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# **Industry Versus Government Control of Quality Standards in the South Australian Dried Fruit Industry**

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## **ABSTRACT**

The dried fruits industry in South Australia is regulated under the *Dried Fruits Act 1993* (SA). The principal effect of regulation is to impose a mandatory standards scheme on the processing and packaging of dried fruit produced in South Australia for sale in the Australian domestic market. The Act is currently under review in accordance with the requirements and principles of National Competition Policy. The economic analysis undertaken as part of the review addresses the question of who should be making decisions in respect of quality standards for dried fruit: individual industry participants, industry groups or the government. Economic theory of market failure, transactions costs and collective action suggests that the answer to such a question is an empirical one, dependent upon characteristics of the particular industry being examined. For the South Australian dried fruits industry, a small number of industry participants, existing precedents for a standards scheme and institutional support at a government level act to reduce the prospects of market failure in respect of product quality if decisions on product quality are left to either individual producers or industry collective associations. The characteristics of the dried fruits industry are such that mandatory quality standards imposed by legislation do not appear to be a necessary requirement for achieving desirable product-quality outcomes for the industry.

## ***Introduction***

The dried fruits industry in South Australia is currently regulated under the Dried Fruits Act 1993 (SA), the principal effect of which is to impose a mandatory scheme of quality standards for dried fruit products. This paper examines the question of whether there is a justifiable role for government in making decisions on product quality.

The approach to examining this question avoids looking at optimal standards of product quality and levels of investment in quality, but rather focuses on the identity of the decision maker. Decisions on product quality may potentially be made by individual firms, collective of firms, or by government. These three potential decision makers may face different costs in determining optimal levels of product quality, making decision on levels of quality investment and implementing these decisions. It is argued that unless there are substantial cost-barriers to decision making by individual firms or privately organised industry collectives, then there is no justification for government intervention. Characteristics of the dried fruits industry in Australia do not predispose the industry to “market failure” in respect of product quality and hence decision-making powers should reside with individual firms.

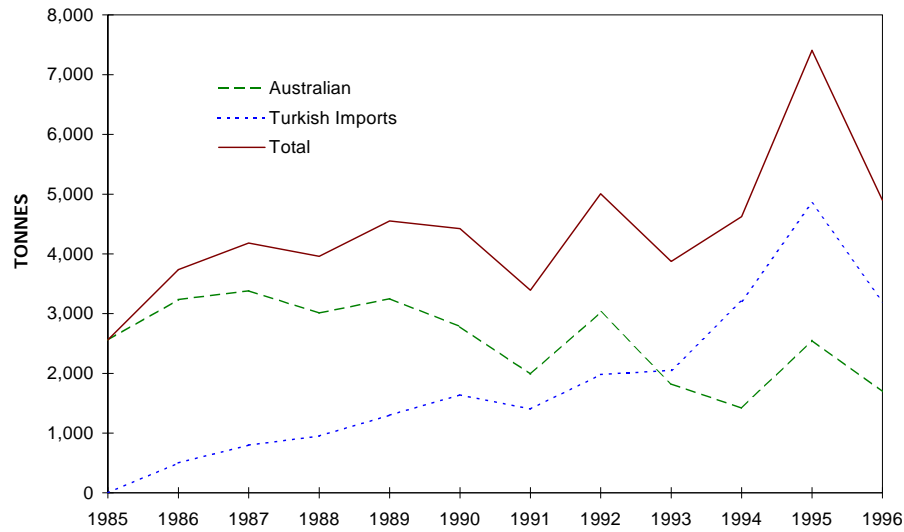
## ***The South Australian Dried Fruits Industry***

The dried fruits industry of South Australia commenced in the late nineteenth century following establishment of irrigated fruit production on the River Murray. Post war soldier settlement schemes contributed to significantly increased output, exports and some over-production.

The South Australian industry is characterised by the high proportion of tree fruit and relatively low volumes of vine fruit, production of the latter being concentrated in Victoria. In 1998, South Australia produced about 50 per cent of Australia’s dried tree fruit, and 2 per cent of Australia’s dried vine fruit (dvt). In 1998, South Australia produced 99 per cent of Australian dried apricots, peaches, pears and nectarines (2,311 tonnes). NSW is the major prune producing State.

The dried fruits industry in South Australia is larger than can be accounted for by a share of national production due to the location in the state of a packing industry that receives fruit grown in Victoria and New South Wales. The quantity of fruit transferred across State borders to South Australia for packing significantly increases the importance of the industry. In 1998, almost 1,000 tonnes of dried tree fruit and 6,300 tonnes of dried vine fruit was imported from interstate for packing in South Australia.

The market environment for the industry has changed significantly over the last decade due to the emergence of competition from imported fruit. In Australia, the market for dried apricots has grown at a rate of around 8 percent per annum, while Australian production has been declining in absolute terms (Figure 1). Turkish apricot imports have grown from 500 tonnes in 1986 to 4,000 tonnes in 1998, despite an import duty of 5 percent. Australian production has averaged only 1,800 tonnes per annum over the last three years and comprises less than one third of a 6,000 tonne market.



**Figure 1: Australian Production and Imports of Dried Apricots 1985 to 1996.**

There are six packing sheds registered in South Australia at June 30<sup>th</sup> 1998, of which one was a special varietal registration. The packers are – Angas Park Fruit Co. Pty Ltd (3 sheds), Toora Vale (Berri) Pty Ltd, Riverland Fruit Cooperative Ltd and B MacNamara (Schoalmarra).

Dried fruit is marketed in Australia by Sunbeam Foods (ADFS), Angas Park and Sun Dried. Promotion is undertaken by both individual companies and a privately-organised industry body – the Australian Dried Fruits Association. Sunbeam Foods and Angas Park undertake the majority of promotion of dried fruits in Australia. Promotion is split between supporting their own brands for consumer packed fruit and promotion of manufactured products containing Australian dried fruits. The Australian Dried Fruits Association undertakes a limited range of generic (non-brand) promotion activities.

### ***History of Regulation of the Dried Fruits Industry***

Like many agricultural industries, the dried fruits industry has a history of intrusive regulation, central marketing and price control. Regulation has occurred at both Commonwealth and State levels.

Regulation at the Commonwealth level legislation has in the past included compulsory levies, price-setting and price-equalisation schemes, and quality standards schemes for dried fruit exports schemes. Price setting and price equalisation schemes have been abandoned. Regulation is however maintained for compulsory funding of the Dried Fruits Research and Development Corporation, and for setting of quality standards for dried fruit exports through the *Export Control Act 1982* (Cth)

Regulation in South Australia commenced with the passing of the *Dried Fruits Act 1925 (SA)* and establishment of a regulatory body – the Dried Fruits Board. This Act established, *inter alia*, a central marketing scheme and price equalisation scheme, requirements for registration of growers and packers and a mandatory quality standards scheme. Similar Acts and legislative arrangements were put in place in New South Wales, Victoria and Western Australia.

A process of deregulation occurred in all four states during the 1990s. Regulatory statutes in Victoria and New South Wales were repealed in 1998 and 1997, respectively. In Western Australia the *Dried Fruits Act 1947 (WA)* is in the process of being repealed. In all three states, central-marketing arrangements and registration requirements on industry participants have been, or are to be, abandoned. Some industry development and promotion functions have been assumed by private industry bodies or quasi-government committees.

In South Australia the original Dried Fruits Act remained operative from 1925 to 1993. Following review in 1992/93, the original Act was replaced by the *Dried Fruits Act 1993 (SA)*. The new Act did not provide for central marketing arrangements or price control, but maintained registration arrangements for industry participants and a quality standards scheme.

The objectives of the current Act are to assist the dried fruits industry, in particular:

- (a) by establishing a statutory corporation to oversee and assist the dried fruits industry;
- (b) by registering producers and packers and requiring certain standards to be met for registration; and
- (c) by requiring certain standards to be met in the production, packing, storage and handling of dried fruits.<sup>1</sup>

The Act establishes the Dried Fruits Board (South Australia) with members appointed by the Governor according to a selection criterion of having extensive experience in some facet of dried fruits production and marketing. The Board has the following functions:

- (a) to encourage, assist and oversee the maintenance and continued development of the dried fruits industry in South Australia;
- (b) to plan and carry out programs of inspection of premises, facilities, and equipment used in the production, packing, storage and handling of dried fruits;
- (c) to collect and collate information relevant to the dried fruits industry, and to disseminate that information to persons involved in the industry and other persons, with a view to enhancing the competitiveness of the industry;
- (d) to work with and provide advice to persons involved in the industry with a view to improving the quality of dried fruits, the methods of producing, packing, storing and handling dried fruits and the marketing of dried fruits;
- (e) to undertake or facilitate research related to the dried fruits industry and in particular research into the quality of dried fruits, the methods of producing, packing, storing and handling dried fruits and the marketing of dried fruits;

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<sup>1</sup> *Dried Fruits Act 1993 (SA)* section 3.

- (f) to promote, or facilitate the promotion of, the consumption of dried fruits produced in South Australia;
- (g) to keep registers of all persons registered under the Act;
- (h) to keep the Act under review and make recommendations to the minister with respect to the Act and any regulations made under the Act;
- (i) to carry out any other functions assigned to the Board by the Minister that are consistent with the objects of the Act.<sup>2</sup>

The *Dried Fruits Regulations 1993* impose specific requirements on producers and packers of dried fruits in respect of:

- the premises, facilities and equipment used in the carrying on of a business as a producer or packer of dried fruits;
- storage of fruit, dried fruit and packaging materials for dried fruit;
- chemical compounds and ingredients; and
- preparation, grading and packing of dried fruits.

For the most part, regulatory restrictions on processing and packing businesses are specified by reference to the *Export Control (Dried Fruits) Orders* made under the *Export Control Act 1982* (Cth).

The regulations also contain provisions relating to the implementation of the regulations by the Board, and specify fees payable to the Board in respect of registration.

Within the meaning of the *Competition Principles Agreement*, the *Dried Fruits Act* gives rise to restriction on competition through imposition of a mandatory standards scheme on the production and packaging of dried fruit for sale in the Australian domestic market. These provisions act jointly to restrict competition through preventing or reducing competition between participants in the dried fruits industry on the basis of product quality. The production and packaging of dried fruit for sale in overseas markets would be subject to the same standards, but these standards would be imposed under the Commonwealth *Export Control Act 1982*.

Several matters addressed in regulatory provisions under the *Dried Fruits Act* are also addressed under other legislation, particularly in respect of hygiene, production premises, packaging and food additives which are regulated under the *Food Act 1985* (SA). Matters of hygiene and production premises are also regulated under local government laws. Provisions of the *Dried Fruits Act* relating to these matters are for all practical purposes redundant. Substantive regulation under the Act really only relates to standards for fruit grading and gross consumption characteristics. The Act requires the registration of producers and packers as a means of implementing and enforcing the mandatory standards scheme.

Standards are not actually set under the *Dried Fruits Act*, but rather are specified by reference to standards contained in the *Export Control (Dried Fruit) Orders*, as modified by the *Dried*

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<sup>2</sup> *Dried Fruits Act 1993* (SA) section 16.

*Fruits Regulations.* An example of the nature of quality standards is indicated in Figure 2. Assessing the benefits of a government role in the setting of quality standards for the dried fruits industry was the principal subject of the National Competition Policy review of the *Dried Fruits Act*.

<p><b>Basic requirements for dried apricots</b></p> <p>39. Dried apricots may contain sulphur dioxide and edible fats and oils and shall–</p> <ul style="list-style-type: none"><li>(a) be manufactured from sound and reasonably mature apricots that are dried and thoroughly cured;</li><li>(b) be practically free of foreign matter;</li><li>(c) contain only one style of apricot; and</li><li>(d) not have a moisture content exceeding 25 per cent.</li></ul> <p><b>Fancy dried apricots</b></p> <p>40. Fancy dried apricots shall consist of apricots that comply with clause 39 and–</p> <ul style="list-style-type: none"><li>(a) have a typical colour, texture, flavour and odour;</li><li>(b) do not contain more than 15 per cent by count of apricot pieces that vary from the principal apricot colour;</li><li>(c) are sized as either jumbo, extra large, large or medium; and</li><li>(d) may possess–<ul style="list-style-type: none"><li>(i) pale yellow green areas around the stem that do not exceed 30 per cent of the surface area of the apricot piece; and</li><li>(ii) pale and lacy white centres.</li></ul></li></ul> <p><b>Choice dried apricots</b></p> <p>41. Choice dried apricots shall consist of apricots that comply with clause 39 and–</p> <ul style="list-style-type: none"><li>(a) have a typical colour, texture, flavour and odour;</li><li>(b) are graded into the sizes of ‘extra large’ or ‘large’; and</li><li>(c) may possess–<ul style="list-style-type: none"><li>(i) pale yellow green areas around the stem that do not exceed 30 per cent of the surface area of the apricot piece; and</li><li>(ii) pale and lacy white centres that are completely white.</li></ul></li></ul> <p><b>Standard dried apricots</b></p> <p>42. Standard dried apricots shall consist of apricots that comply with clause 39 and–</p> <ul style="list-style-type: none"><li>(a) have a reasonably typical colour, texture, flavour and odour; and</li><li>(b) when halved, pass over a 15 millimetre riddle</li></ul> <p>(Schedule 2 of the <i>Export Control (Dried Fruits) Orders 1987</i> (Cth), Division II)</p>
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**Figure 2: Example of Quality Standards for Dried Fruits**

### ***Product Quality and Social Welfare***

Goods and services can be categorised on the basis of the ability of consumers to observe quality characteristics. *Search goods* are characterised by an ability of consumers to determine quality prior to purchase. Quality characteristics of experience goods can only be

determined by consumption. Credence goods are those with quality attributes than cannot be detected in normal use.<sup>3</sup>

Foods are often experience goods both in respect of gross consumption quality characteristics (the proof of the pudding is in the eating) and some matters of food safety, such as spoilage and contamination with foreign objects. In regard to some matters of food safety, foods have characteristics of credence goods, as with characteristics of genetic modification and chemical contamination.

Regulation of the South Australian dried fruits industry is primarily concerned with dried fruits products as experience goods. That is, regulation is primarily concerned with the qualities of the products that may not be apparent or “knowable” by the consumer prior to purchase. There are some credence good characteristics of the products, relating to chemical additives, production hygiene, etc. However, food safety matters are regulated under other legislation and are not relevant to consideration of product quality in the context of the Dried Fruits Act.

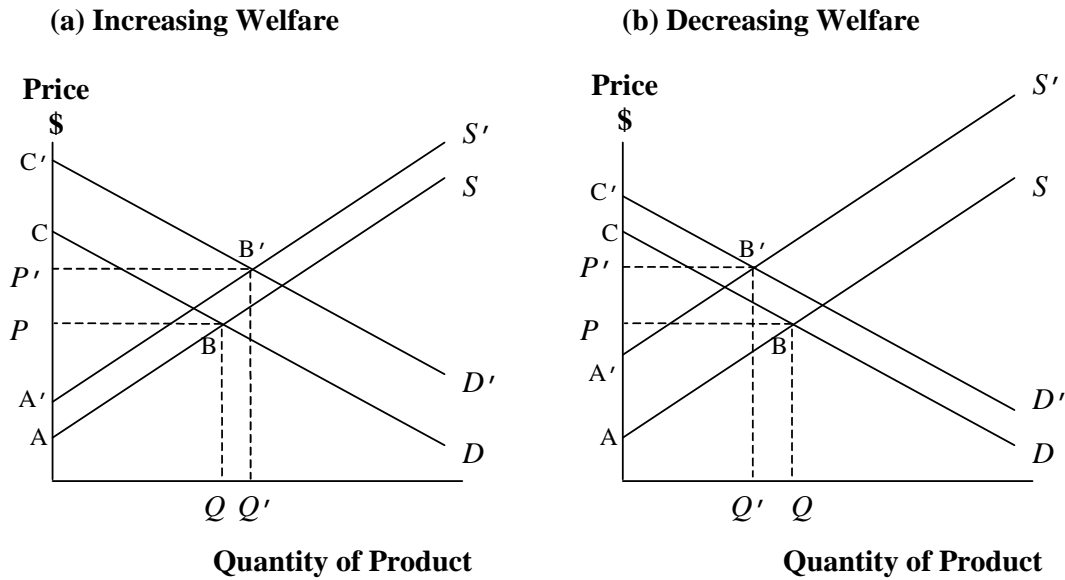
Producing goods of “high quality” has two general consequences for the market for those goods:

- i. a higher value of the good or service to consumers, expressed as a higher willingness to pay a higher price for any given quantity, or to purchase greater quantities at any given price; and
- ii. a higher cost of production of the good or service, assuming that higher quality involves higher costs of production.

Broadly speaking, an improvement in the quality of a good or service is of benefit to consumers and thereby to society if the increase in value to consumers exceeds the increase in the cost of production. This is illustrated in terms of Marshallian surplus measures of social welfare in Figure 3. Figure 3(a) indicates a case where a quality improvement results in a substantial increase in demand for a good, shifting a demand curve upwards from  $D$  to  $D'$ . There is a small increase in costs, shifting the supply curve upwards from  $S$  to  $S'$ . There is an increase in both the price of the product ( $P$  to  $P'$ ) and the quantity produced and consumed ( $Q$  to  $Q'$ ). The welfare generated through the market for the product changes from the area  $ABC$  to the area  $A'B'C'$ , a obvious increase despite an increase in the price of the product. Figure 3(b) indicates a case where a quality improvement results in a small increase in demand for a good, shifting the demand curve upwards from  $D$  to  $D'$ . There is a substantial increase in production costs, shifting the supply curve upwards from  $S$  to  $S'$ . There is an increase in the price of the product ( $P$  to  $P'$ ) but a decrease in the quantity produced and consumed ( $Q$  to  $Q'$ ). The welfare generated through the market changes from  $ABC$  to  $A'B'C'$ , an obvious decrease.

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<sup>3</sup> Nelson, P., 1970. Information and consumer behaviour, *Journal of Political Economy* 78: 311–29. Darby, M. and Karni, E., 1973. free competition and the optimal amount of fraud, *Journal of Law and Economics* 16: 67–88.



**Figure 3: Welfare Implications of Quality Improvements of a Good or Service**

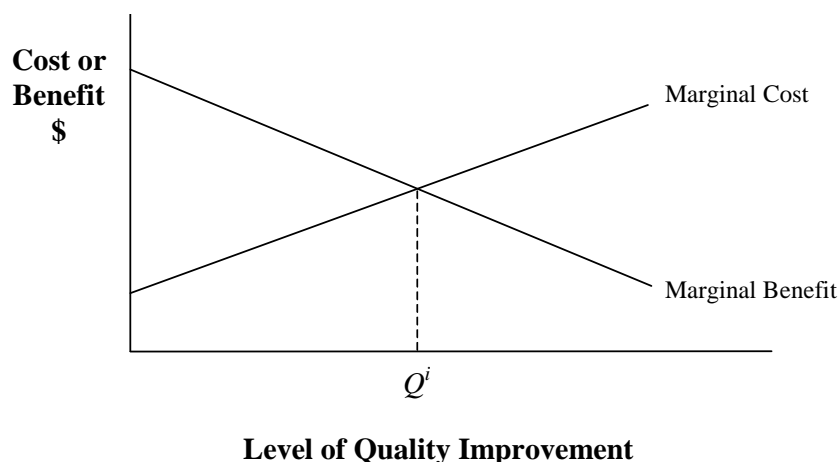
***An Individual Producer's Decision Calculus for Product Quality***

In the absence of mandated quality standards, the quality of a good or service is determined by an individual in accordance with expectations of increases in sales revenues (through higher prices) and increases in production costs. Depending upon the nature of the product and the industry, the quality decisions of individual firms may or may not be the optimal decisions for the market and the wider community.

In a decision to implement a quality improvement in a product an individual producer will consider two matters:

- i. the potential benefits of the quality improvements through a willingness of consumers to pay higher prices for the product (or to purchase more at the existing price), translating to increases in sales revenues; and
- ii. the increase in production costs incurred in implementing the quality improvement.

The rational (profit maximising) producer will continue to make incremental quality improvements in the product as long as the benefits incurred through increased sales revenues exceed the costs incurred through implementation of the improvements. It would be typically expected that a producer would experience increasing marginal cost of successive increases in output quality, and decreasing marginal benefits. The rational producer would cease improving the quality of output where the marginal cost is equal to the marginal benefit. This is illustrated in Figure 4, with the individual producer's optimal level of quality improvement indicated by  $Q^i$ .



**Figure 4: The Quality Improvement Decision of an Individual Producer Acting in Isolation**

The quality decision made by the individual producer involves an improvement in quality up to the point where the benefits of the last unit of quality improvement are equal to the costs of that unit of quality improvement. If the individual producer's decision recognises all the costs and benefits to society through the quality improvement, then the quality decision is optimal for both the producer and the community.

Competitive markets may, however, not give rise to socially optimal levels of product quality by virtue of market failure typified by the “lemons problem<sup>4</sup>”: If the unit cost of production of a “high” quality form of a product exceeds that of a low quality form, a seller of experience or credence goods has, in certain circumstances, an incentive to take advantage of buyers by supplying lesser quality than promised.<sup>5</sup>

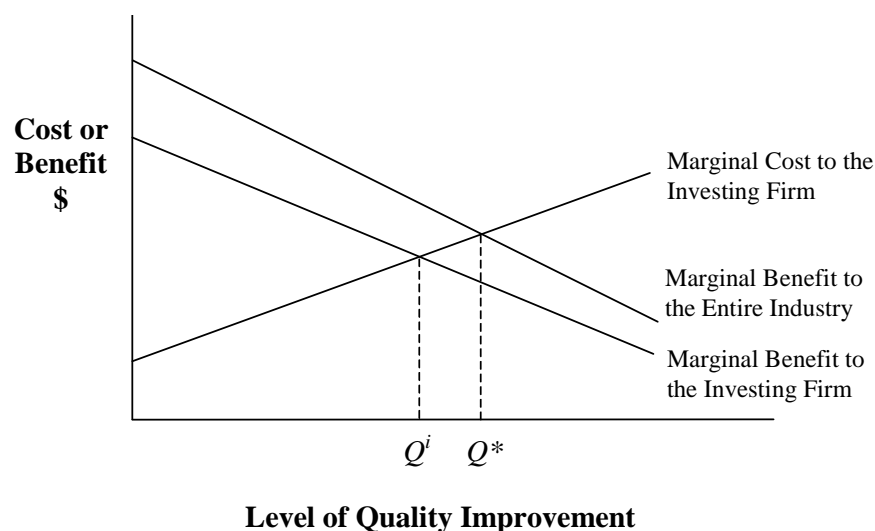
More generally, with an inability to discern high quality products, buyers will be willing to pay only for low quality products. In an industry of more than one producer, the improvement of output quality by one producer may have repercussions for the entire industry. Improvement in quality by one firm will increase the average quality of the product in the market and may cause an increase in consumer demand (that is, an increase in consumer willingness to pay) for both the output of producer making the quality decision as well as the output of all other producers. An investment in quality improvement by one producer will have benefits both for the producer making that investment as well as all other producers. This may particularly occur where consumers have a limited ability to distinguish between products of different producers.

The problem arising in this situation is that the producer making the investment in quality improvement is unable to capture all the benefits of this improvement. This is a typical “positive externality” scenario and would result in an under-investment in quality improvement by the individual producer. This is illustrated in Figure 5. Ideally, investment in quality improvement would occur until the marginal benefits to the industry equal the

<sup>4</sup> Akerlof, G.A., 1970. The market for lemons: quality uncertainty and the market mechanism, *Quarterly Journal of Economics* 84: 488–500.

<sup>5</sup> Wills, I. and Harris, J., 1994. Government versus private quality assurance for Australian food exports, *Australian Journal of Agricultural Economics* 38(1): 77–92.

marginal cost of the quality improvement. However, as the producer making the investment only takes into account the benefits he/she is able to capture, which are only a fraction of the total benefits accruing to the industry, the producer is only motivated to invest to a level ( $Q^i$ ) which is less than the level optimal for the industry ( $Q^*$ ).



**Figure 5: The Quality Improvement Decision of an Individual Producer in a Competitive Industry**

A similar situation may occur where an improvement in product quality gives rise to benefits to members of the community other than the consumers of the product. For example, increases in food safety may reduce costs of health care to the community. Again in this case the producer making the investment in product quality would be unable to capture all the benefits through increased revenues and would lack the incentive to invest in quality improvement to optimal levels for the industry and the wider community.

In this situation, product quality is said to have “public-good” characteristics. Benefits of the investment in quality improvement by one producer cannot be withheld from other producers that have not contributed to the investment. Competition in the industry raises a free-rider problem whereby any individual producer faces an incentive to free-ride on the quality investment of its competitors. As a result, individual producers face incentives to under-invest in product quality by both individual producers and the total industry. There is a consequent welfare loss to the industry and to consumers.<sup>6</sup>

### ***Determinants of Under-Investment in Product Quality***

The extent of under-investment in quality within an industry is dependent upon the ability of individual producers to capture the benefits of their own investments in quality. This ability

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<sup>6</sup> This has been conceptually demonstrated by Leland, H.E., (1979) Quacks, lemons and licensing: a theory of minimum quality standards, *Journal of Political Economy* 87(6) 1328-1346, and Auriol, E. (1998) Deregulation and quality, *International Journal of Industrial Organization* 16: 169-194.

is greatest where consumers of the product are able to distinguish between producers on the basis of the quality of their products thereby enabling individual producers to gain “reputations” according to the quality of their products and their level of quality investment.<sup>7</sup> A reputation allows a producer investing in quality improvement to capture most or all benefits of an investment in quality, hence there is no “public good” problem in quality investment.

Reputations of producers are most readily developed for goods:

- which are frequently bought, with consumers making repeat purchases;
- whose level of quality can be observed at low cost, either by directly observing the characteristics of the goods, or by observing “signals” such as indications of quality “certification”; and
- for which the consumer can readily associate goods with the identity of the producer of the goods, either through distinguishing characteristics of the products or through “brand” signals.

Conversely, it is difficult for individual producers to establish reputations if one or more of the above conditions do not hold. For example, with international food exports, foreign buyers may not receive reliable signals of individual exporters’ quality, and judge quality by country of origin. Reasons for this are that quality signalling to a large international market may be too costly for individual exporters.<sup>8</sup> The third condition, above, does not hold.

### ***Solutions for Under-Investment in Product Quality***

There are several potential responses to a situation of under-investment in product quality within an industry. These can be broadly categorised into actions by individual firms, collective action within an industry, and government intervention.

#### **Actions by Individual Firms**

Individual producers may attempt to differentiate their product in the eyes of consumers on the basis of quality and thereby remove the “public good” attributes of product quality in the industry. Where the quality of the product is not readily observable to consumers prior to purchase or consumption, this may be undertaken by providing “brand” signals to consumers that provide a signal of quality and which over the long term will enable the producer to establish a reputation. This approach is typically effective where a producer is relatively easily able to differentiate his product through observable quality characteristics, or to develop consumer recognition of a brand name. The latter generally requires that there are relatively few producers in the market so that consumers are faced with learning the quality characteristics of products from only a small number of brands.

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<sup>7</sup> Klein, B. and Leffler, K.B., 1981. The role of market forces in assuring contractual performance, *Journal of Political Economy* 89: 615-641.

<sup>8</sup> Wills and Harris, 1994, citing Donnonfield, S. and Mayer, W., 1987. The quality of export products and optimal trade policy, *International Economic Review* 28: 159-174.

Individual producers may also capture benefits of investments in quality by entering into long-term supply contracts with individual consumers to provide goods of a specified quality. This approach may be effective where an individual producer deals with a relatively small number of consumers on a recurring basis, thus justifying investment by both the producer and consumers in developing long-term supply contracts. This has been noted to be particularly relevant in markets for intermediate goods where there are economies of scale in contract development, monitoring and enforcement.<sup>9</sup>

### Collective Action

Firms within an industry may enter into collective agreements whereby individual producers voluntarily pledge to invest in quality improvement on the understanding that all other producers will do likewise. If such agreements can be developed and enforced, then an individual producer can be relatively confident that other producers will not free ride on his investment in quality improvement. Such voluntary agreements are typically developed through industry associations, particularly in respect of codes of conduct in service industries. Successful implementation generally occurs where there are a relatively small number of producers in the industry, products have a high degree of homogeneity, and any cheating or free-riding on the agreement is readily observable. These characteristics lead to relatively low costs in developing agreements on quality investment (since there is a relatively low number of people that have to reach agreement) and enforcing these agreements.

### Government Intervention

Mandatory quality-standards schemes may be implemented across industries through government regulation. This has the advantage of virtually eliminating the prospect of individual producers free-riding on quality investments, as well as negating costs that may be incurred by producers in the collective action that may otherwise be necessary to implement an industry-wide quality improvement initiative, or in individual producers undertaking marketing initiatives to differentiate their products. Government regulation may also be advantageous where the benefits of private investment in quality improvement can be substantially reduced by free-riding behaviour on the part of a small number of producers.

### ***Who Should Make Decisions on Quality?***

The optimal quality decision for individual firms may be known or at least calculable. The policy issue is who should be responsible for determining the optimal level of quality. This is the important question in respect of the review of the South Australian *Dried Fruits Act* and is a question of ongoing importance in many other industries.

As indicated above, decisions on product quality may be made by individual firms, collectives of firms or government. The criterion for assigning responsibility for decision making is which of the potential decision makers faces the lowest decision-making costs, that is:

- costs of information and information-processing to discern the optimal level of quality investment;

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<sup>9</sup> Wills, I. and Harris, J., 1994. *op cit*, citing Ippolito, P.M., 1990, Bonding and non-bonding signals of product quality, *The Journal of Business* 63: 41-60.

- costs of making a decision on a level of quality investment;
- costs of implementation and enforcement of the decision on product quality including costs of capturing benefits and preventing free riding.

The levels of these costs for different decision makers will vary according to the characteristics of the particular industry. Industry characteristics affecting costs are summarised below.

<b>Cost Parameter</b>	<b>Individual Firms</b>	<b>Industry Collective</b>	<b>Government</b>
Information costs to determine the optimal level of quality investment.	Potentially high if firm size is too small to exploit economies of scale in market and technical research.	Potentially relatively low if there are economies of scale in market and technical research.	
Decision-making costs.	Low due to decisions generally being made unilaterally by a single management agent.	Costs of collective decision making depend upon: <ul style="list-style-type: none"> <li>• numbers of firms;</li> <li>• heterogeneity of firms: size and activities;</li> <li>• existing organisation.</li> </ul>	Costs of bureaucratic decision making depend upon requirements for flexibility and the frequency with which decisions must be made or changed.
Implementation, enforcement and capture of benefits.	Marketing and contracting costs to capture benefits depend upon: <ul style="list-style-type: none"> <li>• the number of firms in the market that an individual firm has to differentiate itself from;</li> <li>• the number of consumers, affecting the ability to contract with individual consumers;</li> <li>• the frequency of consumer purchase;</li> <li>• the ability of consumers to discern quality changes prior to purchase</li> </ul>	Costs of collective monitoring and enforcement depend upon: <ul style="list-style-type: none"> <li>• number of firms;</li> <li>• observability of defection</li> <li>• ability to fund monitoring and enforcement;</li> <li>• ability to sanction.</li> </ul>	Costs of monitoring and enforcement depend upon: <ul style="list-style-type: none"> <li>• number of firms;</li> <li>• observability of defection.</li> </ul>

### ***Decision Making on Quality in the South Australian Dried Fruits Industry***

In addressing the desirability of government regulation of product quality in the South Australian dried fruits industry, consideration was given to characteristics of the packing industry and the decision-making costs facing individual firms and industry collectives in making decisions on product quality. A presumption was made that government intervention would only be justified if there was some evidence of relatively high decision-making costs

facing individual firms or industry collectives that may give rise to sub-optimal levels of quality investment.

The industry currently comprises four large processing/packing firms and two principal marketing firms. The low numbers of firms and their substantial size would allow the exploitation of economies of scale in information collection and information processing that is necessary to ascertain optimal standards of product quality and levels of investment in quality management. There is thus not expected to be any significant cost disadvantage experienced by individual firms over industry collectives or a government body in information collection and processing. This is evident in initiatives currently being taken by the packing firms to implement quality assurance schemes that would involve establishing quality standards.

The actual making of decision in respect of quality standards is of low cost to individual firms by virtue of the ability of the unilateral decision-making power of managers. Collective action by all firms may also be undertaken at relatively low cost in the industry by virtue of the small numbers of firms and a relative homogeneity of firms and their activities. Both of these factors favour low costs in achieving consensus in collective action. Furthermore, the pre-existence of collective organisations that could assume decision making roles would negate the need to bear costs associated with initiating collective action. Forums for collective decision making exists in the Australian Dried Fruits Association and South Australian Dried Tree Fruits Association, both of which are privately organised peak industry bodies for growers and well as processor/packagers.

Industry characteristics also favour the ability of individual firms or collective organisations to implement decisions on quality and to capture the benefits of investment. Packing firms currently market dried fruits in Australia under only three major brands, suggesting a high potential for learning by consumers of the quality characteristics associated with individual brands and subsequent brand recognition. Also, the sale of dried fruits products is to a large extent undertaken under contracts and/or agreements held between packing/marketing firms and major manufacturing and wholesale customers for bulk product, and wholesalers and major retailers for consumer-packaged product. Pre-existing contracts would reduce costs of developing and implementing contractual specifications for product quality, customer recognition of the quality characteristics of products from individual producers. The costs of implementing and enforcing collective decision on quality standards for the entire industry would be assisted by institutional support in South Australia for privately-organised industry associations. The *Primary Industry Funding Schemes Act 1998* (SA) provides for private industry associations to collect mandatory financial contributions from industry members. This would provide financial resources for monitoring and enforcement of collectively implemented quality standards, reduce the potential for free riding by individual firms and enable the capture of benefits to investment in quality improvement.

In total, there are unlikely to be significant transaction-cost barriers to private initiatives for management of quality in the dried fruits industry. Alternatives to government regulation as mechanisms for overcoming potential problems of under-investment in product quality are all likely to be viable and potentially able to return the same benefits to individual firms, the industry and consumers.

Any private initiative would have the advantage of reducing costs to government over the current regulatory arrangement, albeit these cost savings are currently relatively small. Depending upon the perceived requirement by industry members to maintain industry-wide

quality standards there may also be cost savings to industry participants through abolition of registration fees and reductions in production levies.

### ***Conclusion***

The characteristics of the dried fruits industry in South Australia appear to conform to preconditions for the optimal decisions on product quality to be made by individual firms or privately organised industry collectives. Mandatory quality standards imposed by legislation do not appear to be a necessary requirement for achieving desirable product-quality outcomes for the industry.