each successive decade, and (c) short-term inflexibility of supply arising from the long time-lag in producers' response to market indicators. (For non-economists, the above means that English dessert apples have a prescribed share of consumers' total expenditure, and that the actual expenditure on dessert apples was decided by consumers' incomes. In 1938 an increase in incomes produced an increase in expenditure on apples of the same proportion: after 1948 the proportional increase in expenditure got progressively less than the proportional increase in incomes). The assumptions are realistic for English dessert apples, without being arithmetically precise.

The figures of supply, demand and price embodied in Figure 4 are as follows (Table 5).

Table 5. Estimated Real Value per unit of English Dessert Apples

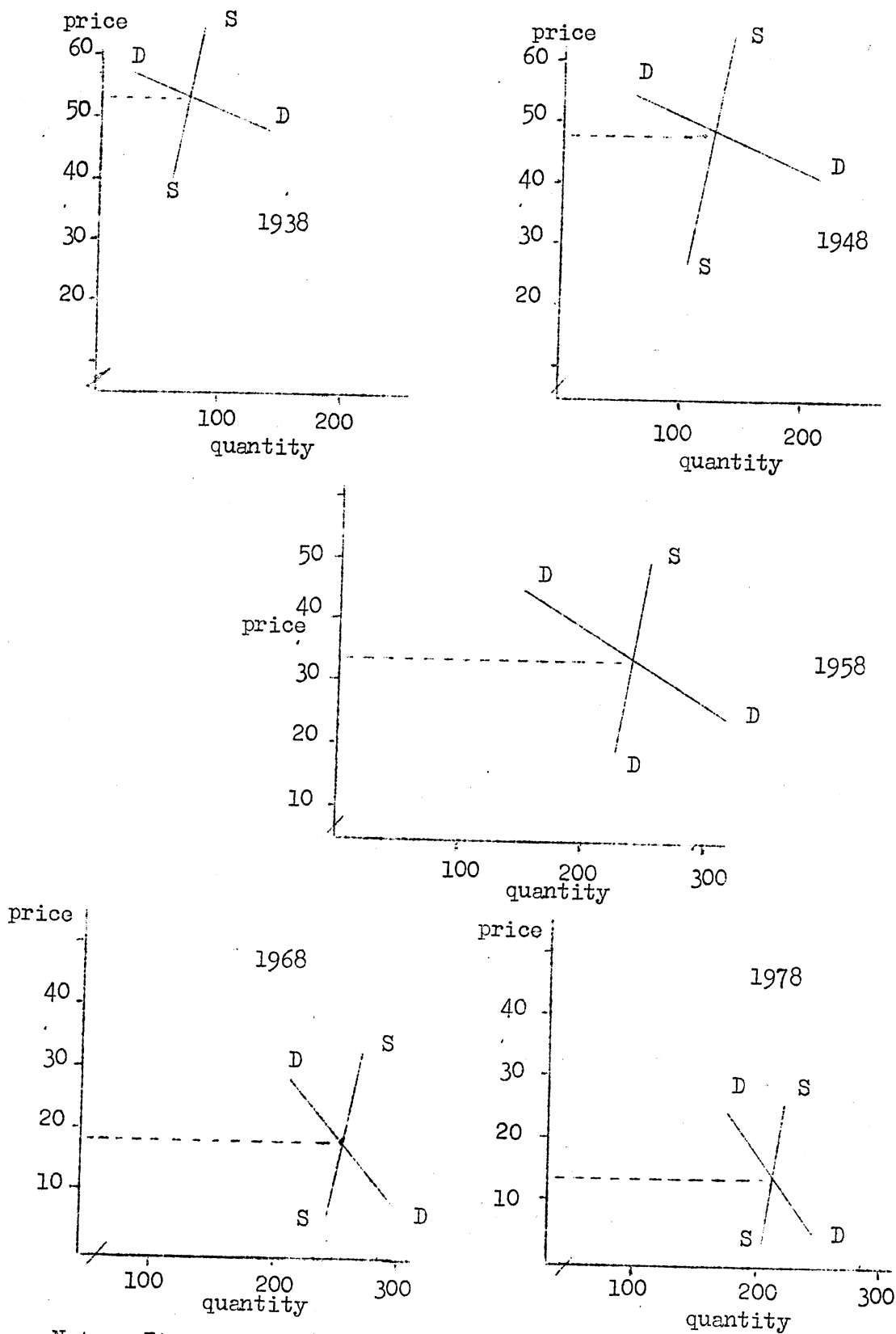
	Average quoted wholesale price of English dessert apples (per bushel)	Estimated Equivalent 1968 price (per bushel)	Gross production of English dessert apples (['] 000 tons)	Gross production of English <u>Cox</u> (['] 000 tons)
	(s. d.)	(s. d.)		
c.1938	11. 3.	52. 5.	50	10
c.1948	17. 0.	38. 3.	120	30
c.1958	25. 6.	33. 9.	240	90
c.1968		23. 0.	320	160
c.1978		21. 0.	360	175

* real price is the actual price adjusted for the change in the value of money.

Figure 4. The long-term trend in market price of English Dessert Apples, 1938-1978

Price: in shillings a bushel, at wholesale, 1958 value of money.

Quantity: in '000 tons of Gross Production

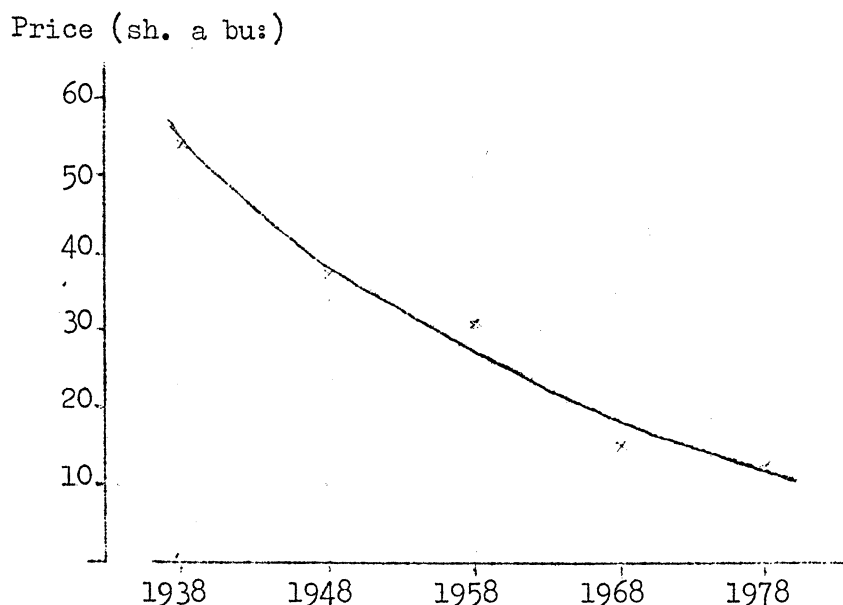


Note: It is not suggested by the diagrams that elasticity is changing along the demand curve: the "curves" shown are extensions of the small arc of the curves in the area of equilibrium, and are extended for the sake of clarity.

Figure 4 is not a reliable portent of what will actually happen to prices of English dessert apples in the next ten years - it has been assumed, for example, that importation of foreign apples will not increase proportionally to home production during the autumn and winter. Figure 4 (with Figure 4a following) is offered mainly as part of the general theory of demand for a product, like orchard fruit, in which there is (a) a long time-lag in adjusting production upwards to meet an increase in demand, and (b) a longer time-lag in adjusting production downwards to meet a decline in demand.

The downward trend in real prices of fruit (i.e. stable prices for apples while the value of money is falling) is perhaps made clearer in the consolidated diagram, Figure 4a in which the five equilibrium prices in Figure 4 are shown as a continuous, long-period price curve. This trend in price is not of deathly significance to an industry which is all the time increasing its efficiency of production unless it is associated with declining revenue from sales of fruit. (It is shown later that this can happen). Much more about the implications of Figure 4a for English producers is written in the following chapter. For the moment, only the theory of the market situation is under review.

Figure 4a Consolidated Long-term Real Average Price of English Dessert Apples, 1938 - 1978.



The important lesson of Figure 4 is its demonstration for the period after 1958, of how the time lag in increasing production affects prices and revenue when output is eventually increased. In effect, the price in 1958 which gave growers the incentive to plant more dessert apple trees is no longer operative ten years later when the new apple orchards come into full bearing. The quantity of apples that consumers could have in 1958 was decided by growers at least ten years previously. When consumers' demands are growing, this delay means that consumers may go years without all the apples they thought, at one time, they would like. In the meantime they acquire other forms of consumption and their demand for apples is likely to become attenuated: the future selling price of the apples will be less than the growers anticipated at the time of planting. So if there were a marketing strategist who wanted to ensure, for dessert apple growers as a whole, that they did not over-produce, he would be working with a demand curve projected twenty years* into the future, and not with present features of demand. (The forward period would, of course, be reduced to eight to ten years if all growers were planting intensive orchards). If they work on present demand, producers will inevitably be in danger of over-producing. Some relief may be allowed in the form of elasticity of demand if personal incomes continue to increase; this is of the order of 2 per cent a year, compared to projected annual increases in output of apples of about 3 per cent.

A Worked Example: It is inferred in Figure 3 that 320,000 tons of dessert apples would have sold at a higher real price in 1958 than will be realised in 1968. For this to happen, all consumers' evaluation of dessert apples had to fall between 1958 and 1968 at a faster rate than their net incomes were rising. This can happen, as the following hypothetical example shows:

Assume, say, for 1958, that national income was £20,000,000, and that £500,000 was spent on dessert apples, being 1,000,000 bushels at 10s. each. Real income per head is to increase by 10 per cent each decade, and the income elasticity of demand for dessert apples is to fall from 0.7 in 1958 to 0.55 in 1968. Then the projected market situation for 1968 and 1978 will be:

a. in 1968 (over 1958) when equilibrium market price was 10s. 0d. a bushel

Increase in national income 10 per cent

* this is the assumed mid-period of a 24-year span of cropping beginning when the orchard is 8 years old.

Increase in income diverted to buying apples	7 per cent
New total for market revenue for dessert apples (£500,000 x 100)	£535,000
Increase in size of apple crop ..	20 per cent
No. of bushels of dessert apples	1,200,000
Equilibrium average market price per bushel	7s. 2d.

b. in 1978 (over 1968)

Increase in national income	10 per cent
Increase in income diverted to buying dessert apples	5.5 per cent
New total for market revenue for dessert apples (£535,000 x 100)	£565,000
Increase in apple crop	15 per cent
No. of bushels of dessert apples	1,380,000
Equilibrium average market price per bushel	7s. 1d.

Incomplete as the above example is, it shows how allowing fruit production to expand faster than consumers' readiness to buy can mean lower market prices.

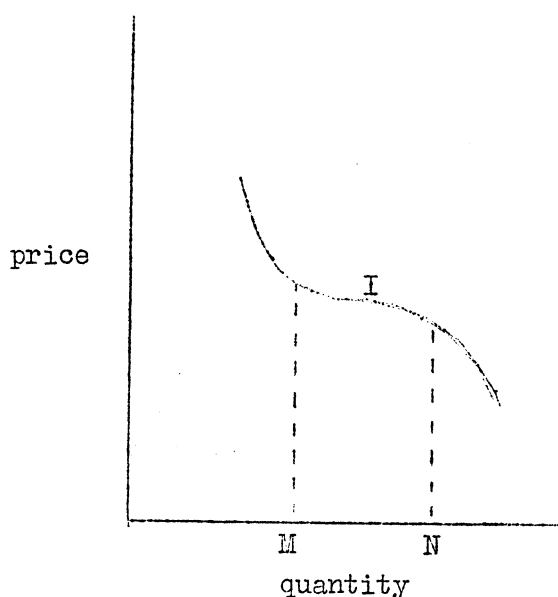
A loss of interest in a product is the more likely to happen when the product ceases to be a 'new good' as will have happened to English dessert apples by 1978. Such senescence in demand, of course, is no phenomenon. It is the commonplace 'economic pressure' in a new guise. It is inherent in consumption, and it is a movement that market power tries to prevent. Manufacturers of branded products for example, take care that consumers never become "tired" of their product (although they cannot guard against it becoming less useful in its intended function). Their marketing (as was noted in Chapter 1) then involves innovation to keep up consumers' interest.

The Normal Demand Curve

Confirmation that products become established in the business life of the community, and acquire a sort of niche in the economy can be deduced from the shape of the typical long-term demand curve for a

horticultural product. Plotted as a relationship between volume of production (output) and a resulting price per unit over a period of say, twenty years, the demand curve has the shape in Figure 5. There is a point of inflexion in the curve and a middle area where it becomes progressively more horizontal. On each side of this area the curve becomes

Figure 5. Typical Normal Demand Curve for a Horticultural Product



Normal experience would be in the range of supply marked MN in Figure 5. At an output of less than M, the high price per unit deters a number of usual consumers and the price does not compensate for the smaller amount. Elasticity is diminished in moving away from the point of inflexion, I. At an output greater than N, the product is so plentiful that consumption equivalent to supply is achieved only by cheapening the product so that it is made relatively more attractive to consumers. Elasticity is again diminished in moving away from the point I.

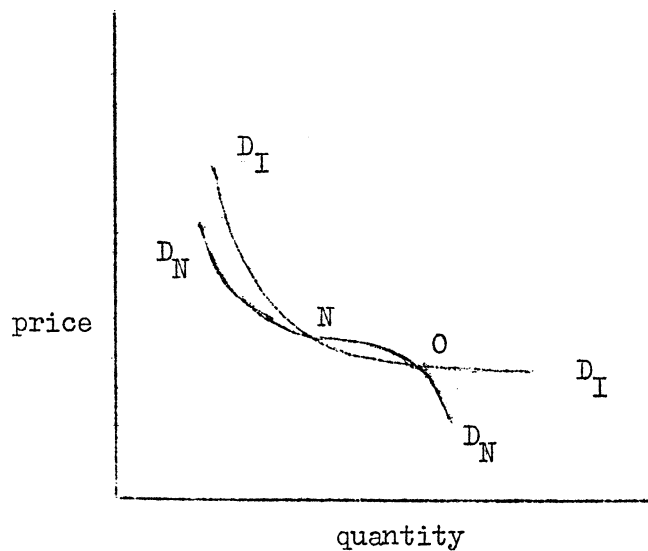
progressively more vertical. The middle area relates to normal conditions in the markets, the outer areas to abnormalities. A normal situation is simply one which is most frequently experienced - it is the one which buyers and sellers can most easily accommodate - and will apply when crops are of about normal size. Either a short crop or a bumper crop will create an abnormal situation and in adjusting themselves to it buyers and sellers will form a price that is abnormal in the sense that the money it realises for producers will not be the same as for a normal crop - it will usually be less.

There are two results from this discussion which we ought to note. First, price elasticity of demand alters significantly in an abnormal situation. Secondly, there can be no 'normal' market situation at a time of steep rise in output.

The rules for producers are thus clarified. Actual revenue (from buyers in the market) is likely to reach its maximum within the MN range of output: and taking producers' costs into account, their profit will

actually be highest within the same range. This is explained in greater detail (for those who wish to pursue the matter) in the next paragraph, with the help of Figure 6.

Figure 6. Normal Demand Curve in relation to Constant Expenditure Curve



In Figure 6, N represents the point at which consumers' spending will maximise: NO is the output which accords best with consumers' desires, and is also the niche which the product could have in the long term. The shape of the market demand curve to which producers are subject shows that there is not unchanged consumers' desire for the product at all levels of output. Assuming that consumers were prepared in all circumstances to spend the same amount of money each year on a product, the demand curve (a constant expenditure curve) would have a parabolic shape like $D_I D_I$ in Figure 6. As will be shown later, producers' revenue and profits would still vary very much for different-sized crops, even if consumers' spending remained constant, because marketing and distribution costs have to be paid for out of what consumers spend, and these costs increase as output increases.

The actual demand curve, $D_N D_N$, side by side with $D_I D_I$ shows that producers sacrifice revenue both with below-normal crops, and with above-normal crops. If this is so, more serious and more expensive measures to combat spring frosts would be justified for the good of the industry. Both the short crop and the excess crop are sources of loss, and the upsets to formative habits in buying and to the trade generally are possibly more serious in the longer term than the actual fall in money income during the short-crop year.

In review, it appears that marketing strategy has a place in fruit-growing if growers were ever sufficiently well-organised to operate it. We pass on in Section 2 to a further consideration of this question.

Section 2. Elements of Marketing Strategy

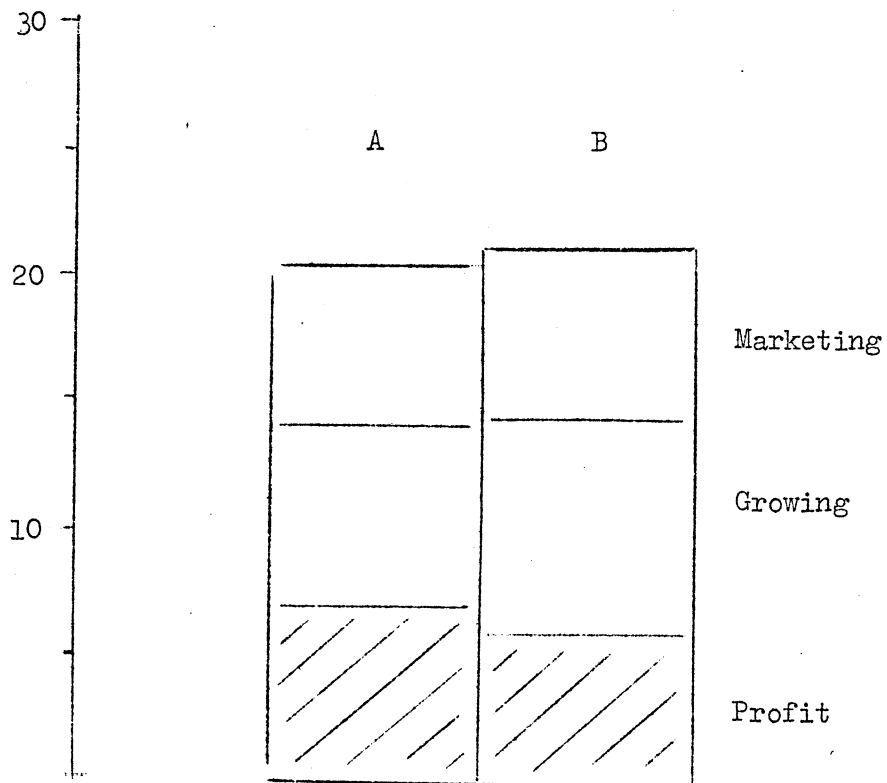
How much to produce? One element of a marketing strategy for English dessert apples would certainly be a judgment of the right amount to produce, which would be derived from a notion of how much the market would take at a given price. To this end strategy would take into account the economic time-of-life of the English dessert apple. It was indicated previously how the demand for a new product can be at first lively; then, some years later, the same product perhaps tends to be thought of as 'dated'. Innovation fails, demand tends to weaken, excess production capacity shows up, and if producers cannot amalgamate, create new interest or develop new products, individual firms slowly go out of business. It is noticeable, too, that firms' Marketing Directors, when faced with maturity (i.e. a levelling off of demand) in a product, will try to stabilise demand on the basis of an image of 'quality' in the product and a somewhat higher price than otherwise. A matured product, by definition, has a low price- and cross-elasticity of demand.

By all the signs, the English dessert apple of 1964-66 is not a matured product. Effectively, English apples have made their impact over less than twenty years and during this period consumption has been growing. More consumers, some of them in the northern half of the country, are 'discovering' Cox. There is opportunity for consumption to increase further, but in the process the apple will mature as a product, and, from the producers' point of view, there will come a time when the increase may not be altogether welcome. If English dessert apple growers continue to try to increase consumption by offering more top-quality apples of a high-cost variety, prices will not respond and are likely to over-tax producers' production efficiency. For instance, it would be true to say that the present season's demand would take care of 150,000 tons of 2 $\frac{3}{8}$ " diameter, first quality Cox, retailing at 1s. a lb.; but it would be ruinous for producers to attempt to meet this demand. Once extended loyalty to Cox has been established, it would be costly to over-supply; but with restraint in output, small fractional rises in the growers' price might be engineered.

It is, however, a fallacy for growers to think that the same buoyant market conditions experienced when they have an above average crop to sell in an expanding market, will also apply when productive capacity has increased and supply has caught up with demand. If producers planted-up with this sort of expectation they are bound to be disappointed with the result. The diagram below (Figure 7) shows the notional profit on a crop of 300,000 tons of dessert apples when 250,000

tons is normal for the acreage in bearing at a time of unsatisfied

Figure 7. Two Profit Situations in a Crop of Equal Size



demand (Situation A). The growers' profit is more than $\frac{1}{2}$ m. higher than the notional profit from a 'normal' crop of 300,000 tons some years when demand and supply are in equilibrium at that figure (Situation B).

Figure 7 has been drawn to display the overall conditions. The following calculations explain how producers' profits differ in the two situations:

Situation A.

Aggregate revenue:			
300,000 tons @ $7\frac{1}{4}$ d/lb. (£67 a ton)	..	..	£20,100,000
Aggregate costs:			
250,000 tons @ 17/3d. a bushel	£12,075,000		
50,000 tons @ 8/-d. " "	<u>1,120,000</u>		<u>13,195,000</u>
	Profit on crop		<u><u>£ 6,905,000</u></u>

Situation B.

Aggregate revenue:		
300,000 tons @ 7 $\frac{1}{2}$ d./lb. (£70 a ton) ..	..	£21,000,000
Aggregate costs:		
300,000 tons @ 17/6d. a bushel ..	..	14,700,000
		<hr/>
Profit on crop		£ 6,300,000
		<hr/> <hr/>

Calculations relevant to the English producers position in the market are resumed in Part III. Next, consideration is given to two more features of a marketing strategy - the product development and sales promotion.

Product Development Dessert apples are not devoid of product development possibilities, although some limitations have to be recognised. On the one hand, the product does not lend itself to frequent and publicisable improvements: its "image" cannot be refreshed in the same way as motor car models are re-vamped, or detergents re-constituted. And until apples are more frequently branded and sold in consumer packs the opportunity to keep interest in them alive by modernising presentation is being missed. Producers lack the means to adopt innovation as a means of profiting from innovistic competition, and seem to be largely restricted to manoeuvre in the fields of (a) price and (b) quality. Price competition (with small imperfections) in dessert apples is still the rule in most large wholesale fruit markets. In this context, the one opportunity of differentiation available to producers is consumer packs. Supermarkets pioneered the way with consumer packs of good-sized apples, (often of indifferent quality). And 'pods' for small apples had a successful run. It may well be that the ideal material for a consumer pack of apples has still to be found: nevertheless, some such development is the most likely one within the field of marketing (as distinct from progress in improving the product) and with a view to developing 'brand' loyalty. It seems obvious that colour which is not attractive should be subordinate to a colour which is. For example, most colours gain in intensity when side-by-side with a dull white: a grey background could perhaps be used to give apple skins more colour, but it would not succeed in its purpose if it gave consumers an impression of being a 'dirty' white.

It goes without saying that consumption of English dessert apples will not increase (except to the extent that population increases) unless consumers get a net increase in their total satisfaction from the additional purchases. Brighter colour will help as a whole, and so will more good varieties, but with dessert fruit eating quality cannot be overlooked. A weakness here is that consumers cannot be guaranteed the

satisfaction they anticipate. Producers (and distributors) who are jealous of their reputation take care that the fruit they offer is well-graded, and, if out of store, not liable to quick breakdown. Dessert apple marketing practices at present insure a consumer against rank dissatisfaction, but have not yet reached the more positive stage of encouraging consumers to buy because they know the treat in store for them if they do. Some effort will certainly be applied towards giving maximum satisfaction. One supplier, for example, may begin to make sample tests of 'firmness' and sugar/acid ratios before marketing. In essence, such a development is an ideal case for branding, and quality control throughout marketing. What the necessary increase in retail price would be, and whether the premiums would be too high for most consumers, would have to be decided by a test-exercise.

It is hardly likely, however, that such care in marketing should become the rule. Only a comparatively few consumers could habitually seek to make apple-eating a supremely pleasant experience. A modified 'bread and butter' role for dessert apples offered at an attractive price, seems a far more probable strategy for a leading firm.

Combining what has been written earlier about efforts to make competition between suppliers more imperfect with the desire to continue the wastelessness of English apple growing, it is obviously to English growers' advantage to put eating quality before appearance. So far, attempts to 'manage' marketing have always tended to promote good appearance and demote inferior appearance, notwithstanding that there is frequently a good demand for the so-called "rubbish" in wholesale markets. It has to be recognised that in buying their dessert apples consumers are getting some initial satisfaction from the appearance (largely a matter of colour) of the fruit and some find satisfaction from the taste and size of the fruit; and that there will be a wide range in the blend of the two attributes if each purchaser is to get maximum satisfaction, at the price paid, from each purchase.

British growers should be in a position to offer a different 'deal' in the home market from that of exporters in terms of this blend of attributes, and should be concerned to fortify their position over a given part of the range. And is exporters' attitude to their home market so different from this? Here is a quotation from an address by the chairman of a certain overseas fruit board at its annual general meeting"the greater bulk of the remaining crop is of eating quality equal to or better than the fruit exported, but it is not as good-looking and therefore cannot be exported". The difference between a home and an export market is thus made abundantly clear: and for consumers who plump

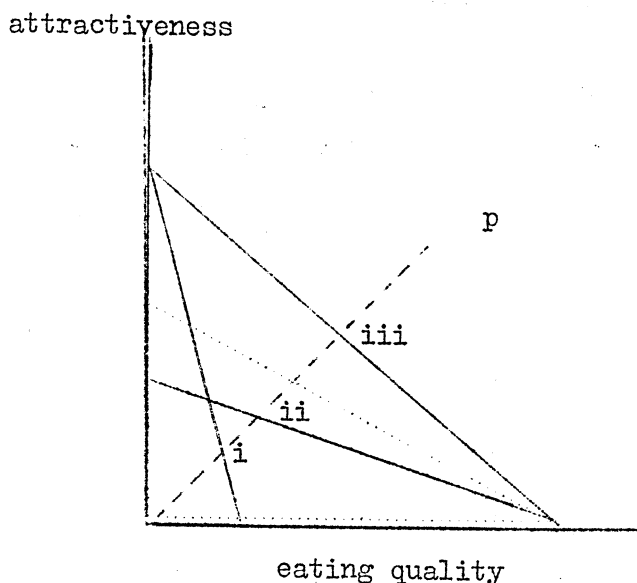
for taste there is a certain irony in the chairman's statement.

It is in this context that a logical strategy may be at variance with the question of status and prestige that each firm is always striving for. Everyone wants the 'top of the market' position: but if this is where competition is strongest, and the English industry is not a strong competitor, pursuit of a top position may not be the best strategy. British growers have to make every apple count, and if they produce a good-eating apple with a low appearance-factor, opportunities for selling this kind of apple must be taken and provision made direct competition between this fruit and higher-priced fruit to be minimised.

A dual marketing system is a form of surrender of market power due to the number of fruit-growing firms. Large firms would be interested in evaluating appearance and eating quality and would probably cut out certain 'blends'. This is not a practical strategy for an industry with thousands of firms. Similarly, if skin colour were found to be an obstacle to higher sales, research would be put in hand to artificially modify the colour to consumers' preferences.

In Figure 8, it is shown how different 'blends' of attractiveness and eating quality will give rise to various prices - notionally marked off along the price line 'p'.

Figure 8. A Two-factor Analysis of the Apple Market.



Maximum attractiveness and low eating quality constitute situation (i, i.) and price (i): maximum eating quality and moderate attractiveness (ii, ii) are shown to produce a somewhat higher price (ii); and the maximum price is iii, obtained for a blend of maximum attractiveness and maximum eating quality. The area within the dotted lines is the area in which home growers are the main suppliers.

Sales Promotion for Dessert Apples

Turning now to the major task of selling the best of the English crop, time is not on the side of the English grower. Over-production will be costly for growers, and it may seem good strategy to deploy some funds on sales promotional schemes, intending that these outlays shall earn more for growers than they cost. It should be noted at the outset however, that measures, including advertising, are not traditionally used to retrieve a 'weak' market situation. It is questionable if any large firm ever advertised itself out of financial trouble. Fruit growers should not imagine that any sum they contribute to publicity will make consumers buy apples they do not want.

Publicity for dessert apples will be increasingly in English growers' minds as their industry matures and their apples find their long-term place in the economy. The fruit marketing boards of South Africa and Australia, have run advertising campaigns aimed at consumers. In certain cases advertising expenditure has given disappointing results, and to expect that the same results for apples as for processed foods is probably to expect too much. Agricultural economists largely agree that there are essential differences between (a) a brand and a product, and between (b) oligopolistic and atomistically competitive market structure as regards the sales results of promotion efforts. A large-scale promotion of apples must be as a product; and in this context the trend towards imperfect competition in wholesaling may not be entirely helpful. The first competitive advertising by producers' groups is not expected unless and until chronic over-production occurs.

The subject of promoting sales other than by the classical method of lowering prices, can usefully be referred to under five headings, as follows:

- a. advertising,
- b. branding,
- c. publicity,
- d. consumption schemes,
- e. differential pricing.

Public relations and publicity men have acquired great expertise in sales promotion. What is written here is not what a professional sales promoter would have written: it is a sketchy account of how efforts to shift the demand curve for a product by influencing the way consumers think about it, can be appraised in economic terms. Producers of dessert apples just do not have the resources or the opportunity to make an

approach to consumers en masse. Small-scale advertising to influence distributors of English dessert apples is already taking place: and a start has been made with point-of-sale publicity for some brands of English apple. The five subjects are now dealt with in turn.

Advertising Because the more muted forms of advertising are classified for present purposes as public relations, advertising is considered here to mean a massive and costly programme of publicity. In this sense, advertising is variously used (a) to stimulate purchase of a new product, (b) to inform the public of product development, and (c) to keep a brand name in the public's mind against the inroads of competitors' advertising.

The hundreds of thousands of pounds spent annually on advertising by the large oligopolistic firms has usually had one or more of the above functions. How relevant are these to dessert apples at the present time? English dessert apples are not a novel product, are not subject to progressive development, are before the public (in quantity) for less than six months of the year and are not competitively advertised. In short, there is no prima facie case for national advertising. There may be a case for regional advertisement in areas where apple consumption a head is low provided that a means of checking the results of the programme is incorporated at the same time.

Is any English fruit-growing firm big enough to undertake advertising on a national scale? The marketing boards of the southern-hemisphere fruit industries have done this and they may feel satisfied with the results. Their programmes did not, of course, prevent two disastrous seasons in the 1960's. Advertising cannot pull a firm's chestnuts out of the fire. And unless particular care is taken to make an advertising programme show what it has achieved, its benefits remain concealed. One of the first types of expenditure to be curtailed when a firm faces a 'squeeze' on its customers is its advertising budget. So all in all it seems that England does not have a fruit-growing firm large enough to undertake advertising: but on the other hand, English producers as a whole have a greater stake than overseas suppliers in the English market. They supply over a longer season, and the amounts conceived for publicity represent a lower contribution per bushel than overseas growers are at present paying. The following points of difference from the English growers' situation may, however, lend strength to the overseas suppliers:-

- i. their boards are monopolists, and are in the same position in their market as large firms;

- ii. branding has taken hold in marketing of citrus fruit;
- iii. in advertising, a brand name takes precedence over a product description;
- iv. although the boards' efforts have primarily been to develop markets, they could, as occasion demanded, operate a supply regulation scheme.

What does not show in the publicity for overseas apples is the strict limitation of variety and quality imposed on producers.

Success in advertising cannot be realistically separated from control of supply. Advertising is most (perhaps only) successful when it has a focus and a purpose and it is one among several features of a programme. Used alone, it has to be treated with care. Advertising expenditure has been likened to a wasting asset in a business: it yields a diminishing response as time goes by. Ideally, then, any firm or industry that has limited promotional funds, should run short-term programmes whenever the promotional aim is to reach the mass of consumers. If English dessert apples are going to be consistently over-produced, there is a danger that, without some control of supply, dessert apple producers may find themselves, if they place reliance on advertising to help to dispose of surpluses, having progressively to increase their advertising in an effort to cope with an increasingly difficult market situation. Advertising is not the sole standard industrial remedy for over-production of a 'mature' product. It is thought to have been a success for a time in the case of liquid milk, although in this regard the subsidised price and the large resources of the Milk Marketing Board have to be taken into account.

Advertising is a potent medium, well worth experimenting with - but requiring great expertise on limited funds. On the positive side there is one known case of a successful local use of television advertising in the late 1950's in an effort to clear large stocks of Bramley's Seedling in store in Kent. Advertising may have some meaning for fruit growers as a means of short-term intervention in the trade to give an effect for the duration of the advertisement. For instance, if 5,000 tons of, say Laxton's Superb apples were languishing in a store and they could be sold at retail as additional purchases, in line with the ruling level, at an average price of 26/6d. a bushel (8d. a lb.): then assuming that the cost of the work of grading, packing, marketing and distribution through to the retail outlet was 20s. a bushel, growers would net 6s. 8d. a bushel from the additional sales. If the programme was proved entirely successful, retailers would have increased their takings by £375,000 and growers by £95,000. Growers would have made a

profit on the programme if the additional consumption was realised at a cost of less than £95,000 for advertising.

The weakness in the above example is that the cost of advertising and the resulting increased revenue were notionally allowed to become equivalent - a 1 : 1 ratio between cost and return. This is not practical business. If advertising is considered an asset, a revenue four to ten times its outlay would be looked for. That is, in real life, the fruit producers would have no guarantee of efficacy of advertisement: they might have been persuaded to spend £15,000 instead of £95,000 on advertising, the required 'lift' in demand would not have been obtained and not all the apples would have been sold.

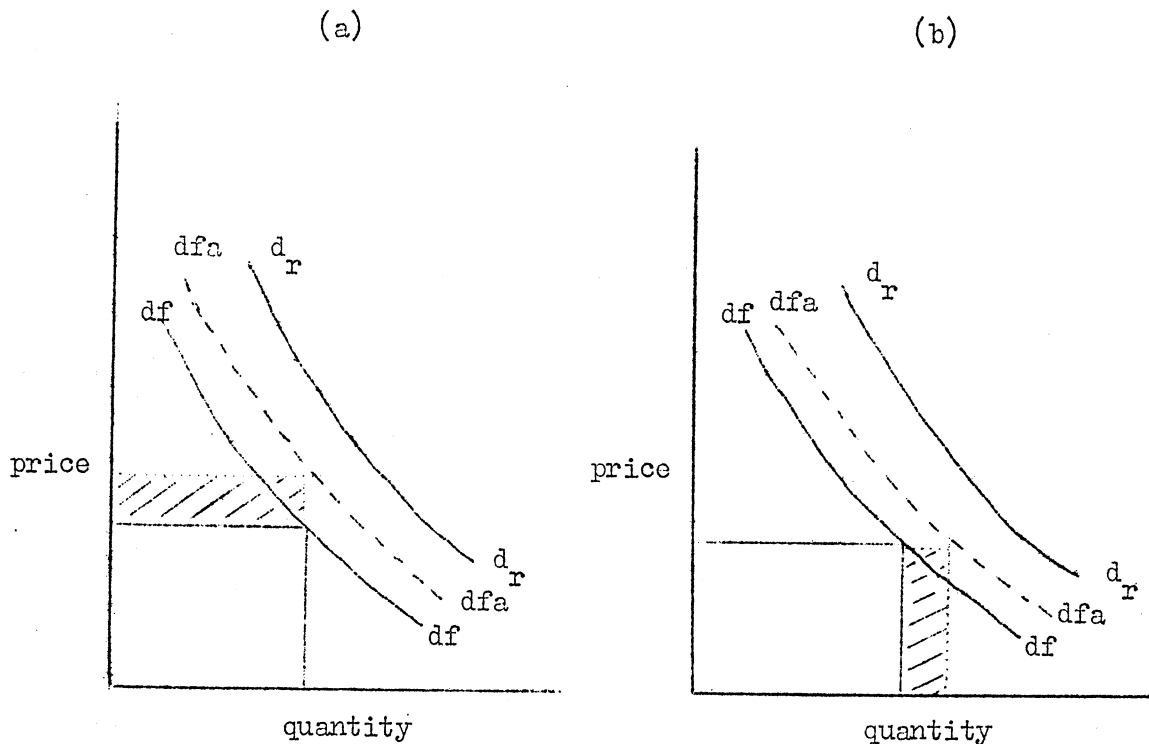
In the example above, producers already had the apples available. It is also worth bearing in mind that if producers used advertising to increase demand by 5,000 tons they would have had to grow the extra apples, and the extra revenue would have been absorbed by costs of production. It is here that we can logically make another comment upon the importance of supply control to the success of advertising. If the effect of advertising is to extend consumption, growers may get no benefit at all from it in the long term unless there is progress in efficiency of production. Increased consumption will benefit a whole industry if it produces more output at diminishing marginal cost (which fruit growers do not) and if demand elasticity is greater than unity (which it is not, at projected levels of output for English dessert apples). English dessert apple producers will have to guard against using advertising solely to generate increased consumption: if it succeeded in increasing actual consumption in any year of price-inelasticity of demand, growers would have paid their levy and got lower prices as a result.

The diagram below (Figure 9) indicates how, given low elasticity of demand (i.e. a sluggish fruit trade), producers' revenue is likely to be increased more by selling an unchanged quantity at a higher price than by selling more at an unchanged price - and revenue is what matters, not how much gets sold. In fact, in order of preference, three possible results from advertising are:-

1. an increase in revenue without increased costs;
2. an increase in revenue with costs increased pro rata;
3. increase in revenue with an increase in costs.

Only items 1 and 2 above will be acceptable to producers.

Figure 9. Comparative Benefit to Producers of (a) raising selling price and (b) extending consumption at ruling price, notionally through the use of advertising.



In each diagram $d_r d_r$ is the original demand at retail and $df df$ the original 'farm-gate' demand and p the price that producers experience: $d_{ra} d_{ra}$ is the shifted demand curve after successful advertising and the vertically shaded area is the increase in consumers' spending attributable to the advertising. So far the two diagrams are identical. In each diagram d_{fa} is the farm-gate curve, and by definition d_{fa} is closer to df in situation (a) than in situation (b). It follows from the steep inclination and proximity of the curves that the vertical distance between them in (a) will be greater than the horizontal distance between them in (b). Hence, the gain to producers - which is the diagonally shaded area - will tend to be higher in situation (a) than in situation (b).

A less involved way of demonstrating the same principle is this. If an advertising programme has induced consumers to spend an extra £10,000 at retail on dessert apples, and this is in the form of higher prices, producers will get most of the £10,000. The commission seller and the retailer will take small proportions of the increased spending - possibly 30-35 per cent, leaving the grower a clear margin of about

£6,600. Now if the result of advertising were permanently to keep consumption increased, so that the £10,000 was spent on buying 80 tons more apples (at £125 a ton or 1s. 2d. a lb.) the effect would be that nearly all the previous level of marketing changes per unit and nearly all the previous sum of production costs per unit would be incurred in selling the extra apples. These could well amount to £100 a ton leaving the producers a margin of £25 a ton and 80 tons or only £2,000 (compared with £6,600). This illustrates the very important principle that without supply control, the amount of money that can safely be spent on advertising is much less than with supply control.

To sum up, from the standpoint of theory it would seem that advertising English dessert apples with the intention of influencing consumers would be potentially most advantageous to producers when applied between September and December in years of good quality and above-average quantity. There also seems to be scope for a test marketing exercise involving both advertising and supply control: this would take the form of a localised promotional effort in an area where consumption a head is at present low. Little of the foregoing, it should be noted, has a direct bearing upon the actual use of funds for promotion at the present time. The uses of promotions during the formative period for the market for a product are not well-documented. The English dessert apple has a few more years' formative marketing and sales promotion is an experiment well worth trying. In Part III there is evidence to show that Cox is the only variety with a degree of price-elasticity left - which seems to suggest that advertising of Cox because it is the biggest selling apple and most important to producers, would be the right move for another reason.

Branding. Successful advertising, finally, is also linked with control of another sort - branding. By implication, a branded article is the product of either a single firm or a closely-knit coterie of firms, and the supplier'(s) sole interest is the promotion of his brand. If, additionally, the product sells in an imperfectly competitive regime, the supplier(s) has some power over distribution and over price. In short, he has the power in the market to turn events - within limits, of course - to his own benefit. Given that degree of power, an integrated effort can be mounted and maintained at will. That is, the promotional boost can be made to coincide with, say, an improvement in presentation; a variety of interrelated sales stimuli can be employed at the time of year when sales begin to show a seasonal upward trend, and so on. All in all, the suppliers know their efforts are unlikely to fail, and large sums of money can safely be utilised for promotional purposes.

Selling under the conditions outlined above is foreign to the marketing of English dessert apples. Any similarity between 'brand promotion' of manufactured goods and brand promotion of dessert apples is vitiated by the inbuilt quality variations in the apple supply. There is considerable branding of dessert apples both by wholesalers and producers - not to mention the unadvertised assurance of quality given to apples by the good names of the leading mass retailers - but the promotion of brand names largely takes place within the distributive trade in horticulture, and is lost upon the consumer. This might arise with apples because (a) all apples are so much alike that no selection of them can be forced into a brand sufficiently superior or different to allow a premium in price out of which advertising expenditure could be recovered, and (b) no brand is so widely and fully distributed as to make economic a programme of national advertising designed to draw consumers to the brand in question, and (c) a brand is usually a supplier's trade mark and not a quality trade mark.

Branding seems appropriate to an oligopolistic market structure: in an atomistic, competitive structure, and/or a product of variable quality, branding is an alternative or supplementary strategem to grading. If and when meaningful grade description can be established, private branding will lose significance. And if, in the future, there are to be fewer fruit-supplying terms, the way would be open to unification of supply, and all producers would have a common interest in promoting apples, not their particular brand. Oddly enough, branding apples as at present carried out (i.e. a farm having its own apple wraps) had its origins in the grower's pride in his product. It came at a time when most growers' marketing practices were weak - and it may become subordinated to the promotion of English dessert apples in general as marketing practice improves. This is what has happened with milk. Milk is not graded and its publicity pays no heed to, say, Channel Islands breeds' milk as distinct from that of other breeds. The general stimulus is given, and consumers exercise their choice (limited though it be). But the parallel with milk cannot be carried too far. A producers' marketing board has a monopoly in the fresh milk market. A fruit growers' marketing organisation would not have a monopoly. It can be expected that there would be one welcome result - competition in the fruit market would tend to result in a higher level of average quality of product for fruit than for milk.

Branding has been widely used in an oligopsonistic market structure to underwrite a firm's share of the market, and to mollify the worst effects of price competition. Just what it is that makes branding a secondary agent of imperfection in markets - product difference being

retailer with adequate margin: it must therefore be a relatively high price. Large firms tolerate this situation so long as they can because there is a certain value in having a large number of retail outlets. In this way, distribution costs are unnecessarily high, but so are retail prices, and small firms, moreover, are given less chance in local markets.

In the case of dessert apples, however, competition between distributors and freedom from intervention in pricing permits variations in retail prices for the same quality of product. Two types of consumers' response to price are appropriately mentioned here. First, a higher marked price juxtaposed with a lower marked price encourages consumption because a large section of consumers are thereby led to think that they are maximising satisfaction in their purchase by paying the top price. Second, a lower-than-ruling marked price would induce another section of consumers to jump at the apparent bargain. Producers, then, need not unduly regret their inability to fix retail prices. This statement contributes nothing to the argument about whether retailers do well for producers by doing the best for themselves. It is simply a comment upon freedom in pricing that the retailer of fruit has. It cannot be overlooked that if a standardisation of product is pursued as far as possible, this present freedom of pricing may be surrendered to a more rigid and more widespread 'agreed' price.

Variations in retail price above or below a given average price are more likely to be a source of strength than a weakness. The composite-ness of demand has already been remarked upon. However, up to the present, retailers have applied it on their own initiative, but it seems to be a field in which producers could ultimately be active. For instance, if publicity were given to highest ruling price and there were in fact a range of prices resulting from retailers using different mark-ups, a stimulus to consumption would be provided by the opportunities to buy at below the nominated price.

It has been widely accepted that housewives have a shopping trait of most frequently buying the more expensive of two displays of fruit. If this trait is to continue, it will need cultivating; because it was the housewife's way of trying to avoid buying poorer quality produce. However, standards of quality are rising each year, the difference between the best and the worst samples is narrowing, and particularly if the housewife feels the protection of branding, grading, or a retailer's reputation, there will be no lower-priced samples of fruit on offer in the same shop. One way in which the habit of 'buying the best' can be kept alive is by having a dearer and a cheaper variety of apple on offer at the same time.

Good Quality vs. Poor Quality.

Producers often feel confused by the reaction to quality in produce by buyers in the main markets, and perhaps this is the place where an attempt could be made to explain a market phenomenon.

Buyers, and advisers in general, lose no opportunity of impressing upon producers that quality sells fruit. Then, occasionally, a lot of so-called 'rubbish' appears on the market, and the same salesmen are only too ready to tell producers that sales of good apples have been disappointing as a result. Quality distinctions of this sort came into prominence in Elizabethan times, in connection with the money supply. "Bad money drives out good money" has survived to the present time as Gresham's Law. Worthy coins will be hoarded, the unworthy coins used. In the same way, buyers may turn for a short time to buying inferior quality and thus poor fruit drives out good fruit.

Producers whose aim is the long-term improvement of quality in supply need not get depressed over this sort of happening. It has to be recognised that Gresham's Law can both apply and not apply in wholesale produce markets. In economics, this is not self-contradictory, because what is true for a short period (short term) may not be true of a longer period (long term). All the time that better quality gives consumers greater satisfaction, buyers will have this in mind. Higher quality, then, is one of the long-term incentives to increased consumption (an effect of income-elasticity of demand). Gresham's Law works for money, but not for perishable produce. Coins of "good money" can be saved and stored and allowed to increase in value as the entire currency becomes debased. There is no parallel here with horticulture. It is in no one's interest to 'debase' the supply of produce. However, in the short-term - which means an occasional opportunity - inferior fruit may be preferred to superior fruit by the same buyers. The reasons are as follows. Suppose Grade III apples are in excess on a certain day. Their price falls. Top-of-the-grade samples are apparently no different from bottom-of-Grade II apples. Buyers see an opportunity to "buy cheap and sell dear", so they switch from Grade II to Grade III. The price of Grade II consequently weakens. They become attractive relative to Grade I, and consequently some transference of buying from Grade I to Grade II takes place. Prices have thus weakened all through the market: but only temporarily. If prices of good-quality produce are 'weak' on this account for several days, the cause is likely to be good value for money in the inferior samples. We hark back here to what has been said about the fallacy of grading largely by appearance. Literal 'rubbish' is not a practical alternative to sound fruit. Frequently, however, the 'rubbish'

consists of marked (i.e. blemished) fruit of good eating quality - and then it is sought after by a section of buyers. One of the anticipated most severe changes in demand for dessert apples when they become plentiful is the lack of interest in poor fruit if good quality is available at the former price of poor fruit. There is no doubt that, on a straight choice at the same price, better quality will oust poorer quality from markets.

There is thought to be imperfect competition between (or a composite demand for) different qualities (including varieties) of apples. If this really is so, are English growers being rational when they express a fear of what Italian apples might do to the U.K. market if they were admitted more freely? The answer is 'Yes', but not for the obvious reason. If there were to be more low-priced, imported apples instead of English. The most serious effect would tend to be a lowering of all apple prices as a result of the increased supply. And it may well be, of course, that the sort of price relapse mentioned above, is a result of a rather large quantity of fruit (either of apples or of all fruit) on the market - only a small excess would be needed, and we have no way of measuring small changes. Thus, separate suppliers maintain their share of the market, and certain products their hold on consumers, only so long as the market as a whole is kept under control. The bogey of the cheap Italian apples was laid in 1959 when 40,000 tons were imported. Like the relapse of price from normal, importation on this scale was short term effect.

Another issue arising out of the price-vulnerability of good-quality produce is whether the suppliers of good-quality need their position in the market strengthening. Should less-committed growers be allowed freedom to harass the more-committed growers? The thought behind, and trend of legislation effecting fruit marketing in Britain has been in favour of the committed producer. The pros and cons of regulated marketing will emerge during a reading of Part III. Producers who have made big investments in orchards, stores and packing stations naturally wish to see a good return upon their capital. To suit their book, what is desirable is a fruit industry that can afford the same institutions, the same salaried executives, the same rewards as any other industry. Contending with this attitude is one of putting the growers' interest first, allowing them to sell where and how they choose in order that they may make the best of competing offers.

Neither of these extreme attitudes is likely to prevail in the future. On the one hand, the 'prestige' attitude overlooks two potential weaknesses

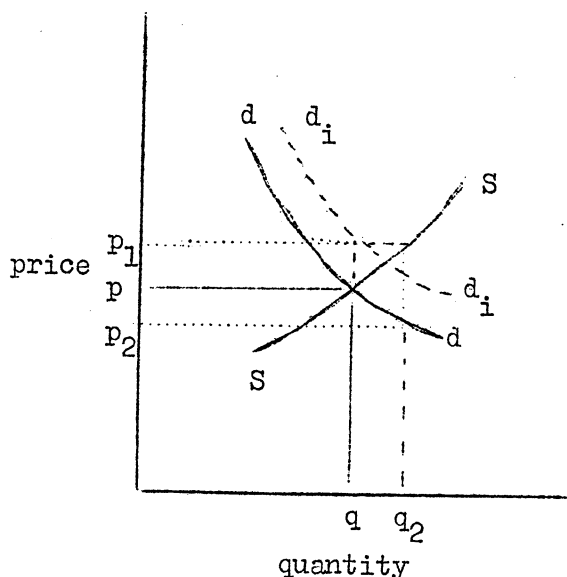
in their postulated situation. First, expected premiums for quality cannot be maintained if consumption per head of the population is to be increased; secondly, the 'quality-minded' producers are not always the most efficient, and may be misled if they are looking to "good marketing" to bring them a high average return. On the other hand, in a situation where supply is expected to increase faster than demand, the anticipated competition among buyers for growers' produce may be expected to develop into competition between growers for a buyer's favour. What seems to be in the offing, then, is a partial re-alignment of the present disposition of growers' forces in the marketing field.

The Quality 'Illusion'

The big difference that eating quality makes to the demand for most horticultural produce emphasizes the distinction between volume of sales and consumers' expenditure - the latter being the more important for producers. Better-than-usual quality in any crop elicits additional expenditure, and a good proportion of the larger whole is realised by the producers. If they interpret this as a sign that consumers want more of the product, they are wrong. What has occurred is a temporary shift in demand. If producers now set about supplying more, and for, say, four years out of five, quality slips back to its normal level, producers will find both their sales and their prices disappointing. In this way, quality, when not recognised as the operative factor in demand, gives an illusion that the demand is higher than it really is - that is, demand in the usual sense of how much (in quantity) a market will take.

Followers of economics may recognise the simple application

Figure 10. The Quality Illusion in Demand



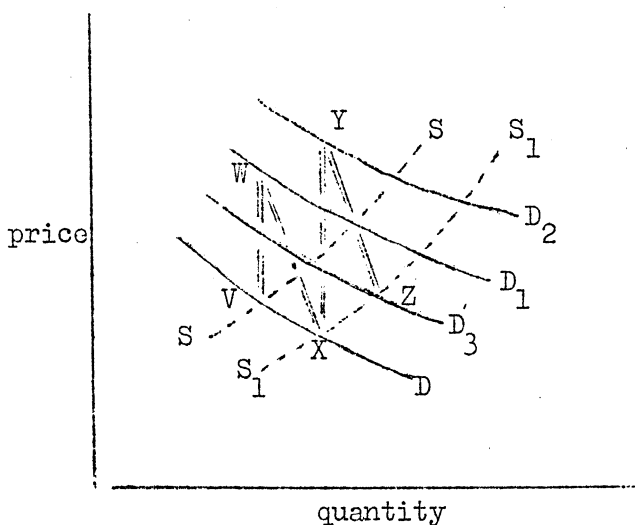
of the change-of-demand curve theorem in Figure 10.

In this diagram $S S$ is the supply curve, which is unchanged from year to year because the good-quality crop is an act of Nature and does not involve a change in production costs. dd is the demand curve for the crop of average quality, p being the equilibrium price. $d_i d_i$ is the demand curve for the better-quality crop, leading to a new short-term equilibrium price, p . At a price p_1 , however, producers are prepared

to supply the quantity q_2 . When they do, of course, their normal-quality crop will be sold in accordance with the demand curve dd and the best average price they can expect will have fallen to p_2 .

Repetitively, attempts by producers to respond to consumers' joint demands for quality and quantity may be a contributory cause of long-term price instability. In Figure 10a it is shown how a movement towards higher consumption, in a context of (a) quality-inspired additional expenditure and (b) variable year-to-year quality and quantity must involve frequent disturbances of equilibrium price. Here, years of good-quality crop and greater quantity could equally well - and more truly - be supplied over much longer periods of time, the supply curve shifting as producers respond to a price incentive and not because Nature decides to be bountiful. Successive points of equilibrium price are labelled V, W, X, Y and Z, and the position of each is derived as follows:

Figure 10a Price Instability Engendered by Quality Variation



- V - a datum year
- W - a year of superior quality; demand curve shifted to D_1D_1 , supply unaltered
- X - a year of inferior quality; demand curve shifts back to $D D$, supply curve now S_1S_1
- Y - good quality again; demand curve D_2D_2
- Z - inferior quality; same supply as two years ago (S_1S_1); demand shifted back to D_3D_3 .

Propositions - Part II

1. British fruit-growers have served the country well during the last thirty years.
2. If prices of dessert apples are falling, producers have only themselves to blame.
3. More regular yearly production should be a big part of the general strategy for the British industry.
4. Advertising is always a good investment.
5. Consumers need to be encouraged to buy homegrown apples during their marketing season.
6. A range of varieties is always a good alternative to a range of qualities in selling an apple crop.

PART III ENGLISH PRODUCERS AND THEIR MARKET

Section I Consumers' Expenditure and Producers' Revenue

Political Evolution of the Apple Industry

Following on from Part II, it is hoped that reasonable grounds have been presented for the following conclusions:

- a. the marketing of dessert apples cannot at the present time be controlled and integrated with publicity in the same way as the manufactured products for which the biggest marketing successes are claimed;
- b. there is, nevertheless, scope for profitable intervention in marketing dessert apples;
- c. in producers' interests, the intervention should be by producers' themselves;
- d. without organisation for marketing, producers sell under conditions of near-atomistic competition;
- e. supply in relation to demand determines the long-term level of prices;
- f. higher quality is a stimulus to greater expenditure on apples; and
- g. lower price, with quality unchanged, is an incentive to higher consumption and proportionally lower expenditure.

Items (e) and (f) are in most producers' consciousness. Item (d) suggests that price will retain its classical role in the fruit market (with the proviso that price in relation to quality is important, a low price being further unable to compensate for low quality). Items (a) to (c), and (g) have as yet gained little significance in apple marketing. They relate to what could be done by growers to help themselves. This part of the text, however, is mostly about aggregate and not individual action. It shows a possible line of action if the weak link in marketing-producers' organisation - could be strengthened.

In all probability, primary producers have rarely taken their

economic circumstances fully into their consciousness. Economic theory declares that where a large number of small firms constitute the sellers of a product in a market, and each firm is managed with the aim of making maximum profits, the total output of all firms is likely to be pushed up to a level at which total profit is below the maximum obtainable in the market. To put it in another way, because each individual firm feels no direct effect on its market prices from increasing its production (not to mention the lag of years before the fruit is on the market) aggregate production expands to a level which exceeds demand at a desired price. Then, to quote: "About the only thing that keeps prices from falling in accordance with the above process is outside intervention".* From this condition arises the almost universal need for central governments of industrialised countries to subsidise the agricultural sector.

British horticulture has so far been free of this sort of national largesse: but, as has been previously mentioned, fruit growers have yet to see their production plans come to fruition. It follows from the conjuncture of (a) the competitive structure of the fruit market, and (b) English dessert apples' approaching maturity as a commodity, that producers will soon become particularly dependent for their individual financial success upon the level of total deliveries of dessert apples to the market. (Hence the desire for more accurate knowledge of quantities moving into consumption).

If English fruit-growing follows usual business experience the successive stages through which it will pass are these:

- i. (from an early stage in its history) an increase in the number of firms, attracted by the financial prospects;
- ii. augmented total output some years later, leading to lower real prices;
- iii. augmented output per firm, to offset the following real prices;
- iv. consistent over-production, due to unwillingness to grub, leading to low average profits and the withdrawal of some firms.

* M. Olson, Junr. The Logic of Collective Action,
Harvard Univ. Press, 1966.

Assuming that dessert apple growers are leaving stage (ii) and verging on stage (iii) with stage (iv) to follow, it is time to round out the political evolution of an industry that has a mature product and experiences difficulty in adjusting to economic evolution. In stage (iv) governments necessarily become interested and directly concerned with the welfare of producers; although what they propound are palliatives rather than radical remedies. There is widespread acceptance among administrators in wealthy industrialised countries that agriculture is a poor relation to industry. Farmers are, in the nature of the economy, unable to get the prices they deserve, and what consumers fail to pay them the state should provide.* While the same philosophy has not been tested for horticultural products, it features in the E.E.C. measures for the regulation of the Community fruit and vegetable market. This same idea is anathoma to many English producers, and we may expect an income-supplementation scheme to be one of the last resorts in English fruit-growing.

A 'Steady State' Market

Such plans as there are (e.g. in the E.E.C.) for buttressing growers' prices are designed to operate through markets; and it is mainly with growers' use of markets in mind that the following analysis has been prepared. Growers' potential power in integrated marketing is perhaps another issue.

The function of a market, as understood in horticulture, is to equate supply and demand. It is always said in favour of markets - particularly of Covent Garden - that they will have a buyer for all the produce there. Covent Garden, of course, happens to be one of the largest markets for imported produce in the world - which is tough on the British grower - and just what is it worth to the producer to have this facility in the market of soaking-up the less wanted produce day after day? If it is a regular occurrence, is not its cause that too much produce is habitually sent? This is the next question to be examined.

The origin of wholesale markets is thought to lie in the physical variability and perishability of the produce and the mercurial demand-supply situation. It is customary for buyers to see the produce and value it in the light of alternatives. In essence, none of these features necessarily puts the grower in a weak market position. The same procedures could take place in, say, producer-owned markets that were open for a limited time, that required a firm sale between buyer and seller and

* "Transfer payments can and should be used to create politically acceptable levels of farm incomes and encourage basic resource adjustments" L.B. Fletcher, in Farmers in the Market Economy, Iowa State University Press 1964.

gave a ruling price for the day, and if this were to happen producers would not feel at a disadvantage to the extent they do nowadays. Again, a mercurial price is more of a phenomenon for the grower than for the consumers. The more directly a grower can deal with a retailer or consumer, and the larger and more influential the concerns, the steadier his price should be. For many producers, horticultural crops have been a mild speculation; and there is still a caucus of growers who relish the uncertainties of the trade. On balance, however, the long-term trend is towards a comparatively 'steady state' market in which the shortest-lived and inconsequential price fluctuations are suppressed. The size of crop would still have an effect on seasonal price. Prices would not be stable from year to year, nor would it benefit growers to rule out any unit-price falls which were price-elastic (i.e. led to more actual revenue for growers). As was shown in Part II (p. 56) price-elasticity of demand for the general run of horticultural products is likely to be of greatest benefit to growers only when, for a limited time, good quality produce becomes available in somewhat-higher-than-normal, but not excessive, quantity.

We must anticipate that the market of the future will be a 'steady state' medium for transactions in which (a) producers exercise elementary supply management, (b) short-term preservation has increasing effect, (c) price competition is keener than at present, and (d) no consumers are short of food; producers' actions having resulted in their net returns being fractionally higher than they otherwise might have been. Also involved in the 'steady state' attitude is the sacrifice by growers of the satisfaction that they get from knowingly adding to the food supply when they have a full crop. Good marketing does not allow perpetual bargains, because they impair the firm's or farm's price policy. Concession selling is strictly controlled, and conditioned by competitors' concessions and the progress of sales.

For producers who respond to the notion that, to a degree, they can help themselves through their marketing practices, there is more that can be written.

First, it is postulated that total marketed output is the critical factor in producers' revenue.

Second, that in this context too much attention should not be given to unit price: what matters with a product like apples, which is not produced as a continuous flow, is revenue: with 60 per cent or so of the crop in store, release could be organised with the intention of

maximising producers' revenue from the fruit available. (Since most of the producers' costs have been incurred by the time the fruit is in store, maximum revenue is a good guide to maximum profit). To this end there follow some calculations of revenue flexibility of supply.

Thirdly, that discipline is enjoined of producers if maximum market revenue is to be realised. Finally, some theoretical work on group organisation is emerging in American universities, and this work is commented on at the end of the section.

Apple Growers' Profits are Residual

How the level of marketed output will affect apple growers' revenue in any year can be explained as follows. First, there are high fixed costs in marketing and distribution, in comparison with production. Secondly - and closely related to the first characteristic - there will in the short-term future be inelasticity in the derived demand at the farm. It is known that producers, some years ago, intended to grow more dessert apples, and that the effect of their additional planting will be felt in earnest in the first climatically favourable season. Who is going to buy all the additional apples? Up to a point, growers can encourage consumption by improving quality and by extending the marketing period by storing more apples. Thereafter, increased consumption can only be had at the cost of lower prices - as in France in 1966 and in the Netherlands and Germany in 1967. To clear a large additional crop, retail prices will have to fall considerably.

Levels of wholesale market price since 1964, in relation to estimated supplies, have shown that demand at wholesale is weakly price-elastic: but market sales are not the only source of growers' revenue, and there is evidence that at the farm, demand is already price-inelastic. See Table 6.

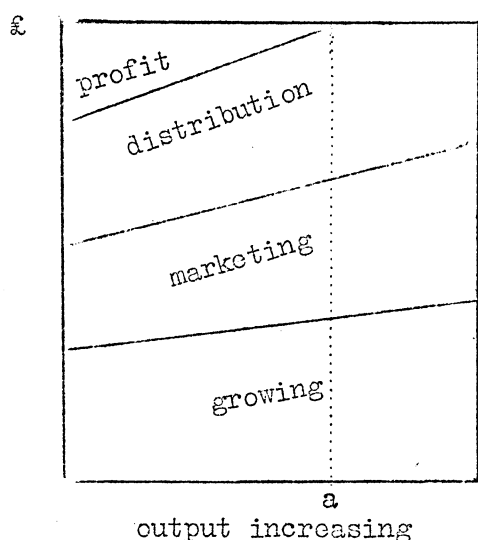
Table 6. English Dessert Apples: annual supplies and related wholesale and farm-gate prices, 1964-67 (1964 = 100)

	Index of size of crop	Index of wholesale price	Index of farm-gate prices:	
			Current Price	Real Price
1964	100	100	100	100
1965	91	109	125	120
1966	81	119	165	152
1967	58	153 (e)	214	192

Sources MAFF. Agricultural Market Report and Wye College data.
(e) = estimated

While Table 6 cannot be taken precisely at its face value (because the smaller crops contain less Cox), an approaching inelasticity at wholesale means that sellers will have less rather than more money to pass to growers, whose costs have increased. If English apple orchards burgeon before consumers have the wherewithal to make free with English apples, there will be a period when producers adjust to the new situation by forgoing their profits, as outlined in Table 6 (note that the real value of the 1964 crop (price and quantity) was lower than in any other year) and shown in Figure 11. Figure 11 is history projected into the future,

Figure 11 Representation of Producers' Profits as a Residual of Marketing and Distribution Costs, assuming unitary price-elasticity of demand at retail.



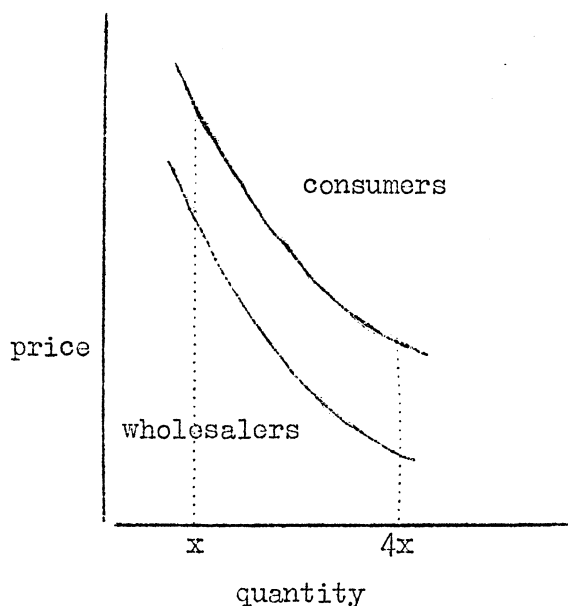
but we must remember that the increasing output is not necessarily being obtained more efficiently. The industry as a whole will be using more resources to produce the additional crop; and we must assume that when the normal crop is 320,000 to 330,000 tons, producers' aggregate costs will be higher than they were in 1964.

'Farm gate' Price Elasticity

The comparative demand elasticities for dessert apples in the retail shop and at the farm are important, because in the process of transferring to the farm, through the medium of price, a knowledge of the demand at retail, the appreciation of dessert apples that consumers are showing will be distorted. In Figure 12 it is shown how, when distributors have been paid for their services, the 'derived' demand curve of distributors for the fruit and package that the growers supply differs from the demand curve of consumers for the combined fruit and marketing services offered by the retailer. The growers' experience of changes in price will differ from the retailers' experience of changes in price.

Assuming that when price is high growers will get 67 per cent of the price the consumer pays, (quantity 'x') and that when price is low the

Figure 12 Relation of (a) consumers' and (b) wholesalers' demand schedules



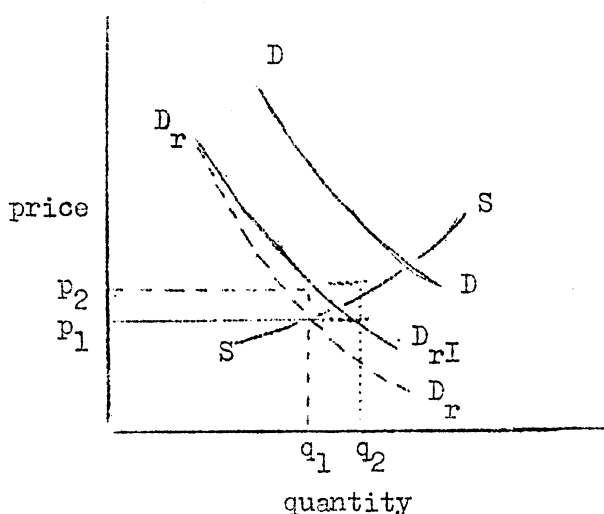
growers will get 35 per cent (quantity '4x'), then, in moving from a short crop to a full crop, the consumers' experience is a change from say, 1s. 8d. a lb. to 10d. a lb. whereas the distributors' experience is a change from a margin of say, 23s. a bushel to 21s. a bushel, - and the growers' experience of change is far more salutary, because their average price at the farm falls from 40s. a bushel to 11s. 6d.

Producers are in error, nevertheless, if they think this to be one of the immutable laws of the market, because it is they who determine how much of what is grown is offered on the market. There is every incentive in this situation, too, for growers to "buy in" to distribution, but this does not seem to happen, even on the smallest scale. The trend so far has been all the other way - distributors buying in to production. Producers often feel they are doing all they can in this respect by integrating - possibly on a contract basis - their production with a distributor's requirements.

Returning to the point that producers sell fruit, and consumers buy

fruit and services, the relation of the consumers' demand curve to the buyers' demand curve implies that relatively more 'service' is provided at a low price than a high price. This is true because the cost of the service tends to be fixed, while the price ticket on the fruit can vary. Given equality of market power between grower and distributor, (or, an integration of production and distribution) it is conceivable that an 'improved' marketing system would operate to give producers a derived demand that was equidistant from the consumers' demand curve throughout its course. In this event, it is interesting to speculate upon what would ensue (see Figure 13). In theory producers would hope to sell rather more apples a little more profitably than they can at present.

Figure 13. Effect of an 'improved' derived demand curve upon producers' returns



This diagram shows how the replacement of the actual buyers' demand curve by a 'perfect' curve would in the short term (supply being fixed) lift the producers' price from P_1 to P_2 , and in the long term (supply being increased) increase the quantity growers could sell (from q_1 to q_2) and also at the original price of P_1 .

It is symptomatic of bargaining strength that distributors can shield themselves against sharing the growers' losses (displace the buyers' demand curve in their own favour) when prices are low.

There is some justification for wholesale prices falling when supplies of fruit are ample, because a bigger crop has a lower unit cost of production than a smaller crop. But the difference in unit costs within a normal year-to-year variation in crop (i.e. excepting the extremes) is no more than 1d. a lb. Now, if the crop which is grown for a 1d. a lb. less than the normal has to be retailed at a reduction of more than 1d. a lb. in order to clear, who makes up the difference? Whether justice is done between producer and distributor in this situation

depends upon how much the distributors' costs change - increase or decrease - in handling the larger volume of fruit. We are not now concerned with unit costs, but with aggregate costs.

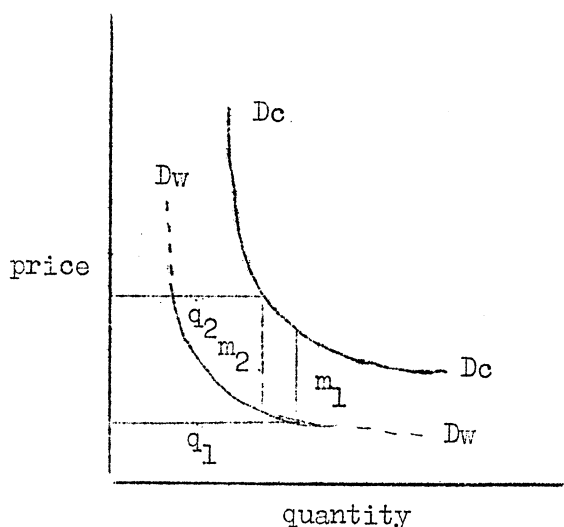
If the distributors' marginal cost curve (the supply curve for his services) rises when supplies exceed normal, distributors would be justified in retaining more of the money they took off consumers. If demand were price-elastic at the farm gate, this would not matter so much because producers' revenue would increase as a result. However, in reality, the characteristic of distribution costs is that they are so largely fixed; and in the conditions quoted price is more probably in-elastic at the farm. Consequently, growers, as producers, bear a lot of the cost of the adjustment throughout the trade to a diminished retail price. This contention is rounded-out with some appropriate figures at the end of this section.

It may be useful to mention here a further possible consequence of the traditional marketing system for English dessert apples. The 'low average cost per unit for a big crop' argument serves when annual production fluctuates from year to year and the big crop is in the nature of a windfall and consists of good-sized apples. It may not apply significantly to the packed and graded box if the big crop entails small apples. Neither does it hold good if an increasing volume of fruit on the market (and the ensuring low price) is the result of additional capacity and additional production. If there is greater capacity, normal yields and lower prices will occur together so that producers' unit costs are not reduced - and producers may be looking for some relief from marketing and distribution costs. Protagonists of the traditional distribution system quote its flexibility: there is no evidence that it is very flexible in pricing its services.

It could be argued that an 'improved' marketing system would relay to producers, as closely as possible, the consumers' demand schedule. This is thought to be subject to less variation than production, although responsive to overall quality. All the time a chunk of marketing and distribution cost separates producers and consumers there will be the question of whether marketing margins should be constant or proportional to price. From the producers' point of view, since their costs are so largely fixed for all levels of output, a system which tends to stabilise their revenue from year to year might have some recommendation. Assuming that consumers' expenditure is relatively inflexible, realisation of this aim in marketing would entail a compensating and opposite movement in marketing and distribution cost to that of production cost. The notion

of largely-fixed consumers' expenditure and a stabilised producers' revenue can be simply presented as in Figure 14. If the price-elasticity of dessert apples were very close to unity, and the dessert apple crop were only to fluctuate within, say, plus or minus 10 per cent. Figure 14 would serve as a model of an 'improved' system, because both distributors and producers would get a near-constant income - the theory, of course, does nothing to fix the distributive margins equitably between the parties.

Figure 14. Derivation of Stable Producers' Revenue from Constant Consumers' Expenditure.



In the diagram D_c is the consumers' expenditure curve; D_w represents what wholesalers pay producers. In the circumstances quoted, the distribution margin, m , multiplied by the quantity sold, q , would be a near constant. (i.e. $m_1 q_1 = m_2 q_2$).

Returning now to the suggestion that aggregate output is of particular significance to producers, and that overloading should be prevented, how are producers to know that the market is overloaded? To answer this question leads to a consideration of revenue flexibility of supply.

Revenue Flexibility of Supply

Producers' profits depend more than anything else upon the revenue

they receive. This is essentially a flow of money, the product of a quantity and a price. Price is the factor that gets all the publicity, but price is not significant unless related to a quantity. It is revenue upon which the grower lives, not price per unit. Average seasonal price is inadequate as a guide to the dessert apple market. It is not so much the actual price realised, but how much the individual's revenue would fall or rise if the quantity were altered that constitutes the planning exercise.

Economic theory meets this situation in its concept of elasticity (price elasticity) of demand. The co-efficient of elasticity relates a change in price to a consequential change in volume sold. For example, three points on a market demand schedule for English dessert apples may be:

- i. 3,000,000 bushels and 2s. 6d. a lb.
- ii. 6,000,000 " " 1s. 6d. "
- iii. 8,000,000 " " 1s. 0d. "

Then at an annual output of 6,000,000 bushels the price elasticity of demand over the arc of the demand curve between 6,000,000 and 8,000,000 bushels would be.

$$\frac{\frac{8}{6}}{\frac{3}{2}} = - \frac{33.3}{50} = - 0.67$$

Here, demand is shown to be inelastic, because price has fallen more than the quantity supplied has increased. Producers' revenue would have fallen, from £12m. to £8m., in moving from 6m. bushels to 8m. bushels. That is, under conditions of inelastic demand, consumers' outlays on dessert apples could be actually reduced if the market were overloaded.

In theory, once the price elasticity has a value less than unity, marketings have been excessive and growers' revenue is bound to fall. Even when the retail price elasticity is unitary, the retailers' receipts from consumers will be no higher, in any one season, from a small crop than from a large, and there will be additional costs for marketing and for production with the large crop, leading to a further fall in growers' revenue. It is clear, then, that following price theory, marketings should stop at the level at which demand ceases to be price elastic. In

this way growers can make sure that the retailers' receipts from English dessert apples are as high as they can be in the prevailing circumstances.

Growers may rightly point to the marketing success they have already had: dessert apple production now averages nearly 300,000 tons a year, and prices stood up well to the increased supply. This is true: but the favourable results so far are largely the outcome of two non-price elasticity factors. The first is the higher quality of product, which has 'shifted' the demand curve, and the second is income elasticity of demand. It is obviously right that marketings from year to year should respond to increases in spendable income. These effects will be lessened in the near future as production continues to increase.

Three variables all contribute to the annual average price per unit for English dessert apples. There is, first, the composition of supply by variety. For example, the same absolute or relative change in the volume of, say, Miller's Seedling marketed in one year and of Cox marketed in another year will have different effects upon average price. Secondly, in any one season, for which the composition of varieties is fixed, the attractiveness of the apples, in either appearance or flavour, is a consideration. Price per lb. of a good quality crop may be as much as 10 per cent higher than for lower-quality, but otherwise identical crop. Thirdly, there is time of sale: generally speaking, the more apples that are held in store, to sell at higher price, the higher the annual average price is likely to be.

This complexity in pricing, resolved in both short and long-term movements, makes price alone an unsatisfactory guide to the state of demand. It is possibly more important that producers should become aware of what all the season's characteristics add up to, and this is possibly best seen in the aggregate revenue received from sales of fruit. In this chapter, some results are shown of applying this concept to the fruit market.

As regards the aggregate market situation, after the foregoing reference to elasticity of demand, the notion of revenue flexibility of supply should not be strange. This is simply the rate of change in revenue compared with the rate of change in quantity supplied. It is defined as:

$$\frac{\text{percentage change in revenue}}{\text{percentage increase in supply}}$$

All the time the output is meeting elasticity in demand, revenue will

be increasing and the flexibility co-efficient will be positive and have a value greater than unity. Once the co-efficient is reduced to a positive value of less than unity, sellers will begin to get a lower average price, and this should be the signal to them that they are relying upon lower marginal costs to sustain their profits.* All the time annual output is increasing (this type of analysis is obviously not suitable for a declining output) there will be a value of the co-efficient, which can be called the critical flexibility co-efficient, at which further sales will add to revenue only as much as is added in marginal cost, and once the level of output has given rise to a critical level, nothing will be gained by putting more on the market. If the co-efficient is negative - and negative co-efficients have shown up in some test exercises - it is a fair assumption that the level of revenue was actually depressed, and that revenue would have been greater if less had been marketed. Producers have actually experienced this condition. Here are two examples. In the 1967 marketing season the New Zealand Apple and Pear Marketing Board sent 833,000 fewer bushels of fruit than in the previous year, and its revenue increased by 20 per cent (N.Z. £3.5m.). Similarly, in the Okanagan Valley of British Columbia the 1965 crop of apples of 254,000 tons sold for \$12m. The 1964 crop, of 311,000 tons, sold for \$11m. In both cases the higher output meant lower revenue for growers and probably diminished profits. It is hardly to be expected that retailers took less money originally for selling more apples.

The logic of this is inescapable. Suppose that 5m. cases of fruit sell at wholesale for £1m., and that when the price is 4s. a case marketing costs are equal to half the value of the fruit (i.e. 2s. a case). Then, if 10m. cases sell for only £1.5m., marketing deductions and costs (at 2s. a case) will account for £1m. and producers will be left with just as much money as they had from 5m. cases - i.e. £0.5m.

* It is customary in economics to work out a critical level of output in terms of a marginal cost per unit and a marginal revenue per unit, why, then, depart from custom in this instance? The answer is that the grower does not know a price. For the parts of each consignment he will be quoted up to, perhaps, eight prices according to size and quality of fruit; and as each consignment will be different in the size and quality of its apples, (and because there is imperfect substitution between apples of different size) the producer is not made aware of a price trend as normally understood. The author has used the term 'generic product' elsewhere to describe dessert apples in this marketing context.

Applications of Revenue Flexibility

The aggregate revenue situation for English dessert apples is now worked out step to step; using farm-gate revenue elasticities derived from a study of the marketing operations of one of the largest of English growers' organisations.* By drawing upon this real-life example the text does not lose its theoretical nature. It is still concerned with some principles of marketing dessert apples, not with a blueprint for corporate action, because the figures utilised refer to a part of the crop and may not be relevant to the entire crop. Figures in this context have the dual purpose of rendering the argument less abstract and providing partial knowledge of the actual situation.

This marketing group's experience over those of the years 1961 to 1966 with eight dessert varieties of English apple - each in its own season - has been a revenue elasticity of -0.2. That is, 10 per cent more apples sold has been followed by a reduction in revenue amounting to 2 per cent. In other words, averaging all varieties, the supply position appears to be already critical for producers! Not all varieties are of equal importance to the producer, and those with negative flexibilities are the less popular early and mid-season sorts.** For the two prominent varieties Cox's and Laxton's Superb, revenue elasticity has averaged + 1.2, i.e. 10 per cent increase in sales of these two varieties has realised 12 per cent more revenue for producers. This is all the evidence needed that Cox in 1964 and 1965 was not at the limit of its potential consumption. The weighted average of the major eight varieties' flexibility was + 1.325.

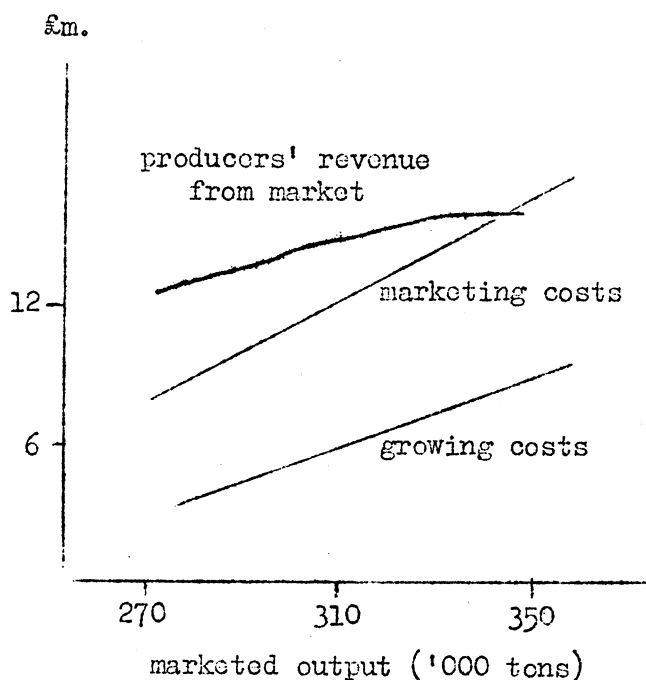
With these notional revenue flexibilities we can proceed from a retailers' revenue curve to a wholesalers' revenue curve and thence to the concept of the producers' revenue flexibility. In this way it becomes easier to present diagrammatically what the future marketing situation for English dessert apples might be. A first 'run' of this exercise is now made to show how it works, assuming that producers are in a phase of increasing output as a result of increasing the area of orchards at a

* The author acknowledges with thanks permission to use this data.

** this particular statement is seriously qualified, and the general situation a little qualified, by the very high prices for English apples in the first half of the 1961-62 marketing season.

time when consumers' demand for their apples is increasing less fast. We are thus referring to a period of, say, three to five years (the medium term) during which neither producers nor distributors can adjust effectively to a changing situation and increasing efficiency of production has little bearing upon producers' profits. Figure 15 suggests how the producers' revenue curve would look if growers were in the situation of lifting the normal annual crop of English dessert apples to 310,000 tons. Aggregate costs for growing and marketing the crop are also shown. Average growing cost per bushel is assumed to be constant

Figure 15. Producers' Profits; notional short-term behaviour



for all outputs, and average cost of marketing is assumed to rise by 85 per cent of the proportional increase in output. At point v, producers' profits would have vanished.

For a second 'run' of this exercise the revenue flexibility figures previously quoted were used again as typifying the producers' situation, and it was assumed, vis-a-vis the future, that (a) there is a rise in the national crop from 300,000 tons in the base year

to 325,000 tons, 340,000 tons and 355,000 tons in the three following years, (b) that personal incomes increase at the rate of 2 per cent a year, the income elasticity of demand being 0.6, and (c) that producers' unit costs of growing a crop also increase at 2 per cent a year. In these postulated circumstances - and they describe a more progressive and orderly expansion to 350,000 tons than is likely in practice - the group of producers would anticipate revenue flexibilities considerably below those experienced during the mid-1960's when crops were, on the whole, below normal. The computed flexibilities fall within the following limits (according to different assumptions about the imperfections in markets):

	<u>Crop Increased From:</u>	<u>Revenue Flexibility</u>
Year 1	300,000 to 325,000 tons	0.27 - 0.29
Year 2	325,000 to 340,000 tons	0.61 - 0.67
Year 3	340,000 to 355,000 tons	0.69 - 0.76

The flexibilities are positive, but fractional, which suggests that the revenue will increase less fast than the size of the crop. Also, the flexibilities are increasing in magnitude, which suggests that the intervening period before higher regular consumption is realised would be a more trying time for growers than the period of realisation of higher consumption, from the present acreage. We may conclude that former levels of profit cannot be realised, and that, taking the increase in costs into account, assumed profits will fall. In the first year, for example, producers' revenue increased by 2.3 per cent, costs by 8 and 10 per cent. There is likely to be an average fall in profits of £10 to £20 an acre in this event.

A Maximum Profit Situation

We have established in the second 'run' of the exercise that although output is increased, and consumers spend more, producers' profits would be lower than formerly. The final outcome of this theoretical approach to marketing, involving the concepts of the aggregate supply and of producers' control of supply, is a third 'run' of the exercise to establish how producers' maximum profit is related to revenue from the market and, in turn, to consumers' spending. More of the real-life, i.e. the whole situation is taken into consideration at this stage, but what follows is not a picture of reality. The two big differences between the hypothetical and the actual situations, are, first, that the size of crops cannot be predicted, and they will probably not come in orderly sequence, (consequently the operation of the tendencies here outlined will tend to be concealed): and, secondly, that producers' individual profits will be also affected by annual fluctuations in their own crop. (There will be thousands of private trends in profitability and the aggregate result will be concealed from individuals). It should be noted that the allusions to 'management' of supply raise questions of the mechanics of control - i.e. how to get producers to act, and act effectively in concert - which have not yet been solved. Each producer's experience of annual profit is distinct, and individuals will take a good deal of convincing that, taking one year with another, interference with the marketed output is to their advantage.

The topicality of this type of examination of the apple market in the present situation is confirmed nevertheless, by at least two recent events, both reported from Italy where over-production of apples is causing most concern. First, the E.E.C. intervention procedure is thought to have cost about £5 $\frac{1}{2}$ m. in Italy in respect of the 1967 crop. Secondly, an Italian trade association calculates that in 1966 as compared with 1965, apple exports increased by 8.3 per cent in volume and by 7.38 per cent in total value. If three-quarters of the value at wholesale is for marketing (and one quarter for growing), and if marketing costs are fixed per unit, then 6.2 per cent ($\frac{3}{4}$ of 8.3%) of the increased revenue would be absorbed by marketing, leaving 1.1 per cent (7.3 - 6.2) as the gain in producers' revenue: out of this they would have had to pay for an 8.3 per cent larger crop. To retain former profitability, producers need to be 7 per cent lower per box marketed. Revenue flexibility for producers in this case was 0.13.

Like many things in economics, the notion of the situation that would give producers the highest profit from any given level of maximum spending by consumers is easy to grasp. To explain what it involves is less easy, and to attempt to express the notion as an actual sum of money is at present a speculative exercise. For instance, having profit in mind, growers' costs have to be known as well as their revenue, and costs are not so well documented as prices and output. But one thing should be clear. Growers will not maximise their profit without paying attention to demand. Once there is a notion of demand, producers will maximise their profit as a result of (a) regulating supply to conform with demand, and (b) using no more resources (i.e. land, labour and materials) than are necessary to provide, with allowance for fluctuating yields, for the output they have decided upon.

We can then proceed to state two propositions, and be guided by each in working through to a notion of where the maximum profitability position lies. The propositions are:

- a. when the change in revenue from consumers, consequent upon the sales of more English dessert apples, is insufficient to cover the additional costs of distribution, including distributors' profit, then producers' revenue will be less than if the additional apples had not been offered;

- b. when the change in revenue from the market (i.e. fruit buyers) consequent upon selling more apples is insufficient to cover the additional costs of growing and marketing the crop (i.e. growers' expenditure), then producers' profits will be less than if the additional crop had not been marketed:

It is not usual, of course, to be able to identify the 'additional' apples, or any element of associated increase in costs. What is implied by a bigger crop is an increase in the overall activity in fruit distribution.

In considering the first proposition, suppose that there is a particularly plentiful crop of dessert apples in one year, and producers and distributors feel it incumbent upon them to sell as many as possible. Retailers and wholesalers act in their own interests. A retailer will not buy in a way he thinks will reduce his profit. If put under pressure to sell more apples he is likely to reduce his buying price more than his mark-up (that is, he will take the same or a little larger profit from a greater volume of sales at a lower retail price): but as, by definition, demand has ceased to be elastic, the retailers' revenue has not increased and what he can pay the wholesaler in aggregate is no greater than it would have been for a somewhat smaller quantity.

The wholesaler in turn, finds that the revenue he receives from retailers is no greater, but his aggregate costs are increased by handling a greater volume of fruit. His reaction is to safeguard his profit position and on this account he too, will try to buy more cheaply than he would otherwise have done. Thus, it has to be recognised that the larger crop is, from the producers' point of view more expensive to distribute than the normal crop. If there is a big volume of sales on commission when demand is inelastic, of course, the commission agents' earnings will fall along with producers' revenue.

A notional assessment of how distribution costs would affect producers' revenue in three different market states - of shortage, of normality and of excess - when inelasticity in demand is apparent at outputs of from 310,000 to 320,000 tons, is shown in Table 7.

Table 7 A Relationship between Gross Consumers' Spending and Producers' Revenue

	<u>Consumers' spending</u>	<u>Distribution costs</u>	<u>Remaining revenue</u>
	£	£	£
<u>Situation A</u>			
250,000 tons retailing at 1/9d. a lb.	49.0m.	(@ 1/1d. a lb.) 30.1m.	18.9m.
<u>Situation B</u>			
306,000 tons retailing at 1/6d. a lb.	51.3m.	(@ 11d. a lb.) 30.8m.	20.5m.
<u>Situation C</u>			
336,000 tons retailing at 1/3d. a lb.	46.8m.	(@ 10½d. a lb.) 32.9m.	13.9m.

In the above example 336,000 tons of apples were available for marketing. By marketing 250,000 tons, producers would have received £18.7m. from buyers. By marketing 306,000 tons they drew £2.3m. more from consumers but only £1.6m. more for themselves. By marketing all that were available, producers reduced consumers' expenditure, suffered from higher aggregate distribution costs, and finished up with £6.6m. less revenue.

Turning now to the second proposition, we have to realise that the producers' marketing costs behave differently from their purely production costs. An above-average crop may mean small savings per bushel up to the point of picking, but picking, storing, grading and packing and transport costs are incurred on a package basis, and so aggregate expenditure from the picking stage onwards is heavier for a bigger crop than a smaller, and the producers' total expenditure will therefore be higher. They can only continue to maximise profits if they have first made sure of maximum revenue and then wasted nothing on picking and marketing. The results for the three levels of output in Table 7 are repeated in Table 8.

Table 8 A Relationship between Producers' Revenue and Profit

	Producers' Gross (market) Revenue	Producers' marketing expenses	Producers' growing expenses	Producers' profit
	£	£	£	£
<u>Situation A</u>				
250,000-ton crop	18.9m.	5.25m. (@ 7/6d. a bu:)	7.65m.	6.00m.
<u>Situation B</u>				
306,000-ton crop	20.5m.	6.21m. (@ 7/3d. a bu:)	7.92m.	6.37m.
<u>Situation C</u>				
336,000-ton crop	13.9m.	6.67m. (@ 7/1d. a bu:)	8.00m.	0.77m loss

In this example, maximum profit is associated with maximum producers' revenue and maximum growers' spending, because the 'normal' situation of an output of 306,000 tons just precedes the level at which prices for additional apples would begin to fall steeply. Marketings will not always stop short of this point. Even so, in reaching their maximum profit position producers have, compared with marketings of 250,000 tons, supplied 22 per cent more fruit, received 9 per cent, more revenue and got 6 per cent more profit. The revenue flexibility is + 0.89.

Conjecture can proceed from the basis of Table 8 to a sort of 'fine tuning' of supply to discover whether the profit shown can be increased, and, if so, what is the revenue flexibility corresponding to this profit. In Table 9 it is confirmed that 306,000 tons was the optimum amount to market.

Table 9 Micro-adjustment of Supply

Marketed Output ('000 tons)	Consumers' expenditure (£m.)	Producers' revenue (£m.)	Producers' Costs (£m.)	Producers' Profit (£m.)
286	50.4	19.8	13.65	6.15
296	50.9	20.2	13.88	6.32
306	51.3	20.5	14.13	6.37
316	51.6	20.1	14.36	5.74
326	50.2	18.0	14.60	3.40

Producers' profit is increasing so long as quantities up to 306,000 tons are marketed. The critical revenue flexibility is reached

in advancing from 296,000 to 306,000 tons, and its value is in fact (+) 0.44. What this would mean in practice is that producers are close to the level of maximum profit when the proportional increase in their revenue is half the proportional increase in marketed output.

Notions of Supply Management

Artificial as the above exercise is, it shows how desirable it is for producers to have an effective form of supply management if over-production threatens. The worked exercise could equally well have been presented as an example of controlled release from store. It would also seem that, referring to the assumed revenue flexibilities on p. 93 and the calculated critical flexibility, that the present acreage should not be excessive in 5 to 10 years' time (provided the English crop is still protected from imports or has become immune to them), although excessive crops might well be experienced in moving up to the higher sustained level of consumption.

One final comment; whenever an excess of crop is in prospect, it is too late to correct it in the market. By that time buyers are attuned to abundance and producers have lost the initiative. Ideally, a potential excess should be removed on the trees at an early stage of the crop, and the news thereof 'leaked' to the wholesale trade. (Although it is understandable that English growers are unwilling thus to decimate their occasional bountiful harvest). To have a mammoth crop on the trees at harvest time, and not to pick all the trees in bearing a good alternative practice - and may mean a higher proportion of small fruit in the sample. To pick selectively and then market is more satisfactory, but does nothing to prepare the market for normal prices.

A Practical Fallacy

As practical growers will be quick to point out, these theoretical comments are 'pie in the sky' so far as they are concerned, because the individual grower is not well-informed about demand, and can do the best for himself by selling all he can. Once the crop is grown and picked, a lot of his costs have been incurred and his best policy is to boost his revenue as much as he can, hoping that the sum he will obtain will exceed his costs. This is atomistic competition in action: and what is best for the individual, however, cannot be best for all individuals. When all growers try to sell to the limit of their supplies in a market situation of latent over-production, there seems to be a likelihood that

the pressure to sell from numerous comparatively small producers will turn the trading in the buyers' favour, and the gross and net amounts of money which growers receive is less than it might have been.

Another type of response from growers will be to quote the 'rationing' of deliveries and the selectivity in marketing that occurs, usually on a salesman's advice when markets get overloaded. Why does not this suffice to give the growers maximum profit?

Much, of course, will depend upon whether, given a big effort by the trade, the apples can be sold well or not. It is assumed that they cannot. If there is no 'management' of supply, restraint by some growers will be offset by opportunist selling by others; growers individually cannot tell whether or not a market price that just covers their picking and marketing costs is determined by the canon of producers' maximum revenue. And the very knowledge that supplies were not to be offered in excess of demand would help trade considerably. Supply management turns market behaviour to producers' advantage by recognising that maximising the volume of sales will not always maximise consumers' spending on their product.

To be the more convincing, the argument is now extended to refer to the customary idea that the growers' best policy, having got the fruit to market is to sell it, although all they can get for it is the cost of transport and commission. This is an obvious case of low revenue flexibility - the grower is selling more fruit and getting proportionally less revenue on the deal. A grower with 5,000 bushels of apples to sell who finds, say, a stack of 50 boxes 'sticking' in the market, and who follows the '50 per cent flexibility' rule would not sell at less than 10s. a bushel if he knew the average value of the crop to be 20s. a bushel. (The 50 bushels is 1/100th of his marketed output: his minimum revenue is 1/200th of £5,000 or £25 for the 50 bushels). He is, nevertheless, getting more revenue over the season as a whole than otherwise - or is he? Let us assume that the fruit was dessert apples, and that its market value was 10-12s. a box; but, owing to excess supplies, the best price a salesman could get (at the end of the day's trading) is 6s. 6d. a box. The grower agrees to sell because the longer he waits the more the fruit will deteriorate; and he thereby gets credited with, say, 3s. 8d. a box which pays him for the package and transport.

No supplier will repeatedly accept this sort of price, so, almost by definition, the collapse of price in this instance is temporary, or

short-term. The grower applied a short-term remedy. Was it the best action he could take? Looking to the long term, the answer is most probably "No". It would have been preferable to have had the produce returned or destroyed, if that were possible. If he chooses to bring the produce back with a view to destroying it, the grower has forgone, say, his return of 3s. 8d. a bushel and he has to pay for transport back to the farm. Altogether, not to take the decision he did may have cost him 5s. 6d. a bushel, and let us say that there were 60 bushels in the lot. His "loss" is £16.10.0d. If the same thing happens three times during the season his total loss is approximately £50. Taking the long view, his decision was the best only if he did not thereby weaken the market to the extent of less than £50. If a buyer unsatisfied the previous day came back the next morning and paid the going price on another 60 bushels of the grower's apples instead, the grower would be getting a "net", say, 7s. 8d. a bushel or £23 for a consignment, the grower would be £19.10. (3 x £6.10. 0d.) better off over the season.

The above example is hypothetical and possibly of limited application but it illustrates the way in which producers weaken their own position and how they are vulnerable once they have a non-returnable package in the market (because the costs of not selling are comparatively high). If the cost of not selling is in practice frequently weakening the grower's position in wholesale markets and forcing prices down, it amounts to a misrepresentation of the demand: supply relationship. The situation would be ameliorated if there were an agency that would remove such produce from the market at no cost to the grower. In theory, the grower would recoup his costs from improved prices for the rest of his consignments.

Nowadays, the bigger fruit growers' co-operatives are giving salesmen the lead about not accepting less than an "expected" price. In this way growers have improved their position: and if the "expected" price were to be related to the "maximum revenue" notion there need be no qualms about fruit left in store at the end of the season.

To be effective, the postulated change in producers' thinking would have to go hand-in-hand with a certain measure of common action towards the agreed end in marketing. We are thus brought to a consideration of the commercial organisation of producers, and this occupies us in Section 2.

Section 2. Producers' Organisation

Concentration of Production

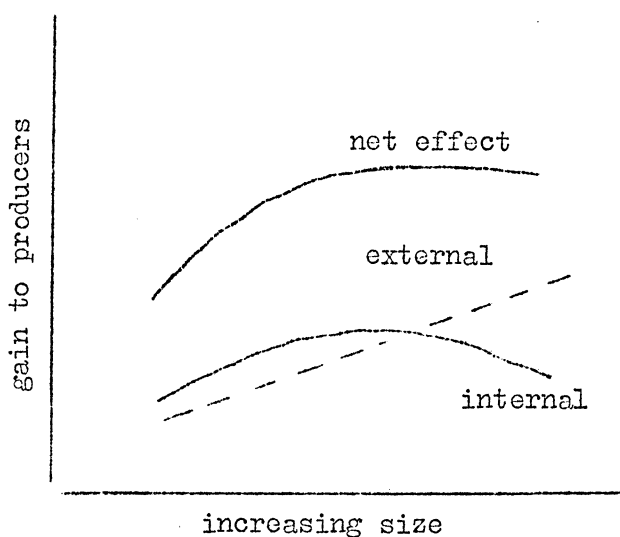
To repeat part of Part II, recent price and output figures imply that English dessert apples are not yet a 'mature' product. On the other hand, the present size-structure of dessert-apple businesses cannot be considered to be in a mature or developed state. This is another way of presenting the oft-repeated argument that fruit-growers must be prepared for change - in this case a concentration of production in fewer businesses and in few localities. By definition, 'maturity' in a product means that buying is at best habitual, and that relative growth in consumption is going on elsewhere. Producers' revenue ceases to grow, and adjustments have to be made in the structure of the industry. It has been fully demonstrated in the industrial sectors of the economy that maturity in a product entrains great problems of maintaining previous (and therefore accepted) levels of profit in times of inexorable increases in costs. Inevitably, large units begin to predominate, producers increase their power in the market, - shift the market structure; product variation becomes a feature, and, if it is apposite, innovistic forms of competition flourish.

In conventional thought agriculture is set apart from manufacturing, because, for one thing, economies of scale in production are less effective, and because single firms sell under competitive conditions. And the same line of thought could be applied more cogently to horticulture. But in so doing it would be well to keep clearly in mind the difference between internal and external economies. Manufacturing industry favours large industrial plants for highest efficiency of production (internal economies of scale). Internal economies of scale are less marked in horticultural production; there may well be some external economies, although they are attenuated in comparison with industry by virtue of the dispersion of holdings, and the small size of businesses. Other things being equal, a smaller business cannot benefit so well as a larger business from the manifold changes in industry generally, which are conjoining to increase the size of the business unit.

Manufacturing industry has nothing quite like the variable productivity of agricultural land to contend with. In fruit growing, production technique is similar for most sizes of business. Advantage thus lies only partly in size of business, and much more in the

productivity of land as expressed in intensity of production. Only limited areas of best soils in the region of best climate are to be found in England and Wales. And, furthermore, the occurrence of best situations within these areas is fragmented. A small unit can be wholly on good land: a large unit, if brought within a ring fence, is more likely to have some inferior land. In this way the 'technical coefficient' or resource output/input ratio, does not improve steadily with size of unit. External economies hold out more promise for fruit-

Figure 16 Effect of Growth in Size of Fruit-growing Firms



growers, probably as a consequence of (a) a concentration in middle-sized firms, and (b) a geographical concentration in the region of best situations. A notion of how economies of scale operate in fruit growing is shown in Figure 16.

Geographical concentration of fruit-growing should certainly aid the tendency towards producers' solidarity which is another feature of maturity of product in a given market. More fruit-

growing firms are likely to remain in private hands than in the case of other small businesses that can more easily grow and acquire anonymous executives. Personality problems will thus persevere, possibly to the cost of the industry in its political and market power.

A Change in Motivation

The emergent strength in the socio-political field of a group of producers having common interests is another feature of a maturing industry. Individual growers' outlook alters as time passes, and so should their corporate outlook and actions. The psychological development of fruit growers as business men is worth attention. When they plant up their first orchard, fruit growers are well-motivated. Most of them have the genuine desire, not devoid of self-realisation, to grow apples, because apples are entirely beneficial to the community, and fruit growing, in prospect, is an attractive occupation. At the very

worst the grower simply wants to make money. Conceivably, a majority of new fruit-growing ventures succeed, and growers expand production. Within the growers' lifetimes, however, markets appear less willing to take all the apples grown and almost simultaneously fruit-growers find that other potential users of their land, labour and other resources begin competing for them. When this happens the fruit industry has reached the size which society requires, and instead of buying more fresh fruit, consumers will buy something else.

It is then that growers' motivation changes. Self-interest becomes more clearly identified with other peoples' (consumers!) behaviour and motives become commercialised. A few growers who cannot make their businesses pay may give up; but scaling-down production is not a rational behaviour for the individual grower and is unthinkable for the industry as a whole. There are two results. First, growers find a common bond on self-preservation. Secondly, because they lack effective power to alter either demand or supply in the market to their own advantage, they seek for a solution through a more powerful body, usually the government of the day. To this end they will exert pressure upon the public and on influential people like Members of Parliament in all ways that they consider will help their cause.

When the scope and form of future organisations of fruit-growers is considered, the fact must be reckoned with that all growers will not be associationalists, and that some of the most successful growers may be comparatively little involved in fruit growing. Here again, the probable small size of future fruit-growing businesses will be a handicap. Approaching maturity in an industry also brings with it a series of changes in the firms concerned. Mergers and take-over bids are symptomatic of an awareness of the cessation of opportunities for single-firm growth. In the case of fruit growing, a merger of two specialised units of similar size will double business size, and this may be a forbidding step in terms of capital and management. A fruit-growing enterprise on a mixed farm may be of a mergable size, but not separable from its related crops.

Traditionally the two ways of escape for the individual firm are (a) close association with similar firms - a process of 'horizontal association' - exemplified by the merger, and (b) if the firm is big enough, acquisition of other firms whose activities are complementary to the acquirer's. Acting on this principle, a firm may progress by extending its control either further along the marketing chain or further back towards production - a process known as vertical integration.

Alternatively, the large firm may proceed by acquiring firms making anything from closely related to completely unrelated products. In this case the process is known as diversification.

Co-operation

As regards English apple-growing, integration seems to have little to offer. The product itself requires a minimum of attention and no processing, between production and first sale, and cannot yet be produced to a specification, as can chickens. There will be more sellers than buyers, and the probability is that an intending integrator would have a choice of grower - which puts the grower in the weaker bargaining position. A further assumption is that fruit-growing will be a low-profit industry. Producers may be seeking more control of marketing, but they are unlikely to integrate with distributors to that end. So far, the initiative has come from wholesalers. A few leading firms have 'tied in' growers so that they market through the firm using the firm's brand or trade mark. In no known case, however, have the producer(s) and wholesalers integrated to the extent of pooling costs and sharing rewards.

Thus, the way in which the fruit-growing industry will adjust to the dessert apple becoming a "middle aged" product will usually be through diversification of production on the larger units and horizontal association among the smaller, with some acreage being lost in the process. Such 'association' will be equally a matter of personnel as of acreage. There is little cause to alter the size of an efficient production unit. The principle of association - as distinct from merger - is two units of economic size being managed by one grower instead of two. Numerous permutations of managerial and financial inter-relationship between holdings are already common in fruit-growing areas of Kent. A variety of 'arrangements' can proceed without difficulty, and leave an 'exile' from fruit growing some of its satisfactions without costly involvement in it.

A common philosophy might well influence a number of fruit-growers with small businesses to form themselves into a buying and/or marketing group. Such a group may be too dispersed to combine practically to get any benefits from an association for marketing. Fruit-growing is such an array of different types of business that there are forms of producers' organisation which must, by their nature, succeed while others are destined to fail. The institutional and constitutional framework has contributed to some developments and has prevented others. Were the pre-war National Mark regulations in force, for example, single growers, widely dispersed, who packed their fruit in conformity with the regulations

might feel a common bond and form themselves into a unified group. Presumably, such a group would strive to keep price premiums for National Mark fruit at what they thought was an acceptable level. This hypothetical example is in contrast to the local basis of association that has sprung up for grading and packing fruit: which has been fostered and for which a form of federalism or horizontal association has now been organised (Home Grown Fruits Ltd.).

The past economic history of co-operation among English growers of dessert apples is evidence that a different basis of association from the philosophical attraction of formal co-operation among consumers will have to be found. Economic pressure may superficially weld growers into larger marketing entities, and large-scale buying may slowly encroach on traditional marketing practice, relegating small-scale buying to wholesale markets. Be that as it may, collective action is a social phenomenon and its expression in the form of producers' marketing organisations or associations is a legitimate subject of sociological study. It is now referred to in terms of group action.

Some Principles of Group Action

Harking back to the mention of the changing environment in fruit growing and marketing, we may see that something more than co-operative marketing (i.e. co-operation in despatching fruit to markets) is called for. We have called this something more group action. Group action may well include direct co-operation in transport, grading and packing, and marketing. Co-operation in marketing, however, has attracted adherents for a variety of reasons - security, bulk supply, improvement of quality, economies in providing storage. But because a co-operative marketing organisation has not always provided (a) a general benefit to all co-operators, and (b) a benefit specific to members of a co-operative, a number of business-like producers have not been attracted to it.

Up to the present, co-operation has been promulgated as a step in the right direction for a number of producers who are in geographical proximity. As may now be recognised, the specialised and solely fruit-packing co-operative does not have advantages for all such producers. Co-operation by itself does not offer the producer the financial advantages that would constitute a bond where the philosophy of co-operation was lacking. However, where co-operation has led towards group action, - and given co-operation a more dynamic image, - some growers' aversion has been overcome.

Current thought about group organisation inclines to favour a small group rather than a large. A small group is likely to be more tightly-knit and will endure where a larger, more loosely-knit group will fail to give its members satisfaction and will disintegrate. Co-operative marketing groups will tend to be proved too large if their growth in members has led to increased scale of operations, but increased scale has not led to increased efficiency.

It is a useful notion that there should be fewer apple-packing units than production units, and fewer marketing (selling) units than packing units. Does it matter to a large-scale, direct buyer of apples whether his supplies originate in one large packhouse or from four or five smaller ones? This line of argument is provoked by the fact that small groups are in theory more successful than large in producing the benefits from co-operations which intending numbers have in mind when they decide to join. Effectiveness and cohesion follow if group action secures for all the individuals in a group a larger 'benefit' than each could get, individually, at the same cost outside the group organisation. Some growers may make practising co-operation a part of their benefit; others may want only sizeable cash benefits. Sooner or later, clashes on policy will develop where incompatible sub-groups have different ideas. Possibly, it is compromises in the policy of many co-operative marketing organisations that prevent their growth.

Given effective small groups, the principle of federation comes more into prominence. Although the large marketing unit or group might be effective as a marketing unit, it is less likely to be influential if marketing is the limit of its members' interests. A 'pressure group' would have to be formed on a different basis. In practice, whether an agricultural co-operative can survive its formative years seems to depend on a blend of good luck and good judgement. The Milk Marketing Board, for example, unified milk producers for a long time through a strong central organisation - so long as all producers had a common interest in the level of milk prices. The Tomato and Cucumber Marketing Scheme failed to engender any common benefit for tomato growers.

Membership of a group has often given growers their first experience of positive marketing. As individuals they may have had contact and good relations with salesmen acting as their agent. Inevitably, the somewhat larger and more professional role in the market of the group means that producers develop clearer aims and are driven to make more decisions. Given growth in the 'producer-group' movement, and facility with decision-making, potential benefits from group association may

become clear, and mergers of groups within and without a federated structure may follow. This process takes time, but is probably preferable to developing too fast with large and unstable associations of producers.

In the U.S.A., for example, over the period 1940-1955 the single co-operatives which merged with others had averaged 23 years of previously independent existence. Whether final progress to a cartelised structure, as now practised in France, is to be welcomed is perhaps open to argument. In theory, there is no reason why there should be market-sharing in, say, steel, and not in fruit. The United Kingdom already has market sharing arrangements with foreign suppliers of bacon. At this top level of market organisation it does not matter very much whether producers are myriapologists or oligopolists. A Trade Association of numerous producers or a Central Committee of a chain of marketing units may equally well receive a franchise for a part of the nation's market - although administrative procedures would probably differ in the two cases. This part of economics, however, is far removed from what was written initially about producers' groups, which was that the socially viable group, as distinct from the 'common interest in the same product' group, may be the beginning of a new basis of producers' strength in the markets.

Organisation of Reward

From the individual growers' point of view, belonging to a group has similarities with 'belonging' to a market. In a small group, any individual can have a 'share' in the promotion of corporate well being: he would, for example, increase his apple size, earn more money for the group, reduce the impact of fixed costs and recognisably benefit himself in the process. The small group is analogous to the imperfect market, the large group to the perfect market. As a member of a large group supplying a common product, each individual would rationally restrain himself from operating for the general good because, however much he tried, his efforts would have no recognisable effect upon the group's fortunes.

Should an industry be composed of numbers of numerically large groups, then, theory has it that some added incentive to, or reward for membership - perhaps political power, perhaps a buying concession - will be required to keep the group's cohesion. In essence, more organisation has to be applied to the group, involving its internal

structure and its external actions.

Typical English apple-packing co-operatives avoided the worst problem of members' loyalty to a group by incorporating (a) separate accounting for each individual's fruit, (b) advantageous requisites - buying as well as fruit-selling activities, and (c) acquisition of out-of-season work for the staff. They tend to be successful as social groups, although the resulting business organisations are often too large for unsalaried management but too small to be managed economically. They confer few of the elements of market power and are thus less effective in the marketing sphere than they might be considering their good social organisation.

It has already been demonstrated in practice that large businesses and small do not mesh well together in a small producers' group unless the producer with the large business contributes a lot of 'philosophy' to the organisation. This is because the large producer himself has to provide most of the benefits the group obtains: any benefits he gets from his own expenditure also benefits the small businesses, but each small business has no incentive to contribute to the common 'pool' of benefit because it is unable to influence the outcome to a recognisable extent. The small business, however, is always ready for the benefits that 'spill over' to the group individually even if they do nothing to earn them.

Producers groups, organised around a single product or a related group of products and in a limited area, are an important part of the market regulation that the E.E.C. authorities are attempting. This plan for producers' association transcends normal 'co-operation' in that it offers producers some of the constituents of market power, including a measure of supply management. Producers in the E.E.C. will, no doubt, come to accept local 'groupings', because there is the incentive of the generalised benefit of administered price support to hold the groups together; while groups in each area will be able to act together in their own interest. If to belong to such a group is shown to be much the cheapest way of securing steady and fairly high annual revenue, producers will have the incentive to join and stay with a group. In Part IV, however, there is a section which gives a theoretical treatment of the co-operative's place in the market and suggests that financial benefits may not come easily in a group's early years when support would be most valuable.

Philosophy and financial advantage may serve in Britain to lead to viable groupings of many present growers, but they may be insufficient in themselves to secure cohesion among numbers of the smallest holdings. It may be thought that the will to survive will influence small growers to form themselves into groups. An association of barely viable holdings is unlikely to be any more viable than the holdings themselves unless the principle of co-operation is pushed beyond group marketing into group production - which in turn will probably need skill to organise, and may be impracticable in all but a few areas. It will frequently be found that appropriate holdings are too widely dispersed and too variable in character to be economically amalgamated.

So long, then, as larger size of selling unit may be expected to produce advantages - bargaining power, in sales effectiveness, in sheer size and ability to undertake research and sales promotion - there will be the incentive to intensify producers' organisation for marketing. Growth follows increasingly as market effectiveness becomes apparent. And as long as progress in efficiency of production can keep in step with investment or expenditure directed towards market power there is the prospect that producers can organise from strength instead of from weakness, - the difference being that producers do not have to have recourse to the State as their ultimate support.

It has generally been the case that agricultural producers have not organised until, from weakness, association is imposed upon them. It is then too late; the State has to step in, and producers have surrendered the initiative. In France, for example, the recognised co-operatives were scheduled to have legal power to bring independent producers into line with any marketing regulations which are either supported by two-thirds of producers or would affect two-thirds of the supply, but France failed to carry this provision in the councils of the European Economic Community. The Marketing Agreement and Marketing Orders legislation in the separate States of the U.S.A., on the other hand, reinforce the producers' position. Another development in the U.S.A. has a bearing upon British producers' future welfare - bargaining associations.

Bargaining Associations

Most of the comment so far has been upon the producers' place in organised markets. It is well known that the product-procurement policies of many firms of multiple-shop retailers usually consist of delivery

direct from growers, or their co-operative, to the buyers' depot. At present, the growers concerned are comparatively few in number and have comparatively large businesses. If the movement spreads - as is confidently expected - more growers will be involved, but the number of buyers will not increase likewise. There will then be the same predisposition for buyers to negotiate from strength with producers over the terms of contracts as there are at present in markets over prices.

In the U.S.A., producers have had experience with buyers for twenty-five years or more, and groups of producers have formed themselves into pure-and-simple bargaining associations. Particularly with crops that are to go for processing, the growers' Association will negotiate with the processing firm about the terms of the contract to be agreed. There is little difference in principle between crops grown to a specification, whether processed or fresh. A bargaining association can offer some of the advantages of a co-operative without tying its members literally to co-operative practice. With its limited but precise aim, it can draw together a group of growers who have one interest, only, in common. Bargaining Associations in the U.S.A. have proved their worth. The first known association was earlier than 1920, with 1940-1955 as a particularly busy period. By 1960, it was known that 62 associations had been formed, and that 50 were still in being.

Probably, the horticultural producers in Britain have not been "under the thumb" of buyers to the same extent as in America. Nevertheless, taking into account the pressures of economic growth, the approaching maturity of staple horticultural products and the need to capitalise technical improvements, the sort of assurance that a negotiated contract offers will become attractive to growers. And if a fair price is agreed after a thorough presentation and knowledge of facts about production costs both in the factory and on the farm, this is all to the good.

Propositions - Part III

1. Maximum consumption of dessert apples should be a prior aim in marketing.
2. Now is the strategic time to start pushing sales of English dessert apples.
3. Integration in marketing promises to be a better policy for producers than co-operation.

4. Growers should strive to prevent an inelastic demand at the retail stage.
5. In doing best for themselves, the distributive trade also does best for producers.
6. Only producers experience big changes in profit from different sizes of national crop.

PART IV A STRATEGY FOR THE 1970's

Section 1 An International Market

Incipient Over-production - After the preparation in the foregoing pages we now move on to consider more fully the particular case of English dessert apple growers being faced with a unified west European market, as may happen within ten years if the United Kingdom joins the European Economic Community. A "free" market in the U.K. is one which would be shared by national groups of producers with English growers initially having the largest share of the market. On the supply side, then, the situation is somewhat similar to oligopoly and each "firm" will be contesting the other firm's share. There is thus an open field for the exercise of market power, supposing a little of it can be generated by English growers.

It has already been stressed that British growers have been spared the effects of recurrent surpluses of crops, and in this respect have not had necessarily to organise for self-defence. It has been anticipated, too, that dessert apples may be the first horticultural commodity to come under stress of excessive supply in the event of the merger of several more national economies. Producers will then need to be more consciously fulfilling an objective than is the case at present. Market power is here conceived in relation to success in achieving the desired end.

Time and again, market power has been seen to depend upon control over supply. Fruit growers frequently assert that they have no control over production costs, which is true, but prices are, to a degree under control. Producers have the power to reduce a temporary surplus situation to a normal situation, with benefit both to their revenue and their profit. Horticulture (with agriculture) seems to be the one industry that can produce more without spending more, as happens in the years of full crop. With a full crop on their trees, growers can keep to a regular level of aggregate cost by picking only a regular amount of crop. By delivering a regular amount, prices will be kept regular, and consequently producers' aggregate revenue will be kept steady. Why, then, do producers act as they do in pressing fruit upon their salesmen? Probably because an excess is the exception rather than the rule and over-production strategies are not habitual in the English growers.

No one, surely, thinks that Nature, at the same time as she decrees a big crop, works upon consumers to increase their demand pro rata. The potential success producers can have in marketing lies in programmes of supply management.

Economic analysts and planners foresee that, while there will be high consumption of the preferred varieties, there will be high wastage of other apples. They are less confident that market prices for good dessert apples will be high enough, over a term of years, to give the average producer a fair return on his capital. In other words, what is facing British producers is an exercise in supply management on an international scale instead of on a national scale. The concept of watching revenue rather than price still holds good, but in the ultimate state in market organisation a national government will be less effective than formerly, and producers will have to organise themselves.

Before proceeding, we need to explain what is meant by the 'over-production' that is foreseen. We mean chronic, structural over-production. That is, not merely a physical excess of apples in some years, not merely a chronic wastage of varieties for which there is no market, and not merely steady withdrawal of marginal firms from the industry, but a definite over-commitment of resources to producing dessert apples. In other words, the only remedy is a withdrawal of resources. In this sense there is over-production of apples in western Europe at the present time.

In prospect, then, English dessert-apple producers face incipient over-production in the form of a large physical volume of produce of good market quality which, by its very volume, threatens to reduce all producers' returns to an uneconomic level - either because the average price of what is sold is too low, or because the producers' revenue from what is sold is inadequate to finance both the sold and the unsold parts of the crop. Producers will then be looking for a market strategy. A successful strategy would be to create imperfections between English and imported apples and to clear the way for international supply management.

Following the two lines of thought pursued in this text, we can conceive that producers adopt a dual strategy:

first, a marketing strategy, which would put them in the best possible competitive position in regard to the produce they had to sell - that is, to aim to make sure that they were garnering all available

revenue from consumers;

second, a political strategy - meaning purposeful alignment of growers, and organisation or joint action to secure the industry's position in the future. The field of action would probably lie in horizontal association, social organisation, and international agreement.

A Marketing Strategy

The leading question about marketing strategy concerns the suitability of the English varieties for the English consumers' demand, and the unsuitability of the English climate to the production of varieties in greatest world demand. Will Britain remain an island in apple consumption habits? This question had an airing in Part II and it was concluded, in relation to a probable re-construction of demand, that one high-priced variety was grown in excess, whereas a cheaper but good substitute was in under-supply. There was an imbalance between 'qualities' in the supply of English dessert apples, the high-cost variety too often having to be bought to serve as a 'cheap' apple. The argument above cannot be precisely transferred to apply to the varieties Cox and, for example, Mutsu or Crispin as it now is, but it is in terms of main-season varieties that producers will have to act. As regards Cox, the bulge in supplies is overdue and may well occasionally precede any debacle traceable to joining the E.E.C., notwithstanding that by the early 1970's some of the first-planted commercial Cox orchards of the 1930's will have been grubbed.

If English growers are so convinced that the English public wants Cox, why are they so alarmed at the thought of other varieties appearing on the markets? It is because their one main variety is being asked to do too much, is not the ideal general-purpose variety, and cannot be grown cheaply on a considerable scale. It is not the variety, for instance, that producers could undertake to supply ex-packhouse at 4½d a lb. No one variety can sustain (a) a 'top of the market' position, (b) a 'most popular buy' position and (c) a 'cheap supplement' position at one and the same time.

The dessert apple market is distinctly stratified, as with other products in which there are differences of quality. The lowest-priced apple does not generate most expenditure, neither does the most expensive. In the case of motor cars, a middle-to-lower price model is the money-spinner. In the case of dessert apples it is likely to be a middle-to-

higher priced variety. If so, English growers are in a strong position in their own market. They may further share with foreign growers the limited market for highest quality (i.e. restricted produce). They have little to fear from a good-quality dessert apple whose retail price might be higher than that of Cox. They have more to fear from a good quality American-style dessert apple - not yet a cheap one - whose price would be lower than that of Cox. Some transference of demand can be expected in this case, as well as, perhaps, 'new' consumption by devotees of the soft-fleshed apple. If England is necessarily a high-cost area, cheap apples can have little interest for English growers.

The opportunity of selling third-grade, green and small apples to consumers who want a cheap apple will be curtailed when good-looking samples of a cheap-to-grow (imported?) variety become available. The convenient market for market rejects is something English growers will have to be prepared to lose - and the type of grower who depends upon this market will have a very thin time. English producers' insularity and their phobia concerning imports in their own season have led to an obvious gap in supplies in relation to what consumers would demand. Consequently, English growers are 'out of line' in their varieties rather more than in their prices. The most striking instance of variety pricing in the context of an enlarged E.E.C. is the failure of the premium quality variety to establish a price premium. According to the theory of differential pricing Cox would have sold at slightly higher prices in slightly less quantity if it had had a 'lift' from a cheaper, alternative apple. Notionally, too, producers' aggregate profit could have been improved a little thereby, once the required reduction in acreage had been realised.

It would seem, then, that English growers are vulnerable to a transference of demand from their Cox to an imported variety considered either equal in quality or a preferable alternative, but selling more cheaply. Their market strategy should then be one of countering this weakness. They could do this either by growing the opposition's variety themselves, or competing with the opposition with a good 'second string' variety. Of the two strategies the second is to be preferred, because in theory the 'second string' apple might have the effect of pulling-in some demand both from the Cox-alternative in the upper price range and from the cheap apple in the lower price range, and it would be less likely to draw off demand for English Cox than would, say, an English Golden Delicious. In practice, the commercial merit of Golden Delicious may be such that the 'grow it yourself' strategy will be the more successful.

Both strategies, however, have a lot in common. It is implied that, for producers' welfare, the market requires Cox to regain its lost status as a premium apple, and to be supported, during the five months of biggest sales, by a higher-yielding, trouble-free, possibly better-looking English grown dessert apple. With a strong Cox market, good Cox growers could presumably afford to have, say a quarter of their acreage 'breaking even' on the second string. For the less successful Cox producers it would be a toss-up whether the second-string apple, returning 5s. a bushel less than they used to get for Cox was compensated for by the higher yield. There must be some fruit farms on which Cox has failed to produce more than 220 bushels an acre, and on which yields of 270 to 330 bushels an acre of a larger-sized, more prolific apple are realisable. At net home prices of between 17s. and 13s. a bushel respectively (previous Cox average being 22s. and 18s.) the 'second string' policy would give as good results as Cox, supposing that the change-over of varieties could be financed.

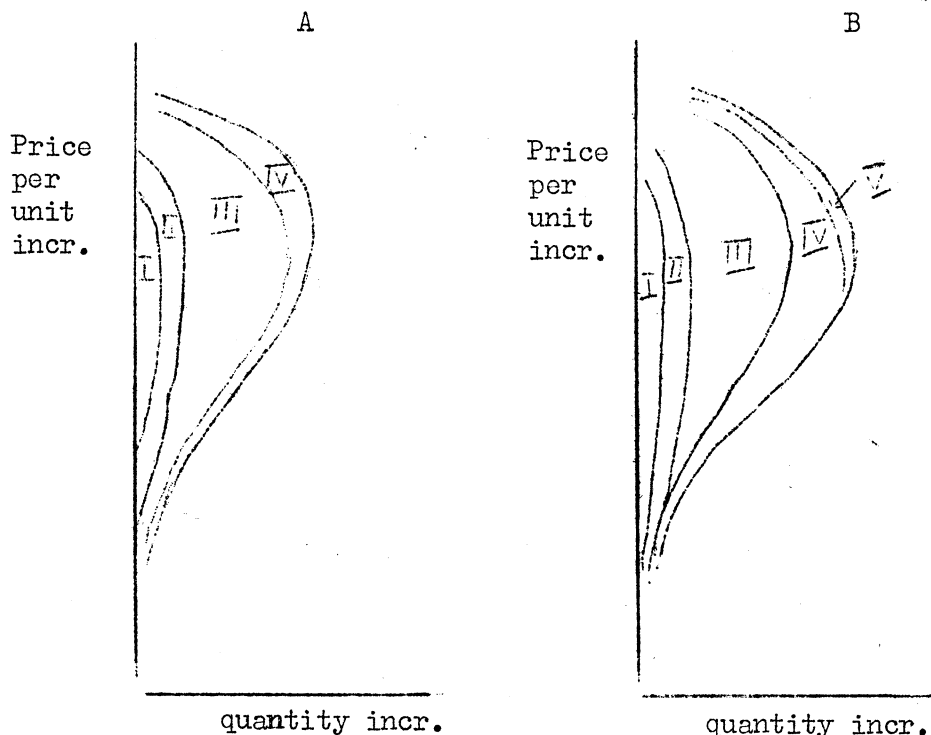
A Re-constructed Market

A pictorial presentation of how the 'free' market for autumn and winter-season apples would differ from the one English producers now know is given in Figure 18. Diagram A shows the present demand structure, with the heavy black line indicating the volume of sales at different prices. A 'free' market would quickly produce a demand structure as in diagram B. In case the difference between A and B is not easily apparent, the changes embodied in B are:

- a. a greater range of varieties offered;
- b. a small reduction in average price;
- c. greatest expenditure on an apple at a somewhat lower price;
- d. a sharing of the high-price market between Cox, other varieties and red apples.
- e. greater consumption of lower-priced apples.

Figure 18 Two Types of Demand Structure

- I = earlies
- II = mid-season
- III = C.O.P.
- IV = soft fleshed and other apples
- V = red apples



No prices are given in Figure 18, but it is assumed that Cox keeps both some premium and a substantial share of the English market by virtue of its inbuilt popularity. It cannot be ruled out that some English Cox will be exported - but not up to the level of optimists' expectations. The 'premium' price for Cox in the home market will be a dis-incentive to exportation. There are English growers of Cox who could profitably sell in northern European markets after mid-season - the continental concept of Cox is as a mid-season variety - but the quantity would be small, otherwise a 'scarcity' and quality premium would be eroded.

Put in another way, the change from situation A to situation B shows that although Cox is at present the best variety for English growers to produce in quantity, they cannot, with this one variety and its present complements, successfully make the English market unattractive to foreign growers. In the first place, Cox sets a fairly high datum price for dessert apple prices, and this in itself makes the English market attractive to exporters in, say, France and Italy, not to mention

Denmark and Holland. Secondly, while, to the converted, a good Cox is best value for money, not all consumers are of the same faith, so to speak.

Red-skinned apples have a small but special place in the market, and English growers have been handicapped in this respect by their varieties. This trade seems to be open to large producers now as a speculative sideline, equivalent to the few acres of 'earliest' apple that were grown at one time. It also remains to be seen whether the uniform-quality, variable-variety type of supply from southern hemisphere countries will stand up to the 'household word' varieties of the European growers, available in several qualities.

In any case, the range of prices of apples in the new 'free' market will be nothing like as large as in the 'open market' pre-war period.

English Apples in a Free Market

On the score of price, English producers may be reassured that nothing catastrophic will happen to good-quality Cox on a free market. A common market, and common regulations for marketing, does not mean that either retail or growers' prices must be identical in all countries. Growers' prices in the U.K. can still be higher than in France or Italy if marketing and distribution costs are lower in the U.K. The low-priced, low-quality imported apple is not a danger to English growers because a lower price for less satisfaction when prices are already low is not a great inducement to increase normal consumption. Any mass assault on the English market would take the form of small or Class II apples that were unmarketable on the Continent. If these imports were largely bought, it would be largely as additional purchases and not as large-scale replacement of the staple qualities. It is probably true that 200,000 tons of French apples have been either abandoned or over-stored. It is equally to be expected that most of the wasted crop was inferior quality fruit. During the late 1950's the Dutch glasshouse growers were vested by public speakers with rare and superior gifts. Nowadays it is French fruit growers who are venerated - to an equally undeserved degree.

What we have been seeing on the Continent recently is:

- i) new low levels of price of American varieties (including Golden Delicious), resulting from the increased supply;

- ii) substitution by consumers of American varieties for the traditional varieties they previously bought;
- iii) unsalable stocks of ousted varieties;
- iv) some consumers' resistance to the over-availability of Golden;
- v) heavy storage of Golden;
- vi) increased processing or surplus disposal of unsalable stocks;
- vii) market intervention putting a 'floor' on market price.

Supposing the present prices do not recover substantially, what impact will the situation across the English Channel have on English markets? Once the season is well under way, graded and packed American varieties will be available to intending exporters at 4d. a pound (15s. a bushel)* in France (Paris) and Holland and these prices will be operative until the time for marketing gas-stored fruit in the New Year. Few foreign apples of the sort which English consumers will want to keep on buying are likely to be available to wholesalers in England at a price less than 23s. to 25s. a bushel. And this means that with the costs of delivery to the retailer, and the retailer's mark-up, the independent greengrocers' price of the cheaper alternatives to Cox will be rounded-up to about 1s. 1d. a pound. With prices at this level, savings in marketing cost are more likely to bring benefits to growers than are lower selling prices.

In the conditions described, it may be presumed that English growers of Cox will want to see a premium of 2d. to 3d. a pound at retail. Notionally, then, Cox of good size and colour will continue to sell for 1/3d. or 1/4d. a pound in mid-season. A substantial number of growers may be satisfied with this price, but their revenue may shrink noticeably because not all the crop can be sold. Research into alternative forms of consumption of fresh apples should certainly feature to a small degree in

* at post-devaluation rates of exchange. In March 1968 the official intervention price for Class I apples was 4.05d. a lb.

producers' strategy when the ceiling of consumption has been reached. Why a small degree? Because on the face of it, the typical apple flavour (like that of the banana) does not have great attraction away from the whole fruit, and because England is a high-cost producer. A worthwhile processing industry is unlikely to develop in Britain without substantial and regular surpluses on the fresh market - and substantial and regular surpluses are something English growers cannot afford.

Price may not be so big a bugbear to English producers as a restriction of the market for Cox. We may refer at this point to the assumed demand structure (see p.117) for the 1970's, and further postulate:

- a. at the ruling prices, and because there is a greater variety of apples to buy, consumers' expenditure on autumn and winter apples will be 5 per cent higher than we know it today, apart from any conjoint price or income-effect.
- b. given the chance, consumers will take 20 per cent of their apples in the form of red apples or soft flushed apples which were not previously available.

This hypothesis is admittedly only a guesswork probe into the future, but it serves to give a 'feel' of the market. If this were true, then by, say, 1972 the English market would be ready for about 160,000 tons of other varieties, total demand at the price quoted having risen to around 390,000 tons for the eight months August-March. Three years later, when the resources that English producers have moved into producing the varieties in unsatisfied demand have borne fruit (and some orchards have been withdrawn) the market would be hypothetically shared somewhat as follows:-

Home-grown English varieties	240,000 tons
" " other "	35,000 tons
Imported " "	125,000 tons.

English varieties would have 60 per cent of the market. North American supplies would be truncated and at least 100,000 tons would come from western Europe: but it must be anticipated that demand will have shifted in the meantime - possibly faster than production has shifted.

Anticipating that the full effect of freer entry for continental apples will not be felt until early mid-season, a somewhat larger fall

in the consumption of Cox may be experienced than the average 16 per cent assumed for English dessert apples as a whole. To determine how much of the non-Cox consumption English growers will supply is a most speculative exercise. It seems that there should not be a big importation of apples at the start of the season, because there are no good early apples available in quantity, but it is obviously in foreign growers' interests to get the trade in imported apples in England started early in the season, and for this reason some 'loss-leading' type of trading is to be expected. We must refer again here to the atomistic production organisation of the apple-growing industry. One large firm would react to hold its share of the market by using its "early" farms to grow early apples, and a trade would be established before the Worcester season. To have a variety of farms, some early some not, does not produce the same result.

The onset of Cox will be the critical time for prices; and not until the market has steadied will imported fruit come in to the English market regularly. Crudely put, in the conditions foreseen in an enlarged Common Market, if it were to come quickly, present English varieties would in the short term provide 67 per cent of dessert apple consumption in Britain compared with the present 85 per cent during the normal season. Given longer, English growers may be able to retain 67/70 per cent of the market.

English producers who wish to find out what the future has in store for them could proceed as follows:

- i. Project the likely demand for English dessert apples, in terms of value, ten years ahead;
- ii. In this way estimate the size of the market (consumers' expenditure);
- iii. Relate this to producers' aggregate revenue;
- iv. Divide the revenue by an acceptable total inclusive cost per acre (including non-bearing acreage), to find -
- v. The required acreage of both bearing and non-bearing fruit;
- vi. Add a tolerance to allow for variation in annual output.

The result of such calculations, we believe, will most frequently be within the range of 45,000 to 55,000 acres. This is the area to which

an industry with marketing power would be trying to confine itself in the interests of ensuring that revenue per acre was adequate to the firms' needs. In the ordinary course of events, the acreage will at first exceed this figure, and then lose 'excess' acreage.

In theory, little alleviation of the Cox growers' lot is to be expected from export sales. It is not in the nature of business for a high-cost area without natural advantages to be a thrustful competitor in low-cost areas. Given time, and a superlative marketing effort, a top-of-the-market trade in the capitals of Europe seems feasible, but it will be an expensive operation yielding small profits.

A rather firmer expectation is that for the next five years at least Cox will be poured on to the market on such a scale that, because some samples of it are so cheap, it will extend its market hold and displace some of the red-skinned North American varieties still popular in the north of England and, secondarily, into Ireland. Because Cox does not lock as well or keep as well in the shop as, say McIntosh Red, price advantage is the only basis on which to sell more Cox. Again, the large firm could channel its cheaply-grown apples into price-competitive markets. As it is, buyers for Northern consumers are more likely to try more Cox than usual because its market price (for all producers) is attractively low. To put this regional import-replacement exercise in scale, another 10,000 tons of stored Cox sold to former McIntosh Red consumers would cut imports from Canada by one-third.

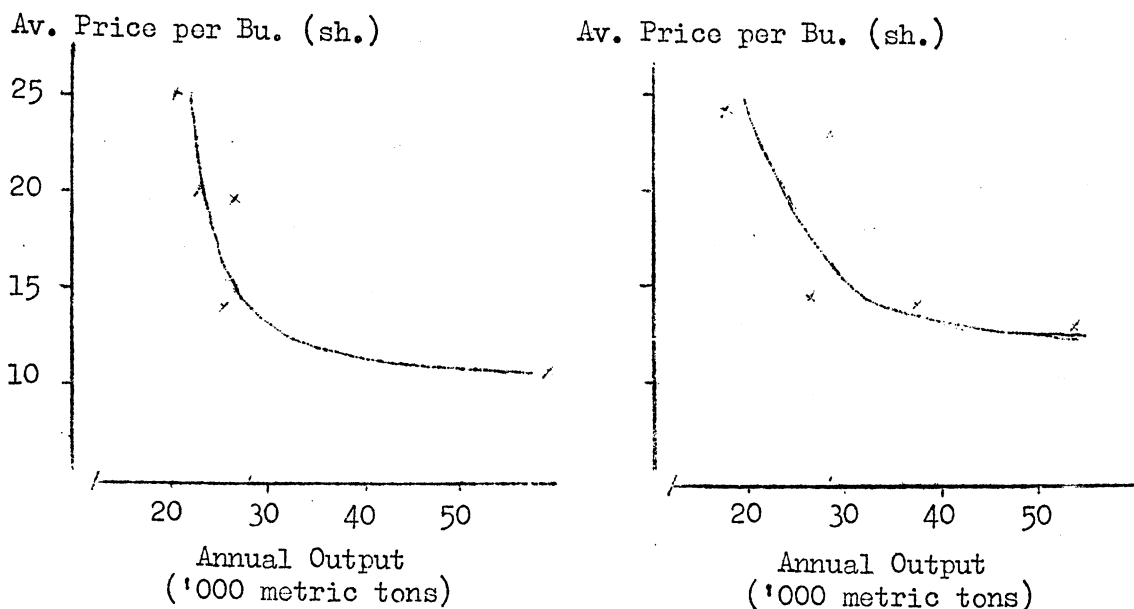
Cox vs. Golden Delicious

English growers have their Cox: French growers their "Goldens". Most of what has been 'leaked' about Golden presents it as a formidable market variety, but it is not grown to perfection any more than is Cox. Will Golden Delicious be the bogey of English producers to the extent anticipated? The answer depends upon what growers anticipate - they have never put any figures on their fears. There is no formed opinion as a basis for discussion to the effect that five years after joining the Common Market the U.K. will be taking 120,000 tons of this variety, 90,000 tons of which will be imported during the autumn and winter. On a first examination, this proposition may be about right. Some theoretical comments upon marketing 'Golden' in a Cox stronghold are given in the next paragraph, but they do not point to any precise degree of penetration of the market.

Cox and Golden have been selling in competition on the Dutch auctions

for a number of years, so it is to Holland we look for a lead to what will happen in Britain if there is free entry of continental apples whilst acknowledging that Cox is (thought to be) more firmly established in Britain. Experience in Holland suggests that Golden Delicious, as an example of the alternative to Cox, has the greater cross-elasticity of demand: that is, among customary buyers of Cox, more will convert to Golden - if Golden is the cheaper - than will customary buyers of Golden take Cox as an alternative. On the other hand, inveterate Cox buyers value this variety more highly than inveterate buyers of other apples value Golden. (Figure 19 attempts to convey this idea).

Figure 19. Market Demand Curves for (a) Cox's Orange Pippin and (b) Golden Delicious, Holland, 1959/60 to 1964/65.



Source: Centraal Bureau Van de Tuinbouwveilingen, with acknowledgement

The demand for Golden is apparently more price elastic also: so when really scarce it will have a lower price than Cox in the same situation, and when plentiful, it will have a relatively high price. It must also be anticipated from these figures that Golden, being the lower-priced variety, will slowly encroach on the Cox share of the market. Unless English growers are alert to this, they will find their share of the market slipping. If it is shown, for example, that English Golden can be grown and packed for 14s. 6d. a bushel and Cox for 17s. 6d. a bushel to make the same profit for the grower, this difference back at the farm, plus a higher price elasticity for Golden, would permit a lower retail price of almost 2d. a lb. This would be a standing inducement to buy the Golden, and in the long run it is bound to take effect.

Comparative market demand schedules of Cox and Golden can be formulated from price and volume data for the period 1959 to 1965 in

Holland. During this time annual production of Golden grew to equivalence with Cox (it has since outgrown it). The two demand curves incorporate (a) more frequent relative scarcity of Cox, due to crop failures, and (b) a fractionally higher average price for Golden, other things being equal, because more is stored longer and sold in a higher-price period.

In the light of these characteristics, exporters' strategy for the U.K. market may be reasoned-out as follows. Retail and wholesale prices of apples as a whole are likely to be higher in the U.K. than in Germany, the other big importing country in the E.E.C. British consumers, however, are 75 per cent supplied with top-quality eating apples from home growers. We will not, therefore, duplicate Cox with Golden. During the main Cox season we will first of all send that amount of Extra grade Golden which, because it is relatively scarce, will ensure a price premium. As Cox becomes scarcer, and its price increases, we will send more of our fruit, and thus hope to realise a steady price. Secondly, we will regularly tap the demand for a cheaper apple by sending to Britain a quantity of small and 'Class II' consignments for which we shall get a higher price than we could in any other country.

The obvious counter-strategy is for some English growers to move over to Golden Delicious (or an alternative) from Cox and some mid-season varieties, thus undermining any premium on imported Golden. If proved to be the cheaper apple to grow, of course, it should replace English varieties to a considerable degree, because in the longer term it will tend to have a higher average price and give a greater return per acre.

In practice, the deciding factor in the market during the years of reconstruction is likely to be the plethora of Cox. The demand-and-supply relationship is still fundamental: Cox may well become so low-priced that exporters find most room at the top of the English market. In this case the strategy first outlined will be inoperable and Golden will become the premium variety.

How can publicity help in this situation? Only by the promotion of apples as a product at the start of the season, with a short-term emphasis on Cox. An attempt to hand out justice to all producers, and to give them all the same value for money would be impossible. And at a time when the industry is in the throes of changing its product it would be particularly difficult to operate on a fair balance between promoting to new varieties and supporting the old. Confusion would be more

Section 2. Political Strategy

The Field for Political Action

Without an agreed strategy (which is not to say that agreement would radically alter the situation) English producers are likely to contest imports in an unorganised way and if they cannot create imperfections in the market they are more likely to have to accept a price that constituted a disincentive to importation. In an international market, an unorganised English apple industry is rather like one co-operative within the English industry - very little able to raise, other than temporarily, the 'equilibrium price' in the markets used. This is where an effective marketing strategy has to be backed up by a political strategy. The field for political action by fruit growers can be considered both nationally and internationally.

Nationally, it would be well to distinguish at this point the situation of Britain being in the E.E.C. from that of Britain not being in the E.E.C. In the latter case, continuation of import quotas can be expected. Nevertheless, as has been shown in Part III, there is still a risk that growers' revenue from dessert apples may be unsatisfactory for two or three years. If the overproduction lesson has been learned, concerted action to prevent the marketing of destructive volumes of apples can be expected. Some seven hundred holdings are thought to provide about half the dessert apples marketed, so restorative action, to be effective, need not be industry-wide. It is probable that small firms will try to meet the situation by marketing more apples, the larger firms by marketing less. Simultaneous pressure for assisted consumption schemes may be a second type of relief. As has been stressed earlier, 'organised' marketing is not necessarily synonymous with widespread consumption of apples. Reliability, standardisation and good presentation may increase sales to consumers already taking a quantity of apples: they are not the prescription for outright maximum consumption.

The Market Power of Co-operatives

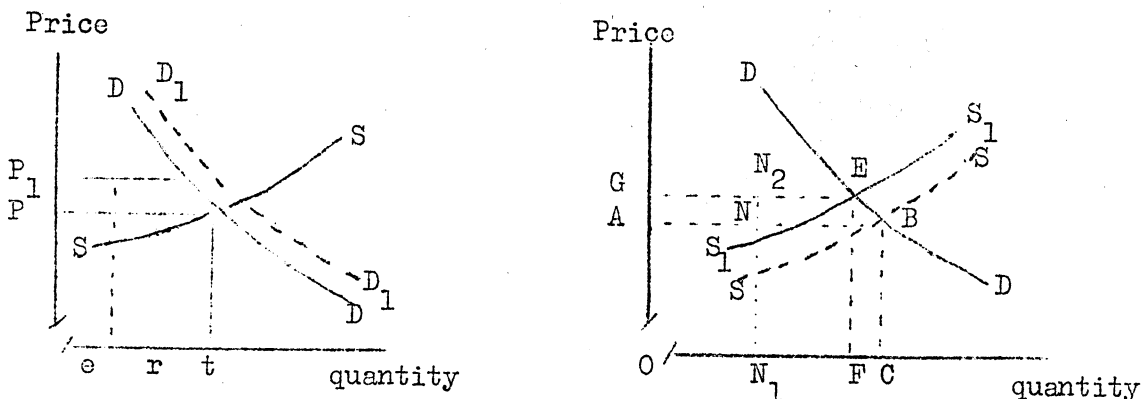
Nationally and internationally, great things are expected of producers' co-operation. So far, however, this text tends to suggest that isolated marketing groups, formed from motives either of convenience in grading and packing or of philosophical affinity, will not have market power in the sense in which the term is used here, or even the level of

effectiveness which the projected market situation requires. The lack of effectiveness will show up in numerous small ways. As an example there may be quoted distributors who keep the product for, say, one week and still require credit from the producers, who already have had to finance the production of the product.

Co-operation in grading and packing may confer financial benefits upon co-operators: but many growers who joined a group on a 'unity is strength' basis may be disappointed at what unity can achieve. In theory, a large seller -typified by the co-operative - is in no better position to 'make' a price than a single seller - both will be 'price-takers' in a market structure of many competing sellers and fewer competing buyers. This is not the same thing as saying that through either continuity of supply, or regularly superior quality, or for other reasons, a marketing co-operative may be able to offer a service which is worth marginally more to a buyer. In that event, the co-operative's product is differentiated, - that is, sold under imperfect competition - and an element of market power is being exercised.

Under perfect competition, theory has it, that, when demand for dessert apples is price-elastic, to try to raise the price arbitrarily will be a wrong policy - revenue will be diminished. If demand is price-inelastic, revenue from the market may be increased in the short term: but if there are other suppliers, competitive processes must be presumed to operate to raise the price for all suppliers (a shift in the demand curve). So, if the co-operative is a small supplier, it will have very limited power to secure a higher price for itself merely by virtue of its bargaining power, and the shift in demand may be negligible. If the co-operative is a large supplier, it may secure a significant (short-term) shift in the demand curve, but then it is likely that the market price will be raised too - it will be the same for all suppliers. The short-term and long-term presentation of one large supplier's efforts to affect price under perfect competition are in Figure 20 (A) and (B) respectively.

Figure 20 A Single Supplier Selling under Price Competition



In Diagram (A) it is shown theoretically, how, if a large supplier can, by sheer bargaining power, improve his price temporarily, all suppliers will share the benefit. Total quantity supplied (Q_t) is made up of a quantity Q_e supplied by one large producer and a quantity Q_r supplied by the remainder of the producers. The derived demand curve is shifted by bargaining from DD to D_1D_1 the equilibrium price moves up from p to p_1 , and the gains both of the rest of the suppliers and of the large suppliers are identically proportional.

In the longer term, the success of a co-operative (or other large supplier) in raising price depends upon its predominance in the market. In Figure 19 (B) it is postulated that co-operators will only gain by establishing a higher price in the market if (a) demand is price inelastic, and (b) the co-operative has most of the market. As the instigator of change, the co-operative has to accept the reduced demand resulting from the higher price; the remaining suppliers are in the happy position of sharing the price the co-operative established, but have no supply control responsibilities and consequently their output does not change and the co-operative has a fractionally small share of the market. The necessary condition for the co-operative to benefit financially is that the area N_1N_2EF shall exceed the area N_1NBC .

$$N_1N_2EF > N_1NBC$$

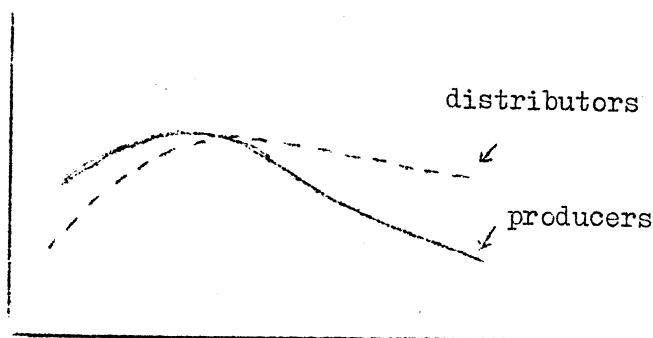
In Diagram (B) the demand curve is assumed to have relapsed to its long-term level, so that a sustained higher price can only be attained by curtailing supply. A large supplier elects to do this on his own and the resulting market situation is an equilibrium point E corresponding to a price OG and a total output OF , of which the distance N_1F represents the large supplier's share. In the absence of imperfections in the market, the large supplier's price will prevail all through and the remainder of suppliers will gain AGN_2N of additional revenue: the large supplier, however (to repeat) will only gain additional revenue if the area N_1N_2EF exceeds the area N_1NBC . This is more likely to occur the smaller is the area removed - i.e. the share of the market going to non-members. Followed one step further, theory suggests that where a co-operative aims, unilaterally, to improve the selling price of its produce - that produce being fully interchangeable with other sellers' produce - its members may have to accept lower incomes than comparative non-members. In terms of revenue - the importance of what has been stressed throughout this paper - a rise seems more difficult to initiate and to sustain, than would a rise in price.

Under imperfect competition, any large seller (producer) would in theory develop a differentiation of a brand or product, and gain a reward in price for some extra service offered; this has already been mentioned. It has already been proved in practice that (with fruits more than flowers or vegetables) price elasticity of demand is not the force that theory would suggest, and that an administered small rise in price may have no observable effect upon demand.

However, until this evidence of imperfect competition in the trade emerged, it was clear that producers' only hope of engineering a departure from the 'equilibrium' level of price was in a belief among imperfectly-competitive buyers that supplies were going to be inadequate. Once supplies are felt to be in any way scarce, competition between buyers increases and, at the limits of scarcity, the normal stances of wholesaler and grower are reversed, and growers become (for a season) price makers and wholesalers become price takers. On the other hand, when

supplies are adjudged more than adequate, competition between buyers is lessened, imperfections in the market increase because growers having found one buyer, are reluctant to seek another, and the ruling price may well be reduced below a notional truly competitive price. This hypothetical situation in markets may be presented in terms of average net product

Figure 21 Average Net Products in Fruit Production and Distribution



curves (A.N.P.) related to quantity of fruit available. (See Figure 21).

The divergence of these two curves may illustrate some of the observed effects in dessert apple marketing. At quantities less than Q_c (the 'critical' quantity) buyers (wholesalers) will be conscious that the more produce they can secure, the more they can lift revenue in relation to costs and hence their total and average net products. For growers, on the other hand, a higher price when price is already high has less meaning. Per contra, when supplies tend to be excessive, buyers

(wholesalers) have little incentive to bid for extra produce. They will try to maintain their total net product. The initiative falls on growers, and if supply is open-ended, a small part of the costs of distribution is transferred to them and their total net product falls.

National Control and International Agreement.

The upshot of the foregoing analysis is that co-operatives; if they act as producers at one remove, are theoretically no more effective in price-making than a number of individual suppliers. The areas of prospective gain for this ground-level (so to speak) activity by co-operatives are external economies of scale and a shortening of the distribution chain, including fewer handlings of the produce.

It is too much to expect, then, that voluntary co-operation will give producers a notable degree of market power, even with considerable horizontal association of producer groups. Achievement of the aims set out must accordingly depend upon producers being enabled to act differently from individuals. These potentialities are now briefly considered in terms of what producers might achieve unaided, and what they might achieve if government strengthened their aim. Producers corporately - or in a majority - can certainly help themselves by raising the quality of the produce they market - perhaps by exclusion of the worst - and as far as possible channeling expendable parcels of produce into non-competing outlets, so as to create imperfections in the market. Further acquisitions of market power, to a level equivalent to that of industry, will depend upon the emergence of large firms. Once marketing is in the hands of a firm, as distinct from an industry in the hands of all producers, the firm can serve its own interests, and, to the degree that the innate features of the produce allow, it can pursue industrial marketing practices. These have been adequately described in Part I. The problem in horticulture, of course, is to create the kind of firm with which producers are willing to identify themselves.

Government aid for producers has not been, and is not immediately likely to be the source of strength it might be. Mention a statutory marketing scheme to English producers and they would at once think about a Marketing Board. The E.E.C. regulations would not radically improve the producers' power position unless there were provision for local co-operatives forming themselves into national associations having power to control supplies, and making it mandatory to do so in times of over-

supply of markets. This was the gist of the French case to the Brussels authorities, based on the French concept of horticultural marketing. As built into current Community regulations, however, co-operatives will not be able to impose marketing discipline upon all producers in the way the French hoped.

The notion, previously commented upon, that primary producers - which includes growers - are a group within the economy requiring special assistance, does not operate to growers' full benefit because the assistance is conceived as a supplementation of income and is not designed to give equality of income with, say, other small business proprietors. It seems that agricultural producers neither want nor seek high incomes, because the traditional response of producers to price-support schemes has been to increase output, thereby accentuating the marketing problem, tending to depress market prices, increasing (in the short term) their dependence upon income support measures and whittling down their own incomes.

Many governments have fortified growers in the past when helping them out of difficult financial circumstances, but they have never dared to put producers' salvation fairly and squarely in their own hands. The conjoint hazards of unregulated competition and low net incomes (if producers' organisation did not succeed) and monopolistic action in the food sector of the economy (if producers did succeed) has been considered too great. The E.E.C. has perhaps committed itself to parity incomes for horticultural producers more deeply than any previous national government: but it has still to count the cost of its policy, and the presumption must be that it will be too expensive to maintain.

Apart from the vulnerability in the fruit and glasshouse sectors to imports, the English horticultural industry is well-structured and capable of a lot of self-organisation. It is time, in fact, that the phobia of monopolistic exploitation by producers' bodies was re-assessed in the light of the endemic pressure of supplies. A non-government inspired form of organisation could lead equally well to an oligopolistic market structure as to a monopolistic structure: and technical advances in production, cross-elasticity of demand and other built-in checks in the modern economy would effectively prevent extortion, although it might confer more market power on producers. In short, governments act in the national interest, not in producers' interests, and in a national context government interference amounts to an expression of weakness in producers' organisation.

Internationally. Hitherto, governments have been by far the most effective agent in determining terms of trading between nations, but producers in economically advanced countries are directly (as distinct from indirectly putting pressure on the government) beginning to take a hand. There are precedents in the horticultural industry for agreements between producers and across national boundaries designed to stabilise markets (e.g. the Fruit Producers' Council and in the bulb-growing industry). Citrus growers of the Mediterranean countries are to join in the advertising of citrus. In the same way South Africa, Australia and New Zealand, through their SANZA organisation, are jointly to promote southern hemisphere apples. Unwonted co-operation in marketing has developed between Jamaican and Windward Islands producers of bananas for the U.K. market. In the deciduous fruit trade Australian apple growers had voluntarily agreed to restrict their deliveries of apples to the U.K. for the 1967 season well before the short crop made curtailment a reality. And they have progressed from a 'base price' in 1966 to a fixed price for the 1967 season.

In those areas of regulation of the trade that are in governments' hands, producers can only act indirectly by influencing government policy. The two areas most frequently under discussion are (a) import regulation and (b) price support. In the E.E.C. these two areas are unified in the policy for regulating the fruit and vegetable market. In the U.K. the 'price' support' area is missing and there is only import regulation.

English fruit growers are fortunate indeed to have protection by quota rather than by import duty: they have been able to make sure that any increase in consumption of dessert apples in the home marketing season was of English apples - a very different state of affairs from that in tomatoes and cucumbers. A quota sets known limits upon imported supplies, and a value quota furthermore implies that, in the instances of dessert apples, imports will be of apples that consumers have most felt the lack of e.g. those that compete least directly with the home-grown crop.

Import duties, by and large, are a less effective form of internal market regulation than quotas. Unlike the apple and pear quotas, however, import duties have been handled in the U.K. as an instrument of regulation - that is, their effectiveness in their function has been contested from time to time, and modifications in the rate of duty have been made as a result. It was written into the Agriculture Act of 1947 that import regulation would be the means of realising a stable and efficient horticultural industry. Tariff protection did little for horticulture as

a whole, and only the accident of a quota system of regulation in place of import duties accounts for the growth of English fruit-growing after 1945 in contra-distinction to tomato growing.

Tariffs did not ensure a reasonable level in producers' incomes for two main reasons. The first is that, in Britain, trade policy is the concern of the Board of Trade, and the Board of Trade was in no sense inclined to be a watchdog for horticulture in the same way as the agricultural ministry could intercede with the Treasury on behalf of farmers. The Board's practice has been to follow up submissions of a case of financial hardship, once it has been initiated by or on behalf of the group of producers who were suffering. If the submission made it clear that additional imports were solely the cause of the financial deterioration quoted, then a prime facie case for greater protection was established - its justification had to be debated thereafter.

This kind of procedure was not appropriate to the situation in horticulture where a measure enabling quick and often temporary action is desired if market prices are not to drop. It may be appropriate to longer-term hardship in an industry, although the question of the worthwhileness of more protection for a declining industry is inevitably raised as a corollary.

Secondly, tariffs or import duties existing by themselves (i.e. not in an integrated form of control on the E.E.C. model) have certain weaknesses. They can operate on the price of a product only by reducing the total supply of that product in relation to the demand. And it is the modified demand/supply relationship that determines future relative prices, not the amount of the duty. For example, if an imported article is highly prized, and it has no good alternative, to raise the import duty will increase the price but will not reduce consumption and there will be no beneficial effect upon the demand for the alternative product. The effect of import duties can be minimised if producers abroad accept lower returns, increase their efficiency and learn to live with lower supply prices. In this event, too, the flow of imported produce will perhaps be momentarily checked, but not curtailed, by a rise in import duty. This type of effect is thought to have characterised the importation of Dutch tomatoes during the 1950's.

Producers seem to have rather more scope for effective indirect action as regards price support schemes than as regards import duties. They have more to contribute. For instance, an intervention price at a wholesale market has to be (a) higher than the average variable costs of marketing and lower than the average variable costs

of marketing and growing. If the intervention price did not cover, for example, transport to market and the cost of the container, the producer would not cover the cost of sending to market. Market prices would consequently recover quickly, but in a season of over-production producers would tend to have a lot of fruit left on the farm unsold. Box-makers and transport firms would have been fully paid for their efforts, but fruit producers would not. If the intervention price were set so as to more than cover the average variable costs of marketing and of growing, the way would be open for producers to market more from the same resources, and little net corrective action would ensue.

In the philosophy of market regulation there is thus a conflict between (a) a high intervention price which, in the short term will induce efficient producers to continue in business and (b) a low intervention price which will have the required short-term and long-term effects. It can be seen how extravagant intervention in the wholesale market will be as a means of sustaining producers' income if there is prolonged over-production. Producers have to keep sending to market to have their fruit paid for; and if a higher intervention price is available for stored fruit - sufficiently high to cover the variable costs of storage - then fruit will be stored for the sake of the higher price realised. If the stores happen to be in merchants' or wholesalers' hands, the net result for producers will be a truncation of their revenue - their flexibility co-efficient may well be negative. In theory, money could be saved by buying on the farm (through the medium of the co-operatives?) and removing the excess at the source. Furthermore, if the object of intervention is to 'guarantee' a 'bloc' of revenue to producers, in a situation of price-elasticity of demand and incipient chronic overproduction only two things can happen - (a) the basic price becomes so deflated over a three-year period that the intervention price fails to fulfil its function or (b) at a serviceably high intervention price, the supporting agency's liability is bottomless. In such circumstances producers' organisations have a big part to play in making intervention schemes serviceable and viable.

Lastly, mention must be made of direct action by government in the conduct of trading in the national interest as distinct from measures agreed with or bearing upon producers as a group. Where producers are responsible individuals, they can reach compromises with governments that certainly further their own interests, as, for example, in the State-wide Marketing Agreements and Marketing Orders in the U.S.A. Where producers are less responsible individually, governments are prone to intervene directly in marketing in order to wrest more foreign

exchange from the sale of horticultural crops. Exporting countries are showing the way by organising the orderly discharge of supplies to markets overseas. Egypt, for example, released the 1967 onion crop on quota, at 'recommended' prices. Spain has already tried out a policy of weekly deliveries on quota to different countries, both for citrus fruit and tomatoes. Morocco is doing the same with citrus. The New Zealand government is currently proceeding with creating an Apple and Pear Authority which will determine the price the Marketing Board shall pay producers for apples and pears. One provision to be written into the operation is that the change in price from one season to the next shall not exceed 5 per cent. (Once the Authority has declared its price, the Board will then have to administer it in terms of prices for varieties, counts, qualities, months and so on.)

The idea of stability in horticultural markets is slowly gaining ground in practice, and there is greater promise of more constructive action following international negotiations than at any time previously. English producers will not be conspicuous if they negotiate to protect their own market.

Propositions - Part IV

1. There is no half-way house in producers' co-operative marketing: it has to be a total effort to succeed.
2. English apple-growers will be able to cope with the Common Market without further government help.
3. Producers' organisations are not yet strong enough to replace governments as agents of import regulation.
4. English producers face the prospect of a diminishing share of an increased consumption of dessert apples.

Summary and Review

The preceding text can be condensed into a number of separate lines of thought, some more applicable to horticulture generally than to dessert apples. On the negative side, of course, it avoids the contemporary controversy about the comparative efficiency or attributes of different systems of distribution. It looks no further than producers' interests and assumes that if producers can gain market power they will be better off financially. It also assumes that producers in horticulture do have a general condition of economic weakness, and that a transference of notions from industrial marketing would be to their benefit. It does not, however, make the common assumption that horticulture (with agriculture) will grow more business-like but will not otherwise alter. In growing more business-like commercial horticulture must surely adopt more of the attitudes and conventions of business. In this context producers are given their proper place - in the forefront of the marketing picture. Following business precepts, then, producers will be aiming to diminish competition, particularly price competition. It is still possible to operate at a minimum cost, although the price may not be the lowest that producers would accept. In this way efficiency in marketing will be retained.

Hitherto, it is believed, English consumers have been tolerant of British growers - they have given a good measure of satisfaction with the quantity, quality and variety of what they have produced. But the whole environment has changed in the last three years, and more than ever before English growers should be concerned with demand. To "grow what the consumer wants" and interpret this through prices is inadequate as a marketing philosophy, because it gives no guide to what consumers want to buy but cannot buy because it is not available.

Demand is essentially composite, and no one retailer can claim to be satisfying more than a fraction of it. Also, no retailer is likely to try to increase his range of service: it is the producers' task to appreciate and anticipate demand. Then, conceivably, wants can be more closely identified and met: grading may be less in vogue than production specially for one segment of total demand. On the evidence presented, demand is not at its strongest when the English crop is being marketed - bearing in mind that the period includes Christmas and the flush of autumn apples. By some accounts, too, children begin as apple eaters but lose the habit as they grow older. If this is so, many families must eat relatively fewer apples as their annual income increases. Also, it suggests that young people and teenagers could be higher consumers than they actually are if the product were right and marketing effective.

Growers, in their turn, have fortuitously been free of burdensome surpluses of dessert apples. But the fact that there has been such little waste since 1945 points to the fact that maximum consumption of apples has never been tested - maximum revenue probably has. It would not be surprising if the competition between retailing firms and between different types of retailers did not have the effect of stimulating consumption. Consumption (i.e. the retailers' turnover) is what Sales Managers will want to see going up. To put pressure on growers to 'deliver the goods' is one obvious first step. If growers' present prices are symptomatic of less-than-maximum consumption, maximum consumption will only be achieved at lower average real prices: what has here been called revenue flexibility will be lowered and growers' profits will suffer most of all. (Slow growth in demand, based upon a rising scale of quality to match the increase in personal incomes is, of course, to be welcomed and expected).

It is also postulated that a psychological attachment to fruit - rather more than to vegetables - on the part of the older people will sustain an increased demand in the short term. For a lot of people, apples have been scarce or expensive for most of their working life. Consumers' hands tend to be raised in horror if the fruit in an orchard is seen to be unpicked. The same consumers do not know how many fresh eggs are taken for processing, or how much bread is wasted - but would be less concerned if they did, because by and large they can have all the eggs and bread they want. Producers, too, seem to be affected psychologically in the same way; they feel the urge to give consumers the opportunity to buy all the fruit they produce. Both these attitudes stem from the time when fruit was felt to be scarce. Attitudes will change - as indeed it is being said they are changing in France in 1968 - and producers can be instrumental in helping them to change.

The production of dessert apples in any year in the near future will be only roughly in accord with the demand for it. Producers, individually, decided upon this year's bearing acreage of dessert apple trees at least ten years ago. They seem to have been about right in their decisions, but even so annual output is only occasionally in harmony with demand. The wholesale market has had the function of equating supply and demand: market prices successfully ration a short crop, with some advantages to producers; but in a condition of chronic over-production they will need supporting by action on the farm. When Nature decrees a big apple crop, she does not simultaneously provide consumers with more money. Cosmologists have a "steady state" theory of the evolution of the

universe. Fruit growers could have a similar concept of their marketing activities. Costs are very similar for all sizes of crop. Revenue could be steadied by controlling the outflow of apples from the source.

To be effective, however, this control would have to be carried out according to some formula. Possibly, as an administrative device until more is known of the structure of demand, more grades are desirable for control purposes than for fostering sale on description.

Comment has been largely upon action in supply management because the other marketing artifices seem inapplicable to dessert apples. Apples appeal to mature consumers as a fresh, natural product. They are not a sophisticated product and not amenable to development in the same way as a manufactured product. For this reason there is less scope for tying-in advertising with schemes of product promotion, designed to fortify demand; although more publicity would be all to the good.

So long as producers are subject to competitive market procedures they will suffer the effects of market structure. And even if producers abandon the practice of consignment on commission to markets they are likely to be at a disadvantage (by proxy) when bargaining with buyers, unless they are properly organised for the occasion. In this context the past notion of formal co-operative societies for grading and packing seems unduly elaborate and costly. A bargaining association needs no premises of its own, could have a following among both individualists and associationalists, and could give producers the same economic strength as comprehensive co-operation. Acceptance by producers of the notion of a "steady state" market and a supply calculated to yield maximum revenue could obviate the threatened intervention and price-support programmes which are building up, together with the cost of administering them.

The concept of market power given in this text was power to influence consumers in producers' interests. This was the prerogative of firms and has no parallel in fruit growing or in the horticultural industry at present. A second concept of market effectiveness was allied to strength in bargaining. This is secondary to market power proper because it inculcates a reactionary frame of mind in the weaker party and tends to set up antagonisms within an industry, which does not help its image. Horticultural producers have comparatively little market power and are generally in a weak bargaining position with their perishable produce. How, then, can they better themselves through their marketing?

Fundamentally, they have to copy the large industrial firms as far as possible in focusing upon consumers and meeting their wants to a practicable degree. Growers cannot hope to emulate manufacturers' self-interested manipulation of consumers, by various blends of cost and content of the unit of purchase, but they have some capability of realising maximum revenue, if, as an exercise in market discipline, they will first produce enough and then 'ration' consumers. Because surpluses have not been a continual threat, this power has not been developed by producers individually, and, because thousands of individuals are involved, and no single course of action is best for all of them, it has not yet been tried out on a product basis, much less over the entire range of crops.

At a certain stage of producers' market weakness, governments have frequently intervened to strengthen the producers' position. Statutory power is the ultimate vehicle for producers' power in the market, but in the nature of its bestowal, producers are not given a free hand. In the past, producers' solidarity gained by this means has been forged in a period of financial depression. Nevertheless, as a rule, governments have been timid in extending to producers the power to contribute to 'fair' pricing of their produce. The more producers know markets the further they should be along the road towards solving their problems by their own efforts.

Finally, in their pursuit of consumers through all the changes in marketing that lie in the decades ahead, producers should be aware of their three big built-in advantages - first, that their produce has innate variety; secondly, that consumers are attracted towards the source of produce because in that way they can have it fresher; thirdly, that activity at the farm, such as pre-packing, gives the producer a link with the consumer. If produce is not standardised, consumers can be offered a choice, and this is what they like. At present, standardised produce is being offered in association with direct supply and quick delivery to the shop. One "consumer unit" of produce has to be indistinguishable from another so that no unit shall be discarded when on display. It is an open question whether a good retail shop manager, or a producers' group, buying space in a supermarket could not now produce better results for both consumers and producers, given the same efficiency in transportation.

Movement towards the consumer is one tendency or principle that will tend to undermine still further the already eroded central place

of wholesale markets in the produce distribution system. The more activity that takes place at the farm, or under the producers' control, the stronger is the producers' position in marketing. In order to profit from their place at the fountainhead of distribution, it is iterated that producers need to understand that their market is not unified and to grow, blend and innovate their product accordingly. This is not a job that one retailer or one wholesale group of firms can do to the producers' satisfaction. From a knowledge of the composition of demand producers can move on to fortifying the imperfections between types of demand and begin like other producers, to sell a fairly steady quantity at a relatively fixed price instead of a variable quantity at a fluctuating price. It seems also to be implied in the movement towards a more business-like organisation of horticultural production that there be association of enterprises producing different products, but marketing through the same agency. Producers' influence will need to spread across products as well as within products - that is, firms will need to grow by diversification.

Addenda

The Outline Theory of the Generic Product:
a Special Case in Marketing

Much purely economic analysis fails to present reality and thus loses meaning for most students of horticulture who have a working knowledge of the prices of horticultural products. In particular, conventional theory contributes little to the formulation of principles applicable to the marketing of a range of horticultural products that are characterised by simultaneous, joint production of similar products of differing value. For instance, do what he will, the fruit-grower necessarily produces some apples greener than the rest, and these are therefore (normally) less valuable than the others, and also some apples smaller than the rest, and these, too, are normally less valuable. It is not unusual for some apples a grower produces to be worth 1s. a lb. at the farm, and others only 3d. a lb.

The economic phenomenon in this context is manifested as differences in quality within the supply. Demand theory is notably lacking in its treatment of 'quality' in a product as affecting demand and price per unit. The type of product that naturally occurs in a variable state of quality (value) has here been called a generic^{*} product, and some consequential developments after distinguishing this type of product from the mass-produced type of article are now outlined.

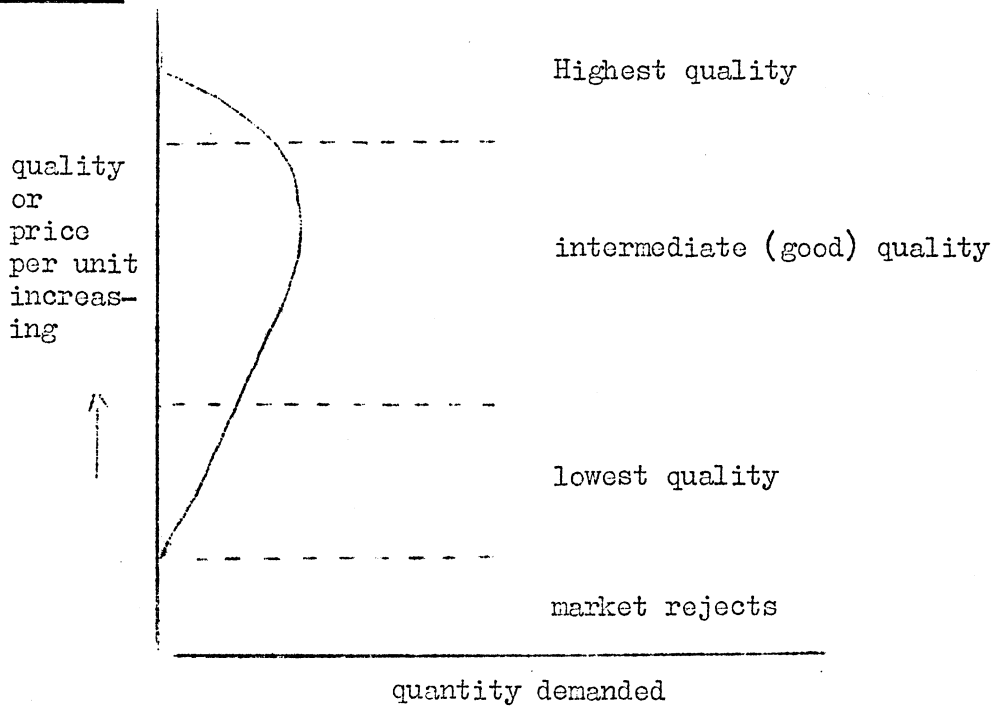
Demand curve for a generic product.

(a) Quality variations. The market demand curve is not well-represented by a line, straight or curved, declining from left to right between the two co-ordinates of price and volume. It is true that to market the entire crop, as grown, in increasing quantities will tend to make average price per unit fall. It is also true that the demand curve facing most producers - in a developed market, that is - is strongly conditioned to quality. There are arguments, therefore, for presenting the demand curve in both short and long terms for, say, apples as in Figure A. Here there is assumed to be an infinite number of species of produce, or a continuous gradation of quality of produce. The physical quantity of best and worst qualities demanded is low. There is greatest demand in the middle of the range, and probably a peak demand for produce having, say 75-80 per cent

* generic = containing a number of closely-related species

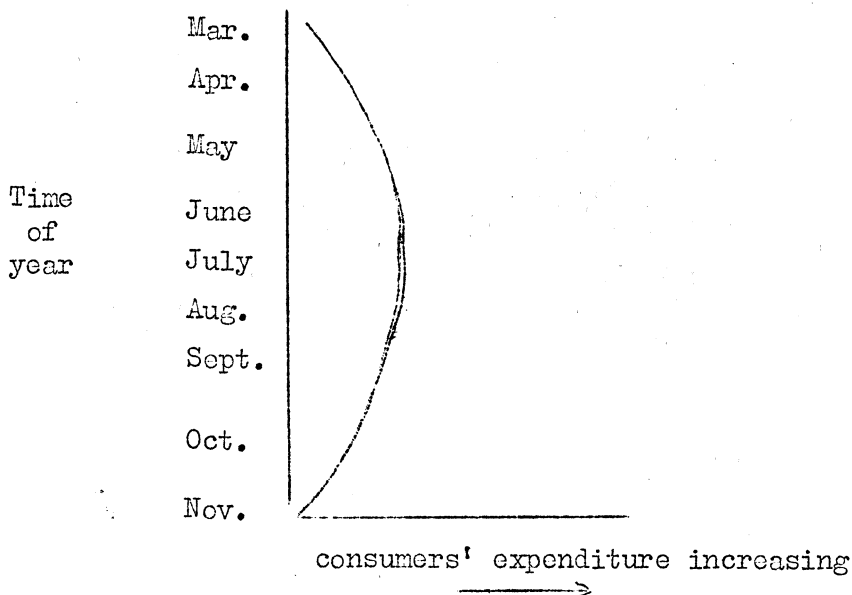
of the attributes of the best quality.

Figure A.



(b) Seasonal variations. The same type of demand curve can be used to describe changes in demand experienced from month to month during the marketing season of a product - English tomatoes for example. It is thought that consumers' desire for tomatoes and the average level of quality in the supply of tomatoes interact to produce radical changes in price level over a season's marketing. (See Figure B). Again, it is to be expected that physical demand will not be at its highest when prices are at their lowest - the yearning for tomatoes has been assuaged previously, when prices were higher.

Figure B.



Production Planning

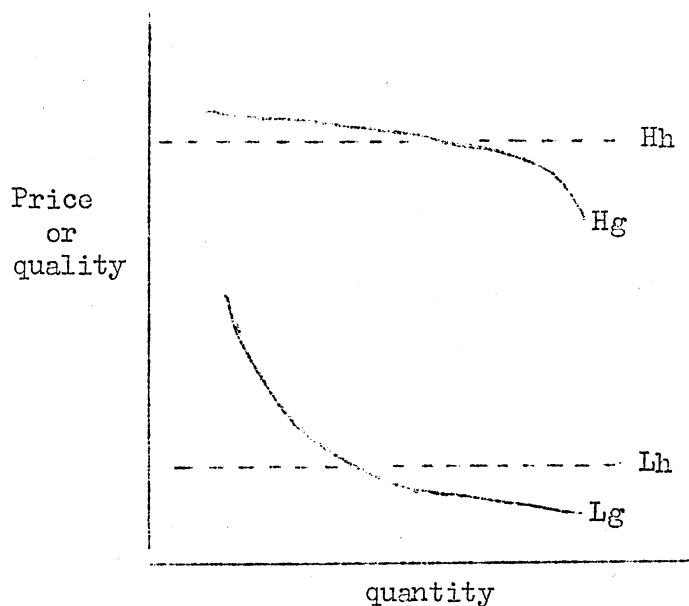
If the postulated 'quality' demand curve be adopted, it will be seen that production planning has to heed not only output, but quality and timeliness as well. Moreover, within a generic product there is relative pricing of the species or qualities. A policy of, for the tomato grower, marketing as much of his crop as he can at the time of greatest physical demand, and, for the apple grower, of marketing most of his crop in the most-desired quality, must be supplemented by a policy for other months or other qualities, as the case may be. To meet the demand over one part of the curve may lead to over-production at other times or of other qualities. That is, fundamentally the individual producer is not concerned with absolute levels of price - his policy should be to blend prices so that he maximises his revenue.

Supply curve of a generic product

a. Individual supply curve. The fact that, in the short term, the output of a generic product can potentially vary in quality as well as in volume affects the individual producer in two ways. He may elect to market a homogeneous product and discount the quality-consciousness of consumers. If he does this, he has only the volume-effect of his marketing to take into account - and obviously this policy will be far more successful if the homogenised quality is high than if it is low. Most apple growers, however, grow such a proportion of less-valuable produce that it is worth their while to improve, say, so far out of the crop by removing 80 per cent of the crop. In this case, the supply curve slopes downward from left to right between the axes for the reason that quality is declining, not simply because supply is increasing. Presented diagrammatically (see Figure C) the short-term supply curve of the individual producer of a generic product is considerably variable between limits of (a) a 'homogenised' curve sensitive only to volume effects and (b) a 'quality' curve sensitive both to volume and quality. The grower of a high-quality crop may or may not benefit from creating quality distinctions in his output (e.g. by grading) - it will depend upon the relative prices for the different qualities and also upon the absolute level of prices. But he certainly has a kind of choice in his marketing of the crop that a manufacturer of uniform articles does not have. In Figure C it is shown how average quality of crop is likely to affect a producer's revenue. The two 'H' curves represent a homogeneous (Hh) and a graded (Hg) treatment of a high-quality crop, and the two 'L' curves the two treatments for a low-quality crop. In the abstract*, a producer's

* Note: This is basic theory: it is not concerned with the practical issue that, for whatever reason, the producer may be required to market in grades.

Figure C: Individual Short-Term Supply Curve



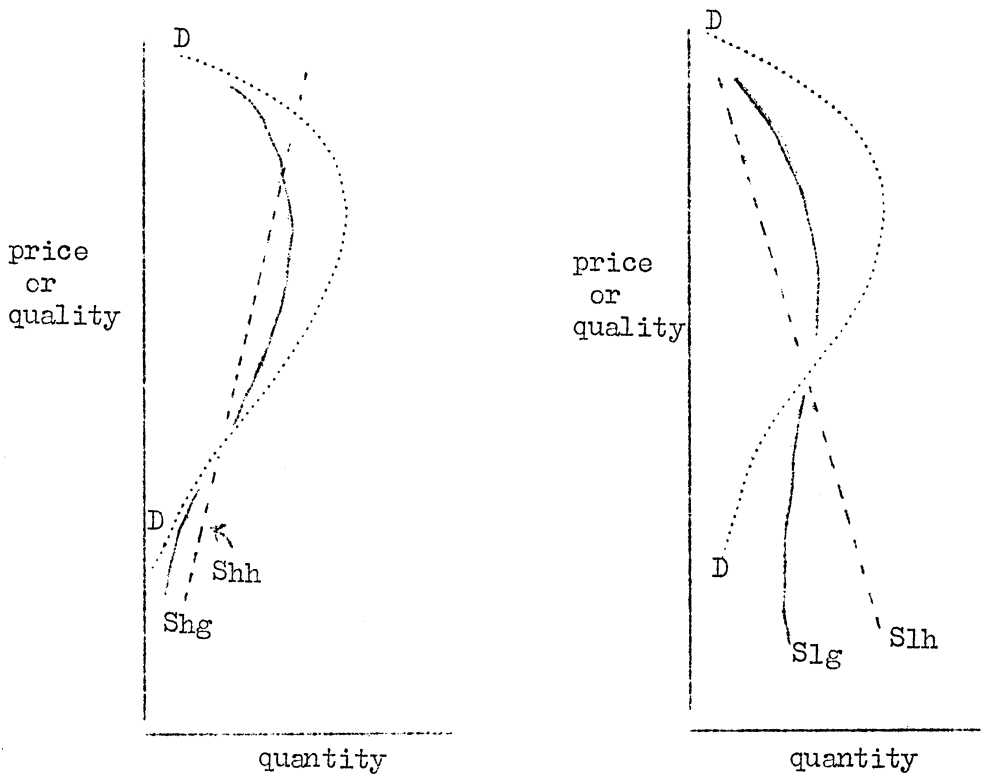
marketing problem is to position his own supply curve so that the area under the curve (i.e. the product of price x quantity is a maximum).

b. Market supply curve. A brief study of the market supply curve for a generic product helps to explain why a poor quality crop cannot be as profitably adjusted to demand as a good-quality crop. In Figure D the generic demand curve is shown alongside four dispositions of the market supply curve: these are:

- a. Shh - a high-quality, homogeneous supply
- b. Shg - a high-quality, graded supply
- c. Slh - a low-quality, homogeneous supply
- d. Slg - a low-quality, graded supply.

In the context of Figure D, the effects of grading a generic product are shown up in a rather different light. It will be quite fortuitous if arbitrary divisions of a product into species enable supply to be adjusted optimally in the short term to the derived demand curve, which itself is subject to change induced by the composition of supply (i.e. the high cross-elasticity between species). Exposition of the situation is much

Figure D: Market Supply Curves of a Generic Product



complicated by the consumer not buying by grade description. So long as there is this loophole, one consumer's 'top' quality may well be higher, or lower, than another's. Should prices for 'top quality' be approximately uniform, but 'top quality' itself not uniform, it is likely that the market demand curve is less extended in the vertical direction than that shown in Figure D. It may, in fact, be more the shape of a question mark.

In the long term, however, a market in which demand is, by usage, expressed in terms of grades (species) must have a considerable effect upon producers, because their obvious counter-strategy to the imposition of grades is to 'grow for the grades' rather than just to produce a crop. It is hoped that average quality of crop will usually move up in the process.

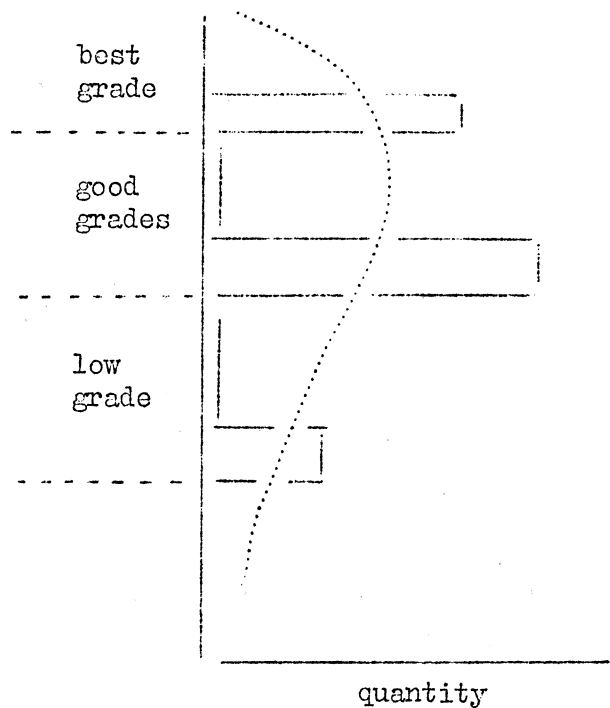
Application to Grading

The custom of classifying the species of a generic product into 'grades' or quality makes 'generic' synonymous with a quality product or a graded product. One effect of grading upon market prices of, say, dessert apples as a generic product will be to reduce a large number of

possible qualities and prices to a small number. A 'price for the grade' philosophy in pricing must emerge, otherwise grading is not having an effect.

Bearing in mind that producers tend to be price-takers, and that producers are prone to supply up to the physical limit of demand, it seems most reasonable that a ruling price for a grade will be a minimum price. It will be quite fortuitous if the grade specifications have the effect of concentrating the previously dispersed quality-demands into a middle-value position in each range. And it will be quite remarkable if a price, when established initially, remains at that level in the long term. It must surely be more likely that the price will be a minimum price for the

Figure E: Postulated Market Demand Curve for a Generic Product Sold to Specification.



quality, as postulated in Figure E. In fact, it is quite likely that individual producers, making individual marketing decisions, will be over-supplying quality at the ruling price.

Once producers react, of course, and supply a minimum quality for the grade, some of the accustomed qualities will no longer be obtainable, and there will be demands for more, or different grade specifications. A grading system may well have to be flexible in the long term, therefore, whether or not there is flexibility

in the short term.

Strength of Demand

It has been previously noted that, in the case of a pure generic product and in the case of a product with pronounced seasonal changes both in demand and supply, physical demand is not a function of price, and, in fact, physical demand may be higher at a higher price than a lower price. From the producers' point of view, it seems appropriate to recognise a state of strength of demand to explain this phenomenon.

The conventional demand curve is inadequate to represent a situation in which, by supplying a greater output (of higher quality) a producer can raise his price. Given the recognition of varying strengths of demand, the producer's aim should be to supply all he can at the time, or for the quality for which demand is strongest, and the measure of the strength of demand in a period or for a quality is the amount of money consumers will pay for the part of the supply concerned.

We are thus led again to the concept of revenue taking precedence over price in the marketing of a generic product. Producers may maximise their revenue by avoiding both the highest-price situation and the lowest-price situation - if by so doing they can at all compress trading into the situation where demand is strongest.

Revenue Elasticity: a Worked Example

If there is potential manipulation of the two factors of quality and timing in the supply of a product, revenue elasticity again becomes a relevant concept, and, with the proviso that marginal costs may qualify the argument, revenue maximisation becomes a rational aim in production.

Substance for thinking in terms of intra-seasonal elasticity of demand and of applying the revenue test for generic products can be derived from a medium-term condition in the U.S. orange market. In this example, firm estimates of market supplies and of equilibrating prices are used. They have been taken from an issue of The Fruit Situation, an 'Outlook' periodical of the U.S. Department of Agriculture. This example makes use of quoted prices for fresh oranges in the New York wholesale markets during the five months, January to May, of the years 1962 to 1966. This period was chosen for two reasons: first, as regards time of year, Florida oranges meet significant competition from Californian oranges on the New York markets; secondly, as regards period in time, a pronounced cyclical change in the market situation took place. The year 1962 was normal: in 1963 Florida oranges were scarce. The two following years were years of re-settlement and recovery respectively, and by 1965 available supplies of oranges exceeded those of 1962.

The supply/price situation utilised is set out in Table 1A. Although not reported here, a conventional time-series analysis has little to contribute to an understanding of the situation. Supplies and the related prices for each year could not be meaningfully put on the normal type of market demand schedule, because of the play upon the average seasonal price of, first, overall quality of crops, and, second, intra-seasonal variation in strength of demand.

Table 1A Monthly Supplies and Wholesale Prices of Florida oranges,
1962-66

	Car-lots of Flor. oranges moving into consumption.	Average wholesale price per box	Market situ- ation	Total car-lots
	(1)	(2)	(3)	(4)
1962				
Jan:	1047	\$ 2.83		1832
Feb:	1360	2.78		1660
Mar:	1769	2.72	normal	1824
Apr:	825	2.42		1467
May:	772	2.35		1558
1963				
Jan:	426	3.78		1416
Feb:	383	3.81		1039
Mar:	407	3.92	scarcity	1051
Apr:	259	4.48		860
May:	151	4.76		1019
1964				
Jan:	700	4.48		1833
Feb:	479	3.71		1922
Mar:	466	3.81	re-settle-	1723
Apr:	493	3.76	ment	1612
May:	358	3.97		1507
1965				
Jan:	955	3.43		1946
Feb:	832	3.10		2080
Mar:	721	2.64	recovery	2211
Apr:	642	2.70		2025
May:	484	2.89		1677
1966				
Jan:	1058	2.51		2268
Feb:	792	3.55		2333
Mar:	689	2.67	progress	2264
Apr:	659	3.04		2089
May:	417	3.37		1920

Intra-seasonal analysis helped to clarify the demand situation. Time-series demand curves were prepared for each of the five months, and here differing price elasticities of demand were adumbrated. See Figure F. Figure F purports to show that price elasticity of demand is higher in January and February than from March onwards. For the keen market analyst, then, marketing Florida oranges is largely a problem in equating the marginal point elasticities on the monthly demand curves. In a context of marketing practice, the calendar month may be an arbitrary unit. More profound variations in demand may be revealed, on closer analysis, by testing for mid-month to mid-month elasticities, and for weather regimes.

Table 2A Index of computed January-May Supplies of Florida Oranges on New York Wholesale Markets and of Buyers' Expenditure*

	<u>Index of Consumption</u>					<u>Index of Buyers' expenditure</u>				
Jan:	100	164	224	246	248	100	191	196	187	157
Feb:	100	125	207	217	355	100	119	183	170	264
Mar:	100	114	169	177	435	100	111	112	116	212
Apr:	100	190	248	254	318	100	156	144	164	175
May:	100	237	276	320	511	100	194	186	187	257

* there are numerous objections to this tabulation for use in practice: it is used in the above form for demonstration only.

Then, applying the revenue flexibility notion to the data above, and correcting average prices for changes in the value of money, the monthly revenue flexibilities are as follows:

Table 3A Revenue Flexibilities of Fresh Florida Oranges January to May each year, for the years 1962 to 1966

	(1)	(2)	(3)	(4)
Jan:	1.42	0.08	(-) 0.50	(-) 16.0
Feb:	0.76	2.33	(-) 1.40	0.87
Mar:	0.79	0.02	0.80	0.56
Apr:	0.62	(-) 2.67	5.80	0.28
May:	0.69	(-) 0.25	(-) 0.06	0.62

What is there to learn from Table 3A?

The flexibility co-efficients shown are the increase in revenue (at constant value of money) expressed as a proportion of the increase in purchases. In column (1), co-efficient values are high, because purchases are moving up from their lowest level for the month in question to their next-to-lowest level. Values in column (4) are realised in moving from a high level to the highest level of purchases for the month: co-efficients are still mainly positive, but generally below those in column 1. The values in columns (2) and (3) indicate how disturbed market relations could be as a result of disturbances in production, (e.g. February's results), and also how the incentive to sell fruit which it is perhaps thought may not keep well possibly depresses the level of revenue below the maximum obtainable (e.g. April, col: 2; January, col: 4).

Thus, in a situation where supplies for marketing in a period of five months are increasing annually, and where both physical up-take of

the product and buyers' expenditure are highest in January and fall progressively to May, with indications that price elasticity of demand is highest in January and February, we find a higher average revenue flexibility at the lower prices at the time margin of 1966. Two deductions follow from Table 3A. First, that too many oranges are marketed in January; secondly, that March - the mid-season month, has the most consistent performance.

A similar analysis was carried out using total estimated supplies on the New York wholesale markets instead of the Florida component. For some reason, the flexibility co-efficients obtained were much more variable. See Table 4A.

Table 4A. Revenue Flexibility of Fresh Oranges in the Wholesale Markets, January to May, 1962-1966

	(1),	(2)	(3)	(4)
Jan:	- 0.03	+ 69.0*	- 3.66	- 1.31
Feb:	0.82	1.34	- 1.00	2.30
Mar:	0.37	1.12	- 0.81	- 7.75
Apr:	- 1.13	6.70	0.19	-11.00
May:	0.48	- 16.33	8.12	- 0.64

Bearing in mind that a positive value exceeding unity means that revenue was increased proportionally to the increase in volume of oranges; a value of unity implies that the increase was absorbed at the same price, and a fractional but positive value means that producers' revenue increased, but not in proportion to volume, any positive value will imply that producers' market revenue was increased by the higher volume. A negative value, however, implies that producers' market revenue was lower than, by assumption, it would have been if less produce had been on offer. Half of the values in Table 4A have a negative sign. Do we conclude that it is very easy, in a duopoly like the California/Florida set-up in fresh oranges, to have the wholesale markets over-supplied?

* one of the present limitations of the method is that the magnitude of the co-efficient, if positive and greater than unity, has little meaning. Also, the method is unserviceable if the long term trend in supply is not upward.

It is not claimed for the 'revenue flexibility' concept that it can justifiably replace price elasticity over a range of market analyses. Its utility is probably limited to the type of case in which it has been employed, i.e. where a fixed-volume stock of a variable-quality product has to be marketed and there is pressure to clear as much as is physically possible and physical supply is tending to outrun physical demand.

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