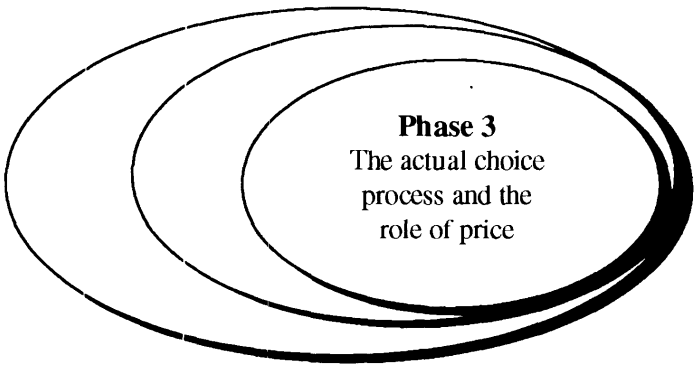
Chapter 8 - From consumer perceptions to consumer behaviour

'This is what I really hate is they keep moving everything...'

(Protocol 1995)



8.1 Introduction

The focus of the study in Phase 2 was consumers' perceptions of their behaviour. The principal emphasis was on developing an understanding of the affects of different individual and product-specific characteristics on price awareness (as measured by price recall). Some evidence was found of influence on price awareness of consumer price consciousness and price discounts and, to a lesser extent, those of quality and price variation, and specific usage contexts. However, the recall framework is clearly limited in its ability to measure consumers' response to price. This is particularly the case where distinctions are to be made between more subtle behaviours such as variety-seeking or pre-framed, as opposed to unframed, purchasing.

Phase 3 of the research, reported in this chapter, investigates consumers' actual behaviour. The results are based on 24 verbal reports collected during subjects' normal shopping for fruits and vegetables. The particular contribution of this study is in the detail it provides on subjects' choice processes. It also presents an opportunity to investigate the role price plays in rejecting purchases. Fourteen of the 24 subjects completed the post-shopping questionnaires administered in Phase 2. Their questionnaire responses are assessed against their verbal reports to examine the correspondence between actual and reported behaviour; and the validity of the measures employed.

As in the previous chapter, full discussion of the results is deferred to Chapter 9. However, where relevant, allusions are made to the issues outlined in Chapters 4 and 5, and to the results of Phase 2.

The chapter commences in Section 8.2 with a discussion of the manner in which the encoding scheme was developed for analysis of the verbal reports. Included in this discussion is an outline of the principal codes employed in analysis and of some of the problems which were anticipated may arise during the encoding process. At the completion of the section the conduct of the study is outlined.

An overview of the sample and an examination of subject profiles to determine particular shopping styles is presented in Section 8.4. Most of the remainder of the chapter focuses on the processes within these categories. Several examples of processes are provided for each sub-category, and general themes are established. Subjects' price recall is also examined in association with the choice processes.

In Section 8.9 the focus is on the results of the post-shopping questionnaires; in particular, the use of reference prices. In the final section is a brief summary of the main issues and findings of the research.

8.2 The research method

In Chapter 5 various encoding schemes for verbal reports were discussed. Emphasised was the necessity to develop a scheme which is relevant to the particular research task. For present research purposes the appropriate encoding scheme is one which focuses on choice-level processes rather than each element in choice. Further, the particular interest is in the role of price in choice. As such, the encoding scheme needs to emphasise this aspect.

The scheme developed to analyse subjects' verbal reports draws heavily on the Bettman and Park (1979) encoding scheme. Further elements of choice processes were identified from examination of the verbal reports supplied by the eleven subjects who participated in the pilot study, and from the processes identified in Payne and Ragsdale (1978). These also assisted in determining the necessary modifications to the Bettman and Park scheme. However, the final form of the codes was guided by the research objectives outlined

above. A complete list of the codes can be found in Appendix 8.1 together with an encoding guide, which include elements of the guide developed by Bettman and Park[1].

A total of 62 codes were developed covering three broad categories: Elimination statements and unelaborated acceptance (E), Complex choice processes (C), and General statements (G).

Eliminations and simple acceptances comprise eleven codes. The 'simple acceptance' is represented by one code and is included to capture purchases where no elaboration is made on the reason for the purchase or on the attributes of the product. The incidence of these compared to more complex processes will provide a basis from which to assess the effort in purchasing fruits and vegetables relative to that of many brand-based choices (Hoyer 1984).

The remaining ten codes in this category deal with the diverse reasons for rejecting a product. An issue in the occurrence of elimination statements is the degree to which they reflect the simplifying heuristic as suggested by Russo and Leclerc (1994) or a response to unsatisfactory product attributes. The potential for both to be prevalent in the shopping process is captured in the range of elimination statements proposed. Among these are: an absence of need for the product, 'We've got tomatoes at home', or the product's lack of appeal to the consumer's immediate consumption needs/desires, 'I don't really fancy cabbage'. In addition to these, eliminations also occur because the quality of a product is immediately perceived to be sub-standard ('I don't like the look of those at all, they're too scungy') or because the price is considered unacceptable ('mandarines are too dear').

Within the 'Complex choice processes' are four sub-categories: price-dominant choices (C1-13), price-need/desire choices (C20-27), price-quality choices (C30-C41), and non-price choices (C50-C59). The objective in developing these codes was to examine the salience of price across subjects' shopping process, and the manner in which price is used in choice. These processes form the key area of interest in this Phase.

The 'price-dominant' codes represent choices where the primary determinant of choice is price. While other elements may be present they are not instrumental. Prevalent in this set of codes are situations where price is particularly high or low. The 'price-need/desire' and 'price-quality' codes present situations where there is a trade-off between price and

[1] For a guide to the Bettman and Park coding scheme see their 1979 working paper.

another aspect relevant to choice. Unlike the 'price-dominant' choices, other elements are equally, if not more, important to the outcome. 'Non-price' choices, as implied by the label, are those in which price does not feature in choice. The codes associated with this category focus on the prime reason for purchase, thus enabling some assessment of why price is not a feature in these choices.

For the most part codes represent choice in the context of a single product. However, six codes deal with product comparisons. As noted in Chapter 5, a significant difference between this and many earlier studies employing verbal reports is that the reports in this study encompass an entire shopping process. The collection of reports in this way presents a particular problem for product comparisons. The problem arises because of the manner in which consumers encounter specific products. Processed or manufactured goods are generally shelved according to sub-groups within a particular aisle, so the consumer has all possible combinations at hand when making a choice. This is not always the case for products in a sub-group of fruits and vegetables. Their placement can vary spatially and temporally (as was indicated in the shop layout presented in Appendix 7.2).

As a consequence of these factors a product variety may be examined at one point, rejected, but reviewed at another point when a further variety is encountered. From the verbal reports of the pilot study, it was not always apparent that the second encounter was related to the first. For example,

> *And oranges over there... Oh I don't like the look of those at all, they're too scungy.*
>
> [Two choices of unrelated products]
>
> *Oh oranges... Oh They look nice.*

However, in other instances there was a clear indication that a comparative process was occurring.

> *Mangoes... Oh they look a nice size... Bit marked but smell good... Well I think I'll get two anyway because I like them so much and they won't be in season too much longer*
>
> [Three choices of unrelated products]

Oh there's cheaper mangoes... Ooh they smell better too... They're much smaller... Um, though the pip's always bigger in the little ones... so I'll stick with the larger ones.

Subjects were also distracted by other items in the process of making comparisons. Thus the sequence of processing was interrupted, but then continued following the diversion.

Onions... They're more expensive than usual... I'll see what the bagged ones are like... Ooh what's over here?

[Evaluated and purchased two products]

Um, I'll go check out the onions... Can't see the price but they look better ... so I'll just get a bag of white ones.

The distinction between the first and following processes lies in the explicit comparison between alternatives. The latter processes represent conscious comparisons, although in the mango example the comparison is conducted in retrospect. In the first example the evaluations are essentially distinct. There is no allusion to either option, nor is there any indication that the first option is considered when evaluating the second. Although each of the examples would have two codes, the nature of these codes differs. The first example would be encoded as an elimination (E3) and a simple acceptance on quality (C52). In the third example, the first process would be encoded as an unacceptable price and intention to seek a substitute (C3). The corollary to this is a comparison between the alternative and the original option (C40).

The second example is one which is not made explicit in the model outlined in Chapter 5. The first process is straightforward and is encoded as a choice made on the basis of a particular desire for a product (C51). The departure from the model concerns the comparison, which is retrospective. An alternative is encountered at a favourable price which then prompts reconsideration of the initial choice. To capture this behaviour code (C40) includes provision for retrospective comparisons.

In Chapters 4, 5 and 6 an element which was highlighted as potentially influential on consumers' choices was the perceived risk attached to a purchase. In Chapter 4 various risks were identified but the two central risks were associated with usage and quality. Proposition P5 stated that the effect of perceived risk would be to increase consumers' price sensitivity, given a degree of price consciousness. To address this proposition, four

codes were included in choice processes. Two of these focused on subjects' response to uncertainty over the timing of use, given normal or special prices, (C24, C25) and the remaining two were included to capture uncertainty with respect to the quality of the product (C34, C35).

The final broad category included in the encoding scheme, 'General processes', encompasses seven processes relating to the task itself. This category is particularly useful in assisting to characterise individual shopping styles. For example, the code 'choice strategy' (G2) captures subjects' intentions and strategies with respect to generic product categories.

8.2.1 Articulated price and price recall and reference prices

In Chapter 5 an issue highlighted as requiring further investigation was the association between the reference price employed by subjects and their price recall, and subjects' articulation of price during choice processes. Of specific interest is whether recall is dependent on the context in which price is used, or is it sufficient that price is simply articulated, or merely referenced visually. For example, a statement "Price; $2.99" is significantly different from a process such as "Y is $2.99. What is the price of X? It's about the same". The former indicates relevance but not necessarily importance to the choice process. The latter indicates price is important in the choice.

To facilitate an examination of these associations a further set of 17 codes characterising different price articulations was developed. The codes range from simple statements of price, as in the first example above, to cases where specific referencing of price is made (for example, 'specific reference to past price(s) paid' (P10)). To complement these codes a record of visual referencing of price was maintained for each subject, although this was imperfect because of the contexts in which verbal reports were given.

8.2.2 Conduct of the study

As with Phase 2 the collection of verbal reports was limited to the Armidale district. A total of 24 subjects provided verbal reports of their shopping. Eleven of these comprised subjects whose protocols were collected in the pilot study conducted over December 1994 and January 1995. Apart from the post-shopping surveys, for both the pilot subjects and the subjects participating in the main study the procedure for conducting the protocols

was identical. Subjects were recruited through university colleagues, a local church, and from mature-age students at the university's School of Health. Subjects in the main study were offered $10.00 for participating in the study.

All subjects were informed of the nature of their participation, and that the purpose of the research was to examine their shopping habits. They were told they would be required to wear a small dictaphone (a large pendant) and to think aloud as they proceeded through their purchases. In the formal study subjects signed a consent form acknowledging their understanding of the study and their agreement to participate (Appendix 8.2).

All shopping expeditions were arranged to coincide with the subject's normal shopping habits and at their familiar shopping venue[2]. Subjects in the main study were asked to complete the consumer characteristics instrument prior to the expedition. While this reduces the comparability between this and Phase 2, it was felt important that subjects have no further obligation following completion of the post-shopping questionnaires.

Prior to commencing the shopping expedition subjects were given precise instructions for their verbalising (Ericsson and Simon 1993) and a brief warm-up exercise[3]. During their shopping the author followed at a distance noting for each product whether the subject looked for a price, and whether they eventually purchased the item. On completion of their purchases, subjects in the main study completed the post-shopping questionnaires in the same sequence as in Phase 2, but in this instance, for all products purchased. Subjects were thanked for their participation, and those in the main study given their $10.00.

8.3 Sample characteristics

Since all but one subject in the pilot study did not complete the formal post-shopping questionnaires, the analysis of these 10 is limited to the content of their protocols. The results of the remaining 14 subjects are used to examine the relationship between actual shopping behaviour and subjects' self-reports of behaviour and recall. From this point the two samples are treated as one, so that a reference to 'sample' includes the pilot study as well as the subjects in the main study, unless indicated otherwise.

[2] In fact every fruit shop in Armidale was represented in the study (5 locations).

[3] The warm-up exercise is outlined in Ericsson and Simon (1993) and requires subjects to count the number of windows on their house.

In Table 8.1 a summary of the sample characteristics is provided. Although substantially smaller than the sample in Phase 2, the characteristics of the present sample are quite similar to the earlier one. Over half the sample were married, and two of the 15 married subjects were male. Approximately 63 per cent of subjects were between 25 to 39 years of age. Only one subject was younger than 25 years. The representation of household incomes across the sample was fairly even. Those on less than $30 000 comprised 37.5 per cent of the sample. A similar percentage were earning $40 000 or more per annum. Of greater relevance to subject's spending power is the number of dependents. Among both married and single subjects, 37.5 per cent had no dependants. In the married category, five subjects had one or two dependants, and six had three or more. Most of the latter were younger families on the lower ranges of income. Single subject households with one or more dependants were also in the lower income ranges.

Table 8.1 Summary statistics for the protocol sample

MARITAL STATUS	AGE						
	18 - 39			40 - 54			
	No. of dependants			*No. of dependants*			*Percent*
	0	1-2	3+	0	1-2	3+	
Married							
< $30 000	-	1	1	-	-	-	8.3
$30-40 000	1	2	2	-	-	-	20.8
$40-50 000	1	-	2	1	-	-	16.7
$50 000+	1	-	-	-	2	1	16.7
Single							
< $30 000	2	1	-	-	-	1	16.7
$30-40 000	-	1	-	2	1	-	16.7
$50 000+	-	-	-	1	-	-	4.2
Percentage	20.8	20.8	20.8	16.7	12.5	8.3	100.0

With respect to employment, married subjects comprised: 33.3 per cent household duties, 26.7 per cent students, 20.0 per cent professionals and the remaining 20.0 per cent were employed in clerical, paraprofessional or service work. Among singles, 33.3 per cent

were students, a further 33.3 per cent administrative or professional, and the remaining clerical.

8.3.1 Subjects' protocol characteristics

Each of the 24 shopping protocols were categorised according to the scheme developed above. The protocols were first segmented according to pauses, intonations, and syntactical markers (Ericsson and Simon 1993: 205). During the encoding process further assessment of some segmentations resulted in aggregation or further division. All protocols were categorised by the author, and a subset of 18 protocols was separately categorised by two independent judges.

The judges experienced some initial difficulties in the interpretation of particular choice and task statements, primarily where processes needed to be viewed in conjunction with earlier verbalising. For example, where purchases were determined according to the specials on offer at the commencement of shopping, reference was generally not made to price when the subject actually encountered the product. When viewed in isolation these processes would be categorised as non-price choices. However, they were clearly motivated by price as indicated in earlier processes. To assist judges the author indicated for each process whether or not a product was purchased (an example of the coding sheets is contained in Appendix 8.3). Following this clarification, initial agreement was reached on the categorisation of over 70 per cent of processes. The remaining processes were discussed among the judges and categorised to the satisfaction of all parties.

A summary of the results of coding is outlined in Table 8.2. Despite a concerted effort to record subjects' price referencing throughout the shopping process, a complete record of referencing was impossible; to do so would have necessitated constant intervention in their movements which would have defeated the purpose of the study. However, observations did provide a general indication of subjects' attention to price and, where relevant, these are noted.

Table 8.2: Summary frequencies and statistics of choice and other processes

Shopping style	Eliminations			Price-featured choices[1]	Non-price choices[1]	Percentage of price featured to all choices[2]		General / task processes		Total Processes
Subject	Price	Quality	Other			Total price-related processes	Price-related to total choices (%)	Choice strategies	Task related processes	
Price-indifferent										
1	-	2	1	-	8	0	0.0	-	5	16
18	-	-	2	-	9	0	0.0	2	4	17
20	-	1	15	-	13	0	0.0	-	7	36
16	-	1	2	1	14	1	6.7	1	9	28
Total/mean	-	4	20	1	44	1	2.0	3	25	97
Value-conscious										
9	-	-	-	3	15	3	16.7	2	5	25
17	-	-	4	3	8	3	27.3	4	4	23
21	-	1	10	5	12	5	27.8	-	10	38
23	-	1	-	4	7	4	33.3	2	5	19
7	1	2	12	2	4	3	33.3	1	1	23
24	-	1	5	5	9	5	35.7	1	7	28
6	1	-	1	3	7	4	36.4	1	6	19
22	-	2	4	7	9	7	38.9	4	9	35
4	-	-	13	5	7	5	41.7	2	6	33
3	-	1	4	13	12	13	50.0	-	5	35
12	-	2	3	10	7	10	52.6	-	4	26
19	2	4	5	11	7	13	54.2	2	13	44
15	1	1	8	5	4	6	54.5	1	3	23
10	-	-	-	10	8	10	55.6	-	1	19
2	10	3	10	9	6	19	67.9	1	3	42
5	-	2	2	12	3	12	70.6	2	3	24
11	-	-	-	8	3	8	72.7	1	4	16
Total/mean	15	20	81	115	128	130	45.3	24	89	472
Price-based										
13	3	2	6	12	4	15	71.4	3	9	39
14	1	-	1	6	1	7	87.5	2	5	16
8	6	1	1	13	-	19	95.0	6	7	34
Total/mean	10	3	8	31	5	41	83.7	11	21	89
Total/mean all	25	27	109	147	177	172	42.8	38	135	658

[1] includes 'simple acceptance' processes. [2] including price and quality related eliminations.

Evident from Table 8.2 is the relevance of price in choice of fruits and vegetables. Price features in 26.1 per cent of total processes. Of greater significance is that it features in 45.4 per cent of *choice* processes. This result is consistent with Payne and Ragsdale (1978) and with several studies which have elicited choice strategies in post-purchase questioning (Hoyer 1984, Cobb and Hoyer 1986).

Total elimination processes represent 24.4 per cent of all processes, with 'other' the major contributor. These mostly comprise unelaborated rejections such as 'plums... no' or indicate an absence of need for the product (generally because of current stocks). Task-related processes and choice strategies account for a further 26.3 per cent. The former comprise review of products, statements about the task, and consideration (cueing) of products for purchase. Choice-strategies are concerned with the subjects' purchase plan, and procedures or heuristic rules in relation to the purchase or consumption of specific products.

Choice processes include all choice decisions other than 'Eliminations' and are the most numerous of processes (49.2 per cent). They range from unqualified acceptance of products to highly involved comparisons across potential substitutes. With the exception of unqualified acceptance, processes under this category tend to be more complex than those in 'Eliminations'. This, and other features of the categories are discussed in subsequent sections.

Although the distribution of categories in aggregate provides a general indication of the relevance of different processes, the type and distribution of processes and the frequency with which price was employed in the shopping process, differs across the subjects in the sample. With respect to price/cost-related concerns, the subjects can be categorised according to three groups, each quite distinct in style: the 'price-indifferent' shopper, the 'value-conscious' shopper and the 'price-based' shopper. Among the price-indifferent shoppers only one of their statements was price-related (2.0 per cent). This is in stark contrast to the processes of price-based shoppers where in over 70.0 per cent of choices price was a feature.

Although there are five subjects where price featured in 70.0 per cent or more of choices, the three subjects categorised as 'price-based'— 8, 13, and 14—were distinguished by the presence of explicit strategies which indicated their choices are driven by price. In each

case the subject had engaged in a search effort prior to commencement of their shopping to identify product offerings which were potentially good value. The subjects in the first two processes below employed a list (written or mental) of specials which has been compiled prior to arriving at the shop. The third subject perused the specials-board at the front of the shop to determine potential purchases.

> *The process is I've got the market information anyway... Sultana grapes $1.60, that's a definite buy... Choice carrots 65c, that's a definite buy... Lettuces, if they're the right type, that's a definite buy... Tomatoes 65c, cheapest of the summer, that's a definite buy...*
>
> *I've been reading the papers so I've had a look and seen what specials are on... these weren't advertised but they're here so that means I'll get some... I'm also shopping for an aunt as well so I get her things as well when they're on special because I'm here.*
>
> *Now onions are cheap and cabbages are cheap... and capsicums are cheap... we came at a good time... um I'm just looking... you have to keep reminding me... I'm just looking through seeing how much things are and just trying to think what I bought in terms of meat for meals and what vegetables I'd like to have with my meals... and wondering if we'd like some sweet potato... because I really love sweet potato baked... and it's special, it's on special, so I might actually get some to have with the roast because that'd be nice... and carrots... carrots are a little bit dearer than the other place but cheap enough to make them worth getting here rather than the other place because they're nice looking and not too big... I really don't like big carrots... and strawberries, well we might have a treat, just depends.*

The feature in common among these subjects is that a significant proportion of their purchases, and certainly the quantity of their purchases, is predetermined by price. This does not preclude consideration of quality, nor the possibility that concern over price might be overridden by specific needs. However, the potential set of possible purchases is largely defined by the specials on offer at that particular time, and across locations. The two subjects in this category who completed the post-shopping questionnaire scored high on both price and budget consciousness (see Table 8.3 outlined later in the section).

At the other end of the spectrum are the four subjects for whom price does not feature in choice; 1, 16, 18, and 20 (the single price-featured choice for Subject 16 was mere curiosity, not part of the choice decision). The verbalising of Subjects 2 and 18 was terse and focused on quality and need. Both subjects have pressing lifestyles and shopped at locations which were convenient to them. These locations are relatively small and tend to

hold less variety in produce than other locations. Subject 1 runs a retail-service and has limited time away from the shop. Subject 18 is a mother of four children under eight. She tends to shop every two to three days, and explained her lack of concern with price in terms of a trade-off between effort and savings. Of the remaining two subjects, Subject 16 showed no indication of interest in price from observations of her behaviour during the shopping process. Her focus was on what might be interesting to eat or what was needed for the family over the coming week (as indicated by the relatively high level of strategy and general statements). She also bought a higher proportion of uncommon products (okra, asparagus and bok choy) compared to other subjects. Although her score on variety-seeking was not particularly high when compared with the sample mean (4.25 which is approximately equal to the sample mean, n=14), relative to her scores on other dimensions variety-seeking is quite high[4]. The behaviour of Subject 20 was more ambiguous. Observation and post-shopping questioning suggested she responded to price more than indicated by her verbalising. For example, her recall accuracy on two purchases which were on special was high.

The remaining subjects are categorised into 'value-conscious'. The category encompasses a wide range of price sensitivity. It is distinguished from the 'price-indifferent' category because subjects do exhibit a concern with price, and from the 'price-based' category in that subjects tend to react to price as they encounter a product, rather than to predetermine their choices on the basis of price.

A second feature of subjects' processes which is indicative of different shopping styles is in the number of processes (particularly eliminations and general processes) relative to the number of products purchased, or seriously considered (choice processes). Related to this is total shopping time. In Table 8.3 are listed the number of products considered for purchase and the number actually purchased, together with the duration of the shopping expeditions and the five consumer measures of consumer characteristics.

[4] There are clear differences across individuals in the character of their scoring. While the scores for each individual could be normalised using, for example, their mean score on all dimensions, this assumes that it is the relative difference in scores on the dimensions that is significant rather than the absolute score. To avoid this assumption the scores are reported in their original form and relative differences in individual scoring highlighted in discussion.

Table 8.3 Summaries of subjects' shopping behaviour and personal characteristics

Subject	Purchased to total products	Shopping duration[1]	Mean time per process (all)[2]	Mean time per product[3]	Price consciousness	Budget	Variety-seeking	Involve	NFC	FI
Price-indifferent										
1	66.7	4.40	.28	.37						
16	88.2	9.45	.34	.53	2.14	2.00	4.25	2.75	4.00	2.75
18	81.8	3.07	.18	.28	2.43	3.67	4.75	3.75	3.44	5.00
20	**43.3**	9.10	.25	.31	3.00	3.00	3.00	3.50	3.78	5.00
Mean	***70***	***6.51***	***0.26***	***0.37***	***2.52***	***2.89***	***4***	***3.33***	***3.74***	***4.25***
Value Conscious										
2	**34.2**	7.35	.18	.19						
3	60.0	9.10	.26	.30						
4	**42.3**	14.09	.43	.54						
5	73.7	12.15	.51	.64						
6	83.3	9.50	.50	.79						
7	**23.8**	6.08	.26	.29						
9	88.9	12.00	.48	.67						
10	88.9	7.18	.38	.40						
21	61.5	12.08	.32	.42	3.00	2.00	4.63	4.75	3.67	3.60
24	60.0	9.14	.33	.46	3.00	2.00	4.63	4.25	4.44	4.60
11	75.0	8.34	.52	.70	3.40	3.00	5.00	4.20	4.30	4.60
22	65.2	15.58	.45	.71	3.57	2.00	3.13	3.75	3.56	4.20
19	**51.7**	19.38	.44	.67	3.71	3.00	4.50	3.50	4.38	4.00
23	84.6	10.33	.54	.86	4.14	3.67	4.75	4.50	4.00	4.20
17	73.3	7.10	.30	.47	4.43	3.00	2.88	4.75	3.22	4.80
15	**44.4**	11.40	.50	.60	4.57	4.33	4.75	5.00	3.22	4.60
12	77.3	14.18	.55	.64	4.86	3.67	5.88	5.75	5.78	5.40
Mean	***64.01***	***10.88***	***0.41***	***0.55***	***3.88***	***3.07***	***4.34***	***4.45***	***4.06***	***4.40***
Price-based										
8	**45.5**	12.25	.36	.56						
13	**37.0**	11.47	.29	.42	5.00	4.67	3.88	4.25	4.89	3.60
14	**44.4**	5.22	.33	.58	5.86	4.33	4.50	5.75	5.11	4.60
Mean	***42.3***	***9.6***	***0.33***	***0.52***	***5.43***	***4.5***	***4.19***	***5***	***5***	***4.1***

[1] The shopping duration was measured from the subject's first shopping related statement on entering (or appraoching) the shop to their indication that they had completed their shopping.

[2] Mean time per process was calculated by dividing the duration of the shopping trip by the number of processes coded.

[3] Calculated as in 2, but only included choice processes.

The first point to note is in relation to those subjects highlighted against the 'percentage purchased to total products considered'. All considered many more products than purchased. With the exception of Subject 14, all subjects have relatively high levels of product-elimination processes. Implied is a greater tendency among these subjects to use products as a cueing system, a feature which is further explored in Section 8.5. Shopping duration varied from three minutes to around 20 minutes. The shortest durations were for subjects in the 'price indifferent' group (m=0.26 minutes), specifically the two time-pressed subjects referred to earlier. When compared to earlier studies, the time per process is approximately double that reported for choices of various branded, packaged goods (Hoyer 1984, Dickson and Sawyer 1990). Although a substantial proportion of this time is related to selecting particular items following the decision to purchase (eg six oranges, the cleanest cauliflower), the overall process of choosing fruits and vegetables is clearly more involved than with most packaged branded products; this is consistent with the findings of Payne and Ragsdale (1976).

Despite the variation in shopping duration, a short duration does not necessarily indicate a lack of involvement in the shopping process, as indicated by Subject 14 whose shopping duration was 5.22 minutes and mean time per product .58 seconds.

A final feature of Table 8.3 is the absence of a high correspondence between price consciousness and the use of price-featured processes. The correspondence is high for the two end groups, but less so for the 'value-conscious' group. This is particularly so for Subjects 17 and 11. Subject 17 had only three price-related choices, but her choice strategies indicated a higher degree of price sensitivity than apparent from her verbalising. Of interest in the statement below is her reference to energy levels.

> *Now usually what I do is I look at X on the way past and see if they've got some really good specials or the fresh fruit has just come in but I haven't got the energy today to be bothered so...*

The influence on shopping behaviour of energy and general well-being was apparent in the anecdotes given by respondents in Phase 2, and is clearly a factor in choice behaviour, albeit transitory. Subject 11 used price-featured processes more than indicated by level of price consciousness. A closer examination of his processes suggested that although price was salient it was generally considered in conjunction with quality. That is, price is

relevant to the extent that it corresponds to the quality of the product. Typical of the subject's processes are:

> *ahhhhhh peaches look good... now will they be $4.99 or - $3.99 or $5.99... $5.99... mmm...mmm... and a bit... oh a bit marked and... nice peaches but little brown blotches... probably not really worth it.*

As it stands the 'value-conscious' category is too complex. Analysis at this level is likely to under- or overstate certain processes. To enhance interpretation the category 'value-conscious' was further divided into three sub-categories of 'reasonably price insensitive' (those with total price-featured choices less than 30 per cent of all choices), 'reasonably price sensitive' (with price-featured choices contributing 60 per cent or more of choices), and the remaining subjects categorised as 'neither'. The consequent loss of power for statistical analysis from this division is not overly important, since the overall size of the sample is itself small and the focus of analysis is on the content of processes. For easy reference in subsequent chapters, a summary of categories across processes is provided in Table 8.4.

In the following sections the broad categories 'eliminations', 'non-price choices' and 'price-featured choices' are examined in detail. Of particular interest are the types and frequency of processes made among the different categories and the nature of the processes themselves. While the content of processes have many aspects of interest other than their relevance to price, it is in the context of price that most of the analysis occurs. However, a brief overview of non-price processes is included in the analysis, partly to elucidate the contexts in which price is not a feature of choice, but also to highlight that price sensitivity can manifest in behaviour which is not accompanied by explicit verbalising of price/value.

Table 8.4 Summary of processes across subject categories

Subject group	Eliminations			Price-featured choices[1]	Non-price choices[1]	General / task processes		Total Processes
	Price	Quality	Other			Choice strategies	Task related processes	
Price indifferent	-	4 *(4.1)*	20 *(20.6)*	1 *(1.0)*	44 *(45.4)*	3 *(3.1)*	25 *(25.8)*	97
Price-based	10 *(11.2)*	3 *(3.4)*	8 *(9.0)*	31 *(34.8)*	5 *(5.6)*	11 *(12.3)*	21 *(23.6)*	89
Neither	5 *(1.6)*	14 *(4.6)*	55 *(18.1)*	75 *(24.7)*	81 *(26.6)*	14 *(4.6)*	60 *(19.7)*	304
Reasonably price sensitive	10 *(12.2)*	5 *(6.1)*	12 *(14.6)*	29 *(35.4)*	12 *(14.6)*	4 *(4.9)*	10 *(12.2)*	82
Reasonably price insensitive	-	1 *(1.2)*	14 *(16.3)*	11 *(12.8)*	35 *(40.7)*	6 *(7.0)*	19 *(22.0)*	86
Total	**25** ***(3.8)***	**27** ***(4.1)***	**109** ***(16.6)***	**147** ***(22.3)***	**177** ***(26.9)***	**38** ***(5.8)***	**38** ***(5.8)***	**658**

[1] includes 'simple acceptance' processes.

8.4 Elimination statements

Noted in Section 8.2 was that simple elimination statements may indicate a practice of employing visual cues as a surrogate shopping list. Alternatively, they may indicate a rejection of an item on the basis of its lack of appeal to the consumer's immediate consumption desires, or because it is not needed. Eliminations also occur because the quality of a product is immediately perceived to be sub-standard ('I don't like the look of those at all, they're too scungy') or because the price is considered unacceptable ('mandarines are too dear'). Each of these reasons were apparent in Table 8.4. In Table 8.5 the elimination category is further segmented to differentiate between eliminations on preferences and unexplained eliminations.

Table 8.5 Summaries of elimination processes

SUBJECT GROUP	BASIS FOR ELIMINATION					TOTAL
	Unexplained	Price	Quality	Need	Preference	
Price indifferent	8 *(33.3)*	-	4 *(16.7)*	11 *(45.8)*	1 *(4.2)*	24
Price-based	2 *(9.5)*	10 *(47.6)*	3 *(14.3)*	5 *(23.8)*	1 *(4.8)*	21
Neither	7 *(9.5)*	5 *(6.8)*	14 *(18.9)*	37 *(50.0)*	11 *(14.9)*	74
Reasonably price sensitive	-	10 *(37.0)*	5 *(18.5)*	11 *(40.7)*	1 *(3.7)*	27
Reasonably price insensitive	3 *(20.0)*	-	1 *(6.7)*	9 *(60.0)*	2 *(13.3)*	15
Sum and Percentage to Total	20 *(12.4)*	25 *(15.5)*	27*(16.8)*	73 *(45.3)*	16 *(9.9)*	161

A significant proportion of eliminations can be attributed to the absence of need for a product (45.3 per cent). 'Need' eliminations are common to all groups, although price insensitive groups had proportionately higher representation in this category. Eliminations on preferences were because: the product/variety was unacceptable or unavailable (7.9 per cent) or because the volume of product offered was inappropriate (2.0 per cent). In a further 12.4 per cent the product was eliminated without elaboration as to its reason. Examples of these were given in the previous section, and their occurrence is proportionately high in the price-indifferent group.

Of the remaining eliminations, 16.8 per cent were quality-based and a further 15.5 per cent were price-related. Included in the latter are eliminations which encompassed both price and quality (3.1 per cent). Price-based eliminations were dominated by the price sensitive groups, while quality-based eliminations are relatively evenly distributed across groups, as would be expected.

Samples of the various elimination processes used by subjects are illustrated in Figure 8.1. With the exception of a number of quality-based eliminations and those indicated by an asterix, whether or not the item was *seriously* considered as a purchase is not readily apparent. A common pattern across protocols is a clustering of elimination statements. Typical, are sequences such as the following:

1. *I think we're right for celery.*
2. *Cabbage looks too pale.*
3. *We're right, we're growing spinach.*

1. *Avocados, I've already got one at home so that's all right.*
2. *Got plenty of pears. They look like they're about ready to go over ripe but they're 39 cents a kilo.*
3. *I've got some apples.*

1. *Okay... I've got carrots.*
2. *And I've got broccoli at home.*
3. *I'm sorry... mushrooms... yeah... too much.*

These patterns support the earlier suggestion that eliminations often represent a shopping strategy which employs product cues as prompts or a proxy for shopping lists. Subjects also use the attributes themselves as cues, as was particularly evident for Subjects 2 and 8. Each of these subjects have a substantial number of eliminations due to price (see Table 8.2). From their behaviour during the shopping process, and in discussions subsequent to their purchases, both subjects indicated that they used price as an additional search attribute. The price eliminations employed by Subject 2 were most often in relation to higher-priced, specialist items (mangoes, passionfruit, nectarines). This subject also reported that she rarely used a shopping list—relying on products to assist with her choices. Subject 8's eliminations on price also tended to be for products such as Nashi

fruit, mangoes and tomatoes. On other fruits and vegetables both price and quality were incorporated into his assessment.

No need

- *We are growing our own capsicums so we don't need any of those... um... I'm also trying to remember what's in the fridge because I know there's some corn and there's some mushrooms... so I don't need corn and mushrooms...*
- *Tomatoes... will I or won't I... do I have any or don't I... yes I do have some.*

Another variety preferred

- *That will probably do for now I think... but I might get some passionfruit if they've got any and they don't... what are these.. passionfruit... no, I'm not getting any of those... I don't like them... the skins are really strange.**
- *Dark grapes... I'd rather have green grapes...*

Product unavailable or no desire for the product

- *There doesn't seem to be any oranges does there... might have to go elsewhere and get some oranges.**
- *And um we've just had a cauliflower so I won't worry about getting that.*
- *Rockmelon, watermelons, sorry, we don't eat... Too big for the two of us.*

Quality unsatisfactory

- *I don't like the look of the beans... And they're like one of those old things that never seems to get finished before they go off in the bottom of the fridge.*
- *Okay...I would have thought I would have bought some Granny Smith apples... but they look pretty bruised and shabby... so I think I'll leave them.**
- *The plums... The plums look a bit green...*
- *I had some black grapes and they weren't the best... I might give them a miss.*

Price unacceptable

- *Mangoes... well, very nice, but what are they?.. $1.50.*
- *Bananas $3.99 no... we may go to the other place I think.*
- *Now the cauliflower looks nice but I don't want any because it's too expensive.*

Size or package inappropriate

- *And melons... um...well, can't buy it in a smaller quantity than half... so I won't get any because I don't like it... and it won't get eaten and it'll just get thrown out.*
- *I don't think I want $3 worth of onions... they go off before I can use them.*

Price and quality unacceptable

- *Strawberries... ooh they're a bit pricey... but they're not as bad as they were... they were $4 a punnet at one stage... .you don't get many in this lot... and they've got bruises... I think I might give them a miss... I'll go for some other sort of thing.**
- *Granny Smith apples... Not very good quality and expensive, so no buy.*

* Clear indication that the product was considered for purchase.

Figure 8.1 Sample elimination processes

Given the emphasis on 'specialty' products in these subjects' eliminations, their frequency appears more indicative of a shopping style than of a greater sensitivity to price than other subjects (although, on other criteria, Subject 8 is price sensitive). However, it cannot be concluded from the relative absence of price eliminations among the remaining subjects that they did not eliminate just as many products on price. It is possible that not all price eliminations were articulated.

Although the majority of the elimination processes outlined may be considered 'mental ticks' against a shopping list, in a number of instances eliminations do represent a rejection of a product on one or another attribute. This is particularly the case where the elimination is on quality. However, of greater interest in the context of the current research is the manner in which the price attribute was used by the two subjects just discussed. Their eliminations imply the manifestation of a heuristic which determines which products will enter into their consideration set. In a sense they are articulating the operation of an 'acceptable price range' as posited by Piggot and Wright (1992). Products which fall outside this range are simply not entertained.

8.5 Non-price choice processes

The second category to be examined comprises non-price choices. The interest in these processes is in their distribution across subjects, and in the context of the process. A primary aim is to determine whether there are common features among the processes which may point to the reason why price does not feature in the choice.

Non-price choices represented over half all choice processes, and were most common for the price insensitive groups, as was indicated in Table 8.4 (98.0 per cent and 76.1 per cent). The dominance of these groups was particularly apparent for 'simple acceptances' of the product, where the proportion of these to total non-price choices for the 'price-indifferent category' was 27.7 per cent (see Table 8.6). Typically, these processes were in the form of: *'mushrooms look nice..', 'two bits of broccoli today...'* or *'Lemons, I'll just grab one.'* Slightly more detail was present in other statements: *'And celery... Just a half... We only ever seem to need a half at a time... A whole one is always too big.'* The latter process is categorised as a simple acceptance because the explanation of quantity represents the subject's usual pattern of purchase. For the process to be construed as a

Table 8.6 Summaries for non-price choice processes

Subject category	Simple acceptance	Favourite or treat				Quality evaluation	Need for a product	Product comparisons	Attribute/varietal preferences	Quality uncertainty		Total
Protocol Code	E8	C50	C51	C57	C58	C52	C54	C55	C56	C59	C53	
Price indifferent	12 *(27.3)*	5 *(11.4)*	1 *(2.3)*	-	-	15 *(34.1)*	3 *(6.8)*	-	5 *(11.4)*	-	3 *(6.8)*	44
Price-based	1 *20.0)*	-	-	-	-	2 *(40.0)*	1 *(20.0)*	-	-	1 *(20.0)*	-	5
Neither	4 *(4.9)*	6 *(7.4)*	8 *(9.9)*	1 *(1.2)*	3 *(3.7)*	23 *(28.4)*	18*(22.2)*	5 *(6.2)*	10 *(12.3)*	2 *(2.5)*	1 *(1.2)*	81
Reasonably price sensitive	1 *(8.3)*	1 *(8.3)*	2 *(16.6)*	-	-	2 *(16.6)*	4 *(33.3)*	-	2 *(16.6)*	-	-	12
Reasonably price insensitive	7 *(20.0)*	2 *(5.7)*	1 *(2.8)*	-	-	9 *(25.7)*	9 *(25.7)*	1 *(2.8)*	5 *(14.3)*	-	1 *(2.8)*	35
Total	25	14	12	1	3	51	35	6	22	3	5	177
Percentage of total	14.1	16.9				28.9	19.8	3.4	12.4	4.5		100.0

'need' for a product it had to be implied that the subject had run out of stock or needed the product for a specific purpose. In addition to the 'simple acceptances' are a further five categories which emphasise a particular attribute in choice or the underlying motive in a product's purchase. The highest incidence of non-price choices was for choices in which quality was a primary concern (33.7 per cent). Although common to all groups, these processes are particularly prevalent for the price-indifferent group (34.1 per cent). The prevalence of quality assessments in this and the elimination processes attests its importance to choice of fruits and vegetables. The presence of risks associated with quality opacity are also evident in Table 8.6, although relatively infrequent (4.5 per cent).

Two further processes which are common among non-price choices are those which emphasise the need associated with a purchase (19.8 per cent) or that the purchase is a treat or favourite (16.9 per cent). However, there is no particular pattern in their distribution across groups, and their incidence in each group is too low to draw conclusions. A final feature of interest in the non-price choices is the small number of product comparisons (3.4 per cent), and whether this reflects perceived heterogeneity in varieties or across product sub-groups, or the shopping process itself (as outlined in Section 8.2.1).

Although Table 8.6 provides a general indication of the types of processes encompassed in this choice category, the processes themselves provide a richer source of information. Each of the processes outlined above is discussed in the following section with accompanying illustrations. Following their outline an overview of the character of non-price choices is given in Section 8.6.2.

8.5.1 Characteristics of non-price processes

Of all non-price choices the most common, and perhaps least well defined, are 'quality evaluations'. In all instances the product was purchased, and in 38.0 per cent the volume was small (ie. two tomatoes, one avocado). Choices tended to focus on identifying single items of acceptable quality among the array of a specific product on display. Often the process incorporated a reference to attribute preferences such as 'medium sized carrots', 'firm tomatoes', or 'large mushrooms'. The degree of complexity among these choices is illustrated by the examples listed in Figure 8.2. In the third example listed is an indication that quality itself acts as a cue for purchase, which lends further support to the sensory

provocation inherent in many fruits and vegetables (in fact references to sensory features—colour, texture, odour—are evident in virtually all the processes).

General quality evaluation

- *Ooh, some passionfruit they're not too bad... four*
- *Onions... not very many nice ones I'm afraid... picked the best of the lot I think.*
- *And I might get some zucchinis, which isn't on the list but it just looks good so I think I'll get some...*
- *Oranges... the navel ones are nice... a bit soft doughy looking... they're a bit doughy looking... what have they got... Are these the only oranges they've got? Or.. see if I can find some firm ones.. you know what; they even smell a bit rotten.. that one is not too bad... oh that's pretty good.*

Evaluations with reference to quality preferences

- *And some tomatoes... I like them red but I don't like them really dark red because they're usually quite squishy... I don't like the big ones because I don't eat a whole one at one time... and I usually cook with them... yep two nice ones.*
- *Broccoli... want small ones... well they're too big for two people... I'll have... no how big is that... that's huge... tiny one... suppose we'd use that... want smaller... ah that's better... thank you... get these two small ones.*

Figure 8.2 Non-price choices: a focus on quality evaluation

The second common set of non-price choices to be examined are those which focus on a particular need for a product (see Figure 8.3 for illustrations). As with quality-based choices all products were purchased, and in 60 per cent of cases the volume of purchase was particularly small; either a single item such as one lemon, or explicitly stated by the subject as a small volume. Of these purchases 81.0 per cent were associated with statements indicating: the purchase was to avoid the risk of running out of the product, was required for a specific purpose, or that it was one of those products which was handy to have in the house. By comparison, only 43 per cent of the remaining need-based choices (where volumes were higher, or indicated as 'normal') were couched in terms of a

specific need. The majority were either for an unspecified need or indicated as a usual 'staple' in the subject's diet[5].

Specific Need

- *and there was garlic in it and I don't have any garlic... so nice fat garlic cloves...*
- *Zucchini... I'll get a couple... just for some green.*
- *pumpkin for pumpkin soup.*

'Handy' products

- *Uh, I guess broccoli is always handy to have as a veg... Get a small piece.*
- *we always buy a little bit of ginger each week... ginger tends to go stringy very quickly... we usually use a bit each week... have a look... ginger is funny at the moment... like that nice yellow flesh in the ginger... hard to know what it's going to look like... don't want too much... think that'll be enough.*

Uncertainty over stocks

- *And... I think we've already got some carrots at home... I'll get a few just in case.*
- *I'm not sure whether we've still got some sprouts... I'll get some more just in case.*
- *a couple of carrots... just to throw in to whatever's cooking... but I think I've got some in the fridge at home so I don't need all that many... so I'll just grab a few of them... not too big and not too small.*

General or unspecified

- *I need some onions... one bag of brown onions.*
- *and we need carrots... okay... carrots.*

Figure 8.3 Non-price choices: need for a product

Twenty-two choice processes in all were characterised by strong varietal preferences or concerns with product size or packaging. A sample of these is given in Figure 8.4. In the first examples, purchases were not made because a subject preferred another variety/product. Most expressions of varietal preferences were specific to the variety with little or no elaboration, as exemplified in the second and fourth examples. However, in the fifth example it is clear that a price-related (or value) strategy is being employed in choice, and is the basis of preference for the variety. The process is included in non-price

[5] The difference between these and the example outlined earlier as a 'simple acceptance' is that the 'need' is explicit.

choices because there is no explicit use of price in the choice. Clearly though, it is implicit, a point which is taken up in a later section.

No purchase - another variety or product preferred

- *Okay, will we buy some peaches... let's see, have they got nice nectarines... the kids prefer nectarines. I think... might wait and get nectarines instead.*
- *Oh yuk... where are the gourmet tomatoes... oh they're down there.*

Varietal preference

- *Get a cucumber... I like Lebanese ones best, but I only buy one at a time because they go off too quickly.*
- *Just looking for the oranges... and they're Australian... I only buy Australian ones... I don't buy American oranges.*
- *I'll have a small capsicum... It's got to be green... Green are always cheaper and green keep longer... Uhm.*

Package or size preference

- *Oh I need some onions... so I'll just get a few of these too... I've got to get these because I can pick them... sometimes the ones in the bag, there's a few funny ones, you know, unless I'm doing a lot of cooking... and you get those bagged ones and by the time you get to the end of the ones in the bag they've all gone off... so onions.*
- *Mandarines look nice today... I like small mandarines because Anita doesn't waste half of them.*

Figure 8.4 Non-price choices: varietal and specific attribute preferences

Both preferences in relation to packaging were expressed by the same subject. Her preference emanates from a concern over the risk of wastage and her uncertainty over the quality of packaged products. In the final example, the subject was attracted to the product because it was consistent with her usage requirement.

Similar to preference-based choices are those where two or more varieties or alternatives are investigated (product comparisons (6)). The difference between these and the earlier processes is that, in the former, attention was focused on the preferred product or item. In the first two examples of Figure 8.5 choice follows an initial investigation of the possibilities but ,in the last example, comparison was a consequence of unacceptable

quality. Both these sequences of comparison were depicted in the model outlined in Chapter 5.

- *Apples... Just take a look around here... I'll go for the Delicious apples... they look good...they're shiny and round and... a bit big... go for the smaller ones... few at home... smell good.*
- *And onions... brown onions look better than the white onions... go for medium sized ones... one two three four five... that'll do... Amy and Catherine hate onions.*
- *And I'm going to get some apples because I want to stew some apples for Alberto's dinners because I never make him dessert so I thought he deserves something but... um apples are really good to stew... Although these are not very nice because they're the dregs of the basket... so maybe I'll move over to the Delicious apples and get some of them... okay they're fine.*

Figure 8.5 Non-price choices: comparison across alternatives

While the response to unsatisfactory quality in the final example above was to look for alternatives, this is not always possible. Further, the product desired may be quite specific. In Figure 8.6 are outlined alternative responses to unsatisfactory quality. These comprised 4.5 per cent of non-price choices, and in the majority of instances (5) subjects' concern over the consumption outcome was overridden by their need. In another three instances no purchase was made, as in the final example of Figure 8.6.

Need overrides quality or quantity concerns

I think I am nearly out of potatoes... where are the unwashed potatoes... loose unwashed potatoes... you mean I'm going to have to buy them in a packet...
look there are no loose unwashed potatoes... (laughter)... oh I think I'll buy a bag of them... there's a few too many... but anyway that'll do.

Where are your little carrots Andy... no little carrots, just those ones... oh have to grow big teeth then won't we.

Watermelon... my daughter loves watermelon... get some watermelon for her... they don't look particularly good though... they look rather pasty and grainy.

Unacceptable quality - no purchase

Might have a few blood plums for the journey tomorrow..., because they look nice... quite juicy... The only problem is the fruit flies are really bad... It isn't conducive to making you want to purchase them... Yuk, that ones revolting... I might change my mind on those plums actually... They're not very nice... I think I will give them a miss... Never mind.

Figure 8.6 Non-price choices: quality uncertainty

The final non-price processes to be examined are those in connection with a 'favourite' or 'treat', which were quite prominent among non-price choices (30, 16.9 per cent). Despite the apparent simplicity of the category, there were various contexts in which a product could be considered a 'favourite' or 'treat'. The most obvious were where subjects made explicit reference to the product's appeal to them (12). However, purchases for another household member were also associated with that member's particular liking for a product (14). In each of the first five examples provided in Figure 8.7, the emphasis is on the pleasure derived from a product, or its unquestionable position in the household diet. Four further choices were also included

A favourite or treat

- *Apricots, I'll get some because I love them... Uhm... They're pretty small... but I don't care... I really like them... Just pick it all up.*
- *Mangoes... oh they look a nice size... Bit marked but smell good... Well I think I'll get two anyway because... I like them so much and they won't be in season too much longer.*
- *I just love all that stone fruit though... maybe I haven't finished... I might just get a... I've relented and decided to get two apricots.*
- *So I might get some bananas for Simon my flatmate because he always needs bananas... They don't look very good... Slightly green, because he's got a couple left.*
- *We always buy mushrooms... husband has mushrooms for breakfast and for dinner... and these look nice mushrooms today.*

Complementary product

- *And... passionfruit... I'll get two passionfruit... and I'll probably use those with the strawberries in the smoothies.*

Variety-seeking

- *Yeah.. .um... I think I have quite a boring pantry... I'll go for some kiwi fruit... they look lovely... uh I... yeah I avoid the bruised ones... one two three four five.*
- *Okay... now... need some change in some fruit so... let's see... kiwi fruit aren't too bad... ooh I hate that... squashed... I think that's enough... quite a few squishy ones in there... .I think that's enough... I'm not going to argue with.*

Figure 8.7 Non-price choices: favourites or treats

in this sub-category, although there was no direct mention of their being a 'favourite' or 'treat'. In one case the product was purchased as a complement to another product and, in the three remaining, choice was prompted by a desire for something different. The latter is of particular interest in relation to the affects of variety-seeking on attention to prices. On the face of the verbal report, price was not an issue in these deliberate efforts to seek variety.

8.5.2 Price awareness in non-price choices

By implication, and on the evidence of the verbal reports, non-price choices indicate an absence of sensitivity in the purchase of a particular product. However, this was not in fact the case in all instances. Outlined in Table 8.7 are the recall data for the sub-sample of 14 subjects who completed the formal post-shopping questionnaires. For each non-price process the number of accurate recalls (defined as 95 per cent or higher) is indicated as a percentage of the total recalls collected on the process. Although the frequencies are too small to make definitive statements, there are trends which are of interest.

In 20.4 per cent of processes price was accurately recalled. Recall was lowest for 'simple acceptance' (7.14 per cent) and where the product was purchased to fulfil a need (6.25 per cent), and higher for quality evaluations, uncertainty over quality and product comparisons (25.8, 66.6, and 50.0 per cent).

On the basis of subject category, those classified as 'neither' had the highest percentage of accurate recalls (34.1 per cent). The price insensitive groups were the lowest (8.6 and 11.1 per cent) as would be expected.

A pattern which is apparent across choice processes is higher recall where the process is more involved. Thus, 'simple acceptance' which implies minimal cognitive effort is substantially lower than product comparisons which require higher cognitive effort. While for some processes there was no indication as to why the subject was able to recall the product's price, other protocols do provide some clues. For example;

Now in terms of bananas I like to get ones that are green because I know they'll go yellow almost straight away... here's a good bunch which are quite green... we get a lot of bananas because the kids love them... good snack... I might get a couple of ones that are quite ready to eat all ready... just a few... probably by tomorrow these'll be ripe... let's have a look... ***I love the Banana Man because you know it's the...the bananas are so cheap...*** *that's a good bunch... okay that's the bananas... I'll stick them under here.*

Table 8.7 Non-price choices: number of accurate price recalls for the 14-subject sample

Process by subject category (no.)	Simple acceptance	Favourite or treat	Quality evaluation	Need for a product	Product compared	Preferred attribute or variety	Question over quality	Total
	Recall / Total	Recall / Total	Recall / Total	Recall / Total	Recall / Total	Recall / Total	Recall / Total	
Price indifferent (2)	1 / 10	- / 6	2 / 11	- / 3	-	- / 4	- / 1	3 / 35 (8.6)
Price-based (2)	- / 1	-	1 / 2	- / 1	-	-	-	1 / 4 (25.0)
Neither (6)	- / 2	4 / 10	4 / 12	1 / 7	2 / 3	2 / 6	1 / 1	14 / 41 (34.1)
Reasonably price sensitive (1)	-	-	- / 1	-	-	- / 1	-	- / 2 (0.0)
Reasonably price insensitive (2)	- / 1	- / 1	1 / 6	- / 5	- / 1	- / 3	1 / 1	2 / 18 (11.1)
Total / All (percent)	1 / 14 *(7.14)*	4 / 17 *(23.5)*	8 / 32 *(25.8)*	1 / 16 *(6.25)*	2 / 4 *(50.0)*	2 / 14 *(15.4)*	2 / 3 *(66.6)*	20 / 100 *(20.4)*

Although not articulated, the relevance of price is clearly evident in this process. The implicit reference to price was even clearer in other contexts. For example, in Figure 8.4 was illustrated the incidence of a price-based strategy for choosing a particular variety of capsicum. Experience had taught this subject that 'green' capsicums were cheaper than other varieties. The process outlined below also hints at the relevance of price in the subject's choice. The context is 'a treat or favourite'. Her use of 'treat' suggests she may have been aware that the product is higher-priced.

> *Um.. .and I think I might get a treat this week and get a tangelo... don't need another bag... tangelos I'm not very good at guessing either... feels quite good.*

Although 12 of the 14 subjects recalled the price of at least one non-price choice, in four cases the price of several choices was recalled accurately. The consequence of this for Subject 15, who recalled four prices, was to increase her price sensitivity (as measured by the percentage of price-featured choices to total choices) from 54.5 per cent to 90.9 per cent. Thus, she was more appropriately classified as highly price sensitive. Subject 15's self-report of price consciousness was 4.57 which is high when compared against the group mean (3.88). Further, her record of visual price checks during observations was substantially greater than indicated by her verbalising (a total of ten price checks).

A similar pattern was apparent among the remaining three subjects. Subject 22 made general references to cheapness in four of his non-price processes, but did not refer explicitly to price. Subjects 21 and 12 (three recalls each) made no allusions to price/cost at all. In only one instance each did their behaviour suggest they were checking price. Unlike Subject 15, their price-sensitivity categorisation did not change if these processes were interpreted as price-based choices.

In addition to instances of accurate price recall, there were also four occasions on which subjects perceived they had purchased an item on special, but they could not accurately recall the price. In each case the product was purchased from a 'bin' or end-of-aisle display, both of which commonly indicate a discount or promotion. Thus, they can be used (albeit unreliably) as a proxy for well-priced produce.

Although the preceding examination of several processes has revealed why certain subjects had been able to recall prices and specials, there remain others where no

explanation for their recall is apparent. The presence of price recall in the absence of verbalising raises several issues which are of interest to the nature of choice processes and to methodology; particularly to verbal protocol analysis. However, their discussion is left to Chapter 9 where issues arising from the methods employed in this research are discussed in general.

8.5.3 An overview of non-price choices

The principal aim in examining non-price processes was to determine whether the absence of price in these choices could be attributed to a particular factor(s). Although the preceding discussion indicates that price was attended to in some choices, in the majority of instances price clearly did not enter the process. Among these there appear to be two areas which have the potential to explain the absence of price. The first stems from the subjects themselves. Relatively price insensitive subjects had the highest proportion of non-price choices, and were particularly prevalent in the 'simple acceptance' and 'quality evaluation' categories. The second stems from the nature of several processes. Non-price choices were relatively evenly distributed across groups where there was a specific need, a product was considered a favourite or a novelty, or the subject held a particular preference for a product attribute or variety. Each of these states suggests the product possesses attributes or qualities which are perceived to be specific to it. Thus, the absence of price references in these processes is consistent with the general evidence on lower-levels of price sensitivity in the presence of specific features (Chapters 2 and 4). Of interest when examining the price-based choices is the manner in which price enters, and is responded to, in the counterparts of these processes.

8.6 Price-featured choices

In the discussion of non-price choices the focus was principally on the motives for choice and the occurrence of different choice processes (eg product comparisons). While these are still relevant to the examination of price-featured processes, the primary objective is to determine the role price plays in choice. To this end, the categorisation of these processes differs somewhat to that of non-price choices (as did this aspect of the coding scheme).

A total of six categories were used to analyse the processes: response to an unfavourable, favourable or neutral price; processes which indicate uncertainty over quality or variety-

seeking, and processes which incorporate comparisons. The occurrence of each process is listed in Table 8.8. Under these general headings are the codes which they encompass.

The most common category comprised processes where subjects commented that the price was favourable (33.3 per cent). The frequency of this category is relatively high across all subject types, which suggests that most consumers do attend to price discounts or promotions (in Phase 2, price recall was significantly higher for specials than for non-specials). References to an unfavourable/unacceptable price totalled 22.4 per cent of all price-featured choices, and had a higher frequency for subjects who exhibited price sensitivity (25.8 and 31.0 per cent). Simple references to price with no evaluation are more common among the less price sensitive subjects, and contributed 17.7 per cent of non-price processes.

The remaining categories concentrate on specific aspects of behaviour. The incidence of *articulated* variety-seeking was fairly low (4.8 per cent). However, a number of the processes which indicate the product as a treat or favourite may be viewed as a wish for an alternative form of sensory stimulation. Hence, variety-seeking or novelty may be understated in this percentage. Processes where uncertainty over quality was a feature were also relatively uncommon, comprising 5.4 per cent of total processes. Finally, the incidence of product comparisons is substantially higher than it was for non-price choices, at 16.3 per cent, which suggests price may be a key factor in comparisons.

In the following sections, the type and frequency of specific price-featured processes is outlined under the general headings established above. Where relevant, the results are discussed with reference to the specific propositions outlined in Chapters 4 and 5.

8.6.1 Unfavourable / unacceptable price

Among the processes which featured a reference to an unfavourable/unacceptable price, the most common responses were: to reduce quantity (25.0 per cent), to extend search to other alternatives or locations (31.3 per cent), or to override price concerns (31.3 per cent). In only three instances was a product rejected outright. Two of these were in response to an unfamiliar price, or the absence of a price sticker, and one was a reversal of an initial intention to purchase. These decisions are included in choice categories rather than in the price-elimination category because there was a clear intention to purchase prior

Table 8.8 Summaries for Price-featured choice processes

	Unfavourable price	Favourable price	Neutral price	Uncertainty over product quality	Variation sought in diet	Comparison of alternatives	Total
Subject group by protocol codes	C1-8, 23,26,30	C9-11, 27, 31,32,36,38	C33,34,37, E?	C34-35	C20-21	C12-13, 40-41	Total
Price-indifferent	-	1 *(100)*	-	-	-	-	1 *(0.7)*
Price-based	8 *(25.8)*	16 *(51.6)*	2 *(6.5)*	-	1 *(3.2)*	4 *(12.9)*	31 *(21.1)*
Neither	15 *(20.0)*	19 *(25.3)*	15 *(20.0)*	6 *(8.0)*	5 *(6.7)*	15 *(20.0)*	75 *(51.4)*
Reasonably price sensitive	9 *(31.0)*	9 *(31.0)*	4 *(13.8)*	2 *(6.9)*	1 *(3.4)*	4 *(13.8)*	29 *(19.7)*
Reasonably price insensitive	1 *(9.1)*	4 *(36.4)*	5 *(45.5)*	-	-	1 *(9.1)*	11 *(7.5)*
Total	33 *(22.4)*	49 *(33.3)*	26 *(17.7)*	8 *(5.4)*	7 *(4.8)*	24 *(16.3)*	147

to the product's rejection. Among the price-elimination statements intention is not made clear. The product may never have been a serious contender for inclusion in the subjects' shopping (see Section 8.5).

Quantity-based responses

Proposition P7 in Chapter 4 states that consumers more frequently respond to an unfavourable price by reducing the quantity of their purchase than by substituting or deferring purchase. The context in which this proposition was made is where the consumer has a preferred product. or there are few/no evident substitutes. A closer examination of the responses related to quantity-based responses provides tentative support for this proposition.

Quantity reduction or constraint tended to occur with products such as broccoli, squash, lemons and bananas. In most cases only one variety was on offer, and where other varieties were available they were higher priced. For example, the available substitute for common bananas are Sugar or Finger bananas. These have a distinct taste and are generally priced at around $4.00 per kilogram, as opposed to $2.00 to $3.00 per kilogram for normal bananas. In Figure 8.8 several examples of quantity restraint in response to an unfavourable price are illustrated. In the first two examples quantity is modified following

Quantity constrained or reduced

- *Now, broccoli... I like the ones with very short stems... and the smaller ones because they weigh lighter... and they look like they're the younger end of the broccoli... So two small bunches are better than a huge one... because I cut the stems off ... because I don't like them... That will do because they don't keep too well... Holy dooley! Broccoli is a bit dear... I might just have one today... because I've got a piece in the fridge... $4.99 a kilo! Phew.*

- *Get some broccoli... uh...I like to get the fresh... reasonably fresh... even ones with a bit bluish looking because they're the... they tend to be the fresher ones... $2.49... oh $3.99... I'll just get a couple.*

- *And I'll get some gold squash...look at the price of gold squash...I said look at the price of gold squash...bloody gold all right, we'll get about one each...that'll do.*

- *Pears... would you like some pears... he loves pears don't you... a bit dear though... well I'll buy you a couple okay.*

Figure 8.8 Response to an unfavourable price: quantity constrained or reduced

an initial intention to purchase. The first example also illustrates a common choice strategy, one employed particularly by that subject but which is also present across several subjects. The strategy is one which optimises the 'value' of the purchase by carefully selecting items with the desired attributes, in this case the least stalk and the smallest (lightest). The final two examples are typical of the other form of process in which quantity is reduced or constrained. Here, price is determined *first* and the decision to constrain quantity made prior to selection.

Extended search of alternatives or options

The frequency of extended search in response to an unfavourable price was generally associated with an awareness of alternative options either within the shop or at another location.

Where another option was sought within the shop, the products were those with a number of varieties available—apples, tomatoes or onions. However, in one instance substitution occurred between a lime and a lemon (see Figure 8.9). An aspect to note in relation to this process is that, while a lemon may be considered as a substitute for a lime, rarely are comparisons made in reverse[6]. Limes are not commonly used and not always available, they are usually more expensive (given size) than lemons, and they have a distinct flavour. Hence, they are not readily evoked as a substitute. Further, consumers generally use lemons in small quantities and so are less concerned over price; in Phase 2, price recall of lemons was 0.22 (n=23) compared to the grand mean for fruits of 0.55 (n=314). The subject who articulated this process purchased a high number of 'exotic' products (snow peas, bok choy and Nashi fruit). He also had a specific preference for limes, but was shocked by the unexpected price change and found the quality unsatisfactory given the price.

An unexpected change in price was also the impetus for search in three further instances. However, in each of these the options considered are alternative varieties (see the next two examples in Figure 8.9). The decision in the third example was made in the context of a general search for apples. The subject normally purchased 'bin specials'. However, the shop had run out of this stock. Among the potential alternatives were higher-priced

[6] In six of the nine purchases of lemons, price was either ignored or considered unimportant.

Alternative products

- *And I'm almost out of limes which last week were only 10 cents each and this week...ooh, 25 cents... ooh they're rotten, yuk... but...what are those...are those limes as well...lemonade...no... well since the limes are two and a half times as much as they were last week and a bit rotten I think I might think of lemons... lemons...ooh quite nice...a bit sort of squashy but...$3.19... mmm well I think I'll get lemons this week and wait for the limes to go back to 10 cents each... two lemons just to tide me over until the limes come back.*

- *Um... onions... They're more expensive than usual... I'll see what the bagged ones are like.*

- *And apples... red or green... might go for the red... on other though... there's a big difference in price... that's not real is it... I think I'll go for the Granny Smiths this week... I didn't think that $6.99 a kilo was quite appropriate for a couple of red apples... a couple of Granny Smiths.*

- *What I'll probably do is actually enquire as to whether I can get some of the cheaper apples because these all look fantastic.*

- *Ooh we need some tomatoes don't we... how much are the ordinary tomatoes... can't see a price for them... can you see a price for them... never mind we'll keep going... there's some more up here*

Alternative locations

- *Mushrooms are cheaper in Woolies... so I'll get them when I do my normal shopping.*

- *They don't have any loose chats... they've only got bagged ones... I don't think I want bagged ones... they're 65 cents a kilo unbagged at (Woolies)... we'll go there.*

Figure 8.9 Response to an unfavourable price: alternative products or location

apples which she rarely considered. Thus the apples to which she refers are generally not within the set of apple-alternatives she would normally consider purchasing.

In the final example, where alternatives were sought within the shop, the subject could not find the price of the product, but abandons her search because there are other alternatives available. Unlike the earlier examples the problem is not an unacceptable price, but her inability to determine its acceptability. She avoids the risk associated with purchasing the product at an unknown price, or the effort required to determine its price, by moving to an alternative.

In addition to seeking alternatives within the shop, in five instances subjects' response to an unfavourable price was an intention to purchase the product at another location; two of these are shown as the final examples in Figure 8.9. The alternative sought is essentially

the same product (variety) and emanates from subjects' awareness of prices at other locations. Although in undertaking this action they are taking a risk that the quality at the other location will be unacceptable, there is no reference to this possibility. Not surprisingly, all three subjects articulating these processes were price sensitive.

Concerns over an unfavourable price overridden

The final common response to an unfavourable price was to purchase the product despite concerns over price. Examples of each process are outlined in Figure 8.10.

A number of the products which were the subject of these processes are similar to those in which the response was to reduce or constrain quantity. That is, they were products with no perceived, ready substitutes. However, there were further mitigating factors which caused subjects to remain with their initial purchase intention.

In two instances, concerns over price were allayed by the small quantity of the purchase and, in a further three, subjects expressed a strong desire for the product which overrode concerns with price. For three cases the product was a necessary purchase, either for a specific occasion or because it was considered central to the subject's diet. The final two examples in Figure 8.10 were ones in which quality was considered sufficient to ignore concerns with the price. In the second of these the subject was unable to locate the price. She explained later that beans were a favourite of the family but, since they consumed them in their raw state, quality was extremely important.

Product rejected

Of all possible responses to an unfavourable price, only three resulted in no purchase whatsoever. Two of these were a consequence of unfamiliar pricing or the absence of a price sticker. In the first example in Figure 8.11 unfamiliar pricing prompts a decision to search for additional information. An aspect of interest is the subject's concern over wastage due to the uncertainty of consumption. Given this uncertainty, price takes on a central role. Implicit is a decision rule where an 'acceptable price' is defined in terms of product attributes *and* wastage. Despite her intentions, the subject appeared to forget her search and no purchase was made. In the second example the subject simply rejects the purchase. This subject was also highly price sensitive, whereas the former was categorised as 'neither'.

Small Quantity

- *Oh, I'll have a lemon... I like to keep a lemon... Have one that's a bit on the green side... and then it might keep longer... How much are they? ... Ooh they're dear... but that won't weigh too much.*

Specific desire

- *Now, avocadoes I need... Hm bit dear... $1.99 is too dear for me... but I want one... see if I can find a really big one... No... No, that's starting to go... I'm looking for one that's not too dark because I don't like it too ripe... I want one that looks perfect... That's a bit darker... but it's not quite ripe... That'll do... I succumbed to an avocado... It was too dear for me but I did it.*

Specific need

- *Oranges. They're dear... but we have them every day for breakfast.*
- *Well I need a lemon... I'll make some - make some Sangria on the weekend... One lemon. Pretty expensive... $2.50 a kilo though.*

Quality sufficient

- *Okay... Bananas $2.99 is probably a bit dear but they look okay.*
- *Um just trying to find a price for the beans... snake beans... broad beans... no it doesn't seem to have a price... I'll get some any how because they're fresh... pretty fresh looking.*

Figure 8.10 Response to an unfavourable price: price concerns overridden

Unfamiliar or unavailable price

- *Rockmelon... well... that's priced by the kilo... not the ah... not... the melon... so I might have to check the weight on that... because generally rockmelon sits and goes off in the fridge.*
- *Pineapples... they don't say how much they are so I can't... won't buy a pineapple.*

Decision to purchase overturned

- *But I'll get nectarines because I know Rob really likes those... They're probably going to be hard... No I won't get them because they are too expensive.*

Figure 8.11 Response to an unfavourable price: no purchase

The final example is one of two in which a decision to purchase was overturned because of an unacceptable price. Of all non-purchases (31) in the choice categories, these decisions were the only ones based solely on price. In the remaining cases quality was the determinant attribute.

A further feature of this particular decision is the intention to purchase for another household member. Noted earlier was that in categorising price-featured choices, precedence was given to the role of price in the process, rather than on the intention of the purchase, as was the case in the non-price based choices discussed in Section 8.5. An examination of all price-featured choices revealed only two further instances where explicit mention was made that the purchase was for, or primarily for, another household member and was a particular favourite. In both cases the response was to limit quantity.

Summary

The pattern of responses to an unfavourable price which emerge from the above examples is one in which both the subjects' predisposition to price sensitivity and the context of purchases are influential. A willingness for extended search effort to gain a better price was prevalent among the more price conscious consumers. These subjects also exhibited a particularly high awareness of the prices available at alternative locations.

In relation to context, the preceding results provide tentative support for several of the propositions outlined in Chapter 4. Where similarities were perceived or options were available the response to an unfavourable price was to seek alternatives (P1). However, where subjects had a specific preference for a product or alternatives were not readily available the tendency was to override price concerns (P2), or to reduce the quantity purchased (P7).

8.6.2 Behaviour in response to favourable prices

Of all price-featured choices, reference to a favourable price was the most frequent (33.3 per cent). The relatively high representation of this sub-category is consistent with the results of Phase 2 where high recall was associated with a special, which suggests that price is attended to more often when a favourable price is encountered. Within the category the most common processes were: quality/price evaluations (34.7 per cent), a reference to price-only followed by a purchase (20.4 per cent), a rejection of the product on quality (18.4 per cent), and a decision to increase quantity (16.3 per cent).

Price as the central feature

An aspect of interest is the extent to which the favourable price prompted purchases. Among the subjects who responded to the post-shopping questionnaires, in at least 45.2

per cent of processes the product had not been an intended purchase. It is also possible that intention to purchase is overstated for the *particular* product purchased, since some subjects interpreted 'intention' to mean that they had wanted to buy something in that sub-category (for example, 'greens'). Two explicit instances where price prompted a purchase are given in Figure 8.12. A central feature of these processes is that the relatively low price causes the subjects to consider how they might use the product. The second example, in particular, illustrates a bottom-up process to arrive at a decision.

With the exception of 'variety-seeking' the percentage of unintended purchases is substantially higher than for other categories in price-featured choices. For products where the price was perceived as unfavourable, only 28.6 per cent were unintended, and for neutral statements of price, 33.3 per cent. It would appear, then, that price played an instrumental role in a number of these purchases.

Price prompts consideration of uses for the product

Snow peas...oh quite reasonably cheap snow peas... and snow peas have the great advantage that you can either have them in a salad or just steam them lightly...snow peas.

Um, strawberries are $2... Do I want strawberries... what will I do with them... When will I eat them?... Um, oh I could get some to use for smoothies or something

Price-only references

Um tomatoes... tomatoes are the same price here as at Coles so we'll get them here... just a few because that's nice for lunch mmm... they're all a bit soft... that's the only problem... have to go back to growing my own... that one smells nice... get a couple I think... not very many... I'm not a big tomato eater.

Well first of all we'll take some of these because these are on special...[onions]

Well zucchini are a good price... Just get a couple of those.

Figure 8.12 Price-based choices: impulse purchases and price-only references

Also illustrated in Figure 8.12 are instances where subjects purchased the product solely on price, with no overall evaluation of its quality. In virtually all remaining processes both price and quality were evaluated. Despite the absence of overall quality evaluations in the former, it is not possible to conclude that quality was irrelevant to their choice. The array of product on display was clearly examined, although not verbalised, by a number of subjects, and in some cases reference was made to preferred attributes. Further, one

subject accounts for three of the ten processes, suggesting that individual differences are a factor in the category.

Quantity increased

Another common response to a favourable price which was noted above was for the subject to increase the quantity they had intended to purchase. Adjustments in quantity were also prevalent where the price was unfavourable. In the examples of quantity adjustments outlined in Figure 8.13, subjects are taking advantage of a low price to stock a product, or to indulge in a favourite.

Quantity increased

Oh grapes $1.29 a kilo... I can get a heap of them... The kids love them... I'd better take one and see if they're seedless... Definitely, beautiful... So cheap... I can have a lot of them... That was a bit of a diversion.

Carrots for juicing... They're really cheap so I'll get a lot... It doesn't matter what they look like because they're for juice.

Oh Nashi pears only $1.99... oh well... most of them aren't quite ripe yet but might as well stock up on them... get some to be going on with... ooh that is cheap... and by the time I've finished the grapes and the one Nashi pear and the two apples these will be ripe...

Figure 8.13 Price-based choices: quantity increased.

The evaluation of quality and price

Although evaluation of quality was prevalent in processes where price was considered unfavourable, in most the product was dismissed on the basis of price prior to a full consideration of quality. This was not the case where price was perceived as favourable. In this category, quality evaluation is a prominent feature in most processes. Proposition P4a in Chapter 4 stated that quality is a salient attribute in most choices because it can be highly variable for most fruits and vegetables. Given the prevalence of quality-related evaluations in these, and the non-price processes, there is substantial support for this proposition. Proposition P4b posits further that, 'where fruits and vegetables are quality inconsistent, consumers evaluate quality and price against separate benchmarks prior to determining the overall value of the product'. With the possible exception of two processes, quality and price evaluations were conducted in a manner consistent with this

proposition. That is, first one's, then the other's acceptability is established, with the sequence depending on which first catches the subject's eye. Typical processes are illustrated in Figure 8.14. In these the evaluations are broad; price is stated as 'good' or

Price and quality evaluation

- *Ooh what's over here?... Well they look nice... Nectarines, they're a pretty good price... I'll have a couple of those.*
- *Right, well I'm thinking I want to get some nectarines so... they're quite a good price... they look nice so I'll get some, because these I also have for my lunch, so...[attribute search]*
- *And some butternut pumpkin... It's good and cheap.*
- *Get some.. couple of tomatoes... oh no... oh yeah I'll get some bigger tomatoes to slice... $1.29 a kilo... that's pretty good for this time of the year... get some... like the red ones... deeper red ones for cooking... and one more... bruised... bit soft.*
- *And... I only buy cauliflower when it's reasonably cheap and it looks nice... and it looks nice so I'm going to get a cauliflower because everybody else loves cauliflower... some cauliflower... on special are they... yeah... that looks pretty good... I'll get one... that's a nice one.*
- *Nectarines... A good buy well hidden... $2.99 a kilo... Very ripe... Ready to eat... So what have we got?.. About six or eight of those... $3 a kilo.*

Price/quality interaction

- *Oranges, not even on here, 95c... but the quality looks a bit dodgy... Oh no, they're okay... but for 95c you are trading off quality for price here, because they're second grade oranges... But that's okay because the majority will go to Jack's school, and that's Monday Tuesday and Wednesday... And because I'm not directly consuming them, second grade oranges are fine.*
- *Egg tomatoes... They look reasonable for 65 cents a kilo.*

No purchase because quality unacceptable

- *The rockmelons are too green even though they're a good price.*
- *The grapes look good and cheap... They look good from the outside, not from the inside... Okay, red and green are the same... But there's little things flying around.*

Figure 8.14 Price-based choices: price and quality evaluations and outcomes

'cheap', and quality determined as 'not bad', 'nice' or in conjunction with specific attributes. In the fourth example, an awareness is articulated that prices and quality may be subject to seasonal variation. Price is evaluated according to the subject's perceptions

of what a 'reasonable' price is for the product at this time of year. Awareness of the effects of seasonal factors on price and quality was present in a number of processes and eliminations.

The two processes which can be perceived as possible exceptions to Proposition 4b are the examples under 'price/quality interactions' in Figure 8.14. In the first example the subject assesses the quality relative to the price (which is on special). In the second process quality is traded for price. Both, however, are coarse in their references.

Finally, despite a favourable impression of price, in 18.4 per cent of cases the product was not purchased because the quality was considered unacceptable.

Summary

The preceding discussion highlights the responsiveness of subjects to a favourable or 'special' price. However, it is also apparent that quality is a key issue in their choices, and a favourable price will be substantially discounted if quality is considered unacceptable or marginal. As with responses to 'an unfavourable' price, quantity adjustments are quite frequent indicating this aspect as a significant feature of shopping for fruits and vegetables. The examples outlined also signal some support for Propositions P4a and P4b; in the purchase of fruits and vegetables quality is a key issue and generally evaluated distinct from price prior to an overall assessment of value.

8.6.3 Product comparisons

Comparisons across products were conducted in 16.3 per cent (24) of choice processes and, as with non-price comparisons, they were most frequent for tomatoes, potatoes, onions and apples. Together these products comprised 63 per cent (15) of comparisons.

Illustrations of different comparison processes are provided in Figure 8.15. With the exception of one process, all comparisons were made between different varieties (or packaging) of the same product. Only 50 per cent of subjects made comparisons, and one

Optimising value

- *Ah potatoes... they look like this season's... Uh two kilo bags... Two kilos are $3.99... Four kilos - yes... and I want brushed potatoes because they keep longer... and also there is twice as many potatoes for half the price.*
- *Um, brown onions... let's see... white onions, no... brown onions keep longer... $1.49 a kilo unpacked... 1.5 for $2.69... that's... a kilo and a half $1.50 plus 70... hm... they're dearer if they're packed, so I'll get the unpacked...*

Take, or remain with, preferred quality

- *Want some capsicum... what price... I virtually never look at price until I get to something that I think that's of equal quality... green... yellow... the same... red... gosh they're all the same for once... usually red are very expensive... red looks nicer in the meal... see if it's nice quality... whether they're nice and crunchy... yeah that's a nice and crunchy one.*
- *I'm just at the moment trying to compare prices... but I can't see the price... I think I'll take these nectarines... they look better... these are nice, that's too soft, but..*
- *And a couple of pears... [What are you thinking?]... oh yeah right... um the same... the...the Bosc pears are the same price as the Packham pears... so it doesn't really matter which... and since I bought these last time... I might get a few of these.....*

Price traded for quality

- *Uhm... apples... there were apples out the front I think... What were they?.. $2.40 a kilo ... or $2.95... I think I'll get the bigger ones... They're just a bit too small I think.*
- *Oh there's cheaper mangoes... Ooh they smell better too... They're much smaller... Um, though the pips always bigger in the little ones... so I'll stick with the larger ones*

Take lower price

- *Apples... $4 a kilogram for Granny Smith's... That's far too expensive... And Delicious at $2 a kilogram... They're the go... Get about a kilogram of these... Not top quality apples either... They're too soft.*
- *$12.99 for salad mix... I think we'll just have a lettuce... Which is... Yeah, $1.49.*
- *Broccoli $2.90... cabbage $1.80 cut... caulies $1.40... it's usually either broccoli or zucchini... what's zucchini $2.99... quite expensive really... think I'll stick with the caulie... not too much...it's just for Sue and I... the kids don't eat caulie...*

Quality traded for price

- *So much for the bargain tomatoes... They're not even seconds, they're thirds... Two bucks a kilo and they're awful... What about the packed ones?.. $2.99 a kilo... $1.99... Mm. Oh well... I'll get about three or four decent ones out of the two dollars... Two. Two.*

Figure 8.15 Illustrations of product comparisons.

of these was responsible for five processes. This subject explained she only checked the prices of those products where she perceived there to be a number of equally-acceptable alternatives (see the third example in Figure 8.15), a behaviour which is consistent with Proposition P1 in Chapter 4 (consumers are more sensitive when products are perceived as similar).

The outcomes of comparisons were approximately equally divided between choosing the alternative with the better price or value per dollar (58.3 per cent), and with taking or remaining with the preferred quality (41.7 per cent). There was no indication that subjects classified as relatively price sensitive favoured price over quality in their decisions. Where *price* was the determinant attribute in choice the price of alternatives generally differed, in most instances quite significantly. This was not necessarily the case where *quality* was the determinant attribute. In a number of instances the price of alternatives was the same. Two subjects took this opportunity to purchase a variety that they had not consumed for a while (see examples three and five in Figure 8.15). In another instance the price of an alternative was not readily apparent and the subject settled for quality rather than continuing their search (example four in Figure 8.15). Where price was subsumed in the choice process, it was either because a subject had a specific preference for a variety or the quality attributes of one product were perceived to be more desirable than those of the other(s).

Among the more complex comparisons were those where the subject attempted to optimise the perceived value of their purchases. Two subjects contributed to these processes, and both were categorised as being reasonably price sensitive. Both also had a tendency to engage in extensive search through displays to identify the best items among the array on offer. The two examples of attempts to optimise which are outlined in Figure 8.15 were articulated by one of the two subjects. In the second example the process is quite elaborate and is one of the few which involve a careful calculation of the relative value of each option. The process comprises an initial elimination on preference, identification of the price of alternatives, and a calculation of the difference between alternatives on dollar per kilogram.

Similarity and substitution

Despite the presence of negative references to an option's price, in none of the processes outlined in Figure 8.15 could it be said that a negative reaction to one alternative prompted an examination of another, which is the essence of Proposition P2 in Chapter 4. In all examples the process is one of investigating available alternatives and determining the best 'value for money'. A key feature of the processes is that subjects perceived the alternatives as providing sufficiently similar consumption outcomes.

The focus on outcomes as opposed to physical characteristics is particularly evident in the final example in, 'Take the lower price' (Figure 8.15). This process involved comparison across several products in what may be described as the 'greens' sub-category. The subject first identifies the set of possible substitutes and chooses the cheapest among alternatives. Comparison across broad categories was actually more common than indicated by individual choice processes. In one of the choice strategies (which preceded a choice process) another subject noted:

> *and then... I always choose between zucchini and broccoli whichever one is the cheapest... although I should have broccoli because that's got more calcium in it... and it looks nice today so I'll get some of both... I'll have one tonight and one tomorrow night.*

The occurrence of comparisons across product sub-groups supports the argument that non-staples are potential substitutes for one another (see Chapter 4). However, while broad categories such as 'greens' might represent a set of possible substitutes, frequently consumers will buy several products within this category, as did this subject who eventually bought zucchini, broccoli and cauliflower. As such, non-staples are potential complements as well as substitutes; a point discussed further in Chapter 9.

Comparisons and complexity

The illustrations of comparisons provided in Figure 8.15 are relatively straightforward. However, the process of comparison can be extraordinarily involved, as will be apparent from the examples outlined below. In the first of these the subject went to considerable effort to maximise the value of her purchase. She perceived 'value' to be manifest in the pumpkin with the lowest proportion of seeds to flesh. It should be noted that the seed portion of the pumpkin weighs very little compared with the flesh. Thus the effort of her comparison was not overly rational.

Example 1

Pumpkin... I like some pumpkin... I like fresh pumpkin... I wonder where the butternuts are. oh there's the big ones and there's butternuts... gosh there's a lot... which one... all different sorts...different flavours... they look a bit yellowy butternuts are usually nice... butternuts... now looking at that one I look at the fat side of the side... yes that's a good one...it's got more flesh than it has seed... if I find one the same shape as that I can get more flesh and less seeds... ah...otherwise...the top is the smaller...the seedy bit...the top is...okay...the top is the seedy bit...that's got a small top and a big bottom... I'll give that one a go... yes that's correct...is it...or is that the top... hold on...the tops might be... now I'm confused... ***I want to get good value for money...*** *which way does it go... that one's got it's lump cut off...that's the bottom and the seeds*

are at the bottom... is that the bottom...the seeds are at the bottom... that's not a good one to buy...(laughter)... I wish you hadn't asked me to do this... maybe I'll buy that one that I know... that's firm all the way down...I'll buy that bit... I know I'm getting lots of flesh and not so much seed...

The second example comprises several processes (which have, in part, been outlined earlier) which together represent a search for apples which are within an acceptable price range and quality. In the first instance the subject rejected an option on the basis of quality and discovered that a potential substitute was not available (the bin specials are her regular source of apples). As she proceeded through her shopping she encountered shelf displays of apples which were in the higher quality/price and specialist range. She rejected these but decided to try a Fuji apple for novelty (the example provided earlier). On completing her purchases she asked whether there were any 'bin special' apples left, and on discovering there were none looked to the bagged fruit as a final source. Her final process involved a price comparison between the bagged apples and the apples she had earlier described as 'fantastic' (the Granny Smith at $2.40 and Delicious at $2.95). She eventually settled on purchasing a couple of the Granny Smith apples which she discovered were the cheaper option.

Example 2

First stage: the bin specials

Process 5. *Okay...I would have thought I would have bought some Granny Smith apples... but they look pretty bruised and shabby... so I think I'll leave them...* (rejection on quality)

Process 6. *And there are no Delicious...* (product unavailable)

Second stage: shelf displays

Process 8. *What I'll probably do is actually enquire as to whether I can get some of the cheaper apples because these all look fantastic...* (rejection on price and intention to search for alternatives)

Process 9. *Yeah...Fuji apples... how about I get one of those for a try... I'll pop that there...* (product purchased as a novelty, for variation)

Final stage: completion of purchases

Process 22. *And that's it... I'm going to ask about the apples though...*

Process 23. *[Are there any more apples...the Grannies or the Delicious... there's no more delicious there... thankyou...] eh... no more apples till tomorrow... okay... all right... well I might just check out the bagged ones... right... again they're going to be $2.50 a kilo... and they're $2.95 and $2.40... I might get a couple*

> *of Grannies which are the $2.40 a kilo.. .they're lovely... big...firm... yeah not bruised but just really... yeah they feel like they'll be lovely and juicy...* (comparison across alternatives, take the lowest price)

The entire set of processes in which this subject engaged is driven by a preconception of an acceptable price (in her case between $0.75 to $0.95, which is at the lower end of the range of prices for apples). Price determined which products were included in the consideration set, and it was only in their absence, and following strong resistance, that a compromise was reached to purchase a reduced quantity at an uncomfortable price.

Summary

Despite the small sample size, the behaviours outlined above, together with the comparisons discussed in relation to an unfavourable price (Section 8.7.1), provide tentative support for Propositions P1 and P2. That is, where products are perceived to be similar, *ceterus paribus* subjects are more sensitive to price. However, where a particular preference exists, consumers will generally only turn their attention to alternatives when the price or quality of the preferred product is deemed unacceptable or, as in the above example, the preferred product is unavailable. Since in these situations no search is undertaken prior to selection, it follows that consumers cannot be influenced by price changes in a potential substitute[7].

8.6.4 Risk and choice

In Chapter 4 it was argued that where a consumer perceives a risk associated with a purchase—because of their inability to adequately assess quality, or uncertainty over preparation or timing of use— they will be more sensitive to price. In Section 8.6.1, above, an example was provided where uncertainty over usage was a key factor in the subject's concern over price. Other than this example no processes were categorised under the need uncertainty codes (C24 and C25). However, uncertainty over quality was a feature of eight price-featured choices.

The distinction between unacceptable quality and uncertainty over quality is narrow, particularly where the product is rejected or the quantity is reduced because of this

[7] Note that this does not preclude the situation when a consumer later encounters a potential substitute and revises their choice as exemplified in the mango example in Figure 8.15.

uncertainty. For a process to be categorised under 'uncertainty' there had to be a clear indication that the subject perceived a risk associated with the quality of the product. It is not that the quality is unacceptable—as in the statement: *Strawberries $2.49... No... They don't look fresh,* but that the subject's ability to judge the consumption outcome is uncertain.

In the first two processes in Figure 8.16 subjects rejected, or reduced, their purchase in response to uncertainty over quality. In each example price was at the edge of acceptability. In the first, the product is classified as a 'treat', and price is accepted on that basis, but the quality is considered dubious. In the second example, the subject doubts the quality of the produce and limits her purchase to one item which she thinks might be satisfactory[8].

No purchase or reduced purchase in response to risk

- *Um... strawberries... yes... Sue and I like strawberries... sometimes it's a bit of a treat to have them at night for dessert... this week they're quite expensive at $2.80... so they are a treat... let's have a smell...mm...faint...but there... they're smell...they smell nice actually... look at the bottom of the pack... no bruising...(.....) smell...?? dubious...I don't know... maybe not this week.*

- *got corn at home... 89...oh no...that looks pretty crappy for 89 cents... that one might be all right... take a look inside and see... I'll just get one... I think one will do.*

Uncertainty assuaged by a favourable price

- *The grapes look a bit small and a bit green, but I'll try them because they're only $1.60 a kilo which is the cheapest I've seen.*

- *Bananas are too green... Uhm I'll get a couple... Guess they'll ripen up... but they're very green... and they're very small... but the price is pretty good.*

- *Rockmelons... last time I had one it looked beautifully sweet and then it went horribly bitter in your mouth and you couldn't tell from the outside that that was going to happen... But these are well priced... I'll try that one... I'll give it a burl.*

Figure 8.16 Risk and consumer behaviour

[8] The coding of this process was a point of much discussion between the judges. It was, however, decided to place it in the uncertainty category rather than treat it as a response to unacceptable quality.

In all remaining processes it was apparent that concerns over quality were being countered by a favourable price. The trade-off between consumption risk and price is more readily apparent in these statements, particularly in the last example.

Although there are few processes in this category, they do provide tentative support for the contention that price has a determinant role in choice where risk is a salient feature of a purchase.

8.6.5 Variety-seeking behaviour

The interaction between variety-seeking and price was discussed over several chapters. Across the sample, variety-seeking was made explicit in seven (4.8 per cent) of all price-featured choices. Of these, two decisions to purchase for variation in diet were made with the deliberate intention to ignore the price of the product (see Figure 8.17a). In a further

Price unimportant

- *I'll get the bananas because we haven't had any for a while... and the price doesn't really worry me.*
- *California mandarines... I've never tried them... but we'll try them even though they're dear.*

Favourable statement of price

- *Strawberries... smell them... they've come down in price so they're not too bad... a bit large maybe... might get some for a treat for the girls... yeah they'll like that.*
- *And yellow is unusual... I don't know whether there's a different flavour in the yellow ones but I'd like to try it and see whether there is... I haven't bought them because they've been so expensive compared to the green ones... so I'll buy red and yellow.* [the price of all capsicum was the same]

Neutral statement of price

- *The other nice thing is kiwis to have a change... but they're not always... don't seem too bad... four for $1.20... I might get four.*
- *A nice caulie... how much are the caulies..$1.50.. they're not too bad but they're not terribly great either... oh they're not bad...not too bad... make for a bit of variety...*
- *Cauliflower... I've got to check the price of cauliflower.. .might get one here because I'm hanging out for cauliflower... does that look funny... we'll find one that looks nice will we... ooh yeah right...could be a problem... ooh yuk...bit yucky David... oh that one looks all right... does that one look nice...yes, feels nice... we'll have cauliflower for dinner...with cheese sauce...yum... I don't know why I've been hanging out for that but I have.*

Figure 8.17a Variety-seeking behaviour

two choices the product was purchased because the price was favourable compared to the subject's earlier experience. Reference to price in the remaining processes was either neutral or ambiguous. However, in two of these the ticketed price of the product was lower than average, suggesting that the price was at least acceptable.

Despite these different purchase contexts, there was no clear distinction across subjects between those who ignored price and those who responded to a favourable price.
Together with non-price choices, explicit variety-seeking is only apparent in 10 choice processes. However, this excludes the variety-seeking which appeared implicit in many other processes. Among the non-price choices outlined in Section 8.6.1, products purchased as a treat may be considered to be related to variety-seeking. The purchase of a tangelo and a Fuji fruit were both for novelty. These were also instances where the subjects recalled the price of the product post-purchase, suggesting the purchases were made despite price concerns.

In the price-featured choices, variety-seeking behaviour was evident in two of the comparison processes. In both cases the price of alternative varieties were identical and subjects took the opportunity to purchase a variety which they hadn't consumed for some time (Section 8.7.3). Further examples were the uncertainty over the quality of strawberries which were to be purchased as a treat (Figure 8.16), and where a favourable price prompted the consideration of possible uses for strawberries (Figure 8.12).

Variety-seeking was also evident in subjects' negative responses to products, and in their general comments on shopping habits. In the first example in Figure 8.17b, the consumer dismisses cauliflower because the family had consumed one recently. In the second example the subject expresses an absence of desire for a product.

The processes outlined under 'Comments' in Figure 8.17b illustrate the practice of using visual cues to prompt other consumption options. In some instances this is achieved by deliberately scanning the products on offer following purchase of the basic requirements, as was the case in the first example of these processes. Subsequent to this statement the subject purchased another six products: strawberries, passionfruit, zucchini, cucumber, mushrooms, and broccoli. Strawberries and zucchini were on special, and the remaining were bought in small quantities. The other practice was to purchase options as they were

No desire for a product

- *And um we've just had a cauliflower so I won't worry about getting that.*
- *Um... Ah, I don't really fancy cabbage.*

Comments on shopping behaviour

- *Um... and that should just be the standard sort of things... Now I might look to see if there's anything... ah, that I wouldn't buy regularly.*
- *I'm just looking to see if there's anything else that grabs my eye about what we could eat.*
- *Sometimes I buy rockmelons and pineapples and other more exotic fruits but.*
- *My staple vegetables are beans, Brussel sprouts, carrots, and corn and then any other little ones if they look nice in between.*

Figure 8.17b Variety-seeking behaviour

encountered. Central to all these general statements is the objective of adding variety to their purchases.

Leaving aside the more ambiguous examples, the behaviours illustrated provide some support for Proposition P3 in Chapter 4—that variety-needs can override price concerns. In eight of the 16 examples outlined, purchases were made regardless of price; a number of these as a 'treat'. Clearly, though, consumers are opportunistic, satisfying variety needs through seasonal variation in prices and price promotions.

8.6.6 Neutral price references

The final set of price-featured processes are neutral, or unqualified, references to price; 'normal' or 'reasonable' and '$2.49' or '$1.60'. While in some processes it is possible to surmise that subjects were evaluating price as 'favourable' or 'unfavourable', either this was not made explicit or the price reference appeared to be irrelevant to the actual decision. Consequently, a conservative approach was adopted by categorising them under 'neutral' references. For example, the second process in Figure 8.18 could be interpreted as an unfavourable reference to price, since $4.00 a cauliflower is at the higher end of the price range for this product. However, the focus of the process is on the quality of the product. There is no explicit indication that the purchase is rejected because of price. Similarly, in the first example under 'Purchase- neutral or positive reference to price' the subject comments that the price of lettuce is 'cheap'. Yet this

No purchase

- *And what's over here?.. Oh they're better avocados... $1.60... still too hard I think... Take a few days to ripen up.*
- *$4 for a cauliflower... poor pathetic little things... no, well they haven't really come in to their own yet have they... it's not their time.*
- *Strawberries $2.49... No... They don't look fresh... I think I'll get them from the Berry Patch.*
- *Now pawpaws... I love pawpaw... but these don't look particularly good pawpaws... they're either too green or too bruised... and they're a reasonable price... I'll leave pawpaw... if they're good I wouldn't mind how much they cost... but they're not good enough.*

Purchase - negative reference to price

- *Now, ah it's a good day for mesculin... because Coles New World has extremely bad sloshy mesculin days and it has lovely crisp mesculin days and if you're very careful and pick out the ones you like best, like that one which is my favourite... oh these are lovely... no nasty brown ends on these ones... unfortunately they don't have any radichio in it which resculyn does and they don't have any watercress in it which resculyn normally does... but this isn't too bad... even though it is $12.99 a kilo.*
- *A few mushrooms... they look quite nice... quite expensive for a uni student... mostly... mostly unmarked this week which is... pretty good because often they're quite squishy and marked.*
- *Got to get some beans... beans are expensive too aren't they... $3.99... I suppose that's the right price... beans.*

Purchase - neutral or positive reference to price

- *We need lettuce... lettuce are fairly cheap today... 99 cents.*
- *Always buy a few mushrooms... they're always handy... $4.99 a kilo... a fairly standard price.*
- *Green capsicum, $4 a kilogram... They're not very good quality, but I need capsicum.*
- *Broccoli... broccoli $1.99... looks nice doesn't it... don't like broccoli if it's yellow in the middle... that's not too bad.*
- *$1.20 a bag of capsicums... but how are the capsicums... oh they look all right... think I'll get a bag of them.*
- *And the beans are lovely this week... when I came in last week they were disgusting... $1.99 yeah.*

Figure 8.18 Illustrations of neutral price references

comment has little apparent bearing on her decision to purchase. In 34.6 per cent of neutral references the product was not purchased because the quality was unacceptable.

With the exception of five processes, which were unqualified acceptances, quality is a central feature in all decisions.

The impression left by the processes under this category is that price is essentially acceptable to the subject; whether or not it was viewed in a positive or negative light. Considerations other than price were the primary determinants of choice; most often quality. Overall subjects categorised as 'Neutral' or 'Reasonably price insensitive' had a higher representation in this category than those who were more price sensitive.

8.6.7 Recall and price-based choices

In Section 8.6.1 the incidence of price recalls for non-price choices was discussed. A total of 20 accurate recalls were noted despite an absence of price articulation during the choice processes. Various reasons for this phenomenon were posited, but emphasised was the fact that information which is heeded should, theoretically, be articulated (Ericsson and Simon 1993).

Given that price was articulated in one or another form in price-featured choices the expectation is that accurate recall should be substantially higher. While this is certainly true when compared to non-price choices, the incidence of accurate recall was lower than expected. In Table 8.9 price recall accuracy for the subset of fourteen subjects is outlined. In total, these subjects processed 76 price-featured choices, 16 of which resulted in no purchase. Recall data were collected for 67 processes. Seven of these were products not subsequently purchased.

As indicated, subjects recalled price with accuracy in only 58.2 per cent of cases. Although surprisingly low, this result is consistent with the results of earlier studies (see Chapter 5) and with the recall results reported in Phase 2. Price-based subjects had substantially higher recall than those who were less price sensitive. Recall was lowest where the price reference was neutral (but only marginally so), and higher where the price was perceived as unexpectedly high or low. One of the inaccurate recalls under 'unfavourable price' is of interest in itself since the subject recalled accurately the product she had rejected, but not the product she had purchased.

Table 8.9 Price-based choices: number of accurate price recalls for the 14-subject sample

	Unfavourable price	Favourable price	Neutral price	Uncertainty over product quality	Variation sought in diet	Comparison of alternatives	Total
	Recall / Total	Recall /Total	Recall /Total	Recall / Total	Recall / Total	Recall / Total	Recall /Total
Price-indifferent		1 / 1	-	-	-	-	1 / 1 *(100.0)*
Price-based	1 / 1	7 / 9	-	-	1 / 1	2 / 2	11 / 13 *(84.6)*
Neither	2 / 5	4 / 10	4 / 9	1 / 2	3 / 4	5 / 9	19 / 39 *(56.4)*
Reasonably price sensitive	0 / 1	1 / 2	1 / 1	-	-	2 / 2	4 / 6 *(66.7)*
Reasonably price insensitive	1 / 1	2 / 2	1 / 5	-	-	-	4 / 8 *(50.0)*
Total / All **(% / All)**	4 / 8 *(50.0)*	15 / 24 *(62.5)*	6 / 15 *(40.0)*	1 / 2 *(50.0)*	4 / 5 *(80.0)*	9 / 13 *(69.2)*	39 / 67 *(58.2)*

And apples... red or green... might go for the red... on the other though... there's a big difference in price... that's not real is it... I think I'll go for the Granny Smiths this week... I didn't think that $6.99 a kilo was quite appropriate for a couple of red apples... a couple of Granny Smiths.

As illustrated in the process, the subject's initial preference was for the red apples. However, on checking the price she notices a difference between the two prices. The price of her preferred product is substantially higher than her expectation, so she chooses to buy the lower-priced option. In recalling the price the subject actually underestimated the price of her purchase. The price upper-most in her memory was the unacceptable price which she recalled accurately.

The fairly high recall for 'favourable price' is primarily due to the contribution of price-based subjects. Only 40.0 per cent of prices were recalled by the 'Neither' category. The relatively high recall among the few representations of non-price sensitive subjects can be attributed to particularly unusual prices.

Um... kiwi fruit... I was... for once I was curious how much they are... I couldn't see the price there... not that... I'm just curious because I've noticed in the last few weeks that kiwi fruit are particularly nice and cheap and I've been buying them... and it's very rare for me to notice prices.. I think that was really...I wasn't even trying then... that just happened.

Strawberries... how much are they? strawberries $2.99... that's not too bad... where I come from you'd pay about $4.99... that looks nice.

The third accurate recall in this group was given by Subject 17 who, as indicated earlier, is actually more price sensitive than this particular shopping expedition indicated.

The reasons for high recall in 'variation sought in diet' are not all apparent. In two instances the price was lower than expectations, one of which was a genuine surprise to the subject. However, the low number of observations precludes any reasonable interpretation. The same applies to 'Uncertainty' which has just two observations.

A reason posited in Section 8.6.1 for accurate price recall in the absence of verbalising was the level of complexity of processes. Among these were product comparisons. Once again recall on comparison processes is relatively high which lends further support to this proposition. Of those comparisons which were not accurately recalled Subject 19 was responsible for three instances. One of her processes involved a complex comparison

which attempted to maximise the value of her pumpkin purchase (Section 8.7.3). In this, and another process, the price of the product(s) itself was not articulated. Her references were in the form of *'I want to get value for money'* and *'they're much cheaper'*. In her recalls of these products, the subject provided a price range (for example $2.00 to $3.00) rather than an exact price. Approximate prices, or a price range, were common in many price recalls. Where subjects were unsure of the exact price they estimated a price, qualifying it with a question mark.

The remaining observation where price recall was inaccurate involved comparison of prices across four products: cauliflower, broccoli, zucchini, and cabbage (Figure 8.15). The price recalled was roughly mid-range of these products. In all but one of the comparisons in which price was recalled, only two alternatives were examined. Thus, it is possible that the sheer number of options referred to in this instance confounded the subject's recall.

Although Subjects 1 to 10 were not formally questioned as to their recall of products, price recalls were requested on most of the products they had purchased. Their overall behaviour is consistent with the primary sample. Subjects 1 and 6 tended to rely on approximations, recalling all prices in terms of 'around $5.00, $3.00, or $1.00'. In other instances subjects just remembered them being 'expensive' or 'cheap'. Products which were on special or well priced were recalled with greater accuracy than those at normal prices. Small purchase quantities were often not recalled. As expressed by Subject 3 *'...you know, one little Lebanese cucumber is not going to break the bank'*.

8.7 Reference prices and other factors

The final set of analyses conducted were to determine the association between subjects' record of price articulations and their use of reference prices. Also of interest is the association between articulations of price and intent to purchase.

A total of 162 reference prices were elicited from the sub-group of 14 subjects. These were compared against the codes developed in Section 8.2 to characterise the type of price articulation that subjects made in their choice processes (see Appendix 8.1).

The highest frequency among choice processes was no articulation of price (61.1 per cent). Of the remaining possible articulations the most common were: a 'simple statement

of price' (6.2 per cent), a 'desirable/acceptable price (8.6 per cent), and 'unfavourable price (6.2 per cent) and 'price/value comparison' (7.4 per cent). Of the processes in which price was articulated, the most common form of referencing was general, 'that's cheap' or 'that's lower than last time' (52.2 per cent). In only 25.0 per cent of processes was the reference to price quite specific, and the majority of these were associated with comparisons across products. With respect to reference prices, the most common were the 'last price paid' (17.9 per cent) and 'general price image' (27.8 per cent), which is consistent with the results of Phase 2, as was the relatively high frequency of 'didn't check' (34.0 per cent).

A comparison between reference price and price articulations tends to support the validity of the reference prices. In 90.0 per cent of the instances when subjects had not articulated price in their choice, they reported they had not checked the price, which indicates a high consistency between their reporting and actual behaviour. Also consistent was the substantial association between 'alternative prices' and articulations which involved some comparison across products or varieties (50.0 per cent). Similarly, the 'lowest price' was associated with references to 'specials' or a favourable price (36.4 per cent), or to an unacceptable price (18.2 per cent). 'General price' was most frequent for choices in which the price was not articulated, as was the 'last price' (51.1 and 51.7 per cent respectively). However, their distribution across choices in which price was articulated differed. While 'general price' was used regularly for all forms of price articulations, 'last price' was most used where the price was stated as favourable or unfavourable or the price involved a comparison between varieties or products.

The final area in which results are of interest is the association between price articulations and purchase intent. An absence of price articulation in choice processes was substantially higher in instances where the product was an intended purchase (71.6 per cent). Further, all comparison processes were associated with intended purchases; as noted earlier most of these were made on products which were considered a staple or basic (67.0 per cent). Where the purchase had not been intended, and price was articulated, 42.9 per cent were associated with a favourable price and a further 21.1 per cent with a simple statement of price. It would appear on these results that price is a highly relevant attribute in unintended purchases.

8.8 Summary

The objective of Phase 3 was to examine in detail the nature of consumers' choice processes and the role price plays within these processes. The evidence from the verbal reports, and the patterns of shopping behaviour that the subjects in this study exhibited, highlights the importance of consumer idiosyncrasies and product characteristics to the salience of price in choice. Throughout the chapter results were discussed with reference to the propositions outlined in Chapter 4, and to the results of Phase 2. Overall, the results support these earlier contentions and findings. Usage context is clearly relevant to choice and to price sensitivity, as were perceptions of similarity across the range of products. The manner in which price was used in choice was consistent with the three roles identified in Chapter 2: as a frame for evoked sets, in determining value and in influencing perceptions of transaction utility. There was also evidence that consumers' evaluations represent approximations rather than careful calculations, although specific price/quality trade-offs were evident in situations where products had comparable attributes. Uncertainty over product quality was associated with higher levels of price sensitivity which is consistent with proposition P5. Finally, the prevalence of quantity adjustments in response to prices indicates this as a key aspect of purchase behaviour in the fruits and vegetables product group.

A closer examination of these results is contained in Chapter 9 together with discussion of the earlier studies, and of the issues outlined in Chapters 2 and 4. Also addressed in Chapter 9 are several methodological issues which have been raised over this, and the preceding, chapter in relation to the methods employed for the study.

Chapter 9 - Discussion and conclusions

'Certain things I don't even look at like onions, tomatoes, carrots and things because I don't see that there's a good substitute for them. But things like cauliflower well.... if the cauliflower is too expensive I'll go for the broccoli, and if the broccoli is too expensive I'll go for the zucchini, and if they're all expensive at the time we can have beans.'

(post-purchase protocol, 1995)

9.1 Introduction

The objective of the research reported over the preceding chapters was to explore the salience and role of price in choice where the food group is heterogeneous and is subject to quality and price variability.

A literature review was undertaken in Chapter 2 to determine how existing models of choice incorporate price. Highlighted was that price is central to choice in economic models but only one attribute of many which may be considered, if at all, in the models proposed in psychology and marketing. Particularly evident was that a myriad of factors have the potential to influence consumers' attention to price. At a broad level these include consumer characteristics, purchase contexts and product attributes. Thus, in order to identify the affects of the latter, it was first necessary to isolate those affects which are primarily a function of consumer or contextual factors.

In Chapter 3 the nature of the fruits and vegetables product group was examined together with the evidence on consumers' physiological and psychological predispositions to food. The discussion in these sections emphasised the relevance of product attributes and consumer idiosyncrasies to explaining food preferences and consumption behaviour. Also examined was the price behaviour of fruits and vegetables. Substantial differences were apparent in the price variation of different products and extreme price variation was prevalent for a number of sub-groups, both in spatial and temporal terms.

Over Chapters 4 and 5 a set of propositions were formulated as to consumers' behaviour in relation to price. These acknowledged the affect of several characteristics which

distinguish fruits and vegetables from many other product groups. Particularly important were quality and price variation as a consequence of supply factors and the perishability of most products. Another element was the quality opacity of many products and the relative absence of risk reduction strategies for coping with the uncertainty connected with quality variability. These propositions were incorporated into a descriptive model of the factors influencing consumers' perceptions of, and response to, price in the purchase of fruits and vegetables.

To investigate these propositions, and other elements associated with the model of choice, a three-phase research design was instituted. The studies comprising this research aimed to determine the primary influences on consumers' sensitivity to price and on the manner in which price is used in choice. The initial study was to establish a survey instrument which could capture consumer-centred influences which would determine predispositions for sensitivity to price. The second study aimed at identifying consumers' perceptions of different fruits and vegetables and the affect of these on price sensitivity, while controlling for individual characteristics. In the final study choice processes themselves were examined to determine the salience and role of price in actual choices.

The discussion over the preceding sections has outlined the principal findings of these studies and how they relate to the propositions formulated in Chapter 4 and to the models of choice discussed in Chapter 2.

In this, the final chapter, the key findings of the studies are reviewed against the research objectives which were outlined in Chapter 1. The framework for this review is the two primary areas of interest to the research topic, the salience of price and its role in choice. The results are also discussed with reference to the marketing and economics disciplines (specifically agricultural economics), since it is these which have provided the backdrop from which to explore price and choice behaviour.

In addition to the findings in relation to consumer behaviour, several measurement-related issues have been raised over Chapters 6, 7 and 8. These are discussed in conjunction with the various limitations of the methods employed to research the area.

The chapter concludes with a summary of the main contributions of this thesis to the body of work which seeks to understand the association between consumer behaviour and price.

9.2 The salience of price

The initial question this thesis sought to investigate was 'how salient is price in the choice of fruits and vegetables?' In other words, how prominent is price in choice? The results of the two studies suggest that the answer to this question is not as straightforward as would first appear. At a simplistic level we could say that price is salient in approximately half of choices. To be more precise, price is salient in virtually all choices made by highly price-sensitive consumers, is essentially irrelevant to price-indifferent consumers, and matters according to context for value-conscious consumers. However, this depiction of the salience of price does not present the whole picture of price in choice.

Apparent from the verbal reports in Phase 3 was that consumers utilise global or local decision rules in which price is implicit rather than explicit. These reflect latent concerns with price which do not manifest in constant price vigilance. Heuristics were evident in the location in which the consumer shopped (the 'Banana Man' example contained in Section 8.6.2) or in the timing of shopping (Thursday 'happy-hour'). Product varieties themselves were used as proxies for good value, as was illustrated in the choice strategy connected with a 'green capsicum', which the subject had determined was the cheapest option with desirable characteristics (see Figure 8.4).

There was also evidence supporting the proposition that for some consumers the products which enter their consideration set were largely defined according to a prespecified range of acceptable prices (Piggott and Wright 1992). This was explicit in the shopping styles of the price-based subjects of Phase 3. However, it was also implicit in the price-based elimination statements and in the extended search and comparison where a subject was attempting to identify an apple-alternative when her usual apples were unavailable. In these latter examples the indication was that price is so much a part of the choice process that its relevance to choice is almost unconscious. Perhaps less apparent, but equally contributing to the notion of price-defined consideration sets, was the heightened price awareness associated with purchasing 'treats'. In both Phases 2 and 3 it was evident that these purchases were not included in the consumers' usual set of purchases, although the purchase of a 'treat' may be a regular practice.

Where price was particularly salient, as indicated in the articulation of price in consumers' verbalising, the contexts were ones in which substitutes were readily

perceived or where the price variation was such that the consumer considered that it warranted ongoing attention. For example, in Phase 3 a subject who was categorised as 'price insensitive', and who generally did not refer to the price of products, recalled accurately the cost of a piece of cauliflower during post-shopping questioning. Accompanying her recall was the comment 'cauliflower can go through the roof'. In this instance, the nature of the product's price behaviour provided the context for checking the price. The post-shopping comment at the head of this chapter was an example in which a product-sub group was a cue for comparing prices. In fact, comparisons across the sub-group 'greens' was common across many subjects, which suggests it is particularly prone to price responsive behaviour. The greater price awareness associated with this sub-group may reflect the fact that most of its products satisfy the same broad usage need, as well as its relatively high price variability (which is mostly a consequence of seasonal factors). The same is true for fruits which can be described as seasonal. Both were often reported as purchases to satisfy a need for variation in their diet. Conversely, products bought in small quantities, as side-dishes or embellishments, were considerably less subject to price checks.

Together, these heuristics indicate the efficiency with which consumers deal with price. They utilise their environment as signals or cues (Bettman 1970) which have been learned over time, and they appear to allocate their attention on a 'need to know' basis (Jacoby et al. 1978). Thus, a consumer may organise their shopping to coincide with a Thursday 'happy hour' in the knowledge that at least some of their needs will be met by specials, and during their shopping they may automatically turn to the green capsicums because these always represent good value but compare the prices of tomato varieties because this is a product in which relative prices change and, hence, so does the value they represent.

So, given the heuristics that consumers employ in their purchases, what can we say about the salience of price in choice of fruits and vegetables? To return to the summary of consumers, it is evident that for a small but significant group of consumers price is essentially irrelevant to choice. Their choices reflect particular needs or responses to quality changes. At the other end of the spectrum are another relatively small group who constantly attend to prices. Not only are their primary purchases defined by price (specials), they actively check prices as well. In between these groups are consumers for which price is relevant in some purchases but not in others; these represent the majority of

consumers and it is these who are most likely to formulate price-based heuristics which rely on acceptable price ranges, varietal characteristics, external signals or cues, and experience-directed price checks.

If we consider the model of consumer decision processes which was formulated in Chapter 5, it would appear that a significant proportion of the cognitive activity with respect to price occurs prior to the actual shopping process. Although global constraints may manifest in certain products being consistently excluded (such as blueberries which are generally in the vicinity of $4.00 for 250 grams), it would seem more likely that the decision rule manifests in an acceptable range(s) of prices which applies to sub-groups of products in general; for example, all 'fruits' or all 'greens' under $2.00, and in which 'blueberries' become a viable option when their price falls within this range. The presence of price-defined consideration sets does not negate the relevance of the various price-quality situations, and consumers' expected responses. However, the results of the studies do serve to clarify the circumstances under which they might apply.

9.3 The role of price

Although the preceding discussion has established the variety of circumstances under which price might be salient in the choice process, little has been said to this point about the role of price in actual choice.

One role for which there was little evidence in the studies was price as an indicator of quality. Although the results of Phase 1 suggested that some individuals employ general price-quality schemas, in relation to the fruits and vegetables category few of those surveyed perceived a significant price-quality relationship. Further, the verbal reports of Phase 3 point to a reliance on sensory-based evaluations of quality and the use of idiosyncratic strategies.

Price as an allocative mechanism was clearly present in the choice behaviour of the highly price-conscious consumers. Its association with budget constraints was made explicit by these consumers, most of whom represented young families in the process of establishing themselves. Others for whom a budget constraint was relevant were a number of the pensioners who also expressed a need to keep their expenditure to a minimum.

The primary role of price was in its representation of 'value', regardless of a budget constraint. Yet, despite the fact that perceptions of 'value' were clearly dependent on

quality *and* price, there was little indication in the verbal reports that value was determined by evaluating the two relative to one another. Rather, in most evaluations, each attribute was assessed as distinct from the other prior to arriving at an overall assessment of the value of the product. Although the reasons for the separation of the two attributes in evaluation would require further investigation, it is probable that this behaviour reflects an implicit recognition that price and quality are not always correlated.

While price generally played a central role in choice when it was perceived to be particularly favourable or unfavourable, in the majority of choices quality was the key attribute. Prices were monitored but not actively responded to. Further, concerns with price were occasionally overridden because of particular needs or desires for a product. The evidence of monitoring as opposed to response, and the possibility that unfavourable prices may be disregarded, supports the existence of ranges of prices over which consumers are relatively insensitive.

Adding to this perception were the comments accompanying the completion of post-shopping questionnaires, and respondents' self-reports on the types of reference prices they used (general and highest). A 'general image' and the 'highest' price were more frequent where the product was not on special and the product exhibited price variability. The 'highest' price was relatively common where price variability was coupled with prices in the medium range ($3.00 to $4.00). Thus, while price may be salient in choice, it is less often a determinant; it is 'relevant' but not 'important'.

The third influence which price can have on choice is through perceptions of transaction utility (Chapter 2). Although a number of the references to a favourable or unfavourable price could be interpreted as instances of transaction utility, ('Oh, bonus! Carrots are on special' and 'No, mushrooms are cheaper at X'), it is difficult to say whether all responses to a 'special' could be construed as transaction utility, as is implied in the majority of studies using scanner data. Noted in Chapter 2 was that transaction utility is premised on consumers' evaluation of a price relative to a past or alternative price for the same product (quality assumed), and their perceptions of the fairness of that price. Yet, heuristics such as 'buy the cheapest' suggest that, in these instances at least, transaction utility in an explicit sense is not a feature of choice; there is no particular utility associated with the deal, the behaviour can equally be interpreted as acquisition utility. It is possible, then, that studies in which there is a presumption that purchases at the 'lowest' or

'special' price represent transaction utility, are over-estimating its significance. This would also assist to explain the prevalence of 'gains' rather than 'losses' in the results of these studies.

It is worthwhile, at this point, to again review the position of price in light of the preceding discussion. For consumers with some degree of price sensitivity, it is indisputable that product price matters, and is responded to, to the extent that it falls outside a prespecified range of acceptability. Consumers do attempt to find alternatives or do reduce the volume they purchase if possible. Also indisputable is that consumers will happily take advantage of specials to the extent that the quality is acceptable and the product fits in with their needs. However, it is possible to speculate that, for the majority of consumers who are marginally price sensitive, the presence of specials primarily matters at a global (location) rather than a local (product specific) level. That is, it is the range of specials offered at a particular location, weighed against time and other non-monetary constraints, to which they are particularly responsive. In this respect, the primary aspect of importance is the 'image' the consumer holds of a particular location (Zeithaml 1984).

9.4 Issues of interest to marketing research

There are a number of areas which have been outlined over the preceding section which should be of general interest to research in the marketing field, and which have implications for the approach to analysing price in choice. Among those discussed were the influence of different products according to usage type (mainstream products or embellishments) and the question of reference prices as opposed to signals or cues. In this section the focus is on issues arising from the nature of the pricing structure and variability of a product group, both in its implications for price-related analysis and for models of variety-seeking.

Among the various choice strategies outlined in Section 9.2, of particular relevance to research in pricing is the presence of decision rules which can be considered to be 'brand/variety-based' but which incorporate perceptions of an acceptable price range. Dickson and Sawyer (1990) have posited that consumers may initially establish the acceptability of a product vis à vis price and other features and subsequently recheck the relevance of these criteria only on occasions. To the extent that a brand/variety-based

strategy was formulated on the basis of an acceptable price, it would be expected that the future loyalty of consumers to the product will be vulnerable to significant changes in its price and its price relative to other alternatives. This would be less the case if loyalty was premised on other criteria.

A second area which has a bearing on approaches to price-related analysis in general, is the influence of pricing characteristics. In most contemporary studies of consumer response to prices, the price characteristics of the product(s) are described in terms of 'high or low promotion' groups or as 'coupon-based' (principally in the United States). Little attention is given to the patterns of promotion which are customary for the product and which may have been incorporated into consumers' decision making. One of the few exceptions to this is an early study by Gabor and Granger (1964) which provided a clear illustration of the potential effects of different pricing structures on consumers' perceptions of price and price response (their example was the practice of using $2.98 rather than $3.00).

Particularly relevant in the results of the current study was the reduced price recall accuracy where products exhibited high levels of price variance. This finding is consistent with the evidence on threshold sensitivity in which the ranges of sensitivity extend when considerable 'noise' is present in stimuli (Gabor 1977, Winer 1986). However, there are two further explanations for this outcome. First, is that the products which exhibit price variability are also those for which relative prices or value are most often compared (eg 'greens' and seasonal fruits). In this instance low recall may reflect a confusion of the prices examined, as was in evidence in the verbal reports. Second, the focus of attention may be on the 'signal' rather than the actual dollar amount. The difference between the first explanation and those of the latter is that the first implies a degree of price insensitivity, while the alternative explanations suggest high levels of response to price differentials or changes; even though the actual price is not fully processed. Thus, the source of attribution is significant to the conclusions which can be made.

While the source of the errors in recall need to be further examined, the fact remains that high price variability was associated with a reduction in the effect of expectations on recall. The potential effect of differences in pricing structures on price-related analysis is no better illustrated than by an example given by Heath et al. (1995), in which they

outline a possible pricing strategy for retailers to attract custom. Their illustration is in the context of research into the effects of framing on consumers' perceptions of price. In relation to low-cost, habitually purchased products they suggest that 'advertising the price of lettuce as "40% off" might grab attention and induce price processing more than simply stating its current price of 60¢. (1995: 96)'. While this may be a feasible option in the context of the United States, for the Australian consumer the immediate response is likely to be '40% off what?'. Not only is the price variability such that a single reference point has little meaning, the practice for discounting fruits and vegetables in Australia is to state the absolute price, along the lines of the lettuce example above; it is this signal with which they are commonly familiar. Clearly, this problem is not unique to the fruits and vegetables category but one which would be associated with any product which is subject to high price variability (unless percentage discounts are the custom).

A practical implication of this is that market research to determine consumers' price awareness may need to be adjusted to suit the pricing characteristics of the product to be investigated. For example, it may be more appropriate where discounts are presented in percentage terms to couch requests for recall as 'can you recall the percentage of the discount?' Alternatively, it may be more revealing to allow the consumer to express their attention, or otherwise, to price in their own words. Although, a variety of methods for determining price knowledge have been employed (Zeithaml 1984 Dickson and Sawyer 1990), including those just outlined, researchers tend to focus on pricing and promotion characteristics as types of stimuli consumers may encounter rather than on the manner in which they may have been internalised over time.

9.4.1 Price variability and variety-seeking

A further factor which was indicated as affecting consumers' purchasing behaviour was the need for variation or novelty. For the purpose of investigation, variety-seeking was considered to be associated with reduced price sensitivity (Proposition P3). A feature of the fruits and vegetables purchasing among the respondents in Phases 2 and 3 was that it generally represented a weekly shop and, therefore, included a range of products which would satisfy a number of meals. Even so there was evidence of specific variety-seeking in both phases of the research; variation was sought across products and across varieties. Although there was support for reduced price sensitivity where variation was sought,

equally apparent was that variety needs were satisfied by exploiting the particular specials on offer. The conclusion from these observations was that, if the relative prices of goods within a product category vary with sufficient regularity and the consumer shops at frequent intervals (say, at least once a week), variety-seeking may be facilitated while taking advantage of price differentials.

A main element in McAlister's (1982) research into variety-seeking was to find support for her argument that variety-seeking may offer an explanation for purchase changes over and above those suggested by changing price differentials. An interesting consequence of high price variability and changing specials is that this behaviour may be less evident where the variability to some extent facilitates variety-seeking. A further consequence relates to the modelling of variety-seeking behaviour. McAlister's model of variety-seeking rests on the proposition that products (brands) can be situated on a continuum between substitutes and complements, according to the bundle of attributes they possess. While this may be the case for products such as soft drinks, the evidence over the preceding chapters is that products which satisfy similar broad usage needs may at one point be a potential substitute and at another a complement. Thus, broccoli and cauliflower may be substitutes where one is on special (see Section 8.7.3) but on another consumption occasion broccoli may be a complement to cauliflower (see Section 8.7.5). Only if there is an assumption of continuous switching for variety would the two remain complements and price possibly be overridden.

While there is no doubt as to the existence of variety-seeking behaviour and its potential implications for price sensitivity, the preceding discussion highlights that interpretation of purchase behaviour (particularly if scanner data are used) may be complicated by factors such as price variability. That is, attempts to quantify the interaction of variety-seeking and price may be exceedingly difficult, and likely to provide spurious results.

9.5 Issues of interest to an economic perspective

The discussion in Section 9.2 and 9.3 also highlighted several areas which are of potential interest to analysis of the demand for fruits and vegetables. Foremost among these are the implications for the construction of demand equations arising from different behaviours across consumer groups and with respect to specific product sub-groups.

The existence of distinct consumer segments suggests that not only does the set of products considered for purchase differ according to groups but that consumers' response to price changes is likely to differ. Of particular relevance is that, for some consumers, price is essentially extraneous to their choices but, for others, it defines the set of purchases and is actively responded to. For the majority of consumers, price responsiveness is largely contextually based and likely to be dealt with by the imposition of various heuristics, both at the global level (an acceptable range of prices) and at the local level ('Buy the cheapest'). With respect to this latter group, the implication of their heuristics is that in some purchases price responsiveness may be quite high but, in others, observed price changes are likely to be irregular, reflecting the existence of sensitivity thresholds (Drakopoulos 1992). Further, consumers' purchase behaviour and response to prices is likely to be determined, in large part, by those products which they include in their consideration set. Since this differs according to consumer segments, the magnitude and nature of price responses should be similarly different.

In addition to the differences in price responsiveness across consumer segments, price responsiveness also varied according to consumers' perceptions of product sub-groups. In some groups, where purchase volumes were small, price responsiveness was quite minimal. However, there appeared to be considerable activity in other groups such as 'greens' and seasonal fruits. A complicating factor in observing price response in these groups is that, while in some instances the relative prices of products provoke substitution activity across alternatives within the group, purchase decisions may also be made regardless of relative prices; to satisfy needs for variation or to cater for several meals. Further, the temporal movement in usage contexts and the existence of variety-seeking activity over consecutive purchase occasions means that the assumption of stable preferences will not always hold.

A final aspect of potential relevance to demand analysis is the emphasis on quality in consumers' choices. For many fruits and vegetables which are seasonal, there is an inverse relationship between quality and price over an annual period. Quality is at its best when in season and prices are relatively low and at its worst, out of season when prices are high (grapes, for example). Most studies employ some form of control for seasonal effects (Nelson 1991) to capture the decline in demand for products. However, it is possible that, in some segments, reduced demand is primarily a consequence of the

decline in quality. Following from this, the assumption that decline in demand is a function of seasonal consumption habits or substantial price increases may be to understate the latent desire or need for a product.

9.6 Measurement and method

In studying the fruits and vegetables category to explore the salience and role of price, the emphasis was on gaining a comprehensive overview of consumers' perceptions of the product group. Central to this aim was identifying the various influences which may be significant to choice behaviour. The methods employed in the studies of Phases 2 and 3 reflect this emphasis and the added constraint which arose because of the undetermined influence of quality variability on choice behaviour. The studies themselves do not represent an extensive coverage of the consumer population. Consequently, the results offer a base for further research rather than represent a definitive set of conclusions. The absence of limits on the type of products included in the studies[1], while facilitating identification of the characteristics which distinguish specific fruits and vegetables, similarly restricts the extent to which conclusions can be drawn. A closer examination of product sub-groups using the current research as a base is needed to confirm the results which have been outlined. Clearly, though, any research effort will need to take cognisance of the effects of quality variation and the product's pricing and usage characteristics on consumers' perceptions and behaviour.

In addition to this broad qualification, a number of issues have arisen in relation to the specific methods employed in the study. Foremost among these is the measurement of price awareness using subjects' recall of price.

9.6.1 Price recall and consumers' price awareness

Noted in several chapters was the potential for stringent measures of accurate price recall to underestimate consumers' price awareness. The effect of such a measure on assessments of price awareness becomes apparent when compared to a more relaxed definition. The institution of a range which includes 80.0 per cent accuracy on the recall of respondents in Phase 2 results in a 35.0 per cent increase in recall 'accuracy'. For

[1] While there was a restriction in number of products in Chapter 7, the scope of products was kept as diverse as possible.

Phase 3 the increase is less, at 15.0 per cent (although the lower overall recall may reflect the number of recalls they had to make and the distraction of supplying verbal reports).

In both phases recall accuracy at the 95 per cent level was associated with prices outside expectations and/or 'special' prices and, in Phase 3, with instances in which the consumer engaged in a detailed evaluation of a specific product (eg in the case of uncertainty over quality) or several alternatives. In other words, accurate recall was associated with a specific cue or extended evaluation. This pattern of association does not change if recall accuracy is defined at 80.0 per cent or greater. Further, that errors in recall were made even when price was a determinant attribute in choice and, conversely, that recall was accurate when it was clearly not a determinant attribute, suggests that the measure is confounded by memory-based influences.

Although, the objective in eliciting price recall from consumers varies across studies, it is common for researchers to presume that accurate recall is an indication of price knowledge and, following from this, that it provides evidence of the validity, or otherwise, of models such as those posed in economics. However, it is clear from the current research that even complete accuracy in recall indicates only that price was relevant in choice, not that it was a determinant attribute (there is ample evidence of this from the illustrations of verbal reports in Chapter 8); strictly speaking, price recall is a measure of price awareness and nothing else.

9.6.2 Verbal reports and heeded information

The particular aspect of interest in relation to the verbal reports was the observed discrepancy between articulation of price and price recall. As noted in the preceding section, in several instances subjects in Phase 3 did not articulate price in their choices but recalled it accurately in post-purchase questioning. It was concluded that reference to price in some of these instances was evident in the context of the purchase. However, in others there was no indication that price had been referenced. Further, despite prompts subjects did not refer to price. For example, in one instance, and despite a prompt ('what are you thinking?') when the subject's eye movements suggested she was checking the price, she did not make specific mention of the price/cost of the product.

What am I thinking... I don't need lemons... yeah... I guess I normally don't...

Just prior to these processes the subject appeared to be scanning the prices of a row of products (lemons, pears and pineapples). Generally these products are not on special. Her response to the prompt does not mention price, but shortly following this statement she elaborated her usual behaviour in relation to this section of the shop.

> *I bypass this section fairly readily so I don't think a lot at this stage... basically... yeah I guess price is the thing that really determines.*

Although somewhat ambiguous in its reference, her general statement of the role of price suggested that she was indeed processing price information during her scanning. Clearly, her verbalising of specific choice processes was underestimating her attention to price in purchases.

The absence of price articulation in instances where price was subsequently recalled suggests that price checking may be a highly automated behaviour that tends to be subsumed by other more salient and complex considerations in verbalising (Russo and Leclerc 1994). This being the case, evidently some caution needs to be exercised in extrapolating behaviour from verbal reports. If information is recalled then it can be assumed to have been heeded (Ericsson and Simon 1993).

However, while these results highlight the limitations of relying on verbal reports for a full record of the information which was relevant to choice, they do lend further support to the contention that, for some consumers, price so defines the set of possible purchases that its salience is implicit in their choices rather than an attribute on which active evaluation is made.

Independent of the question over the completeness of verbalising, an element which is clearly important in interpreting verbal reports of actual behaviour—particularly where the reports cover multiple tasks—is the need to examine specific processes with reference to the entire context of reports. It is only through this process that some behaviours can be fully understood.

9.6.3 Measures of consumer characteristics

The final area for examination in relation to the methods employed for this research are the consumer measures which were developed in Chapter 6.

The scale which was of greatest use in the current research was 'price consciousness'. This had a clear association with consumers' price awareness and, as such, is a good predictor for propensity for price sensitivity. The budget consciousness measure was less robust but its characteristics and associations suggest it is a measure worth further investigation. In Phase 2 the measures together assisted to distinguish between two types of shoppers: those who undertook preplanning and were less responsive to the price differentials at the time and those who were highly responsive. In Phase 3 budget consciousness was generally higher for those categorised as price-based where both subjects scoring on this dimension clearly predetermined their purchases on the basis of available specials. At present, though, the budget consciousness measure has too few items. Further, the emphasis on planning in two of its items suggests the potential for complexity in responses to the scale. That is, there may be many consumers who preplan their purchases (Cobb and Hoyer 1986) but whose planning is not related to a budget constraint. Strengthening the scale to reflect the budget element would assist to delineate between the two areas.

The Need For Cognition (NFC) scale did not distinguish respondents in Phase 2 on price recall. Further, NFC was higher where 'special but not price' was recalled as opposed to both elements being recalled. Noted in Chapter 7 was that subjects who recalled both aspects had significantly higher scores on price consciousness which was considered a contributing factor to the result. Also noted was that the majority of recall of 'special status' was in conjunction with an absence of specials. It is possible that the high NFC scores for recall of special status reflected a tendency in these respondents to compose and maintain a mental picture of the shop, and it was the matching of this to the products they purchased which was reported. In other words the result was task-related rather than purchase-related.

The Faith in Intuition (FI) scale proved unhelpful in distinguishing among respondents on affective orientation in shopping. Its significant correlation with NFC in Phase 2 suggests it is not a concept entirely unrelated to NFC, as proposed by Epstein (1994). In Phase 3 there was some evidence that those scoring higher on NFC had lower scores on FI which might suggest a difference in orientation. However, the pattern was not consistent across the 14 subjects.

The final measure to be reviewed is variety-seeking. A problem with employing this measure in the contexts of Phases 2 and 3 was that only one purchase incident was measured. Thus, its efficacy may have been diminished. In Phase 3 subjects 11 and 16 had high scores on variety-seeking relative to their other scores and both subjects did purchase a range of unusual products. However, there were also instances when a subject had a relatively low score on variety-seeking but implied by their verbalising a quite diverse diet. The opposite was true in other cases. An implication of this is that individuals' perception of variety-seeking is highly subjective. A consumer with a fairly narrow diet but who occasionally purchases non-mainstream products (eg strawberries) may consider themselves relatively high variety-seekers. This proposition may assist to explain the varied success that Van Trijp (1994) has had with the measure.

A primary reason for developing the measures outlined above was to incorporate in the studies the consumer-centred characteristics which have been found to influence consumers' attention to price. Although some shortcomings in the design and application of the measures have been acknowledged, it is evident that, at a generalised level, price and budget consciousness are the dominant influences in determining consumers' awareness of, and, of more importance, their response to, prices and price changes.

9.7 Avenues for further research

The key objective of the research undertaken for this thesis was to develop a comprehensive picture of price in choice of fruits and vegetables. In order to achieve this significant effort was given to developing some form of initial categorisation of fruits and vegetables. Also given attention was the influence of the consumer themself on price sensitivity. The categorisation was a necessary first step since the attributes of products as perceived by consumers differ substantially across the product group. The need to distinguish consumer from product-centred influences on price sensitivity has been amply demonstrated.

The framework for researching the topic was a descriptive model of factors influencing consumer perceptions and choice of fruits and vegetables. Specific influences on price sensitivity were outlined in the seven propositions presented in Chapter 4.

Up to a point the Propositions were supported. There is greater attention to price when products are perceived as close substitutes (P1), or when there is a risk associated with the

purchase (P5). Consumers often exhibit low or no price sensitivity when they are seeking variation in their diet (P3) or when they have a specific product preference, unless its price/quality changes significantly (P2). Where there is a particular product preference and the price is unsatisfactory the response is often to reduce quantity rather than to find a substitute (P7). Quality assessment is a central feature of choice where the product is known to vary in quality, and this assessment is only loosely linked to its price (P4a and P4b). Finally, for the most part consumers employ a general price image in evaluating current prices and their knowledge of prices is coarser where products are subject to high price and quality variation (P6a and P6b).

Clearly though, these results are tentative and further investigation is required to establish the significance of factors such as usage context, variety-seeking, risk and perceptions of similarity on price sensitivity. This research would need to use different methodological approaches and to take cognisance of the qualifications made on the techniques employed in this thesis. Future research might endeavour to quantify more clearly the nature of variety-seeking behaviour and its association with price and choice behaviour. It is probable that product sub-groups will exhibit different price-response patterns. In relation to Proposition P5 the affect on consumers' behaviour and price sensitivity of attribute transparency needs further exploration. A useful study would be to contrast choice where a product's quality is opaque (oranges, plums) with one which is readily transparent (broccoli). In a similar vein further research on pricing strategies for new products could prove fruitful for marketing researchers. In each of these studies it will be important to distinguish products according to consumer perceptions of the product and on objective criteria such as the product's seasonal, pricing and usage (broad) characteristics.

Although the propositions themselves present interesting avenues for further research, it is the notions of consideration sets (as defined by price) and quality variability which provide particularly challenging research possibilities.

The analyses outlined in the preceding two chapters have highlighted that the affect of price on consumers' behaviour needs to be addressed at both a global and local level. At the global level the issue is, for which segment(s) is a product at price 'X' included in the consideration set. At the local level the issue is how the product itself is perceived and the implications of this perception for cognisance of, and response to, price. These dual

influences may be dismissed by the marketing practitioner as representing no more than a standard market research procedure. However, this is not the case. Of particular interest to the marketing practitioner should be the implications for pricing strategies of the relative price insensitivity within the 'acceptable range of prices'. Further, there are clearly usage characteristics which suggest that no matter how low some products may be priced demand is unlikely to increase unless they are completely repositioned in the consumers' perceptions, and in come cases there will be no scope for this.

This second aspect is also of relevance to demand analysis and, together with the notion of consideration sets, point to a number of avenues where further research may be fruitful. Take the scenario of a vegetable which is high-priced relative to other vegetables and which is consumed as a sidedish or embellishment to a meal (for example, snow peas). The demand for this vegetable is primarily confined to segments of the population who are relatively insensitive to price and to the rare purchase for a special occasion of the more price sensitive segments. For others it will not be considered. The own and cross-price elasticities are quite inelastic because of its specific usage context and satiation. Demand for the product will only increase when the price drops sufficiently so that it enters the consideration set of a more price-sensitive consumer group. Similarly though, their demand is limited by need and satiation. The resulting demand curve can be envisaged as a step function which ends in a steep vertical when the price is acceptable to all levels of consumer. For demand to increase beyond these points will require a structural shift in consumption (innovative salads or the popular stir-fry).

The purpose of this exercise is to illustrate the possibility of conceptualising demand with reference to distinct consumer segments and to the particular usage characteristics of the product. Calls for greater attention to non-price attributes in demand analysis are not new (Piggott and Wright 1992). While incorporating these attributes into analysis has been acknowledged as potentially difficult, it is evident from the results of this research that they cannot be ignored. At the very least attention to consumer differences and usage contexts would assist to confirm the adequacy of the models employed.

Noted in Section 9.5 was that many fruits and vegetables exhibit an inverse relationship between price and quality as a consequence of supply factors. An interesting study would be to examine the implications for demand analysis of a significant quality-effect on

purchase behaviour across seasons. It is possible that unsatisfactory quality is a substantial deterrent to purchasing fruits and vegetables out-of-season, more so than price.

Finally, the frequency with which consumers purchase fruits and vegetables points to a need to examine the nature of the time-series data used in demand analysis. Consumers generally make purchase decisions on a weekly or bi-weekly basis. Consequently, response to changes in price among those consumers who are price sensitive can be rapid. Yet, time-series data on price and purchase-activity is mostly limited to monthly or quarterly observations which necessarily implies are longer adjustment period.

9.8 The final summary

The research comprising this thesis has contributed to the existing body of research in marketing and economics in a number of ways. Foremost among these is its contribution to the understanding of the influences on, and dynamics within, purchase behaviour in a heterogeneous product group. In this respect it is one of the few studies which has had examination of these aspects as its specific objective.

In the marketing field studies have incorporated products from a range of product groups but the research objectives have been such that only cursory attention has been given to evident differences in results across product types. Further, none have specifically addressed consumer behaviour where the group is subject to price and quality variability as a consequence of supply and other, non-competitive, influences.

Yet, in investigating such a product group, the findings of this study have not only emphasised some essential differences in consumer behaviour between this and the more conventionally used grocery products, they also point to the potential pay-off in greater attention to the characteristics of products, product groups and brand-lines. This is particularly important if researchers are to move beyond narrowly defined products such as coffee and into the more complex product groups of, for example, breakfast cereals, cheeses or meats. It is also important given the increasing trend towards the use of scanner data in price research. Without explicit acknowledgment of the various characteristics of products, or product groups, studies will run the risk of confronting the shortcomings of the economic models of choice, where theoretical assumptions dominate and investigation can become increasingly divorced from reality.

The contribution of this research to economic-based analysis is in highlighting the potential significance; of differences in consumer groups and product-types for aggregate analysis of consumer behaviour, of purchase frequency and sensitivity thresholds to time-series analysis, and of usage-contexts, variety-seeking and temporal quality variability to the integrity of demand analysis. Although the affects of aggregation have long been recognised, this research has assisted to identify some of the specific areas which need addressing.

In addition to its contribution to the understanding of price in consumer behaviour, the research has also highlighted several methodological issues. The multimethod approach employed for this research has assisted to clarify the interpretations that can be made from results of methods such as price recall and verbal protocol analysis. It has also raised questions over the efficacy of various measures for distinguishing consumer' characteristics; beyond those which may reflect the limitations of the context in which the current research was conducted.

To conclude, consumers' attention and response to price can be exceedingly complex. Yet, in the midst of this complexity it is possible to discern general patterns which assist to quantify the salience and role of price in choice. However, the greatest challenge we face as researchers of human behaviour is to recognise that, for the most part, it is irrelevant to individuals that *their foot is seventeen point three centimetres from the lab table*. What is important, is that it is within an approximate range of safety.