

CENTRE FOR  
INTERNATIONAL  
ECONOMICS

# *Feasibility of extending CoOL*

*A benefit cost analysis*

*Prepared for Food Standards Australia and New Zealand*

*Centre for International Economics  
Canberra & Sydney*

*February 2006*

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# Summary

The evidence presented in this study makes a strong case that the costs of the proposed extension to country of origin labelling (CoOL) would exceed the benefits from its implementation.

The study examines the feasibility of a proposed extension of the current food standard concerning CoOL (gazetted in December 2005) that was specified in a Ministerial Direction to Food Standards Australia and New Zealand (the Ministerial Direction). The extension would require that all countries of origin be specified for each major component of packaged food products containing two (or fewer) fruits or vegetables.

The primary concern here is with the proposal as described above, but two other proposals are also analysed. These are the Fair Dinkum Food Campaign and AusVeg proposals. The benefits and costs of the Ministerial Direction fall in the middle of the two alternative proposals.

To estimate the benefits and costs of the proposed extension, we used a comprehensive quantitative approach involving:

- wide consultation with industry to collect real-world data:
  - manufacturing data on input usage;
  - cost data on affected inputs
  - market data on affected products;
- development and use of a detailed financial model of consulted firms;
- use of the Office of Small Business Costing Tool and CIE financial model;
- use of CIE's economy-wide model with horticultural industry detail;
- sensitivity analysis and conservative assumptions;
- market segmentation analysis and identification of maximum potential benefits to consumers by major market segments;
- identification of any spillover, public benefits and costs.

## Private costs to individuals are significant

The costs to Australian food manufacturers to comply with the proposed extension would vary widely among products and firms. On average, cost increases are estimated to be significant at around 1.4 per cent. Worst affected would be small firms and small product lines with cost increases of up to 14 per cent.

An average 1.4 per cent cost impost on the processing sector would:

- raise the price of domestically produced processed horticultural products relative to imports and exports, imposing costs on Australian consumers (up to \$70 million a year);
- reduce processed horticultural output by up to 5.0 per cent (\$212 million a year) due to reduced global competitiveness domestically and on export markets; which would:
  - decrease processor demand and prices for fresh Australian horticultural products for processing;
  - decrease output of horticultural products for processing;
  - decrease incomes of horticultural producers, workers and processors (horticultural value added) by up to \$72 million a year due to reduced output;
- increase imports of finished processed horticultural products;
- decrease imports of horticultural ingredients for processing;
- decrease exports of processed products and raise exports of fresh horticulture with less value added.

Taking account of all income effects, national income would be reduced by at least \$80 million and up to \$160 million a year, or around \$120 million a year as a mid-point estimate.

## Private benefits to individuals are marginal

The potential private benefits arising from the proposed extension to CoOL will depend on how highly consumers value that extra and more specific information that will arise from it. For consumers to value the extra information more highly than the estimated \$120 million loss of national welfare, they would need to be willing to pay 2.7 per cent extra on average to purchase the processed horticultural products than now. However, only a small proportion of the market will value the extra information.

### *Concentrated benefits would need to be huge relative to dispersed costs*

Consumer research suggests that perhaps only 10 per cent of consumers value CoOL information as highly important. The interest by consumers in CoOL information to product hotlines is even less at about 10 in every 100 000 inquiries. Further, only 47 per cent of processed horticultural products would be affected by the proposed extension to CoOL and only 63 per cent of products are sold directly to Australian consumers.

Taking these proportions in to account, to justify the costs imposed on all consumers, the value of processed horticultural products affected by the extension would need to rise by at least 94 per cent for the 10 per cent of consumers who might value the extra information provided. Based on consumer research this seems highly unlikely and it would be severely inequitable imposing costs on all consumers to benefit a select few.

### *Besides, the market is already catering for consumers who are sensitive to CoOL*

Moreover, where the benefits to consumers of specific CoOL information exceed the costs of providing it, manufacturers have already segmented the market to provide the products and information to those who value them. Typically, specific CoOL information:

- is provided where the labelling task is simple, involving one country of origin; and
- is **not** provided when there are more than one country or ingredient, as the cost to do so is high.

Besides, in a highly segmented market, if consumers want them they can choose the already CoOL-compliant products at relatively low or no extra cost instead. Essentially, there is no information failure in the market now.

- For 50+ per cent of processed horticultural products, the increment in information from an extension to CoOL is zero. They are pre-compliant.
- For about 40 per cent the increment in information would be marginal. Consumers can already read on the label that the product contains imported ingredients and they can phone manufacturers to find out more specific CoOL information, although virtually none do. The increment would be to learn the specific country of origin, but it is difficult to see this changing purchasing patterns materially.
- For less than 10 per cent of products, the increment in information would inform some consumers, who do not currently know, that the product has imported content. This may change purchasing patterns,

suggesting CoOL has some value. But the private benefit of this information would appear to be tiny given:

- the smallness of this market segment;
- the reality that if the information were valued more highly than the costs of providing it, the market would have catered to it already;
- the small proportion of consumers concerned about CoOL.

## Public benefits and costs

That the market is already supplying CoOL information where the private benefits exceed the private costs leads to the following conclusions:

- the proposed extension of CoOL is highly unlikely to provide additional net private benefits;
- the proposed extension to CoOL is only likely to be justified if benefits over and above private benefits (public benefits) can be achieved by the proposed extension; and
- should such public benefits exist, they would need to be significant to cover the additional private compliance costs of 1.4 per cent and any additional public costs of extra CoOL information.

### *There is no strong evidence that public benefits are large*

- Health and food safety will not be improved. More efficient systems already exist to deal with such issues. More specific CoOL information would not in any practical sense help in dealing with health and safety issues compared with existing system.
- The integrity of the labelling system will not improve. 13 per cent of consumers reportedly are not sure whether to trust CoOL information now. But consumers do not trust more specific label information on other attributes any more highly, despite hefty penalties for breaches of label standards. Therefore it is difficult to see that also making CoOL information more specific would reduce mistrust that currently exists among a minority group of consumers.
- Information to satisfy the community's 'right to know' would be of low value. There are currently so few inquiries to manufacturers for specific CoOL information that it is difficult to see how it could possibly be valued highly enough by the broad community to justify the costs likely to be imposed on all consumers.

### ***But public costs could be significant***

- Because the proposed extension is perceived as being arbitrary and potentially protectionist by food processors and as a manipulation of the food standards system by special interests, this could lead to a loss of credibility and support for the system and a compromise of food safety objectives.
- The arbitrary coverage proposed under the extension could lead to increased confusion in the minds of consumers.
- The measures could be interpreted as technical barriers to trade that put Australia in conflict with its WTO obligations and bilateral trading agreements, causing:
  - potential loss of credibility in world trade forums harming Australia's effectiveness to obtain high payoff improvements in trading conditions for much larger sectors of the Australian economy (including agriculture and horticulture); and
  - potential loss of flexibility to negotiate through the WTO against technical barriers of other countries.
- Administration and enforcement costs to AQIS, state government authorities, FSANZ and ACCC could run into more than \$10 million if fully funded, or compromise food safety priorities if not fully funded.

### **Conclusion: costs exceed benefits**

As with private costs and benefits, the weight of evidence suggests that the public costs of the proposed extension to CoOL would exceed the public benefits. Indeed, the weight of evidence suggests that implementation of the proposed extension of CoOL would not be in the overall interest of Australia. It would harm the horticultural industry, the horticultural processing industry and exports. Consumers would have to pay more for a tiny increment in information of little extra value to them.

Interestingly, although food processors in their submissions expressed concern that the proposed extension to CoOL as protectionist, based on the evidence presented here, it turns out to protect no group in the domestic supply chain. Ironically, instead of potentially protecting the domestic industry, it harms it in favour of imports of finished products.



# 1

## *Introduction*

### **Background**

Country of Origin Labelling (CoOL) standards apply to food sold in Australia. The justification for these mandated standards lies in the belief that information on country of origin is of value to consumers, allowing them to make more informed choices.

Observation of the market reveals that many product labels already carry country of origin information far in excess of what is required by the standards. This is strong evidence that food manufacturers believe that consumers value this information and indeed, that where they include the information, manufacturers believe the private benefits to consumers of the information exceeds the costs to them of supplying it.

Mandated CoOL standards currently apply only to whole foods. Food Standards Australia and New Zealand (FSANZ) has been asked to investigate the merits of extending CoOL to include the specific countries of origin for the principal components of certain processed and packaged fruit and vegetable items (and soya milk) sold in Australia.

Many processed and packaged fruit and vegetables already meet this standard. Those that do not, tend to be those with multiple country of origin sources.

### **Benefits and costs of extending CoOL**

The merits of extending the CoOL standard will depend on the marginal benefits and costs of the change. The costs will relate to:

- the increased compliance costs of relabelling and tracking multiple, and oftentimes changing, countries of origin;
- how many products already meet the standard (are already pre-compliant) and how many will require changes in labels;

- spillover compliance costs in checking products that do not qualify but due to ambiguities of the standard may require considerable legal interpretation and checking;
- enforcement and administration;
- avoidance through withdrawal or modification of products so as not to be captured by the standard;
- spillover costs to consumers and loss of integrity in labelling if the standard leads to further confusion in labelling;
- spillover costs to manufacturers, FSANZ and DFAT and loss of integrity and credibility in labelling if the extended standard is interpreted as a compromise of Australia's food standards by some special interest groups;
- reduced demand for Australian products where they are minor components that become too expensive to deal with, causing a loss of income due to reduced production;
- reduced demand for Australian products where the costs of production of domestic products rise above those of imported products;
- reduced demand for Australian exports where domestic costs rise; and
- reduced demand for Australian products where consumers increase demand for foreign products once they are provided with more specific country of origin information.

The possible economic benefits of the extension may come from:

- the increased value consumers place on knowing the exact import source of the fruit and vegetables ingredients they are eating compared with only knowing it is imported;
- the increased value consumers place on knowing that even some products labelled 'made in Australia', which do not explicitly show a minor imported components now, may contain some imported component where there are two or less principal components;
- the increased demand for Australian grown produce where consumers decrease demand for foreign products once they are provided with more specific country of origin information;
- any reduced health risk that might arise from more specific country of origin labelling;
- any increase in the integrity and consistency of the food labelling system that leads consumers to make more informed choices, so

allowing them to better align their purchases with their particular preferences.

## Purpose of this study

The requirement of this study is to quantify the costs and benefits of the proposed extension to CoOL. The results of the study, along with other information, will form part of a Discussion Paper FSANZ intends to circulate at the start of February 2006.

The cost benefit analysis, the Discussion Paper and reactions to it will form the basis for a final report to be prepared by FSANZ assessing the feasibility and merits of extending CoOL. This will be presented to Government and fulfil the requirements for a regulation impact statement that will be assessed by the Office of Regulation Review.

## Our approach and the scope of this study

To understand and quantify the costs and benefits of the proposed extension has required:

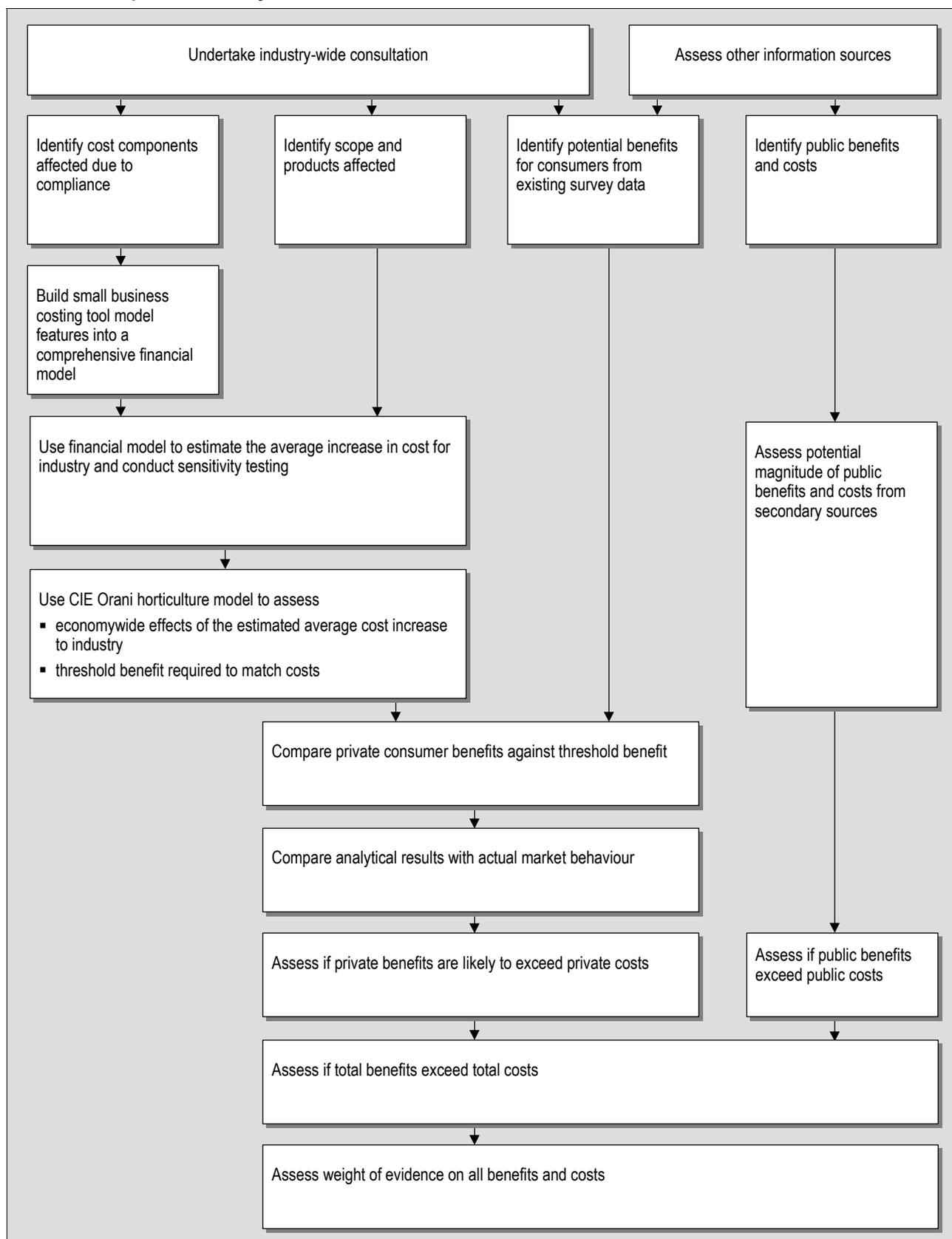
- industry-wide consultation to:
  - systematically collect reliable, verifiable cost data to empirically estimate effects on manufacturers' costs,
  - understanding the scope of the change and the number and proportion of products likely to be affected;
- building a comprehensive financial model of how the proposed extension might affect manufacturers' costs of compliance, encompassing:
  - the cost components of Office of Small Business Costing Tool,
  - other cost components affected,
  - output and size effects on firms,
  - opportunity costs to firms;
- running the financial model to conduct sensitivity tests on the potential extent and scope of costs changes;
- analysing how changes in financial costs will impact the wider economy using CIE's specialised horticultural based model of the Australian economy to quantify effects on:
  - food manufacturers' output and income,

- imports and exports of horticultural products,
- horticulturalists' output and income,
- consumer prices and income,
- net benefits or costs to the Australian economy;
- using the economy-wide estimates of the impact on costs to the economy to measure the threshold economic benefit required for the proposed extension to deliver a net benefit;
- identifying and assessing the scope and extent of private and public (spillover) benefits potentially arising from the proposed extension by reviewing:
  - available empirical indicators in the market place,
  - the economic rationale of arguments for and against possible spillover benefits,
  - available market research on consumer valuations of CoOL,
  - the scope to avoid the proposed extension by changing behaviour to avoid it;
- identifying and assessing the scope and extent of public (spillover) costs potentially arising from the proposed extension and assessing to what extent these might off-set any spillover benefits; and
- assessing the strength of evidence as to whether potential benefits could exceed the quantified threshold costs of the proposed extension.

The logical sequence to the steps required to undertake the benefit cost analysis are set out in chart 1.1.

The consultation phase involved meeting with seven major food manufacturers or juicing companies, three major retailers, various food processing and retailing industry associations, horticultural industry associations, consumer associations, importers and affected government departments.

### 1.1 Main steps in the analysis



# 2

## *Scope of the proposed extension*

### **Countries of origin of up to two components**

The proposed extension requires country of origin labelling to be extended to each of the two (or fewer) principal whole fruit or vegetable products packed together (and soya milk) including where other incidental ingredients are part of such a product.

The proposed extension would require that packaged food containing two or fewer fruits and/or vegetables (and no other major ingredient) (and soya milk), be labelled with the actual country of origin of the principal components: that is, where the produce has been grown. In a practical sense this could require changing a label on a blended orange and mango fruit juice that reads: 'Made in Australia with Australian and imported fruit juices', to: 'Made in Australia with Australian mangoes and Brazilian oranges'.

A range of stakeholders proposed a number of alternative options for extending CoOL. This report focuses on and analyses the option as directed by FSANZ. A discussion and evaluation of the Fair Dinkum Food Campaign and AusVeg options are discussed in Appendix D.

### **Scope: general**

The scope of the changes relative to the current situation and what has been gazetted, are set out in table 2.1.

- In the case of products that qualify as 'product of Australia' there will be no change relative to that already gazetted because there is no relevant imported component.
- In the case of products that qualify as 'product of country X' there will be no change relative to that already gazetted because there is no ambiguity about its country of origin.

## 2.1 Changes to requirements

Label line	<b>Transitional requirements (currently on the shelves)</b>	<b>Gazetted requirements (gazetted in December 2005)</b>	<b>Extended requirements (extension to Gazetted requirements)</b>
<p><b>Made in } Packaged in } with qualifier Manufactured in }</b></p> <p>Product does not meet the TPA Safe Harbour defence and thus product requires qualifier.</p>	<ul style="list-style-type: none"> <li>▪ must state country of <i>Made in, Packaged in or Manufactured in</i> (either explicitly or through an address); and</li> <li>▪ must state that products are from <i>imported, local and imported, or imported and local</i> ingredients</li> </ul>	<ul style="list-style-type: none"> <li>▪ must explicitly state country of <i>Made in, Packaged in or Manufactured in</i>; and</li> <li>▪ must state that products are from <i>imported, local and imported, or imported and local</i> ingredients</li> </ul>	<ul style="list-style-type: none"> <li>▪ if 2 or fewer principal fruit and vegetable components then:               <ul style="list-style-type: none"> <li>– must explicitly state country of <i>Made in, Packaged in or Manufactured in</i>; and</li> <li>– must state the country or countries of origin (where it was grown) of each main component.</li> </ul> </li> <li>▪ if more than 2 principal fruit and vegetable components then:               <ul style="list-style-type: none"> <li>– must explicitly state country of <i>Made in, Packaged in or Manufactured in</i>; and</li> <li>– must state that products are from <i>imported, local and imported, or imported and local</i> ingredients</li> </ul> </li> </ul>
<p><b>Made in } without qualifier</b></p> <p>Product meets the TPA Safe Harbour defence and thus product does not need qualifier.</p>	<ul style="list-style-type: none"> <li>▪ must state country of <i>Made in</i> (either explicitly or through an address)</li> </ul>	<ul style="list-style-type: none"> <li>▪ must explicitly state country of <i>Made in</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ if 2 or fewer principal fruit and vegetable components then:               <ul style="list-style-type: none"> <li>– must explicitly state country of <i>Made in, Packaged in or Manufactured in</i>; and</li> <li>– must state the country or countries of origin of each main component</li> </ul> </li> <li>▪ if more than 2 principal fruit and vegetable components then:               <ul style="list-style-type: none"> <li>– must explicitly state country of <i>Made in</i></li> </ul> </li> </ul>
<p><b>Product of Produced in</b></p> <p>Note: does not need qualifier as all of the main components / ingredients and processing of come from a single country.</p>	<ul style="list-style-type: none"> <li>▪ must state country of <i>Product of or Produced in</i> (either explicitly or through an address)</li> </ul>	<ul style="list-style-type: none"> <li>▪ must explicitly state country of <i>Product of or Produced in</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ must explicitly state country of <i>Product of or Produced in</i></li> </ul>

Source: The CIE and FSANZ.

- For products that meet the 'safe harbour' TPA standard for 'made in' which previously required no declaration of the imported component, the country (or countries) of origin for the principal components would need to be declared under the proposed extension only if there were two or fewer principal fruit and vegetable components.
- For products that would *not* meet the 'safe harbour' TPA standard for 'made in' without a qualifier declaring 'from local and imported ingredients', under the gazetted standard:
  - the country (or countries) of origin for each of the principal components would need to be declared under the proposed extension if there were two or fewer fruit and /or vegetable components; and
  - 'from local and imported ingredients' would need to continue to be declared under the proposed extension if there were more than two principal components.

## Scope: specific

At a practical level the proposed extension will potentially affect:

- foods that contain two or fewer fruits and/or vegetables;
- whole, shelled, peeled, chopped or diced fruits and/or vegetables, with or without any incidental ingredients<sup>1</sup> (incidental ingredients include preserving agents, ingredients used in small quantities for flavouring, salt, sugar, colourings and thickeners);
- preserved, dehydrated or frozen fruits or vegetables
- packaged fresh fruits and vegetables; juices and soya milks;
- products where the fruit and/or vegetable is mixed with added water;
- nuts, seeds, herbs and spices (as part of the definition of fruit and vegetables) unless they are used as an incidental ingredient in which case they would not require labelling.

At a practical level the proposed extension will **not** affect:

- foods (including juices) that contain more than two fruit/or vegetables;
- deconstructed fruits and or vegetables (for example, pureed, ground or minced fruits or vegetables or vegetable oils) other than juice and soy

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<sup>1</sup> Whether an ingredient is incidental is determined by its function in the food, rather than the ingredient *per se*.

milk; foods that contain other major ingredients (for example, fruits and/or vegetables mixed with meat, dairy foods, fish, cereals, eggs);

- products that qualify for 'product of Australia' claims
- non-alcoholic beverages (other than juice); or alcoholic beverages.

Table 2.2 outlines examples of items likely to be 'in' or 'out' of the scope of the proposed extension.

## Main products likely to be affected in the market

While the cost of compliance of the proposed extension will depend on the scope of the product lines covered, it will also depend on how many different labels are used for each product line. Any product line may be sold in many different packet, bottle or can sizes. Each separate packaged item is called a *stock keeping unit* (SKU).

### *About 37 per cent of canned and frozen products might be affected*

Chart 2.3 summarises the representative proportions of label lines for all SKUs of major canned and frozen fruit and vegetable manufacturers in Australia. It shows that only about 37 per cent of fruit and vegetable SKUs would require label changes under the proposed extension (28% + 9%). Sixty-three percent of SKUs would already be pre-compliant in that they already carry a country of origin label or would not be covered by the extension because they do not qualify on account of being a puree or combining more than two fruits and vegetables.

The high level of pre-compliance is consistent with spot checks on Woolworths, Coles and Aldi shelves where most canned and frozen products, particularly those from a single country of origin, are pre-compliant. In many cases such products are imported as finished processed goods from one destination (say China) or they are unblended products of Australia.

## 2 SCOPE OF THE PROPOSED EXTENSION

## 2.2 Specific examples (non-exhaustive lists)

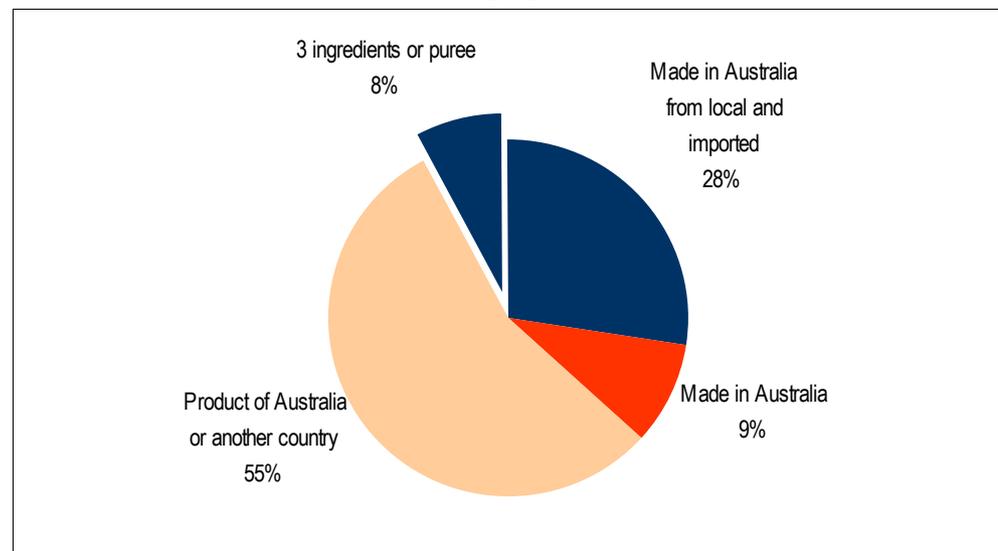
<i>Key label</i>	<i>Key components</i>	<i>In/Out</i>
<b>Tomato products</b>		
Peeled tomatoes	Tomatoes, tomato juice	In
Chopped tomatoes	Chopped tomatoes, tomato juice	In
Diced tomatoes	Tomatoes, tomato juice	In
Finely chopped tomatoes	Chopped tomatoes, tomato juice, tomato paste	In
Crushed tomatoes	Tomatoes (deconstructed)	Out
Tomato supreme	Tomatoes (diced, reconstituted, paste) (deconstructed)	Out
Tomato puree	Reconstituted tomato (deconstructed)	Out
Tomato paste	Tomatoes (deconstructed)	Out
Pasta sauce	Tomato juice, diced tomatoes	In
Tomato juice	Reconstituted tomato juice (deconstructed but juice)	In
Tomato juice, pepper, Worcestershire	One juice, incidental component	In
Condensed soup	Concentrated tomatoes (deconstructed)	Out
Cup a soup	Tomato (when reconstituted) (deconstructed)	Out
Tomato sauce (condiment)	Tomato paste (deconstructed)	Out
Soya beans in tomato sauce	Soybeans, tomato paste	Out
Sun dried tomatoes in oil	Sun dried tomatoes	In
Baked beans in tomato sauce	Navy beans, tomato sauce (tomatoes)	Out
Taco sauce	Tomato paste, crushed tomato	Out
Raguletto bake	Tomatoes, onion (deconstructed?)	Out
<b>Other products</b>		
Apple and pear juice	Apple juice, pear juice	In
Canned apricot and peach	Apricots, peaches	In
Canned chickpeas	Chickpeas	In
Canned corn in brine	Fresh corn	In
Canned tomatoes with basil	Tomatoes, basil	In
Dried apricots	Apricots	In
Dried oregano	Oregano	In
Frozen peas and corn	Peas, corn	In
Orange juice and concentrate, including frozen	Orange juice, orange concentrate	In
Orange and mango juice	No more than two juices	In
Apple and strawberry juice	No more than two juices	In
Health Juice, orange, pineapple, wheat grass, Echinacea	No more than two juices and incidental components	In
Super Juice Immune	More than two (apple, pineapple and guava)	Out
Packaged fresh mixed lettuce	Lettuce ( <i>Latuca sativa</i> ), rocket ( <i>Eruca sativa</i> , <i>Diplotaxis</i> spp)	In
Soya milk	Soy beans	In
Creamed corn	Deconstructed corn	Out
Flavoured mineral water	Deconstructed ingredients (also excluded)	Out
Frozen mix of four vegetables	More than two major vegetable ingredients	Out
Fruit flavoured ice-cream	Dairy	Out
Fruit sticks roll-ups	Deconstructed fruit, dairy	Out
Fruit yoghurts	Dairy	Out
Juice with more than two fruits and/or vegetables	More than two major vegetables components	Out
V8 juice	More than two ingredients	Out
Meat and vegetable curry	Meat	Out
Pureed bottled baby food	Deconstructed fruit, vegetables	Out
Vegetable pies	Cereals	Out

Source: Preliminary advice from FSANZ.

### *About 70 per cent of juices might be affected*

While the level of pre-compliance appears to be high for canned and frozen products, this is not so for fruit juices. Here, due to a higher dependence on multiple import origins and requirements to blend imported product with domestic product to maintain constant year round flavours and constant year-round supermarket shelf space, more complex traceability is required to identify specific and changing countries of origin. Although many juices contain more than two whole ingredients and some are made purely from Australian ingredients, most, around 70 per cent, would not be pre-compliant. Currently, these SKUs would be labelled as being made in Australia from local and imported or imported and local ingredients.

#### 2.3 Made in Australia is a small category — number of SKUs



Data source: Major food manufacturers.

### *Juices make up 33 per cent of fruit and vegetable processing*

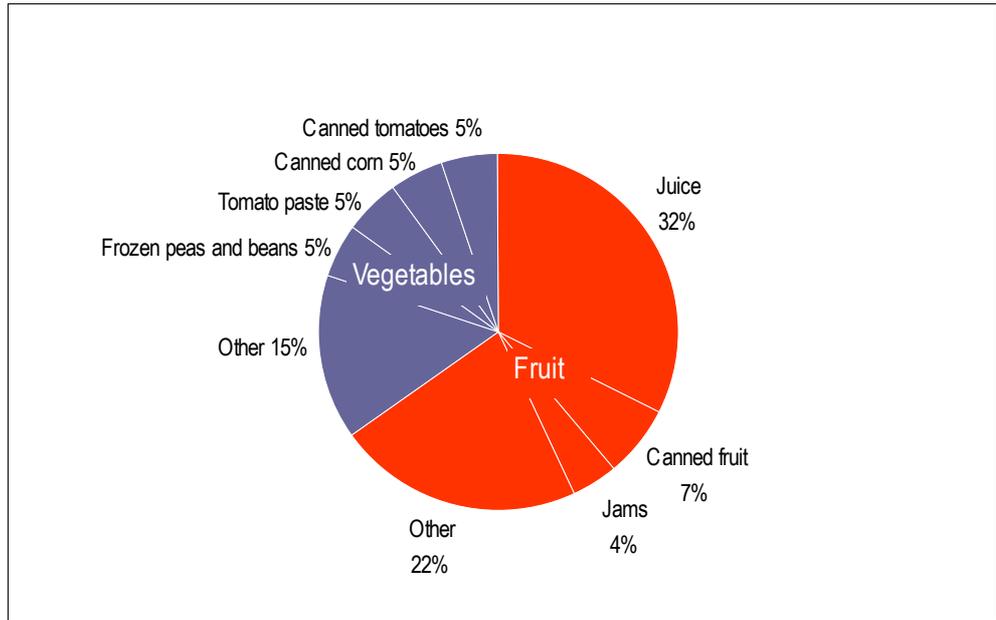
Juices are an important part of the processed fruit and vegetable sector. A product breakdown of the fruit and vegetable processing sector is set out in chart 2.4. It shows that:

- more fruit is processed than vegetables;
- fruit juices are clearly the single largest processed item, representing nearly a third of the value of all processed output;
- fruit juices are around 5 to 6 times larger than the next largest categories which include canned fruit, jams, tomato-based products and frozen vegetables, with each category representing only about 5 per cent of the market; and

- many other much smaller product lines represent the remaining part of the market.

Among horticultural products targeted by the proposed extension, clearly fruit juices would be the most heavily impacted separate product category.

**2.4 Fruit juices are the largest segment of the processed fruit and vegetable market, followed by canned fruit and canned or other tomato products**

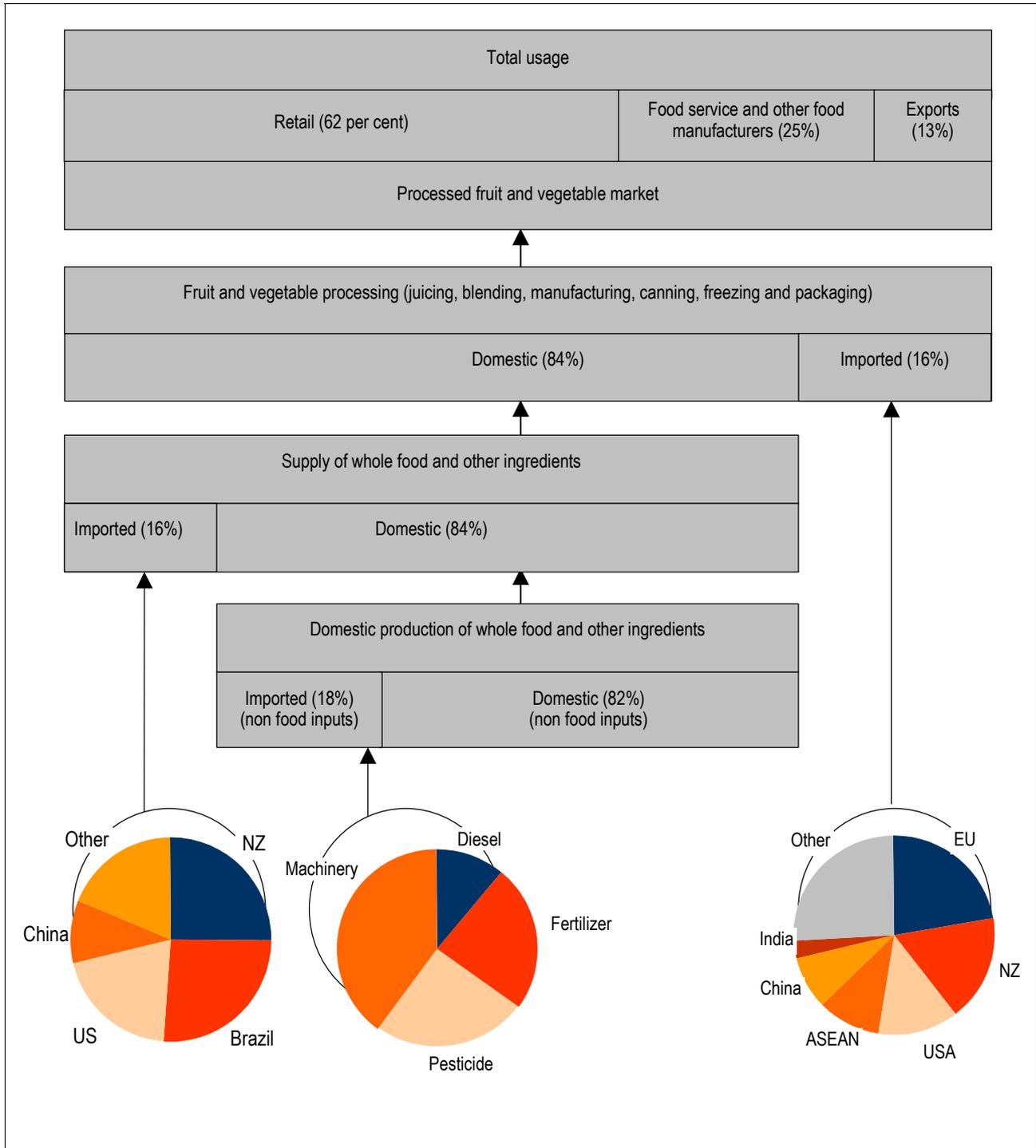


Data source: IBISWorld.

***Imported ingredients are low, but affect many products in small amounts***

Chart 2.5 shows a breakdown of the structure of the Australian fruit and vegetable value chain. Only about 16 per cent of the food ingredients used by Australian fruit and vegetable processors are imported directly. Most, 84 per cent, is sourced from domestic horticultural growers. However, indirectly the sector is dependent of the imported ingredients of horticultural growers as well. Horticultural growers directly import pesticides, fertilisers, diesel and machinery (mostly tractors). About 18 per cent of inputs of horticultural growers are imported directly but import dependence is higher if indirect imports are also accounted for. The inputs directly imported by horticultural growers more than doubles the food processing sector’s dependence on imports from both direct and indirect sources.

2.5 Input/output structure of the fruit and vegetable processing sector (excluding wine)



Data source: ABARE 2003.

Of the directly imported fruit and vegetable ingredients, most come from New Zealand, Brazil and the United States. A large proportion of the Brazilian imports is orange juice concentrate. As well as being the largest single product of the fruit and vegetable-processing sector, fruit juices (concentrates) are one of the single biggest imported ingredients. A small

volume of ingredients (about 2 per cent of the ingredients used) comes from China.

Although the proportion of directly imported food materials is relatively low in total, as they are blended with Australian foods, the capacity exists for nearly 50 per cent of Australian fruit and vegetable processed products to be affected by the proposed extension.

This is calculated as follows: juices share of sector (32 per cent) × share with imported ingredients not already pre-compliant (70 per cent) = 23 per cent plus non-juice share of the sector (67 per cent) × share with imported ingredients not already pre-compliant (37 per cent) = 24 per cent. Total equals 47 per cent.

### *Many finished imported products are already pre-compliant*

As well as importing ingredients for processing, processed fruit and vegetable products are imported directly. They are about 16 per cent of the total Australian market for processed fruit and vegetables, but an almost equivalent proportion of exports matches these. The main countries of origin of imported finished goods are the European Union, New Zealand and the United States. Small volumes of finished products also come from China (about 2 per cent of all processed fruit and vegetables sold), ASEAN countries (about 2 per cent) and India (less than 1 per cent). By value, imports of finished processed products are worth more than five times the value of imported fruit and vegetable products for processing.

Among finished processed products imported, canned fruit and vegetables are the largest category, although many of these are pre-compliant already by disclosing the specific country of origin. The high level of pre-compliance among finished imports suggests that the proposed extension is more likely to impact on Australian fruit and vegetables processing (including Australian exports) than on imported finished products.

### *Only 62 per cent of processed fruit and vegetables are sold directly to consumers*

As seen in chart 2.5, 38 per cent of all sales of processed fruit and vegetables are not made directly to Australian consumers who might see the labels required to be changed under the proposed extension. Instead they are sold to export or the food services sector. It is important to note that although costs will potentially apply to all processed fruit and vegetables made or sold in Australia, benefits will only apply to at most 62 per cent of the processed fruit and vegetable market.

# 3

## *Structure of costs: financial model*

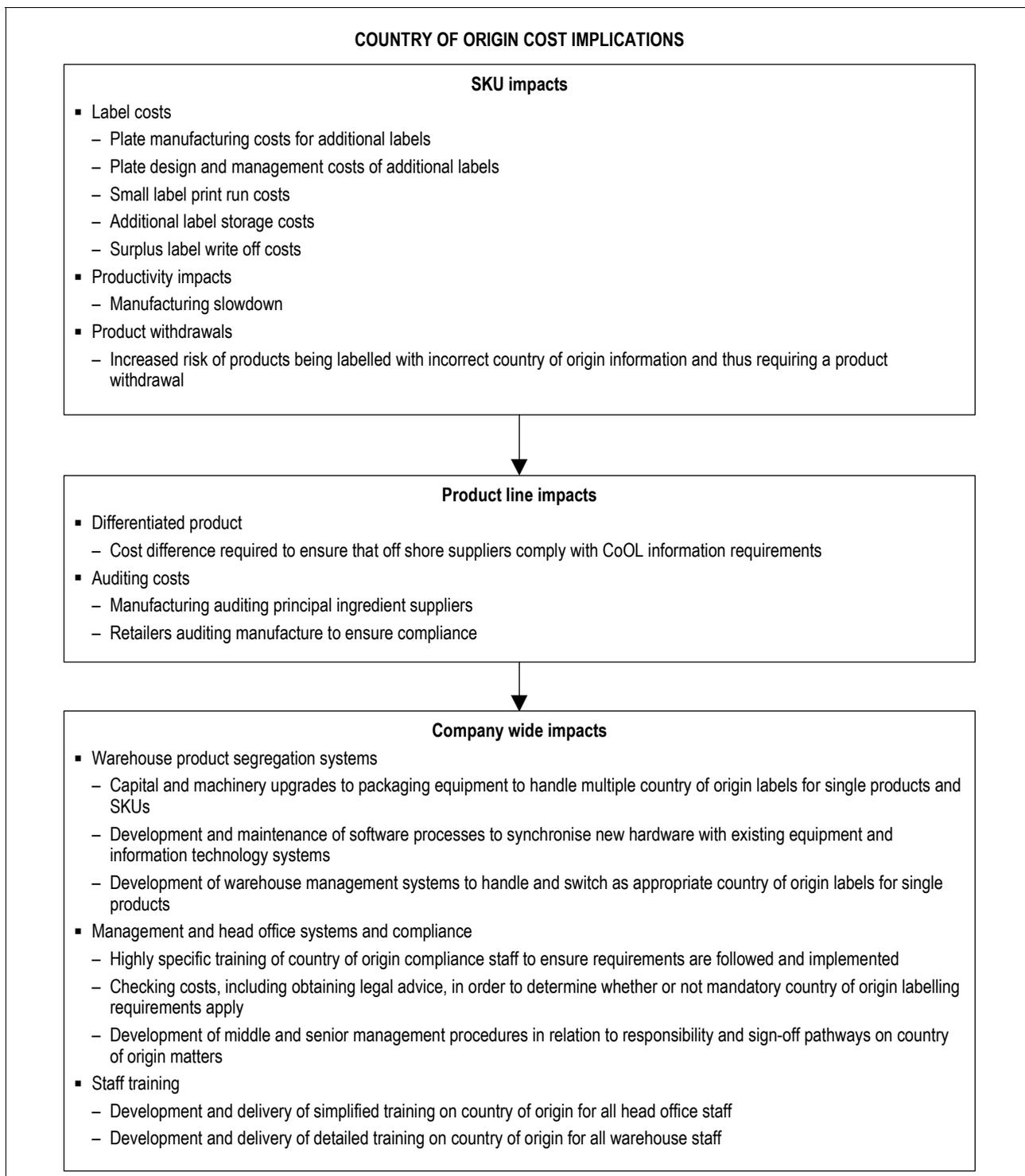
Were the proposed extension of CoOL to be implemented, Australian fruit and vegetable processing firms would be forced to undertake a number of changes in order to ensure compliance with the regulations. This would impose costs on those firms. These costs can be thought of as the *private costs* of CoOL, and importantly, are distinct from the *public costs* of the potential requirements. Firms would need to change manufacturing processes, management procedures, the management and development of product packaging and labels, as well as placing additional requirements on the sourcing of primary ingredients. Such costs would apply to varying degrees across different parts of a firm and a firm's product range.

The CIE consulted widely with large fruit and vegetable processing firms to define and estimate a generalised financial model to assess how the proposed extension to CoOL might impact on them. From the consultation process, three main types of cost impacts were identified – those occurring at:

- company-wide level
- specific product level
- specific packaging or SKU level.

Further details of the components of each of these costs are set out in chart 3.1.

## 3.1 Cost implications of extensions to CoOL



Data source: CIE financial model.

## Office of Small Business Costing Tool

The Office of Small Business Costing Tool (the Costing Tool) was developed to assist Local Government Authorities to cost the reduction in regulatory burden on small and home-based businesses. The Costing Tool classifies costs into one of nine different cost categories: notification, education, permission, purchase costs, record keeping, enforcement, publication and documentation, procedural, or other.

This Costing Tool was used to calculate the overall impact of the proposed extension to CoOL. This framework estimated that overall costs increase of 0.81 per cent for a generalised manufacturing firm and 1.94 per cent for a generalised juicing firm. These figures, however, underestimate the true cost to industry. See appendix A and B for a complete discussion of the Costing Tool results.

## The Financial Model

Building on the cost component features of the Costing Tool, the financial model also measures the impact of the extension to CoOL in relation to firm output, pricing and the opportunity costs of production. These additional features allow for the 'whole of firm' impacts to be analysed.

This framework requires specifying the relevant and particular characteristics of a firm, and allowing these characteristics to change in response to extending CoOL requirements. It includes over 80 different variables, covering details on a firm size and staffing arrangements, the degree of product pre-compliance and labelling costs. The financial model is a generalised structure that can be readily adapted to make it highly specific to any given firm.

## SKU impacts

The most obvious direct impact of the proposed extension to CoOL would be the need for new and additional labels on all affected products and SKUs. As a result, costs would be incurred in the following SKU areas:

- new labels would need to be cleared by management, designed, printed, and warehoused for each country of origin combination;
- new printing plates would need to be made for each new label;

- increasing the number of labels would also mean increasing the probability of mistakes made, with incorrect labels being placed on products, leading to product withdrawals; and
- having to change labels as different batches move through the packaging line would slow the packing line to allow for label changeovers, leading to negative productivity impacts.

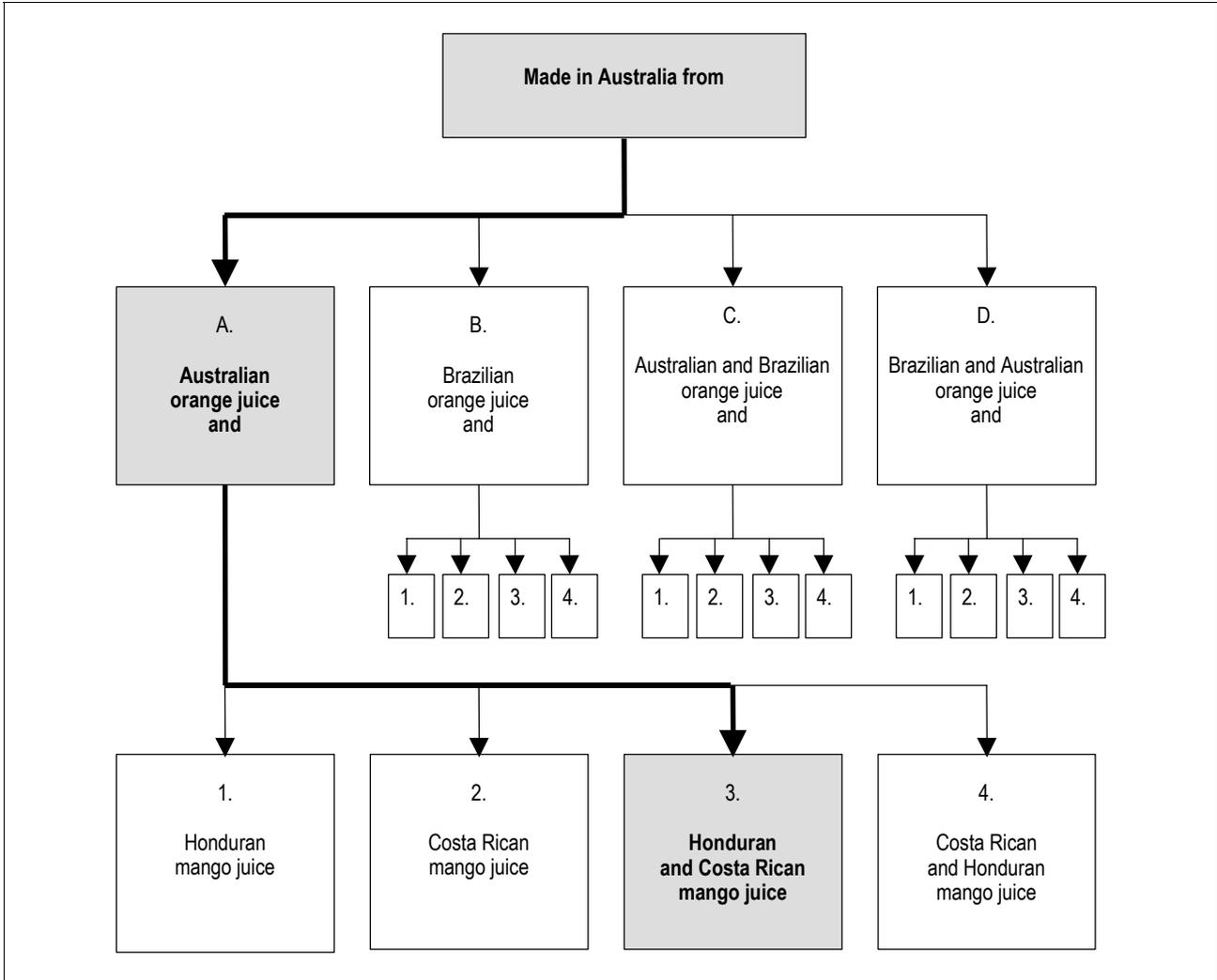
The exact number of additional labels required for each product would depend on the number of countries each principal ingredient is sourced from. It is difficult to be precise about the exact number required without assessing each product individually. Nonetheless, generally, the number of labels increases exponentially as the number of countries and ingredients potentially affecting the product label increase. This is due to the rapidly expanding number of permutations and combinations from increasing the number of countries and ingredients. The *Trade Practices Act* requires the components of products to be labelled in order of magnitude, where material.

As an aide to understanding the calculations in this chapter, consider a fictional juicing company *Nutrajuice* making an Orange and Mango juice sold across the country. The orange juice (and juice concentrate) is sourced from Brazil and Australia, while the mango juice is sourced from Honduras and Costa Rica and manufactured in six plants around Australia. Under the proposed extension to CoOL, Nutrajuice could have as many as 16 labels. Chart 3.2 sets out the possible combinations faced by Nutrajuice and one specific label path for their juice, namely 'Made in Australia from Australian orange juice and Honduran and Costa Rican mango juice'. As can be seen in chart 3.2 many other labels are possible.

However, not all of the possible permutations and combinations would be feasible. We know that in reality all plausible combinations will not be used. Rather, industry would rationalise the use of source countries and/or processes in order to reduce the number of labels used.

In the financial model we assume that the number of labels is a declining proportion of the theoretical maximum number of permutations and combinations of countries. For a product dependent on three countries and one ingredient, we assume 50 per cent of the theoretical maximum, and for a three-country, two-ingredient product we assume only 7 per cent of the theoretical maximum. Although the number of labels still increases multiplicatively in the model as a function of the number of countries and ingredients, the numbers permitted represent the realistic practical limits to possible label changes. Table 3.3 sets out the number of permutations used within the financial model.

3.2 Nutrajuice’s Orange and Mango label requirements



Data source: CIE.

3.3 Number of label permutations used within the CIE financial model

<i>Number of source countries for each principal ingredient</i>	<i>1 principal ingredient</i>	<i>2 principal ingredients</i>
1 country	1	1
2 countries	4	8
3 countries	8	16
4 countries	12	24
5 countries	16	32

Source: CIE financial model.

### *Label costs*

Due to the importance of brand prestige and packaging layout, the manufacturing and packaging industry appears unwilling to adopt inkjet technology to print on country of origin details or to use stickers with country of origin information placed on the packaged product.

- Ink-jetting country of origin details or using stickers would not look as professional as printed labels.
- Inkjet labelling could slow down the manufacturing line causing a decrease in productivity.
- Using sticky labels would require additional plant equipment to place the sticker on each product, adding additional costs above those discussed below.
- Consumers' view with suspicion products with stickers on the label and they degrade the quality of the product.

For the reasons above, manufacturers have a strong preference to use pre-made labels with specific country of origin. Thus, for each different label required on every SKU within the scope, an affected firm would face the additional cost associated with label design, management sign-off, and printing, storage and retrieval costs.

With the effective life of a particular label being given as two years, the additional cost associated with label designing and having management sign-off would increase costs by \$800 for each label. This is based on existing label design costs of around \$300 and half a day of management time required per sign off. Once designed, a specific label plate used to print the label onto the packaging material would have to be manufactured. Currently label plates cost between \$1500 to \$3000 each. Conservatively, we have used the lower number. This cost would effectively be spread over the normal two-year life of each label.

The additional number of labels required for each affected product would also lead to firms having to write off some labels not used as the country of origin of the principle ingredients changes from one country to another. Being unable to use excess labels with one particular country combination when country of supply changes, conservatively, would lead to 1.0 per cent of all labels having to be dumped.

Requiring a larger number of different labels for the same level of output for each SKU, it is likely that manufacturers would be penalised by label makers for smaller label print runs. Conservatively assuming a 5 per cent penalty for each print run, this would add an additional \$333 to each

different label required. For example, for an average SKU involving the sale of around 700 thousand units at \$1.50 each, and compliance with the extension requires changing from one label to four, instead of a print run of 700 thousand labels, we would now have four runs of 175 thousand each. Clearly, this erodes the economies of scale in printing.

Taken together, each additional label required is estimated to cost \$1950. Were eight labels required in the case of the fictitious Nutrajuice's Orange and Mango juice instead of one as currently, the label costs on this SKU alone (worth around \$1 million per year) would be \$15 600, or 1.6 per cent of the value of the SKU.

### *Productivity impacts*

In the absence of label changes, manufacturing is largely a continuous process. With the label changes required with the proposed extension to CoOL, to track the combination of ingredients as blends change, the continuous process must be broken into various batches. Each label change would require halting the manufacturing process while one batch is finished and another started. Output per year would decline with each label change. The larger the number of label changes the greater the loss of productivity.

Unlike in the case of our fictitious orange juice manufacturers, Nutajuce, with two sources of juice, infact orange juice can be sourced from five or six countries (Australia, Brazil, United States, Cuba, Argentina, South Africa). And, blended fruit juices may contain orange juice and another juice, perhaps mango juice from a Central American country, such as Costa Rica or Honduras. It is possible that the same blended juice product is being manufactured in several different plants across Australia. At any point in time, each plant may be using a different blend of juices from various countries and changing the blend to maintain a constant taste profile. Each plant may change its blend with each variation in either domestic juice tastes or each import consignment. Productivity losses would increase with the number of label changes required in any year and are modelled accordingly. Productivity losses and down time would also come from the increased complexity of storing and handling ingredients to ensure mix-ups are minimised.

The productivity loss effectively means that fixed costs have to be spread over less output, raising the fixed cost per unit. Value added is reduced accordingly. Productivity losses would vary by product and firm and depend importantly on the number of label changes required. Based on information from the consultation process we have allowed a maximum

productivity loss of 1.0 per cent for the maximum number of label changes. Most SKU's would experience productivity losses much lower than this. For affected products, the average productivity impact would be a decline of 0.36 per cent, which equates to a loss of 0.27 cents per affected product sold.

### *Product withdrawals*

Given the increased number of labels required for any given affected product, the probability of a label with incorrect country of origin information being applied to a product would increase as the number of different labels required increased. As rare as such occurrences would be, the end result would be that manufacturers, where they are able to detect the mistake early enough, would be forced to package the product again using the appropriate label. However, in a worst case scenario, in which the product has already left the warehouse and is on retail shelves, manufacturers would be forced to bear the significant cost associated with a product withdrawal.

If the risk of the wrong label being applied is 0.01 per cent (1 in 10 000), and a product withdrawal costs 50 per cent of the SKU's value, the probability-adjusted recall cost for each affected SKU would be \$50 per label used. The cost to a manufacturer of lost shelf space and associated market share, and the deterioration of brand image associated with a product withdrawal, are not included in the financial model. These specific elements are difficult to quantify, but may be significant for any affected product were such a withdrawal required. Thus, the \$50 can be thought of as being at the lower bound of the actual cost.

### *SKU costs summary*

Table 3.4 summarises the SKU specific costs associated with extending the CoOL requirements. It is important to note that the *labelling costs* and *product withdrawals* are the costs associated with each additional label required, while the *productivity impact* cost would be applied to each unit of output of the affected product. Translating these costs into Nutrajuice's Orange and Mango juice 300ml SKU requiring eight extra labels, the additional cost associated with just this SKU would be \$17 250, or a 1.73 per cent increase in costs. Most of this cost increase (1.6 per cent) is due to the cost of extra labels alone.

### 3.4 SKU cost impacts

<i>Cost item</i>	<i>Per label costs</i>	<i>Per unit of output costs</i>	<i>Notes</i>
	\$	\$	
<b>Labelling costs</b>			
▪ Plate manufacturing costs	750		Cost of producing one physical printing plate, spread over the two year lifespan of the label
▪ Plate design and development costs	300		1.5 designers days, spread over the two year life span of the label
▪ Plate management sign-off	500		0.5 management days, spread over the two year life span of the label
▪ Small print run costs	333		5 per cent penalty for small print runs
▪ Surplus label write offs	67		1 per cent of all labels written off
<b>Product withdrawals</b>			
▪ Cost of mis-labelling	50		Probability-adjusted cost of mis-labelling: 50 per cent of SKU value, with a 0.01 per cent likelihood
<b>Productivity impact</b>			
▪ Manufacturing slowdown		0.0075	Maximum cost due to 1 per cent slowdown on line speed (value added multiplied by value of output).

Source: CIE financial model.

## Product-specific impacts

As a result of the SKU impacts and firms' corporate obligations, for each affected SKU, additional costs would be incurred in the following areas:

- firms would be required to implement additional auditing processes so as to ensure that the product complied with the requirements; and
- firms would have to pay a price premium for accurate country of origin information from international suppliers.

Crucially, these product-specific cost impacts would apply to each product that falls within the mandatory CoOL scope. Therefore the increase in overall cost for a firm depends in part on how many products would be affected.

### *Auditing costs*

Given the mandatory nature of CoOL, each firm's Board of Directors has an obligation under corporate law to ensure that their products comply with all relevant legislation and regulations, including product labelling requirements. To this end, firms would have to undertake additional auditing of

their suppliers to ensure that the countries of origin of imported ingredients are correctly recorded. Based on estimates of existing auditing costs, extra auditing costs to Australian manufacturers for each product line affected by the proposed extension to CoOL would cost \$3000 per intensive audit, with an intensive audit undertaken once every two years.

In addition to each manufacturer's auditing of costs of suppliers, retailers would, need to undertake checks on the accuracy of their suppliers' country of origin labels. Undertaken once every two years and adding an additional quarter of a day to each audit of each affected product line, this second audit would cost both the manufacturer and the retailer an annualised \$250 per product line.

### *Differentiated products*

With Australia moving alone internationally in relation to mandatory country of origin labelling, manufacturers purchasing international ingredients may have to pay a price premium for some principal ingredients that are currently sold as commodity items. A commodity is a particular class of products that exists in an identifiable form, in considerable quantity, is essentially identical in form irrespective of country of origin, and is available from a variety of international sources. Australia is no stranger to international agricultural commodity markets, and takes advantage of the convenience and efficiencies associated with selling its wheat, barley, oilseeds, cotton, wool, and sugar into such markets.

Almost all of the orange juice sold at the retail level is a processed, pasteurised product. Traded internationally as Frozen Concentrated Orange Juice (FCOJ), most of the reconstituted single strength juice sold in Australia is sourced internationally and reconstituted by Australian packagers and sold as a ready to serve product either in chilled form or in aseptic form sold in bottles or cartons without the need of refrigeration. Importantly, Australia is a minor buyer internationally of FCOJ, purchasing less than 1 per cent. Most of the remainder is bought by the United States, the European Union and Japan.

Under the proposed extension to CoOL, Australian buyers could no longer buy the FCOJ commodity. Instead, they would require FCOJ commodity suppliers to separate and modify the product for their special needs and compliance with the proposed extension with CoOL. In essence, this would change the nature of the product that Australian manufacturers and juicers would be in the market to buy. The extra demands placed on FCOJ international suppliers would cost Australian manufacturers extra for the otherwise same product. Australian manufacturers would no longer be

able to buy the internationally recognised and standardised FCOJ. Instead, they would be forced to buy a premium product that supplied not only the concentrate, but also specific country of origin information.

For the purposes of the financial model, based on information obtained through the consultation process, we estimate that being forced to buy the differentiated product would result in at least a 5 per cent price premium needing to be paid. Importantly, however, this premium is only applied to the cost of principal whole ingredients imported into Australia in a semi-processed form. Conservatively, we assume only a 5 per cent price premium.

Table 3.5 summarises the product specific costs associated with extending the CoOL requirements. It is important to note that the *auditing costs* and the *differentiated product* costs would apply to each product affected. For example, were Nutrajuice to have 20 affected product lines, with each line selling 2 million units annually, the additional product cost associated with the possible extension of CoOL for Nutrajuice would be \$160 000, or a 0.27 per cent increase in overall costs on these products. This is in addition to the SKU-specific costs discussed above of around 1.73 per cent on the 300ml SKU only.

### 3.5 Product cost impacts

<i>Cost item</i>	<i>Per product costs</i>	<i>Notes</i>
	\$	
<b>Auditing costs</b>		
▪ Auditing of supplier by manufacturer to ensure CoOL accuracy		
– Cost to manufacturer of audit	1 500	1 auditor days at \$2 000 per day plus \$1 000 travel and associated costs, with audits every second year (costs spread over two years)
– Cost to supplier of audit	0	Outside of Benefit Cost Analysis as scope as cost incurred to foreign entity
▪ Auditing of manufacturer by retailer to ensure CoOL accuracy		
– Cost to manufacturer of audit	250	0.25 management days at \$2 000 per day, with audits every second year (costs spread over two years)
– Cost to retailer of audit	250	0.25 auditor days at \$2 000 per day, with audits every second year (costs spread over two years)
<b>Differentiated product</b>		
▪ Cost difference of buying a differentiated product	6 000	5 per cent increase in the cost of procurement of the primary input, applied the 16 per cent of whole food semi and unprocessed imports. This assumes the cost of whole food ingredients is 25 per cent of the \$1.50 factory sale price and that 2m units of the product are sold.

Source: CIE financial model.

## Company-wide impacts

For all firms, regardless of size, a number of systems would have to be established in order to manage the complexity resulting from the proposed extensions to CoOL. The implementation of these systems would lead to additional costs across the following areas:

- management and CoOL compliance areas, including:
  - the establishment of senior and middle management sign-off processes and responsibilities, including the development of appropriate paper trails to demonstrate CoOL compliance,
  - detailed compliance training and additional workload for staff involved in product labelling and regulatory affairs, including purchasing specific legal advice as and when appropriate;
- significant warehouse and packing infrastructure and management processes:
  - developing and implementing procedures to ensure that warehouse staff select and use the appropriate label on a batch by batch basis,
  - purchasing, installing and maintaining additional capital and information technology products to manage, potentially including the building of additional warehouse space to accommodate new equipment,
  - upgrading and maintaining information technology processes to accommodate the batching of products and SKUs; and
- training administration and warehouse staff as required to ensure continual compliance with CoOL.

### *Management systems and compliance checking*

Regardless of firm size, checks would have to be undertaken on all product lines to determine whether or not they fall within the mandatory CoOL requirements. Importantly, this process would not only involve a one-off check of all products to ensure compliance, but a continual check of new products during product development. With checking processes required to be signed off by a range of staff and management levels for each product, large companies consulted suggested continual compliance checking would require an additional ten staffing days per year.

Furthermore, given normal staffing turnover for those staff members closely involved in compliance checking, the \$10 000 cost of training all staff involved in compliance checking would need to be undertaken once

every three years. The cost estimate includes the opportunity cost of staff not undertaking other activities while at training as well as the development and delivery of the training material.

It can be reasonably assumed that every year an affected firm would have to obtain specific legal advice to help determine whether or not a product is included in the scope of the legislation or to verify that particular labels meet the requirements. Conservatively, it has been assumed that firms would seek specific legal advice twice per year, at a cost of \$3000 per advice.

Finally, each firm would also have to develop management procedures to handle regulated CoOL. This includes the development of 'sign-off' protocols and allocating management responsibility. It is expected that once these procedures have been developed at a cost of \$10 000, they would need to be evaluated and updated every five years. Costs have been amortised accordingly.

### *Warehouse product segregation costs*

To physically manage the labelling of products with the appropriate label, and be able to switch country of origin labels as appropriate, firms would have to upgrade their warehouse and packaging infrastructure. The costs associated with capital upgrades include the installation and calibration of appropriate packaging equipment as well as having to potentially increase warehouse space to accommodate the new hardware.

From information obtained through the consultation process the proposed extensions to CoOL would require capital upgrades of between \$400 000 and \$850 000. Conservatively, the model makes use of the lower bound. With the cost of the capital being only the interest payments on the capital and not the value of the capital, at a 10 per cent interest rate, the annual cost of the capital has been calculated as \$40 000.

Additional software development and ongoing operational costs of the extra capital would also be required. Based on consultations, this could cost as much as \$67 500 per annum.

The final warehouse product segregation cost relates to the development of additional operational procedures to most efficiently manage warehouse operations and minimise potential mis-labelling of products. Re-developed once every five years, annually this would cost \$2000.

### *Staff training*

Central office staff within each firm would also have to be provided with training on CoOL lasting an estimated 0.5 hours, and would form part of broader induction training provided by the organisation. The annual cost of developing and implementing this training for 10 per cent of all administration staff is calculated at \$663.

Similar to the training undertaken by administration staff, warehouse staff would need training on CoOL, dealing with specifics such as warehouse management and labelling requirements needed as part of CoOL. This training is expected to be undertaken by 20 per cent of all warehouse and factory staff each year to cover staff turnover and would take an estimated one hour. The annualised cost of developing and delivering this training material is calculated at \$8600.

### *Company wide costs summary*

Table 3.6 summarises the firm-wide costs associated with extending the CoOL requirements. For a large firm, with a turnover of \$350m annually, roughly 1000 staff, of which 10 per cent is management, 10 per cent administration and the remaining factory workers, CoOL would increase overhead costs by \$152 846. This represents a 0.04 per cent increase in across-the-board costs. This is small relative to the SKU costs on the exemplary Nutrajuice Orange and Mango 300ml SKU of 1.73 per cent, and product lines costs on their 20 affected products of 0.27 per cent. This is also small relative to the value of the firm's output, but the company-wide cost increase represents a long-term cost increase that occurs across all levels of the firm. It would be difficult to pass the cost on to only the affected products that fall within the CoOL scope. As such, the company-wide costs would lead to a small general cost increase across the entire product range of the firm.

The total impact upon the firm from extending CoOL requirements, therefore, would be the summation of the company-wide costs, the product line costs and the SKU costs. However, the costs would vary widely by firm type, firm size, the degree of pre-compliance with the requirements and the number and value of SKU and product lines. Some examples of costs have been provided above for a particular type of firm. To estimate the average cost increase for the Australian fruit and vegetable processing sector requires taking account of the structure of the industry. This is done in the next chapter.

### 3.6 Company-wide cost impacts

<b>Cost item</b>	<b>Per company costs</b>	<b>Notes</b>
	\$	
<b>Staff training</b>		
▪ Administration staff		
– Development of training material	400	\$2 000 to develop the training material, updated once every five years
– Staff opportunity cost associated with additional training	263	10 per cent of administration staff (10 staff) trained for 0.5 hours per year, based on a daily staffing cost of \$400
▪ Warehouse staff		
– Development of training material	200	\$1 000 to develop the training material, updated once every five years
– Staff opportunity cost associated with additional training	8 400	20 per cent of factory staff (168 staff) trained for 1 hour per year, based on a daily staffing cost of \$400
<b>Management systems and compliance</b>		
▪ Determining CoOL eligibility		
– Staff opportunity cost associated with additional in depth training	3 333	In depth training costing \$10 000 undertaken once every three years to address staff turnover
– Compliance checking	4 000	10 additional staff days required per year to undertake detailed checking of the firm's products and labels to ensure compliance with the CoOL requirements
– Specific legal advice	6 000	Obtaining specific legal advice on two products per year at \$3 000 per advice
▪ Development of CoOL management procedures	2 000	\$10 000 to develop the training material, updated once every five years
<b>Warehouse product segregation costs</b>		
▪ IT systems		
– Development of software	30 000	\$150 000 development cost, with the cost spread over the effective five year life of the software
– Maintenance of software	37 500	0.25 additional IT specialist at \$150 000 required to maintain software
▪ Infrastructure costs		
– Capital costs	40 000	\$400 000 capital cost at 10 per cent interest
– Maintenance of capital	18 750	0.25 additional mechanic at \$75 000
▪ Development of warehouse management procedures	2 000	\$10 000 to develop procedures, updated once every five years

Source: CIE financial model.

# 4

## *Estimates of compliance costs*

Results of the financial model analysing the entire sectors affected by the proposal indicate that the costs to food manufacturers to comply with the proposed extension could be significant, at around 1.4 per cent on average, and severe for some specific items (SKUs) at up to 14 per cent.

The results indicate that costs vary widely. They depend on:

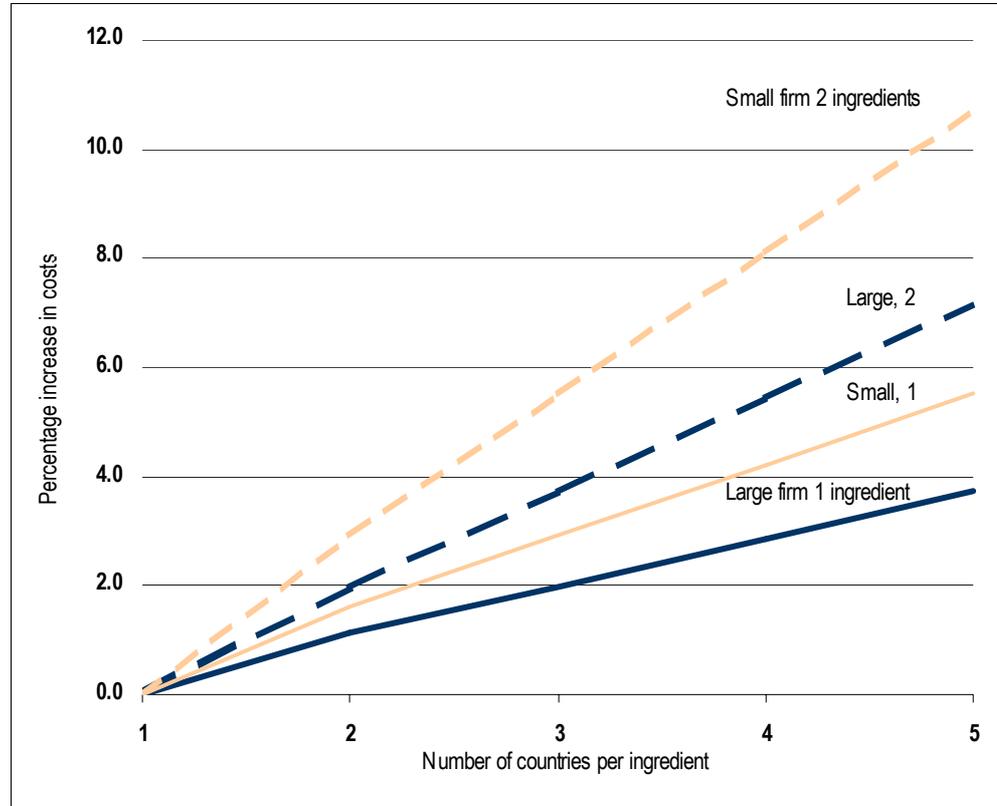
- the number of countries sourced from
- the number of ingredients (whether one or two)
- the value of annual sales of each item (SKU)
- the size of the food processing firm
- the product mix of the firm, and number of products affected.

### **Cost rise with countries sourced and ingredients used**

The larger the number of countries sourced from and the greater the number of ingredients blended for each affected SKU, the more complex a task is created to track changes required under the proposed extension. This requires more labels, more label changes, more training, more tracking, slower product and labelling runs and higher chances of mistakes.

Chart 4.1 shows that for an SKU with just one country regularly supplying a product or ingredient there would be virtually no cost to comply with the proposed extension. The reason is that only one label would be required and no tracking would be involved. In most cases where this is so there is already pre-compliance, implying no cost of change. In the rare cases where such a product is merely identified as imported now, rather than from a specific country, a one-off label change would be required, but no on-going costs. From evidence gathered during consultation, the incidence of such cases is few and has not been costed here.

#### 4.1 Costs increase with the number of countries and ingredients



Data source: CIE financial model.

However, if an ingredient or product is being sourced from more than one country, because the permutations and combinations of countries expand rapidly, so does the cost. With two countries compared with one, the overall costs of manufacture of a particular affected SKU increase by 1.1 per cent for a large sized firm. Each additional country creates an incremental 0.9 per cent cost increase — see chart 4.1.

If two ingredients are blended, the permutations and combinations of labels and label changes further raise costs. Each additional ingredient adds similarly to cost as each additional country does, adding 0.9 per cent to costs. For an SKU involving four countries of origin and two ingredients, which is fairly common in the juicing sector, the extra cost of complying with the proposed extension is estimated to be around 7.2 per cent for a large firm. However, most SKUs are likely to involve fewer countries and often only one ingredient, suggesting costs are most likely to fall in the 1.1 to 2.9 per cent range on average for affected products.

As seen in chart 4.1, in all cases, costs are higher for small firms.

## Small firms and low volume sales items are hardest hit

Due to the fixed cost nature of label changes and tracking systems required for some products, the highest potential costs will fall on those items (SKUs) and firms with the smallest annual sales.

### *Items with low turnover will be hit hardest: up to 14 per cent cost increase*

Some SKUs can involved annual turnover of as little as \$100 000 a year. For these SKUs, costs could increase by up to 14 per cent. However, as the value of sales increases for each SKU, fixed costs can be spread over a larger volume and the percentage cost declines sharply – see chart 4.2. For products captured by the proposed extension, costs per SKU tend to settle out at between 1.1 and 2.0 per cent for SKUs with sales in excess of around \$1m a year. In the example shown in chart 4.2, the percentage cost increase depends on whether one or two ingredients are involved.

For large companies, the evidence collected in consultation suggests that average annual sales per SKU are around \$1m a year. However, annual sales per SKU vary widely. In reality, faced with a 14 per cent increase in costs on an SKU with small turnover, a food processing company would discontinue such lines and look for alternative imported products from a single country of origin.

### *Small firms will be hit harder than large firms*

Because of the high fixed costs of complying with the proposed extension, cost increases will be higher for small firms than big ones. Small firms cannot spread their fixed costs as readily as large ones can. As seen in chart 4.1, whereas large firms' cost increases for an affected single-ingredient, two to four country product are within the 1.1 to 2.9 per cent range, they are in the range of 1.6 to 4.2 per cent for small firms for the same product category. Here we define a large firm as one with turnover of \$350 million a year and a small one as having turnover of \$25 million a year.

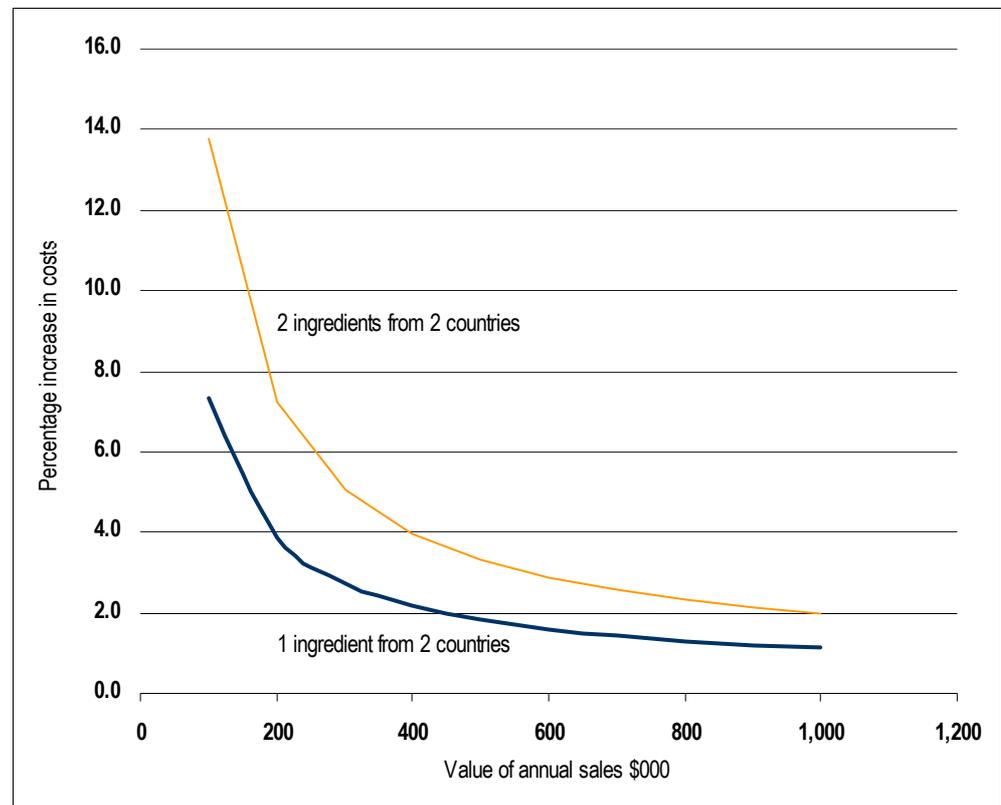
Although the differences for the product category discussed above are not stark, they are much greater for a two-ingredient product. The reason for this is that the fixed costs of extra labels and label changes rise rapidly as the permutations and combinations of ingredients and countries expand. Small firms struggle to spread these costs as easily as larger firms. For firms smaller than \$25m turnover a year, spreading the fixed costs of the proposed extension would become increasingly challenging – see chart 4.3. Chart 4.3 shows average costs increases for food manufacturing firms of varying sizes, with an assumed 37 per cent level of SKUs captured by the

proposed extension, versus increased costs for juicing firms of varying sizes with an assumed 70 per cent level of SKU capture. Chart 4.4 summarises the average effects of firm size for small, medium and large firms. Medium is defined as a firm with turnover of \$100 million.

## The greater the number of products affected, the greater the cost

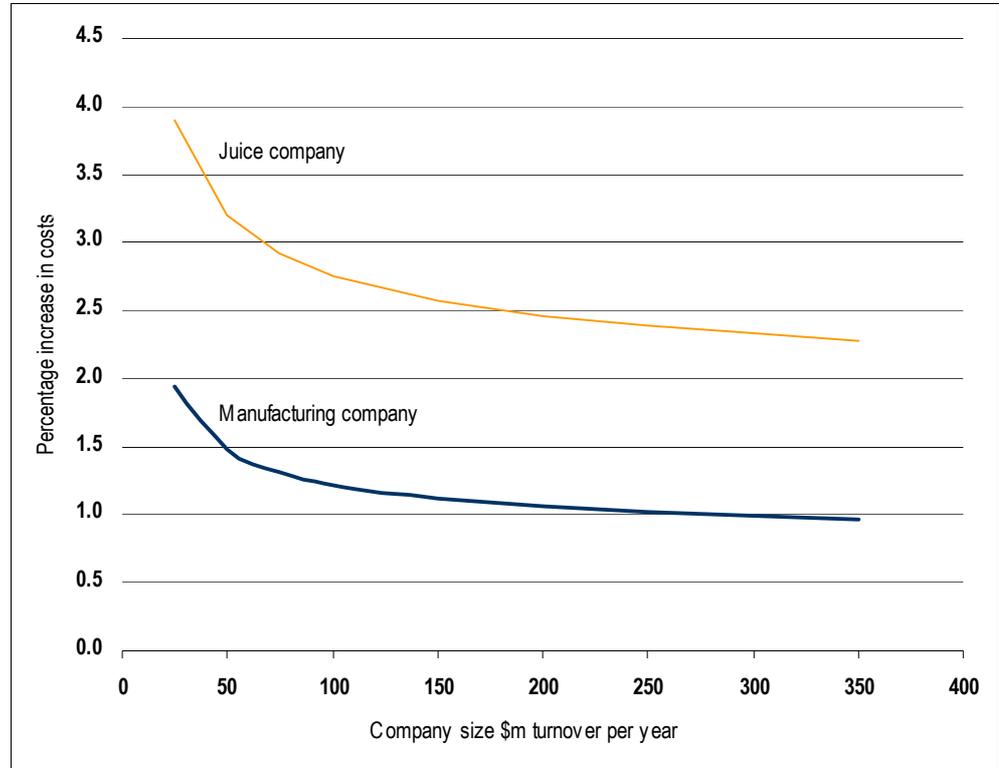
Mainly, the differences in estimated costs between juicing firms and food processing firms visible in charts 4.3 and 4.4 is due to the proportion of SKUs in their product ranges that are likely to be captured by the proposed extension. With 70 per cent likely to be affected in the case of juices and only 37 per cent likely to be affected in the case of general fruit and vegetable processing, average costs are higher for juicing companies. Although 70 and 37 per cent represent averages for the two sectors defined, the proportion of products affected will depend on the product mix of each individual firm.

### 4.2 Costs vary by size of annual sales due to fixed costs: costs are high for small sales items



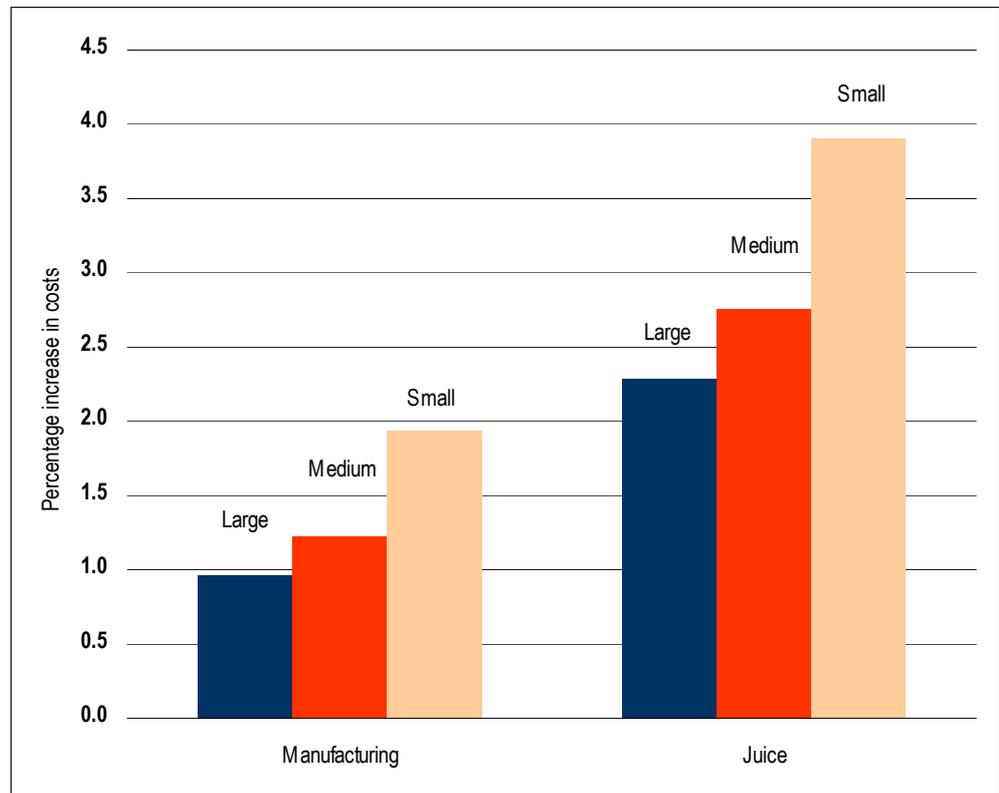
Data source: CIE financial model.

4.3 Company size and percentage change in average cost



Data source: CIE financial model.

4.4 Cost increases are largest for small firms



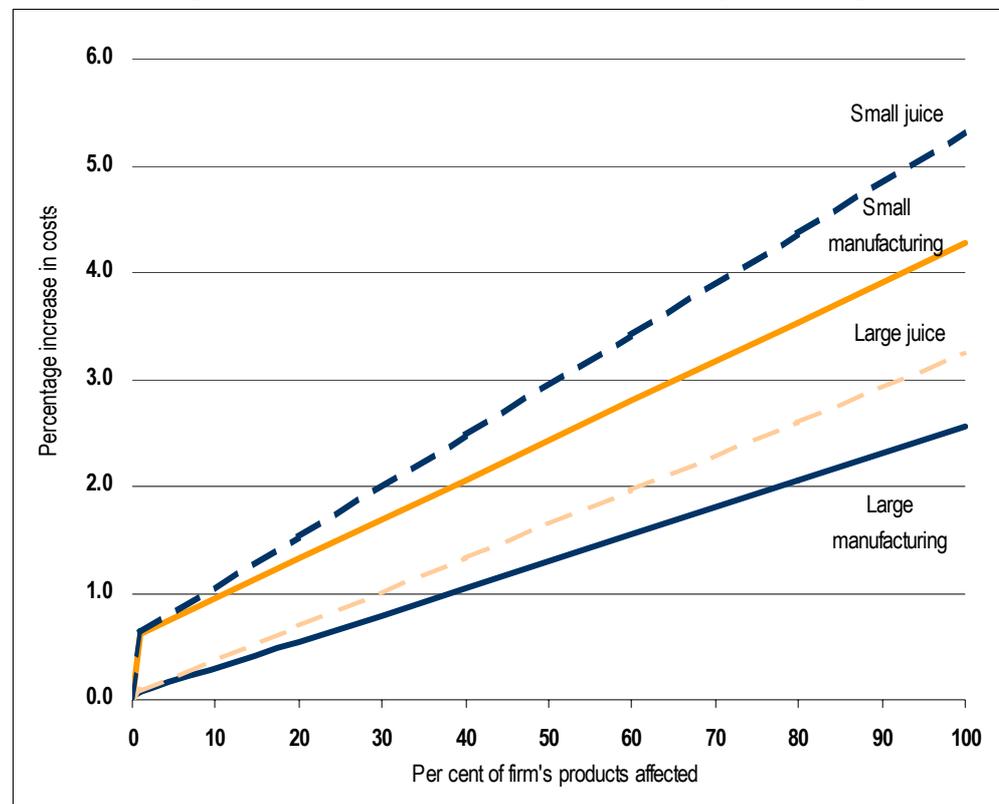
Data source: CIE financial model.

Chart 4.5 shows how cost increases vary with levels of pre-compliance. For firms with no SKUs pre-compliant, so that all SKU labels will be affected, cost increases range from 2.6 per cent for a large firm up to 5.3 per cent for a small firm. With 80 per cent pre-compliance and only 20 per cent of SKUs affected, cost increases range from 0.5 per cent for large firms up to 1.5 per cent for small firms.

## Average cost increase to food processors is 1.4 per cent

For general fruit and vegetable processors with 63 per cent pre-compliance and 67 per cent of the market, the average cost increase is estimated at around 1.0 per cent. For juicing companies with only 33 per cent pre-compliance the average cost increase is estimated at 2.3 per cent. Large companies produce at least 75 per cent of the output of the Australian fruit and vegetable-processing sector (IBISWorld 2005). Were it assumed that all firms were large, the weighted average increase in costs across juice manufacturers and general fruit and vegetable processors is estimated at 1.4 per cent ( $1.0\% \times 67\% + 2.3\% \times 33\% = 1.40\%$ ) (see appendix C). This 1.4 per cent takes into consideration the composition of the sector. Because

4.5 Percentage of products that are affected and change in average cost



Data source: CIE financial model.

large firms predominate, the average cost increase for large firms will be representative of the industry average cost increase, albeit a slight underestimate. Thus, the 1.4 per cent should be viewed as a conservative estimate of the overall cost impact.

Although relatively small on average, the costs to the products affected are considerably larger than the average. The 1.4 per cent cost estimate is the average across all industry output, affected and non-affected products alike. For the estimated 47 per cent of processed fruit and vegetable products likely to be affected by the proposed extension, the average cost for affected products would be around 3.0 per cent. (1.4 per cent divided by 47 per cent of products affected.) Moreover, the costs are estimated based on the assumption that all firms are large. Given some firms are small and would incur higher costs, the 1.4 per cent estimate may be an underestimate.

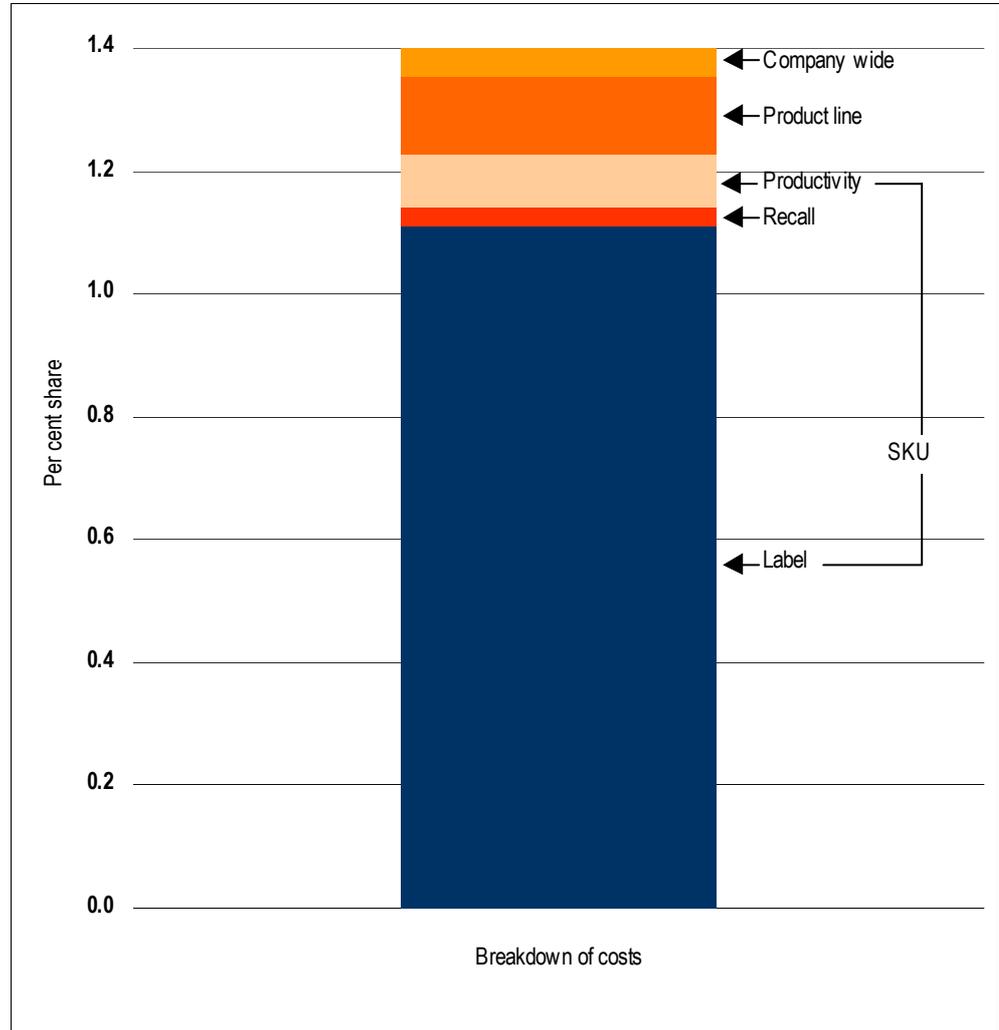
### *Main cost drivers and sensitivity testing show estimates are robust*

Chart 4.6 provides a breakdown of the cost components affecting the 1.4 per cent increase in cost. By far the greatest proportion of costs relates directly to specific SKU costs and the largest single cost relates to labelling.

Charts 4.7 and 4.8 show the relative importance of various cost drivers. They show how the estimated cost increase would change were each cost factor decreased by 25 per cent and 50 per cent respectively. The single most important factor driving costs is the number of extra labels that would be required as a result of the proposed extension. The costs of printing new labels and the number of SKUs per product line are also relatively important. In the case of all three of these most important factors, conservative assumptions have been made about their magnitude. Moreover, even quite large changes in these factors do not of themselves affect the estimated costs dramatically.

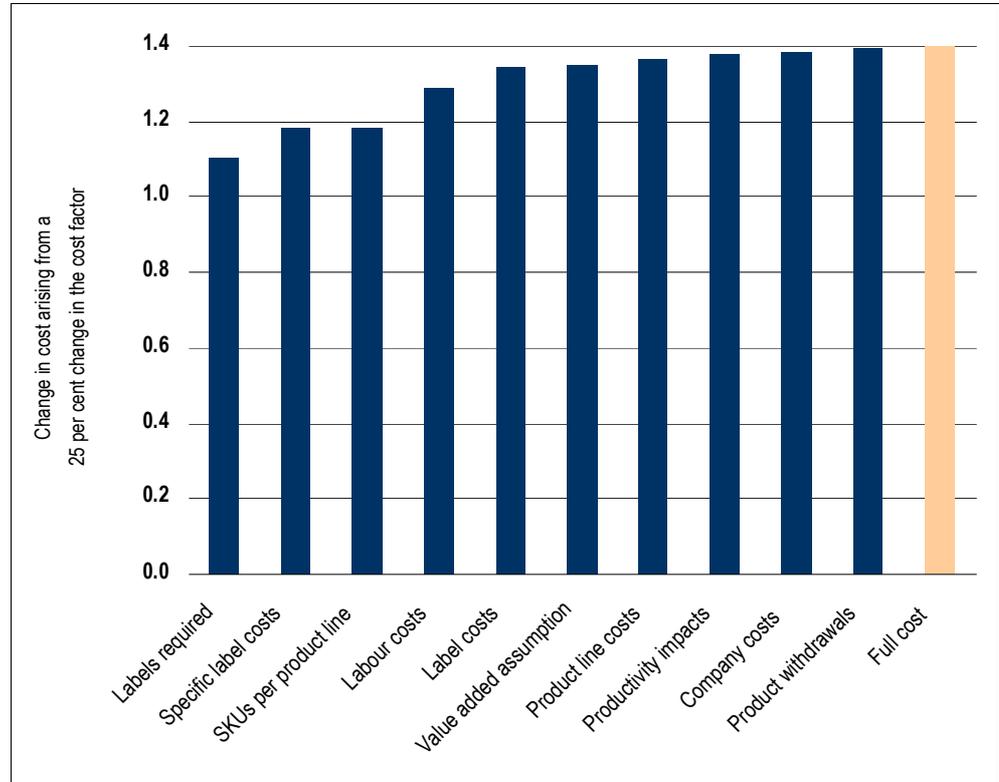
A 25 per cent reduction in the number of required new labels assumed in the financial model would reduce the 1.4 per cent cost estimate by 21 per cent, from 1.4 per cent to 1.1 per cent. Even with a 50 per cent reduction in the number of label changes, the estimated cost increase is still 0.8 per cent – see chart 4.8. These results and others presented in charts 4.7 and 4.8 suggest that the cost estimates are fairly robust. The robustness of the estimates is further heightened by the generally conservative assumptions made in building the model (as discussed in chapter 3).

4.6 Breakdown of major costs



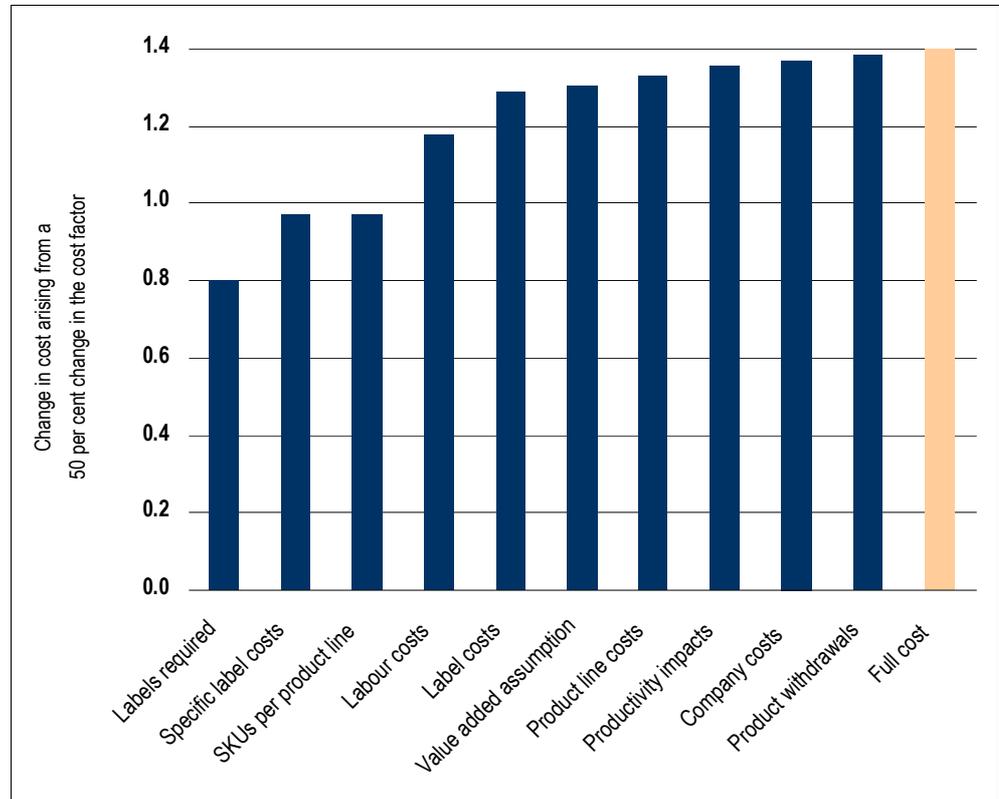
Data source: CIE financial model.

4.7 Sensitivity to a 25 per cent reduction in cost factors



Data source: CIE financial model.

4.8 Sensitivity to a 50 per cent reduction in cost factors



Data source: CIE financial model.

# 5

## *Economy-wide costs*

Firm and industry cost increases will have economy-wide effects as well. A 1.4 per cent increase in manufacturing costs for the Australian fruit and vegetable processing sector will have direct effects on output, imports and exports of the sector as well as flow-on effects on the horticultural sector on consumers, on incomes and on other industries. Using the CIE's specialised general equilibrium horticultural-based model of the Australian economy (see appendix C) it is possible to trace through the economy-wide short and longer-run effects of such an increase.

As well as assuming a 1.4 per cent increase in Australian processing costs, we assume that 5 per cent of imported finished processed fruit and vegetable products will incur the same cost. The remainder (95 per cent) are assumed to be pre-compliant consistent with observations in the market place and information obtained during the consultation process.

A 1.4 per cent increase in manufacturing costs for Australian fruit and vegetable processing is also likely to affect the costs of exports from this sector. Because of the relatively small share of exports in total output (see chart 2.5), manufacture for export is highly integrated with manufacturing for domestic sales, suggesting that a range of exports could be hit by the same cost imposts as domestic products. It is difficult to be certain of the extent to which exports are affected. To assess the potential impact of cost increases on exports, two extreme scenarios were simulated.

- Scenario 1 assumes no cost impost on processed exports.
- Scenario 2 assumes the full 1.4 per cent cost impost is also imposed on exports as well.

### **Output and exports down, imports and consumer prices up**

#### *Scenario 1*

Results of modelling for scenario 1 indicate that a 1.4 per cent cost impost on the processing sector would make Australian processed fruit and

vegetables less competitive in the domestic market relative to imports but no less competitive in the export market.

- Imports of processed fruit and vegetables would increase by between 3.2 and 3.8 per cent – table 5.1.
  - Consumer prices of Australian processed fruit and vegetables would go up by between 1.4 and 1.7 per cent in the short to longer-term – table 5.1. However, prices of imported processed products would go up by only a small fraction of the domestic price rise, causing a switch away from the consumption of Australian product to imported products.
  - Increased imports would displace domestic processed products causing output of the Australian fruit and vegetable-processing sector to fall by between 0.9 and 1.0 per cent – table 5.1.
  - Lower output reduces the demand for domestic horticultural products by the processing sector and forces the Australian industry to export more fresh-product with less value added.

#### *Scenario 2*

- If the 1.4 per cent cost impost were equally applied to processed exports (scenario 2), the decline in Australian processed fruit and vegetable output could be considerably more dramatic.
  - Overall, output of the Australian fruit and vegetable-processing sector could decline by between 2.9 per cent in the short run and

### 5.1 Impacts of CoOL extension on the Australian fruit and vegetable sector (Scenario 1)

	<i>Short run</i>	<i>Long run</i>
	% change	% change
<b>Processed fruit and vegetables</b>		
Domestic output processed fruit	-0.958	-0.855
Imports of processed fruit	3.570	3.173
Exports of processed fruit	0.000	0.000
Domestic output processed vegetables	-0.952	-0.881
Imports of processed vegetables	3.770	3.478
Price domestic processed fruit	1.594	1.425
Price imported processed fruit	0.070	0.070
Price domestic processed vegetables	1.664	1.541
Price imported processed vegetables	0.070	0.070
<b>Fresh fruit and vegetables (farm sector)</b>		
Exports of vegetables	0.000	0.000
Exports of multipurpose grapes	0.123	0.420
Exports of pome and stone	0.903	0.902
Exports of citrus	0.994	0.915
Exports of other tropical	0.505	0.754

Source: CIE ORANI model (horticultural detail).

4.8 per cent in the long run:

- ... reducing the value of output of the horticultural processing sector by around \$212 million a year; and
- ... reducing value added (income to horticultural workers, farmers and processors) along the entire horticultural value chain by \$72 million a year.
- The decline in output reflects the highly competitive nature of the processed fruit and vegetable export market and the relatively small share of exports in total output.
- In the domestic market food processors are able to pass on costs. On export markets they would be unable to. With tight profit margins, a 1.4 per cent cost impost with no potential to pass on costs to consumers, could, for instance, halve the profit margin of exporting, strongly dampening export activity.
- Reduced processed output would reduce the demand for domestic horticultural products by the processing sector and force the Australian horticultural industry to export up to 3.8 per cent more fresh product, with less value added in the case of some horticultural products. Where surplus domestic production could not be diverted to export markets, domestic horticultural output would decline.

## Horticultural incomes down, national welfare down

Reduced demand for domestic horticultural products for processing in favour of imports would decrease the real gross operating surpluses of horticultural growers by up to 0.2 per cent in the short run, assuming no cost impost on processed exports (scenario 1). This varies from industry to industry – table 5.2. Assuming the 1.4 per cent cost impost also applied to processed exports (scenario 2), gross operating surpluses could decline by up to 0.7 per cent, with the citrus and pome and stone industries being worst hit.

Aggregate national economic welfare is measured in the model using real consumption. This is closely related to national income (the sum of all household incomes from all sources such as pay-packets and returns from all investments), and is a measure of the total well being of Australians in terms of the total value of goods and services they can afford to purchase over the long term, taking account of all flow-on effects within the economy.

Under scenario 1 (assuming no cost impost on exports), Australian economic welfare would drop by a small percentage or around \$80 million a year, in the long term. Most of this cost (\$70 million) would be borne by consumers of processed fruit and vegetables, but flow-on effects would mean that some of the cost would be incurred elsewhere in the economy due to reduced returns to labour and reduced aggregate investment for instance.

Under scenario 2 (assuming export costs are affected) Australian economic welfare falls by \$160 million a year in the long term. In addition to the losses from scenario 1, this scenario involves additional losses in welfare arising from lost processing export income which in turn means lost income to growers, workers and processors of around \$72 million. Further losses occur because reduced spending by growers, workers and processors causes lost opportunities and incomes for other businesses and workers who would otherwise have sold them goods and services.

In reality, the affect on national welfare is likely to lie between the two extreme estimates of \$80 million and \$160 million a years. It will depend on the extent to which processed exports would be impacted. A reasonable assumption would be to say the true effect on welfare lies half way between the extremes at \$120 million a year.

## 5.2 Impacts of CoOL extension on gross operating surplus and macro economy (Scenario 1)

	<i>Short run</i>	<i>Long run</i>
	% change	% change
<b>Gross operating surplus (GOS)</b>		
Real GOS vegetables	-0.288	-0.140
Real GOS multipurpose grapes	-0.029	0.123
Real GOS pone and stone	-0.131	-0.092
Real GOS citrus	-0.143	-0.098
Real GOS other tropical	-0.079	-0.026
<b>Macro variables</b>		
Real GDP	-0.009	-0.009
Real consumption <sup>a</sup>	-0.008	-0.012
Real investment	0.000	-0.005
Real exports	0.010	0.018
Real imports	0.024	0.019
Consumer price index	0.012	0.010
Nominal payments to labour	0.000	-0.005
Real payments to labour	-0.012	-0.015

<sup>a</sup> This equals a fall in total final consumption of \$80.3m (2005-06 dollars) (ABS 2005).

Source: CIE ORANI model (horticultural detail).

## Required consumer benefit to off-set costs

For the proposed extension of CoOL to provide a net benefit to society, consumers of processed fruit and vegetables would need to value the increased information contained on labels at more than the estimated \$120 million a year loss of national welfare. The value of the information on the labels would need to increase the value of the processed horticultural products they consume by an average of 2.7 per cent. This is derived as follows: \$120 million divided by \$4.4 billion of annual sales of processed fruit and vegetables. However, as an average this may be misleading.

- Given that only 47 per cent of processed horticultural products would receive new labels, the increased information would have to add 5.8 per cent ( $2.7 \div 0.47$ ) more value to the products affected.
- Given that only 62 per cent of Australian processed fruit and vegetable products are consumed directly by Australian consumers, the increased information made available would have to add 9.4 per cent ( $5.8 \div 0.62$ ) more value to the products affected, assuming all consumers refer to CoOL information on food labels.
- Given that only some consumers (between 3 and 17 per cent according to IGD 2003<sup>2</sup>), say 10 per cent of all consumers, value the information as important, the increased information made available would have to add 94 per cent ( $9.4 \div 0.1$ ) more value to the products affected for that small group of consumers if benefits are to match the private costs.

Although it is difficult to be certain what proportion of consumers will value the increased information and by how much, the estimates above illustrate an important point. The costs of the proposed extension to CoOL will apply to all or most processed fruit and vegetable products, but the benefits will be highly concentrated among a small proportion of consumers. Therefore the benefits to the small concentrated proportion will need to be very high to match or off-set the estimated costs. This is a large hurdle or threshold benefit to be achieved. It is also a large hurdle in terms of equity. It implies it would be politically acceptable to impose costs on most consumers to cross-subsidise and benefit a select few consumers who may value the information.

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<sup>2</sup> The IGD Consumer Trends Report (2003) shows that 17 per cent of consumers mention country of origin when choosing food, but only 3 per cent regard it as the most important. FSANZ (2003) survey data shows that only 17 per cent of consumers recognise CoOL information on label unprompted and 19 per cent indicated CoOL as among the more important elements they refer to in making purchases. Data from several food manufacturers indicate even less interest in CoOL: of every 100 000 calls to their product hotlines, only about ten relate to CoOL.

# 6

## *Private and public benefits, private and public costs*

Various market observations provide strong empirical evidence that the market is already efficiently assessing the private benefits and costs of extra CoOL information. The evidence from the market place (discussed in more detail below) is that where the private benefits to consumers of extra CoOL information exceeds the costs to manufacturers or retailers of providing it, it is already being provided. That is, many products are already pre-compliant and the specific CoOL information is indeed already on many labels.

That the information is already provided in many cases suggests there is no systemic market failure in terms of valuing private costs to producers and private individual benefits to consumers of such information. A logical interpretation of this is that incentives already exist for the market to provide optimum amounts of information on CoOL for individual consumers. If so, the logical conclusion is that the proposed extension of CoOL should not be expected to provide additional net private benefits.

The implication of this is that the proposed extension to CoOL might only be justified if benefits over and above private benefits can be achieved by the proposed extension of CoOL. Extra benefits would have to come from any spillover, or public benefits than might be achieved from extra CoOL information. Spillover benefits might relate to:

- public health issues
- the integrity of the labelling system
- concepts of consumers' rights to know.

Should such public benefits exist, they would need to at least exceed the additional private costs discussed in chapter 4. However, they may need to also exceed any additional spillover, or public costs of extra CoOL information. Spillover costs might relate to:

- the loss of integrity in labelling that might arise due to added confusion in labelling and the perceived manipulation of food standards arising from this initiative;
- the loss of credibility in international trade negotiations due to the protectionist overtones of this proposal; and
- administration and enforcement costs.

## Specific market observations and evidence

The general conclusion that the market is already efficiently assessing the private benefits and costs of specific CoOL information and is supplying that information in optimal amounts, stems from the following four specific market observations.

- Many single-ingredient, single-country imported products (including those from developing countries - ASEAN and China) are pre-compliant, suggesting:
  - importers, manufacturers and retailers are not shy about including products with specific CoOL information in their product mixes where it is low cost to do so;
  - where importers, manufacturers and retailers believe consumers value the products with specific CoOL information above the cost of providing them, they will oblige by providing those products and that information now and without the need to extend CoOL; and
  - where products are pre-compliant, it can generally be assumed that the private benefits to consumers of products with specific CoOL information exceed the private costs to the producer of supplying them.
- The market is highly segmented and many of the same products are available from purely imported or purely Australian sources, and often products of purely Australian origin sell at a premium in a niche market, such as in the juice market, which suggests:
  - some consumers will pay a price premium if they perceive that a product's country of origin (perhaps Australia) identifies a superior quality attribute in that product;
  - where manufacturers and retailers see that consumers value Australia as a country of origin and are prepared to pay the extra costs that might attach to supplying that product, they will segment the market to meet that consumer demand;

- the private benefit to consumers of consuming an Australian product compared with an imported one exceeds the extra private costs of supplying it;
  - similarly where manufactures and retailers see that consumers value any particular country of origin for a product (such as Italian canned tomatoes) and they are prepared to pay the extra costs that might attach to that product, they will segment the market to meet that demand because the private benefits exceed the private costs; and
  - where manufacturers and retailers see that consumers do not value Australia or some other specific country as the country of origin of a product, and are not prepared to pay the extra costs that might attach to supplying such a product, they are likely to attach the cheapest, most generic, legally correct country of origin information, such as 'Made in Australia from local and imported ingredients';
  - given the required price premium of between 37 and 94 per cent to make the private benefits exceed the private costs reported in chapter 5, manufacturers would face large incentives to take advantage of such price premiums given the 3.7 per cent cost increase estimated for a one ingredient five country product – the fact that 37 per cent of products are non-compliant implies that consumers do not value CoOL that highly.
- Many multiple-country, multiple-ingredient imported and blended products are not pre-compliant, suggesting:
    - the cost of providing the information is considerably higher than for single-country, single-ingredient products – a point confirmed by the results of the financial model in chapter 4;
    - importers, manufacturers and retailers believe consumers do not value extra CoOL information sufficiently highly to cover the extra costs of providing it or if they did an alternative suitable product would be provided; and
    - the private costs of supplying it exceed the private benefit consumers would have to pay to receive it, suggesting that:
      - ... in the context of cost estimates produced in this report consumers typically would not be prepared to pay the 3.7 per cent cost increase for instance estimated for a one ingredient five country product even in a specific segment of the market,
      - ... consumers' willingness to pay to meet the threshold benefit of a 94 per cent increase in value mentioned in chapter 5 for a

particular small segment of the market would be are highly unlikely to be met.

- Labels of most multiple-country, multiple ingredient imported and blended products declare that the product contains imported ingredients and it is possible to obtain information about the likely country of origin by phoning most large manufacturers, suggesting:
  - manufacturers and retailers are not shy about disclosing information about the country of origin when they receive requests to do so for multicountry ingredient products;
  - it is cheaper to disclose the likely country of origin and possible countries of origin to the very few consumers who seek the information (firms consulted indicated that typically less than 10 calls out of more than every 100 000 calls a year to the hotline are about CoOL) than to track it precisely and disclose it specifically on each product sold; and
  - in these cases manufacturers and retailer perceive that attaching the extra CoOL information to be too costly relative to the benefits to consumers of doing so, given such little interest in the subject.

All four market observations provide strong evidence that the market is working efficiently to ensure that the optimal (cost effective) amounts of information on CoOL, valued by individual consumers at a private level, are being provided to the market now.

## Public benefits

Public benefits are those that spill over to those in the community other than the individual consumer who reads the additional CoOL information. For instance, it is sometimes argued that additional CoOL information might be helpful in providing additional health and safety information for the purposes of tracing, tracking and recalling foods. Should such foods potentially threaten public health through the transmission of disease, being able to more quickly trace and recall them might potentially provide a community-wide benefit over and above the direct benefits to the individual consumer of the product.

### *Marginal health and safety benefits*

Although the argument about health and safety may have a plausible theoretical basis, in a practical sense other more efficient systems have already been developed to deal with health and food safety. For the

protection of their brand names, food manufacturers, particularly large manufacturers, face strong incentives to implement efficient tracking, tracing, recall, sampling and auditing systems.

The empirical evidence is that these systems work extremely efficiently. Food imported into Australia undergoes strict food safety tests due to the role of the Australian Quarantine Service and Biosecurity Australia. Moreover, imported foods used for processing are more likely to be used by larger manufacturers than small ones on account of the additional resources and scale required for importing. Larger manufacturers face stronger financial incentives to strictly control quality on account of the greater financial value capitalised in their brand names.

Were health and safety issues really a high priority issue, all existing systems should be comprehensively reviewed with the aim of developing separate deliberate and comprehensive policy instruments to address the problem. They should not be addressed in an ad hoc manner as an incidental by-product of CoOL.

Additional CoOL information would be a blunt and redundant instrument. Indeed, were it to be used instead of existing systems, it must be expected that there would be an increase in the risk of public health and safety problems.

### *Other potential public benefits*

Two additional potential spillover benefits of the proposed extension to CoOL relate to:

- reducing any confusing/misleading information contained in current labelling by increasing the integrity of the labelling system; and
- providing valued information to non-consumers of the product based on the community's right to know argument.

#### *Integrity of the labelling system*

Were additional CoOL information to increase consumers' trust in the labelling system generally and/or to decrease any existing confusion or misleading information specifically, two benefits may be obtained:

- the existing voluntarily provided CoOL information may be valued more highly by consumers than now, as it may be regarded as more credible; and

- less confusing information may improve comparability of like products allowing consumers to better align their purchasing patterns with their preferences, so increasing consumer welfare.

*Extended CoOL and increased credibility*

Manufacturers and retailers face strong incentives to develop trust in their brands. To do so they have established highly effective traceability systems and undertaken rapid product recalls where necessary (for instance the Mars Bar recall in New South Wales). Despite manufacturers' and retailers' attempts to build brand trust, it could be argued that that trust could be enhanced if trust in the institutional (legal) framework underpinning food labelling is also high<sup>3</sup>. Moreover, institutional trust may be enhanced where food-labelling requirements are standardised so they can readily and reliably be compared across competing products.

Survey evidence suggests trust in the Australian and New Zealand food labelling system is fairly high. In Australia only a small percentage of Australian consumers do not trust various elements of food labels. In the case of country of origin labelling, 13 per cent of survey respondents<sup>4</sup> are not sure whether to, or do not, trust the information. Compared with the standard mistrust of other elements of food labelling, 13 per cent does not seem high. Moreover, given the levels of mistrust in other more specific pieces of information, it is difficult to see how providing more specific CoOL information under the proposed extension to CoOL could lower the 13 per cent level of mistrust.

- 17 per cent do not trust the stated ingredients on the package.
- 14 per cent do not trust the nutrient list.
- 5 per cent do not trust the date mark.

These levels of mistrust exist despite hefty legal penalties if any claims relating to these items are found to be wrong or misleading.

Although levels of trust may be high in Australia and New Zealand, it is not to say they could not be eroded. NZIER (2005) point out that:

'Unlike some other countries that have suffered repeated and widespread failures in food safety ... (notably the UK), neither Australia nor New Zealand have yet to experience a shock that undermines the integrity of the food system. This is not to say that such shocks could not occur ...' (p. 21).

<sup>3</sup> See Brom (2000)

<sup>4</sup> For further details on these data see FSANZ (2003)

Interestingly, the NZIER quote raises two important issues.

- The factor most likely to erode the integrity of the food safety and labelling system is likely to be a major health shock, which in the case of the UK did not relate to country of origin labelling.
- The failure of the UK food safety system and concomitant loss of integrity of the food safety and labelling system was not about loss of brand trust but about loss of institutional trust. Institutional trust may be much more difficult to develop and support as it is subject to political influence, as was the case in the UK. Consumers' general mistrust of labelling (as discussed above) may have as much, or more, to do with mistrust of political manipulation of institutions as it does with mistrust of consumer-oriented firms trying to build brand trust and loyalty. Attempting to build label integrity and institutional trust through extending CoOL is unlikely to be a simple matter. It is likely to be coloured by various political considerations that may make consumers even more suspicious of labelling than they are now.

*Extended CoOL and greater clarity/comparability*

More specific, more precise and more consistent information on all labels may help some consumers make better purchasing decisions in general (NZIER 2005), including helping some not to consume a particular product – a spillover benefit to non-consumers.

The proposed extension to CoOL could provide more specific information to around 47 per cent of affected processed fruit and vegetable products (see chapter 2). However, in most cases the extra information (41 of the 47 per cent) will be only marginally incremental. Products that previously declared they were made from imported ingredients, would instead have to specify the country of origin on the product label. The incremental gain is mostly in the greater accessibility and convenience of that information. Given so few consumers or members of the public currently request information on CoOL, it is difficult to see this marginal increment in information changing purchasing patterns in any measurable way.

- Consumers strongly suspicious of imported foods from some countries, are unlikely now to buy a product labelled 'made from imported ingredients' if they suspect it comes from a perceived 'undesirable' country.
  - If their choice of whether to buy or not depends on the country of origin, they may phone the product hotline to inquire about the likely country of origin.

- This number of consumers strongly suspicious is likely to be small - consumer survey data suggests CoOL is highly important to between 3 and 17 per cent of consumers (see chapter 5), and for those for whom it is important, the market is already highly segmented to cater to their needs.
- It is difficult to see this group of consumers changing their purchasing patterns much, and if they did, disclosure of the country of origin is probably as likely to allay their fears as confirm them, suggesting very small potential effects on total sales.
- Consumers mildly suspicious of imported foods from some countries may buy a product (now) knowing it includes imported ingredients (and is potentially from a country on their worry list) but be prepared to give the product the benefit of the doubt due to its favourable price or other features.
  - On learning its precise country of origin there must be some chance the product will be from a country on some consumers' worry lists and the consumers may re-evaluate their selections.
  - If this group of consumers are only mildly suspicious, chances are there are few countries on their worry lists so the probability of them changing their selections is low when the specific information is made available.
  - The evidence is that CoOL information is lower order feature affecting consumer decisions and therefore unlikely to be a major consideration to this group.
- ... Consumer research suggests that country of origin is a considerably lower order consideration than price and quality, and a favourable price or quality feature may be sufficient to prevent such a group of consumers from changing their purchasing patterns. Balabians and Diamantopoulos (2004) conclude that: '... country of origin has rarely been considered an explanatory variable of consumer or buying behaviour.'
- ... Usunier (2003) concludes: 'A large body of research...deals with the influence of the country-of-origin (COO) of products...more than 300 articles have been published...the issue of origins in international marketing has dramatically changed ... as a consequence of major evolution in international trade regulations, sourcing and branding policies of multinational corporations, and decreasing consumer sensitivity to manufacturing origin. COO effect is no longer a major issue for international marketing operations: multinational production, global branding, and the decline of

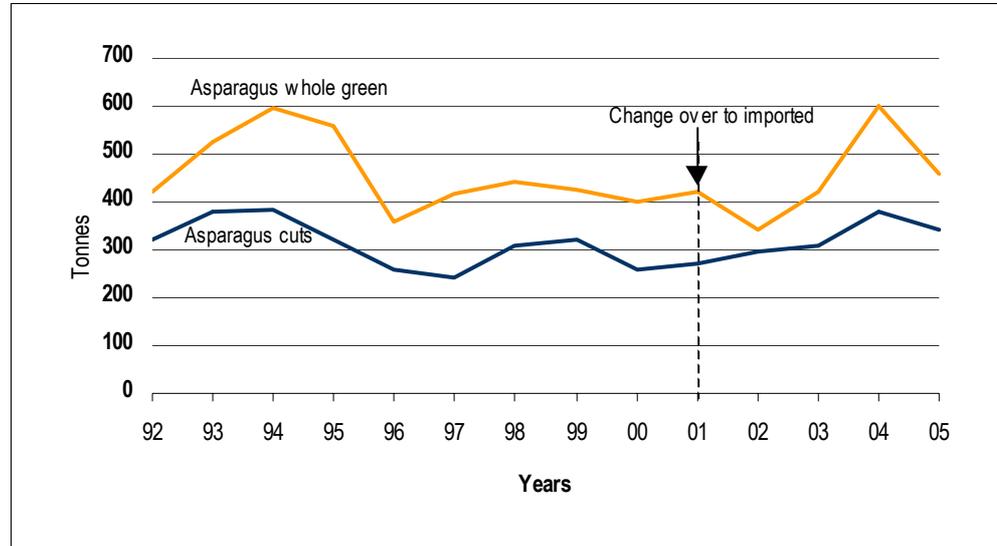
origin labelling in WTO rules tend to blur the COO issue and to lessen its relevance. Moreover, many consumers are unaware of the manufacturing origin ... and, if aware, tend to use ...(it) ... in conjunction with a number of other information cues such as price, brand, retail store image, etc.'

Only in 6 of the 47 per cent of cases would the extra information be substantive, informing the consumer that the product has a minor imported ingredient. Currently that information is unknown, as the product has a 'Made in Australia' label with no qualifier. Here disclosure of the country of origin would inform consumers of the product's imported status, whereas before they may have been ignorant of the fact (see table 2.1). This is more likely to induce a change in behaviour than for those products that already disclose their imported status. However, remembering that survey data suggest CoOL is highly important to only a minority of consumers, it seems that the scope for change from this small group is also very small. When one manufacturer changed supply from an Australian source to Peru for their asparagus and kept the price unchanged, there was no detectable change in sales – see chart 6.1.

#### *Community's right to know*

An argument may be mounted that all information provides some social value (NZIER 2005) even to those individuals not consuming or interested in consuming the product. For instance, it could be imagined that a public benefit might arise from more specific disclosure of country of origin if someone other than the consumer (perhaps a lobby group) wished to identify products from a particular country to be singled out for a boycott. This may be seen as having social value to some groups in society.

## 6.1 Changing CoOL on asparagus from local to imported did not affect sales



Data source: Major food manufacturer.

However:

- whether it would have a net value to society is less likely as there may be as many people against a boycott as in favour of it;
- given that there are probably many other products from the target country of higher value that already voluntarily identify the country of origin, the chance of a specific CoOL on a low value processed fruit and vegetable product providing a public benefit seems remote; and
- the CoOL information could be obtained currently from the manufacturer's hotline, so the incremental benefit in information at best is likely to be tiny.

The community's right to know is different from the consumer's right to know. If consumers value the information above the cost of providing it, as discussed above, the market will largely resolve the optimal flow of information given the current labelling framework. The community's right to know is a different concept. The community may wish to know the information for more than a consumption decision about that product. It may wish to know it so statistics can be kept on the origin of imports, or for social researchers who wish to report how diverse Australia's consumption patterns are. Yet here again, if the information is required it could already be collected without imposing extra costs on manufacturers and the evidence is that the demand for this information is virtually non-existent.

## Public costs

Public costs are those that spill over to groups in the community other than the individual importer, manufacturers or retailers who must provide the additional CoOL information. For instance, if the proposed extensions to CoOL are perceived by Australian and New Zealand food processors as a manipulation of food standards for special interest groups, institutional trust in the system could be reduced, causing damage to the integrity of the entire food standards system. Such costs would spill over to affect all food, not just processed fruit and vegetables.

### *Loss in integrity in labelling*

As discussed earlier, institutional trust in the food standard system of a country is important in underpinning consumer trust of brands. It also provides potential to deliver additional benefits to consumers by delivering them peace of mind and confidence in their ability to compare like products over a range of important standardised attributes. Institutional trust is likely to be enhanced where it is perceived as being focussed on food standards objectives and free of political manipulation.

The proposed extension to CoOL is strongly perceived by importers, manufacturers and retailers to be a manipulation of the food standards system for special interest groups, a fact made clear through the consultation phase. Several submissions also raise this point.

- The Food and Beverage Importers Association say: ‘ ... there is no sound principle underpinning the proposed scheme ... the purpose of the scheme is quite simply protectionist ...’
- The Australian Chamber of Commerce and Industry says: ‘... ACCI does not endorse any approach that could be interpreted as protectionist by our trading partners ...’
- The Australian Food and Grocery Council says: ‘ The AFGC strongly opposes the extension ... on the grounds that ... it is excessively trade restrictive ...’

It is difficult to quantify what might be the loss of institutional trust from such perceptions or what the cost might be. But six points are relevant here:

- the success of the food standards system relies to some extent on the good will, compliance and support of food importers, manufacturers and retailers;
- failure of the UK food safety system due to political interference caused a huge loss of institutional trust;

- a proportion of Australian consumers surveyed already do not trust key aspects of the existing food labelling system despite hefty penalties that apply for misleading labelling;
- perceptions of influence by special interests are likely to make consumers more suspicious of labelling than now;
- the arbitrary application of the proposed extension of CoOL (two ingredients, excluding purees, and applicable only to horticultural products and soya milk):
  - adds to market participants' suspicions about the motives for the change and their support for the system which could compromise higher order objectives relating to health and food safety,
  - could increase confusion in minds of consumers, reducing the consistency of labelling and lowering consumer trust in the meaning of labels; and
- for arguments advanced in favour of the proposed extension to CoOL based on building label integrity and institutional trust, there are strong or possibly stronger arguments that the proposed extension could destroy label integrity and institutional trust.

### *Other public costs*

Other public costs relate to international trade policy issues and administration and enforcement costs.

#### *International trade policy considerations*

The specific international trade policy ramifications of the proposed extension to CoOL relate to worries about:

- the possibility of CoOL being interpreted as a technical barrier to trade and being in conflict with Australia's WTO obligations;
- requiring considerable government and legal resources to defend;
- having requirements unlike those in any other country; and
- opening up the possibilities of inconsistencies with bilateral agreements.

The general international trade policy worries are that:

- Australia could lose considerable credibility in the WTO which would harm its capacity to obtain better trading conditions for much larger sectors of the Australian economy, including most of agriculture; and

- losing flexibility and degrees of freedom to negotiate through the WTO against technical barriers of other countries in the future.

Quantifying these costs is difficult. However, what does stand out is that even a relatively small gain achieved through the WTO could be worth hundreds of millions and possibly billions of dollars to Australia. Anything, even if very small, that jeopardises that and makes Australia's international trade policy less effective could be extremely expensive. This suggests the benefits from the proposed extension would need to be very large.

#### *Administration and enforcement costs*

The workloads and costs of FSANZ, AQIS, the ACCC and State Environmental Health Officers would all expand under the proposed extension to CoOL. These costs would either be direct resource costs or involve an opportunity cost. The division between these two cost items would depend on whether the increased functions of each organisation were funded from increased financial resources or whether they were required to be undertaken within existing budgets.

If undertaken from existing budgets, to complete the new tasks would require reduced commitment to others. This would involve an opportunity costs or increased risk to public food health and safety.

If additional funds were appropriated, the extra cost would be the resource cost of the extra tasks plus the deadweight losses of raising additional tax (estimated at between 15 and 40 cents for every dollar of revenue raised, Lattimore 1997).

The opportunity costs are difficult to quantify but what is clear is that consumers value food safety far ahead of country of origin information *per se*<sup>5</sup>. It is difficult to see that consumers would willingly trade off food safety for information about country of origin. This suggests that any extension to CoOL would need to be fully funded. Still the question would arise as to whether those additional funds would be better spent on food safety matters than enforcement of country of origin labelling. Nonetheless, assuming the funding is available for CoOL enforcement, the additional resources required would involve:

- increased time for checking of about 5 per cent of imported finished products at all AQIS entry points in the country (CoOL checks would be undertaken independently of risk-based checks for health and safety

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<sup>5</sup> See Hughes (2003) and Kelly *et al* (2005) p. 555.

to avoid compromising food safety standards), requiring training of all staff, extra staff, management and interpretation of which products are included;

- increased time for checking of domestically manufactured fruit and vegetable products at all manufacturing points and retail outlets by state Environmental Health Officers (undertaken independently of health and safety checks so as not to compromise safety standards), requiring training of all staff, extra staff, management and interpretation of which products are included and liaison with similar authorities in other states through the Food Safety Implementation Sub-Committee;
- management and monitoring by FSANZ; and
- management, monitoring and prosecution by the ACCC.

The financial costs of the fully funded option could be substantial given the extensive AQIS and state government checking required. If 50 extra staff were required across AQIS and the state authorities, costs could easily reach \$5 million a year for pay and on-costs. Training, management and the deadweight costs of tax could easily double this cost to \$10 million a year. For the ACCC, were they to prosecute 5 cases a year to maintain a deterrent effect, it is easy to see legal costs mounting to \$5 to 10 million a year.

Another cost that may arise as a result of effective enforcement is resource misallocation. The more effective enforcement is and the more onerous the extra CoOL requirements on food manufacturers become, the more likely they are to directly import the product, add another ingredient so not to be captured by the regulation or withdraw the product from the market. To some extent these costs are captured within the economy-wide estimates.

# 7

## *Conclusion*

The evidence presented in this study makes a strong case that the costs of the proposed extension to country of origin labelling (CoOL) would exceed the benefits from its implementation.

### **Private costs**

The costs to food manufacturers to comply with the proposed extension to CoOL will vary widely from product to product and from firm to firm. On average across the whole Australian fruit and vegetable-processing sector cost increases are estimated to be significant at around 1.4 per cent. But for small firms and small product lines they could be severe at up to 14 per cent. The single largest sub-sector likely to be most affected is the juicing sector, with costs nearly double the average.

A 1.4 per cent cost impost on the processing sector is likely to reduce its output by between 1.0 and 5.0 per cent depending on the extent to which costs also affect exports of processed fruit and vegetables and the extent to which imports substitute for domestic products. The cost of compliance would be borne by Australian consumers who would pay more for their processed fruit and vegetables and, to a lesser extent, by Australian horticultural producers who would not be able to sell as much horticultural output for processing as now.

- Imports of finished processed horticultural products would increase while imports of horticultural ingredients will decline.
- The blending of Australian and imported horticultural ingredients by Australian processors would decline in favour of imports of finished processed products.
- Competitiveness and exports would decline.

Interestingly, although food processors in their submissions expressed concern that the proposed extension to CoOL as protectionist, based on the evidence presented here, it turns out to protect no group in the domestic

supply chain. Perhaps ironically, instead of protecting the domestic industry it harms it in favour of imports of finished products.

## Private benefits

The potential private benefits arising from the proposed extension to CoOL will depend on how highly consumers value that extra and more specific information that will arise from it. But CoOL information does not appear to be highly valued by most consumers. Consumers are mainly interested in price and quality of a good. Consumer research suggests that between 3.0 and 17.0 per cent of consumers value CoOL information as important (say 10 per cent). But mostly they would not be prepared to pay a price premium to receive that information.

### *Benefits concentrated, costs dispersed*

Consumer research suggests that if there is a private benefit to consumers from extra CoOL information it is likely to be concentrated in a minor segment of the market. It also suggests that for the concentrated private benefit to equal or exceed the widely dispersed private cost, the percentage increase in benefit to the consumers who value the information would have to be very high.

For consumers to value the extra information more highly than the estimated \$120 million loss of national welfare (reported in chapter 5), they would need to be willing to pay 2.7 per cent extra to purchase their processed horticultural products than now. However, only a small proportion of the market will value the extra information.

- Consumer research suggests that perhaps only 10 per cent of consumers value CoOL information as important.
- Only 47 per cent of products would be affected by the proposed extension to CoOL.
- Only 63 per cent of products are sold directly to Australian consumers.

Taking these proportions in to account, the value of processed horticultural products would need to rise by 94 per cent for the 10 per cent of consumers who might value the extra information attached to justify the costs imposed.

Consumer research suggests consumers would not be prepared to pay such premiums, indicating they would not value the information highly enough

to justify the costs imposed on others. Moreover, were consumers prepared to pay such premiums for more specific CoOL; manufacturers would face an incentive to segment the market and provide the required product and information, if the extra price consumers were willing to pay exceeded the costs of providing such a product.

### *The market is already catering for those sensitive to CoOL*

The market evidence is that even for much smaller price premiums than derived above, the market is already supplying products to consumers who value specific CoOL information. Most product lines within the market are highly segmented. It is possible to get roughly equivalent products for slightly different prices from a number of different countries of origin. Some are marked product of Australia, product of Italy, product of China, or made in Australia from local and imported ingredients.

Those consumers who value the specific CoOL information already provided on the label can choose such products now, possibly, without necessarily paying a premium for them. Where the private benefits of specific CoOL information exceed the private costs of providing it, the market is logically and efficiently segmenting itself to provide it (and the products) to those consumers who value it and use it to make a rational choices. Typically specific country of origin is provided where the labelling task is simple, involving one ingredient and one country of origin. Typically it is not provided when there is more than one country or ingredient and when the cost of providing the information is expensive. Presumably it is not provided because it is too expensive, or an alternative product from a single country of origin can be provided more cheaply to meet CoOL sensitive consumers' demands.

### *No evidence of systemic market or information failure*

It is difficult to see that there is a widespread, systemic information failure in the market place. There is little scope for deception and confusion. Instead of some products (about 40 per cent) indicating they have imported ingredients, those products would require labelling with the countries the ingredients come from. It is difficult to see many consumers changing their purchasing patterns based on this change of information, especially given the variety of country sources they can choose between now.

For most products, consumers can read on the label either the product's country of origin or that it contains imported ingredients. In the case of

imported ingredients, a consumer can phone manufacturers' hotlines to find out more specific information about country of origin if they wish.

The increment in information provided from an extension to CoOL is either zero or marginal in the case of over 90 per cent of affected products.

Only in the case of less than 10 per cent of products is there presently some scope for confusion and scope to provide more than marginal additional information. These are products with high local value added, labelled made in Australia and not required to carry information about any foreign content. Provided with specific CoOL information, some consumers would learn the product had imported content and may change their purchasing patterns, suggesting that the information could have some value. However, given so few consumers value CoOL information as important now, and given the change would apply to less than 10 per cent of the market, the private benefit of this information would appear to be tiny relative to the private costs imposed on all consumers to provide it.

## Public benefits and costs

That there is no systemic information failure in the market leads to the following conclusions:

- the proposed extension of CoOL should not be expected to provide additional net private benefits and the proposed extension to CoOL might only be justified if benefits over and above private benefits can be achieved by the proposed extension of CoOL; and
- should such public benefits exist, they would need to exceed the additional private costs of 1.4 per cent and may need to also exceed any additional spillover, or public costs of extra CoOL information.

But there is **no** strong evidence that public benefits are large.

- Health and food safety will not be improved. More efficient systems already exist to deal with such issues. More specific CoOL information would not in any practical sense help in dealing with health and safety issues compared with existing system.
- The integrity of the labelling system will not improve. 13 per cent of consumers reportedly are not sure whether to trust CoOL information now. But consumers do not trust more specific label information on other attributes any more highly, despite hefty penalties for breaches of label standards. Therefore it is difficult to see that also making CoOL

information more specific would reduce mistrust that currently exists among a minority group of consumers.

- Information to satisfy the community's 'right to know' would be of low value. There are currently so few inquiries to manufacturers for specific CoOL information that it is difficult to see how it could possibly be valued highly enough by the community to justify the costs likely to be imposed on all consumers.

On the other hand, public costs could be significant.

- Because the proposed extension to CoOL is perceived as being arbitrary and protectionist, it is construed by food processors as compromising the food standards system. This could lead to a loss of integrity and support for the food standards system by processors and compromise higher order objectives relating to health and food safety.
- The arbitrary coverage proposed under the extension could lead to increased confusion in the minds of consumers. Reductions in the consistency of labelling CoOL could lower the comparability of products and consumer trust in the meaning of labels.
- The measures could be interpreted as technical barriers to trade putting Australia in conflict with its WTO obligations and bilateral trading agreements and causing:
  - loss of credibility in world trade forums harming Australia's effectiveness to obtain high payoff improvements in trading conditions for much larger sectors of the Australian economy, including most of agriculture; and
  - loss of flexibility to negotiate through the WTO against technical barriers of other countries.
- Administration and enforcement costs to AQIS, state governments, FSANZ and ACCC of more than \$10 million if fully funded, or compromising health and safety priorities if not fully funded.

As with private costs and benefits, the weight of evidence suggests that the public costs of the proposed extension to CoOL would exceed the public benefits. Indeed, the weight of evidence suggests that implementation of the proposed extension of CoOL would not be in the interest of Australia. It would harm the horticultural industry, the horticultural processing industry and exports. Consumers under both would have to pay more for a tiny increment in information of little extra value to them. Appendix D confirms this outcome would occur for the Fair Dinkum Food Campaign and AusVeg options, but to varying degrees.

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## *Appendixes*



# A

## Manufacturing firm's costs

### A.1 Generalised fruit and vegetable firm assumptions

<b>Firm output</b>	
Value of fruit and veg sales at factory door	\$350 000 000
Output price (weighted average factory sale price)	\$1.50
Output (quantity)	233 333 333
<b>Number of product lines &amp; SKUs</b>	
SKUs	350
Number of SKUs per product line	3
Product lines	117
Quantity of output per SKU	666 667
<b>Value of each product line &amp; SKU</b>	
Product	\$3 000 000
SKU	\$1 000 000
<b>Value added and value of product inputs</b>	
Cost of variable inputs as % of factory sale price	50%
Whole food input costs as % of factory sale price	25%
<b>Staff</b>	
<i>Management staff</i>	
% of total staff	10%
Rate per day	\$2 000
Number	105
<i>Admin staff</i>	
% of total staff	10%
Rate per day	\$400
Number	105
<i>Workers</i>	
% of total staff	80%
Rate per day	\$400
Number	840
<b>Label costs</b>	
Cost per label	\$0.010
<b>Products affected by CoOL</b>	
Range that is not covered by the CoOL scope	7.7%
Range that is covered by the CoOL scope	92.3%
Range that is covered by scope and pre-compliant	55.6%
Range that is covered by scope and are not pre-compliant	36.7%
<b>Assumption on non pre-compliant breakdown</b>	
1 ingredient from 1 country	0%
1 ingredient from 2 countries	30%
1 ingredient from 3 countries	10%
1 ingredient from 4 countries	10%
1 ingredient from 5 countries	10%
2 ingredients from 1 country	0%
2 ingredients from 2 countries	25%
2 ingredients from 3 countries	5%
2 ingredients from 4 countries	5%
2 ingredients from 5 countries	5%

Source: CIE Financial Model

**A.2 Generalised fruit and vegetable firm cost impacts associated CoOL**

<b>Company wide impacts</b>	<b>\$153 846</b>
Staff training	\$9 263
Management systems and compliance	\$16 333
Warehouse product segregation costs	\$128 250
<b>Product line impacts</b>	<b>\$342 533</b>
<i>Pre-compliant product lines</i>	
Auditing costs	\$0
Differentiated product	\$0
<i>Non pre-compliant product lines</i>	
Auditing costs	\$85 633
Differentiated product	\$256 900
<b>SKU impacts (range that is covered by scope and are not pre-compliant)</b>	<b>\$2 880 491</b>
<i>1 ingredient from 1 country</i>	
Label costs	\$0
Product recalls	\$0
Productivity impacts	\$0
<i>1 ingredient from 2 countries</i>	
Label costs	\$300 573
Product recalls	\$7 707
Productivity impacts	\$24 084
<i>1 ingredient from 3 countries</i>	
Label costs	\$200 382
Product recalls	\$5 138
Productivity impacts	\$16 056
<i>1 ingredient from 4 countries</i>	
Label costs	\$300 573
Product recalls	\$7 707
Productivity impacts	\$24 084
<i>1 ingredient from 5 countries</i>	
Label costs	\$400 764
Product recalls	\$10 276
Productivity impacts	\$32 113
<i>2 ingredients from 1 country</i>	
Label costs	\$0
Product recalls	\$0
Productivity impacts	\$0
<i>2 ingredients from 2 countries</i>	
Label costs	\$500 955
Product recalls	\$12 845
Productivity impacts	\$40 141
<i>2 ingredients from 3 countries</i>	
Label costs	\$200 382
Product recalls	\$5 138
Productivity impacts	\$16 056
<i>2 ingredients from 4 countries</i>	
Label costs	\$300 573
Product recalls	\$7 707
Productivity impacts	\$24 084
<i>2 ingredients from 5 countries</i>	
Label costs	\$400 764
Product recalls	\$10 276
Productivity impacts	\$32 113
<b>Total cost increase</b>	<b>\$3 376 870</b>
<b>% of value of factory sales</b>	<b>1.0%</b>

Source: CIE Financial Model

The value of the financial model is that it provides a comprehensive and systematic way to evaluate and account for the complex first round impacts on input usage in the industry. And it is these that provide the basis for assessing cost increases.

In the financial model, the majority of the more than 80 variables relate to a firm's inputs. The remaining variables relate to input cost matters. This model provides a consistent method of carefully considering all of the input impacts from the proposed extension to CoOL. The cost side of model is incidental to the firm. That is, the changes in the firm's inputs lead to changes to the firms overall costs.

By comparison, the Office of Small Business Costing Tool (the Costing Tool) model provides no comprehensive framework for assessing complex impacts on input usage. In the case of CoOL these are clearly the major impacts and the most complex, and it is these that define the cost increases.

Nonetheless, when we calculate these input changes separate to the Costing Tool and then feed these impacts into the Costing Tool, the average cost increase for the manufacturing firm represented in Appendix A increased by \$2.8m, or 0.81 per cent (see table A.3).

### A.3 Generalised fruit and vegetable firm cost impacts calculated using the Office of Small Business Costing Tool

<i>Costing Tool cost category</i>	<i>Contribution to cost increase</i>	
	<i>Cost</i>	<i>%</i>
	\$	%
Education	9 263	0.3
Enforcement	14 333	0.5
Other	546 117	19.3
Procedural	672 000	23.8
Purchase Cost	1 517 333	53.8
Record Keeping	64 500	2.3
<b>Total</b>	<b>2 823 546</b>	<b>100.0</b>

Source: Office of Small Business Costing Tool

The average cost increase for the juicing firm represented in Appendix B increased by \$6.8m, or 1.94 per cent (see table B.3).

The overall cost to industry from the proposed extension to cool calculated in chapter 4 was a 1.4 per cent increase in costs. Replicating this calculation using the Costing Tool underestimates the cost to industry by 16 per cent.

This cost difference is driven by the limitations of the Costing Tool itself. According to Costing Tool's User Guide, the tool is not designed to 'cost economic impacts such as the public good of a regulation, the impact of

regulations on competitiveness or other indirect costs such as psychological costs, opportunity costs or cash-flow costs to business' (DITR 2005).

# B

## *Juicing firm's costs*

### B.1 Generalised juicing firm assumptions

<b>Firm output</b>	
Value of fruit and veg sales at factory door	\$350 000 000
Output price (weighted average factory sale price)	\$1.50
Output (quantity)	233 333 333
<b>Number of product lines &amp; SKUs</b>	
SKUs	350
Number of SKUs per product line	3
Product lines	117
Quantity of output per SKU	666 667
<b>Value of each product line &amp; SKU</b>	
Product	\$3 000 000
SKU	\$1 000 000
<b>Value added and value of product inputs</b>	
Cost of variable inputs as % of factory sale price	50%
Whole food input costs as % of factory sale price	25%
<b>Staff</b>	
<i>Management staff</i>	
% of total staff	10%
Rate per day	\$2 000
Number	105
<i>Admin staff</i>	
% of total staff	10%
Rate per day	\$400
Number	105
<i>Workers</i>	
% of total staff	80%
Rate per day	\$400
Number	840
<b>Label costs</b>	
Cost per label	\$0.010
<b>Products affected by CoOL</b>	
Range that is not covered by the CoOL scope	10.0%
Range that is covered by the CoOL scope	90.0%
Range that is covered by scope and pre-compliant	20.0%
Range that is covered by scope and are not pre-compliant	70.0%
<b>Assumption on non pre-compliant breakdown</b>	
1 ingredient from 1 country	0%
1 ingredient from 2 countries	10%
1 ingredient from 3 countries	10%
1 ingredient from 4 countries	10%
1 ingredient from 5 countries	40%
2 ingredients from 1 country	0%
2 ingredients from 2 countries	15%
2 ingredients from 3 countries	5%
2 ingredients from 4 countries	5%
2 ingredients from 5 countries	5%

Source: CIE Financial Model

**B.2 Generalised juicing firm cost impacts associated CoOL**

<b>Company wide impacts</b>	<b>\$153 846</b>
Staff training	\$9 263
Management systems and compliance	\$16 333
Warehouse product segregation costs	\$128 250
<b>Product line impacts</b>	<b>\$653 333</b>
<i>Pre-compliant product lines</i>	
Auditing costs	\$0
Differentiated product	\$0
<i>Non pre-compliant product lines</i>	
Auditing costs	\$163 333
Differentiated product	\$490 000
<b>SKU impacts (range that is covered by scope and are not pre-compliant)</b>	<b>\$7 184 625</b>
<i>1 ingredient from 1 country</i>	
Label costs	\$0
Product recalls	\$0
Productivity impacts	\$0
<i>1 ingredient from 2 countries</i>	
Label costs	\$191 100
Product recalls	\$4 900
Productivity impacts	\$15 313
<i>1 ingredient from 3 countries</i>	
Label costs	\$382 200
Product recalls	\$9 800
Productivity impacts	\$30 625
<i>1 ingredient from 4 countries</i>	
Label costs	\$573 300
Product recalls	\$14 700
Productivity impacts	\$45 938
<i>1 ingredient from 5 countries</i>	
Label costs	\$3 057 600
Product recalls	\$78 400
Productivity impacts	\$245 000
<i>2 ingredients from 1 country</i>	
Label costs	\$0
Product recalls	\$0
Productivity impacts	\$0
<i>2 ingredients from 2 countries</i>	
Label costs	\$573 300
Product recalls	\$14 700
Productivity impacts	\$45 938
<i>2 ingredients from 3 countries</i>	
Label costs	\$382 200
Product recalls	\$9 800
Productivity impacts	\$30 625
<i>2 ingredients from 4 countries</i>	
Label costs	\$573 300
Product recalls	\$14 700
Productivity impacts	\$45 938
<i>2 ingredients from 5 countries</i>	
Label costs	\$764 400
Product recalls	\$19 600
Productivity impacts	\$61 250
<b>Total cost increase</b>	<b>\$7 991 804</b>
<b>% of value of factory sales</b>	<b>2.3%</b>

Source: CIE Financial Model

### B.3 Generalised juicing firm cost impacts calculated using the Office of Small Business Costing Tool

<i>Costing Tool cost category</i>	<i>Cost</i>	<i>Contribution to cost increase</i>
	\$	%
Education	9 263	0.1
Enforcement	14 333	0.2
Other	1 277 983	18.9
Procedural	1 670 000	24.7
Purchase Cost	3 679 667	54.3
Record Keeping	122 500	1.8
<b>Total</b>	<b>6 773 746</b>	<b>100.0</b>

Source: Office of Small Business Costing Tool

## C

*CIE ORANI horticulture*

In this appendix the ORANI model is used to quantify the effects of the proposed labelling law changes on the farm and processing sectors, on final consumers, and on the economy generally. Short-run and long run effects are estimated. Hypothesised effects of the changes on costs to domestic processors and to imported processed fruit and vegetable products are used as inputs to the model

### The ORANI model

ORANI is a detailed multicommodity general equilibrium model of the Australian economy. The version of ORANI used in this exercise is similar to that formerly used by the Productivity Commission and is documented in Dixon et al (1982) and Dee (1989). The database used with the current version has been updated using the 1996-97 ABS Input-Output tables, disaggregated to provide more detail for raw horticultural products (vegetables, wine grapes, multipurpose grapes, pome and stone fruit, citrus and other tropical fruit being separately identified) and to distinguish separate fruit processing and vegetable processing sectors.

ORANI represents the supply-side of the economy as a collection of industries each of which uses the primary factors of land, labour (eight occupational categories) and capital, and domestic and imported intermediate commodity inputs, to produce a range of commodities. Each of these commodities is sold to other industries as intermediate inputs, used in investment (with a separate investment activity for each industry), sold to government or private consumers or exported (with each commodity facing a downward-sloping constant elasticity export demand curve). Industries choose their inputs to minimise the cost of producing a given amount of output, while consumers choose the commodities they will consume so as to maximise utility subject to their income. Consumer's income comes from the returns to primary factors allowing for the share of capital in each industry owned by foreigners. Consumers allocate this income between commodities via a linear expenditure system (LES) according to relative prices of commodities and (potentially) shifts in

consumer preferences. Investment in each industry is governed by the rate of return earned by capital. In the short-run closure of the model, investment does not have time to come on-line, and the capital stock in each industry is fixed, as is the nominal wage (that is, labour is in perfectly elastic supply in the short-run). In the long-run closure of the model, capital stocks in each industry increase to maintain relativities between rates of return, while the real wage adjusts to hold aggregate employment fixed. In both closures land is fixed in each industry. Consequently, industry supply elasticities are lower in the short-run. Thus, in the results to be presented later in this appendix, more price response and less quantity response typifies the short-run compared with the long run. One practical implication of this is that the time frame of the simulation affects how a given change is partitioned between the farm and processing sectors and final consumers.

Even with the extra commodity detail added (in the horticultural sectors) to the model database used in this study, individual commodities are still relatively broad commodity categories. Consequently, ORANI incorporates imperfect substitution between the domestic and imported varieties of each commodity. The substitution elasticities are a significant influence on the degree to which the output of a domestic industry will change in response to a policy that helps or hinders it with respect to competing imports.

## The simulations undertaken

Two types of simulation are undertaken to represent a range of effects that may arise from the adoption of the horticultural code of conduct.

The first type of simulation is an increase in per unit input requirements of the fruit and vegetable processing sectors, that is, a technical regress in these industries. These increased input requirements are assumed to occur for labour, capital and all intermediate inputs other than the fruit and vegetable inputs being processed (that is, positive shocks to ORANI variables  $a1ci$ ,  $a1lab$  and  $a1cap$ ). They represent the increased costs to the industry of implementing the new labelling laws. These increased costs would include reduced efficiency in production runs necessitated by the changing of labels and wastage of materials in terms of unused labels (with more frequent swapping of labels required) or smaller batches of labels being produced in given runs. The increased cost to industry is specified as a proportion (say 1.4 per cent) of total industry costs. As the cost is spread over only a subset of inputs, the actually shock applied is scaled up by the ratio of total costs to the cost of affected inputs.

The second type of simulation is an increase in the cost of imported processed fruit and vegetable products. This is represented very directly in the model by increasing the price of imports (a positive shock to ORANI variable  $pm$ ), which in ORANI is assumed to be exogenous for the (small) Australian economy.

# D

## *Alternative CoOL extension options*

There are a number of alternative options put forward by stakeholders. These propose costs both higher and lower than the Ministerial Direction. This section analyses two of these alternatives, one put forward by the Fair Dinkum Food Campaign (FDFC), and the other by AusVeg.

This appendix provides a discussion of the benefits and costs associated with these two specific alternatives. However, the analysis builds upon the discussion in the main report, and as such, should not be read independently of the main report.

### **Fair Dinkum Food Campaign proposal**

FDFC supports the proposal to extend CoOL to packaged fruit and vegetable products and juices with two or less components. However, the FDFC proposed extension requires that the country of origin of only the major source fruit and/or vegetable component be specified, and *not details of every source* country. The scope of the proposal is the same as the scope defined by the Ministerial Direction (FDFC 2005).

The key difference between the FDFC and the Ministerial Direction relates to the number of labels required. Under the FDFC proposal, one label per source country would be required for a one-ingredient product. For example, a single ingredient, three country product, such as a pear juice made in Australia with the juice sourced from Australia, New Zealand and China would require the following three labels:

- Made in Australia from Australian and imported pear juice;
- Made in Australia from New Zealand and local pear juice; and
- Made in Australia from Chinese and local pear juice.

The number of labels required for the same product under the Ministerial Direction would be eight (see table 3.3). For this example, the FDFC

proposal would require only 37.5 per cent of the labels required for the Ministerial Direction.

There is, however, the possibility that under various combinations of countries and ingredients, the FDFC proposal may violate the requirements of the *Trade Practices Act* (TPA). That is, although only one country would be identified on the label for each principal ingredient under this option, this may be insufficient to satisfy the requirements of the TPA. For instance, in the pear juice example above, it might be that 40 per cent of the juice in a particular batch came from Australia, 35 per cent from New Zealand and the remaining 25 per cent from China. Under the FDFC proposal, the label would state “Made in Australia from Australian and imported pear juice”, implying that the Australian content formed the majority of the product. In this case, the imported component makes up 60 per cent of the final content. Hence, for suppliers to avoid contravening the TPA they would be required to disclose more information on the country of origin of components to ensure that the labels are not misleading or deceptive to consumers. One solution would be to list all countries of origin. This would, in effect, be the Ministerial Direction for CoOL.

There would also be a number of products for which the FDFC proposed labelling would not contravene the TPA requirements. These include products that are sourced entirely from a single country at any one point during a year, as well as products for which the vast majority of the content is always from one source country. All products with two or less source countries and two or less ingredients would clearly fall within this class. However, for products with three or more source countries, there is the distinct possibility that some products would require the more stringent Ministerial Direction labelling requirement, so not to contravene the TPA.

In determining the number of labels required under the FDFC proposal, we have assumed that 50 per cent of products with three or more country sources would contravene the TPA. Therefore these products would require the same number of labels as under the Ministerial Direction. Under these assumptions the FDFC proposal would require roughly 60 per cent of the number of labels required under the Ministerial Direction.

### ***Benefits and costs***

It is important to note that the FDFC proposal would still impose the same SKU, product specific and company wide impacts as under the Ministerial Direction. While requiring fewer labels, manufacturers and juicers would still have the same *per* label costs, productivity impacts and risk of product withdrawals associated with the Ministerial Direction. Additionally, firms

would still face additional auditing and differentiated product costs imposed by the Ministerial Direction. By having to track the origin of principal ingredients in order to change labels appropriately, firms would still be restricted from buying the internal commodity item. Additionally, firms would still have to implement and maintain the management systems, staff training and warehouse segregation costs as required under the Ministerial Direction.

It is also important to note that manufacturers and juicers would also be restricted from buying commodity items from international suppliers. While requiring less prescriptive labelling requirements under certain situations, firms would still have the responsibility to know the source of their food inputs.

Re-calculating the financial model to account for the differences between the FDFC and Ministerial Direction indicates that costs would increase by around 0.92 per cent on average. While this amount is less than the cost increase imposed under the Ministerial Direction, the impact is in the same direction – that is, costs increase to the horticultural value chain.

Imposing the FDFC proposal on the Australian economy would result in reduced demand for domestic horticultural products in favour of imports.

Assuming the FDFC proposal placed no cost impost on processed exports (scenario 1 – see chapter 5), the proposal would:

- increase imports of processed fruit and vegetable products by up to 2.1 per cent in the long-run
- decrease exports of processed domestic fruit and vegetable products; and
- increase domestic consumer prices of processed fruit and vegetables by up to 1.0 per cent in the long-run.

Assuming the 0.92 per cent cost impost also applied to processed exports (scenario 2):

- output from the processing fruit and vegetable sector would fall by 3.2 per cent in the long run, or \$140 million; and
- value added along the entire Australian horticultural value chain would fall by around \$48 million

In reality, the outcome is likely to lie between scenarios 1 and 2. In this case, Australian economic welfare would drop by roughly \$80 million a year, in the long term, with the majority of this cost being borne by consumers.

For the FDFC proposal to have a net benefit to society, the benefits would have to exceed the costs. Allowing for 10 per cent of all consumers to value the additional CoOL information as important, the increased information made available would have to add 62.4 per cent more value to the products affected for this small group of consumers if private benefits are to match private costs. The evidence presented in chapter 6 indicates that the Australian fruit and vegetable sector is already efficiently assessing the private benefits and costs of country of origin information, with the information being supplied at the optimal level.

### *Conclusion*

It is difficult to see that the broader *public costs* and *public benefits* of the FDFC proposal would differ significantly from those discussed in chapter 6. That is, the proposal would have only minor public benefits at best while still imposing a number of large public costs. As with private costs and benefits, the weight of evidence suggests that the public costs of the proposed extension to CoOL would exceed the public benefits.

The FDFC proposal would reduce Australian economic welfare by \$80 million a year. Similar to the calculation in chapter 5, there would need to be a 62 per cent increase in the private benefit to the minority of consumers who may value the extra CoOL information. This is a measure of the threshold private benefit required to justify the FDFC proposal. It is unlikely that the FDFC proposed extension to CoOL would exceed this threshold and result in a net benefit.

Indeed, the weight of evidence suggests that the FDFC proposed extension to CoOL would not be in the interest of Australia. It would harm the horticultural industry, the horticultural processing industry and exports. Consumers under both would have to pay more for a tiny increment in information of little extra value to them.

### **AusVeg proposal**

AusVeg strongly supports extending CoOL to each of two or less principal whole fruit and vegetable produce packaged together. However, in AusVeg's submission in response to the FSANZ invitation for public comment relating to extending CoOL, AusVeg supported extending the requirements further to include all products with three or less principal ingredients. They also supported requiring labels to provide the exact percentage mix (by volume) of each source country (AusVeg 2005).

### *Benefits and costs*

As was demonstrated in chapter 4, costs of labelling under extensions to CoOL increase with the number of ingredients required to be reported. The AusVeg proposal would therefore be more costly than the Ministerial Direction and FDFC proposal. In addition, specification of the percentages would require more labels adding further to costs.

Determining the source country percentage content of products would be especially costly. For a number of products the percentages would have to be determined regularly. For example, one prominent brand of orange juice makes the claim on their label that “we will change anything except the taste”. As sources change and the formula is readjusted to keep the taste constant, firms would be required to re-calculate these percentages and report them. A formula may change on a batch basis, and may even be factory specific. For firms, such as orange juice manufacturers, with many packing sites across the country, the formula may even differ from plant to plant.

Even for those products for which the percentage contents are consistent across the year, the AusVeg proposal would impose higher labelling requirements than the Ministerial Direction and FDFC proposal due to the inclusion of an additional ingredient. However, for those products with changing country content, the cost burden of the AusVeg proposal would far exceed the Ministerial Direction and FDFC proposal.

- Firstly, firms would have to determine the source country percentage content of their products. While this may be relatively simple, and may in fact form part of the process of determining the taste formula, firms would have, at a minimum, additional costs associated with tracking and recording these percentages.
- Secondly, given that these percentages change regularly, firms could not afford to make the label changes and would shift from using pre-made labels to ink-jetting country of origin information on their products.
  - This would reduce the number of labels required, as now a single packing label would be required for each SKU that included an appropriate space on the packaging for the country of origin and percentage information to be ink-jetted on.
  - However, while ink-jetting would reduce costs associated with designing and printing multiple labels, it would reduce the line speed of the packing line by 2 per cent or more. This would impose a highly significant cost in terms of lost production and profits on the firm. Furthermore, the reduction in production levels would

spread the firms fixed costs over a small base, further decreasing productivity and increasing prices.

- Thirdly, products for which CoOL information was ink-jetted on would face further costs associated with label integrity. That is, ink-jetting country of origin details or using stickers would not look as professional as printed labels. Furthermore, consumers' view with suspicion products with stickers on the label and they degrade the quality of the product. This could make imports more competitive relative to domestically produced goods.

Clearly, the AusVeg proposal would impose costs on the sector that would significantly exceed the cost impost of 1.4 per cent from the Ministerial Direction and the 0.92 per cent from the FDFC proposal. It is, however, a difficult process to quantify these costs without conducting a detailed survey of the exact demands that tracking specific percentage contents would impose.

What can be said, is that the impost upon the Australian economy is likely to far exceed the estimated \$120 million a year cost imposed by the Ministerial Direction. Furthermore, the required increase in value of the product from the extra information provided to consumers who valued it, would have to exceed the 94 per cent required under the Ministerial Direction.

The AusVeg proposal would also have the same level of public costs and public benefits as under the Ministerial Direction and FDFC proposal. That is, the public costs would likely exceed the public benefits (see chapter 5).

## ***Conclusion***

It is difficult to see how the broader *public costs* and *public benefits* discussed in chapter 6 would differ under the AusVeg proposal compared with the Ministerial Direction. That is, the proposal would have likely minor public benefits, while still imposing a number of large public costs. As with private costs and benefits, the weight of evidence suggests that the public costs of the proposed extension to CoOL would exceed the public benefits.

Thus, the evidence suggests that the AusVeg proposed extension to CoOL would not be in the interest of Australia. It would harm the horticultural industry, the horticultural processing industry and exports. Consumers under both would have to pay more for an increment in information of little extra value to them.

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