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The Cardiff Consumer Panel: A Report on the Methodology

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ABSTRACT.

The Cardiff Consumer Panel survey is thought to be the most comprehensive locationally specific survey of shopping behaviour ever carried out in the UK. It includes continuous records of shopping for food and groceries by some 450 panellists over a six-month period in 1982. For every one of the shopping visits recorded the identities of the shop used and the products bought are known. This paper explains at length the conduct of the survey and the structure and format of the data tapes containing the survey results. It is intended principally as a handbook for researchers wishing to use the data, and does not include any analysis of the survey findings themselves.

After a brief introduction, the pilot study (September-December 1980) is first discussed. There follows a description of the main survey instrument, the weekly shopping diary in which any visit to a store for the purchase of food or groceries was described. Procedures used for recruiting the panel of shoppers and maintaining a high quality record of panellists' food and grocery shopping are discussed. The composition of the panel is then examined. The sample of 451 panellists likely to be used for most analyses extends to all sectors of the population in terms of age, social class, mobility, etc, although differential rates of recruitment and early drop-out of panel members have led to some over-representation of car-owning married-couple households with children.

There follows a discussion of the associated surveys of food shopping opportunities in the Cardiff area, also carried out in 1982. The paper ends

with a detailed explanation of the structure and formatting of the data tapes which contain the survey results, and which are being deposited with SSRC Survey Archive

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1 INTRODUCTION

This paper describes the design, conduct and results of the Cardiff Consumer Panel (Diary) Survey. This survey funded by the Social Science Research Council (SSRC) under grant D00230010 (previous code HR 8036) monitored the daily food and grocery shopping behaviour of approximately 500 households in the city of Cardiff over a six month period, January to July 1982. It is believed to be the largest long-term consumer panel survey of a single urban area which provides detailed locational information on all aspects of panellists and their purchasing behaviour, and from late 1983 onwards its data are to be made available to all other researchers via the SSRC Survey Archive at the University of Essex.

Primarily, the Cardiff survey was conducted to create the geographical data base required by two associated SSRC research projects (D00230033, D00230011) at the University of Bristol and the University of Wales, Institute of Science and Technology (UWIST). Both these projects required detailed locational information from a long-term diary survey of a large consumer panel located in a single urban area, but they could not gain access to information of the required type without recourse to a specially commissioned survey. As a result their principal investigators (Wrigley at Bristol and Guy at UWIST) co-operated to design a survey which would satisfy the data needs of both projects and which would be of sufficient generality and detail to be usable in a wide range of future research projects.

The original application for the Cardiff survey was submitted to SSRC in April, 1980. At that time SSRC required certain controversial issues (e.g. attrition rate and recruitment rate assumptions, diary design, organizational procedures, etc) to be tested in a small-scale pilot survey. This pilot survey was successfully completed over a 12-week period September - December, 1980, using the services of a specialized and experienced agency Research and Marketing (Wales and the West) Ltd., and a revised application for the Cardiff survey was submitted to SSRC in May, 1981. The revised application was successful and large-scale funding (£79,000) was made available to run the Cardiff survey for 26 weeks (24-weeks main monitoring period plus a 2-week 'running-in' period) from January to July, 1982. The day-to-day conduct of the survey was sub-contracted to Research and Marketing Ltd., and the transfer of edited and coded diaries to computer files and tapes was sub-contracted to the specialized computing firm, DCMS Ltd. All strategic decisions concerning design, survey conduct, error checking, creation of computer tapes, etc., were taken by the principal investigators in consultation with the staff of Research and Marketing and DCMS, and remain the responsibility of the principal investigators. Throughout the survey, Dr. L.G. O'Brien (the Research Associate for project D00230011) and Mr. G. Hiscocks (the Research Director of Research and Marketing Ltd) made a significant contribution in both creative and operational terms.

This paper gives an account of all aspects of the design and conduct of the Cardiff survey, and of the creation, characteristics and formatting of the computer tapes on which the survey data are now held. Its aim is to provide sufficient detail to meet the needs of three groups of

potentially interested researchers.

- (1) All members of the research community who wish to make use of the data via the SSRC Survey Archive. For this group, this paper forms the necessary technical handbook which must accompany the data tape to facilitate basic interpretation (coding and formatting conventions, etc.), and to provide the essential background information (e.g. survey design and conduct, data quality, error checking systems, etc.) to understand the strengths and limitations of the data.
- (2) Social survey specialists who wish to use the Cardiff survey as a well-documented example of the conduct of a major panel survey whose specific orientation was to provide the locational information necessary for geographical/planning purposes.
- (3) Geographers and planners who wish to obtain the background information necessary to complement the analyses of urban shopping behaviour currently being undertaken and published by the research teams working on the associated SSRC projects (D00230033, D00230011) at Bristol and UWIST.

The Cardiff Consumer Panel data provides a valuable resource for understanding the nature of urban shopping behaviour in Britain in the 1980s. This paper provides the necessary information for the data to be understood and used by other researchers.

2. THE PILOT SURVEY AND ITS IMPLICATIONS FOR THE MAIN SURVEY

The original application for the Cardiff Consumer Panel Diary Survey was first submitted (together with applications for the associated Bristol and UWIST research projects) to SSRC in April 1980. At that time, certain referees of the proposed survey felt that a number of difficulties relating to the data collection had been underestimated. Specifically, their doubts centred upon (a) the likelihood of a high attrition rate among panel members over a 24 week survey period - no previous geography/planning diary survey had ever attempted such a lengthy monitoring period, (b) difficulties of initial recruitment of panel members, (c) difficulties associated with the accurate completion of what appeared to the referees to be a rather complex diary

To establish whether these apparent data collection difficulties identified by the referees could be overcome, a small scale pilot survey was proposed and funded by the SSRC (award No. HR 7430). The pilot survey took place during the 12 week period September 21st-December 13th, 1980 and it had five main objectives.

- (1) To monitor the attrition rate among panel members and the continuity of reporting. The original proposal submitted to SSRC assumed (on the basis of normal practice in commercial market research consumer panel surveys) that about 30% of the initial panel members would drop out or have to be removed from the panel during the full 24 week monitoring period. Thus it was assumed that an initial panel of 700 would be reduced by attrition to 450-500 (the target size) by the end of the 24 week monitoring period.

- (2) To assess the ease with which the diary could be completed, and the extent to which the information required could be supplied accurately by the panel members.
- (3) To determine as precisely as possible the initial level of panel recruitment. The original proposal submitted to SSRC assumed that around 1,200 households would need to be visited in order to recruit the initial panel of 700 required at the beginning of the 24 week monitoring period.
- (4) To gain experience of running a long-period panel survey in the city chosen for the main survey, but without contaminating the areas selected for inclusion in the main survey.
- (5) To assess the design and completion rates of the required 'household characteristics and shopping attitudes' questionnaire, and to monitor any adverse impacts its administration might have upon the attrition rate amongst panel members.

2.1 Design of the Pilot Survey

The pilot survey had to fulfil the objectives stated above, had to adopt procedures (including remuneration of panel members, and a pattern of fieldworker visits to panel members - at weeks 1, 2, 4, 6, 8, 10, 12, etc.) which were as similar as possible to those expected to be used in the main survey, but also was required to operate within the constraint of a budget of around £2,000. This necessitated a trade-off between the length of the monitoring period in the pilot survey and the size of the sample. After discussion with the selected market research

organization (Research and Marketing, Wales and the West Ltd.) of the limited number of possible combinations of panel size and length of monitoring period which could be funded within the pilot survey budget, it was decided to monitor a panel of 30 households over a period of 12 weeks. It was felt that the crucial question of panel attrition could only be answered if the pilot survey was of a realistic length, and this was interpreted as meaning no less than half the monitoring period proposed for the main survey. Unfortunately, this decision implied that only a small sample could be funded. Nevertheless, by dividing this sample between two contrasting areas of Cardiff (in socio-economic terms), and by recruiting 15 panel members in each area, it was felt that the pilot survey would provide useful evidence on the inter-area variation in rates of panel attrition and recruitment which could be expected in the main survey. Also, it gave the opportunity to use two fieldworkers who differed in their level of previous experience. By monitoring the performance of these fieldworkers, useful information could be provided on the problems which would confront fieldworkers in the main survey, and indications of any serious variability in fieldworker performance.

2.2 Main Results of the Pilot Survey

A detailed assessment of the conduct of the pilot survey and the results achieved is contained in Wrigley and Guy (1981). Here we simply state those major findings which had an influence on the design and conduct of the subsequent main survey.

2.2.1 Panel Attrition in the Pilot Study

An initial pilot survey of 29 panel members was recruited (15 in one area, 14 in the other). At the end of the 12 week monitoring period (December 13th, 1980) 26 panel members were still completing diaries (13 in each area). Only 3 panel members dropped out during the 12 week period, two of these (one in each area) did not manage to complete Week 1 of the survey successfully, and the other dropped out at the end of Week 2. What was clear from the pilot survey, therefore was that there was *no* support for the pessimistic view of some of the referees of the original application that a very high rate of panel attrition would be experienced (i.e. considerably greater than the 30% assumed in the original proposal). The conclusion drawn was that, although an attrition rate as low as the 10% achieved in the pilot survey was unlikely in the main survey, it was realistic to expect an attrition rate around 25% over the 24 weeks of the main survey. In addition, the low attrition rate achieved in the pilot survey confirmed that the panel recruitment, panel control, and panel remuneration procedures to be used in the main survey were operating successfully.

In the event, a slightly better-than-expected attrition rate of only 20% was subsequently achieved in the main survey (see Table 2.1, and Section 5.3).

2.2.2 Diary Design and Accuracy of Information Supplied

Several referees of the original application submitted to SSRC gained the impression that a rather complex diary would be necessary to derive the information required. However, in conjunction with Research

and Marketing Ltd., it proved possible to design a diary which panel members in the pilot survey found simple to understand and convenient to use. Each diary covered one week's shopping and consisted of a number of identical single page sheets (see Figure 3.2) known as 'shop forms'. Each time the panel member obtained any of the listed grocery items, she was required to record the name and address of the shop or supplier from which the item was purchased, the type of item purchased, etc., on the shop form. If no listed items were purchased on a particular day, the panel member was required to fill in a shop form for that day specifying 'no listed items bought this day'. For each day there was, therefore, at least one shop form filled in, and thus for most panel members a routine of filling in the diary was rapidly established.

In designing the 'shop form' particular attention was given to:

- (a) its layout;
- (b) the elimination of any possible ambiguities,
- (c) potential response biases caused by the ordering of the list of product categories.

Overall, the accuracy of the diary data supplied by the panellists proved to be very satisfactory. Nevertheless, the pilot survey did reveal several areas in which the layout of the shop form could be improved, and suggested other devices which would further improve the accuracy of the data supplied by panel members (e.g. an alphabetical reference list of all grocery products and the categories which each product belonged to for the purposes of the survey was found to be useful and was distributed to each panel member). These improvements suggested by the pilot survey were incorporated into the design of the diary subsequently used in the main survey (see Section 3.1.1).

2.2.3 Panel Recruitment in the Pilot Survey

The original application submitted to SSRC assumed that around 1,200 households would need to be visited in order to recruit the initial panel of 700 households required at the beginning of the 24 week monitoring period, i.e. it was assumed that approximately 58% of the households visited would agree to become panel members. In the pilot survey lower rates than this were achieved. Of 90 randomly selected households which were visited, contact and an interview with the 'housewife' (the adult responsible for buying most of the groceries consumed by the household, whether male or female) was achieved in 76 cases. Of these 29 (32% of originally visited households, 37% of the contacted households) agreed to become panel members.

The pilot survey highlighted, therefore, the arduousness of the panel recruitment stage and enabled a more accurate planning and costing of the main survey to be developed. On the basis of the pilot survey results it was assumed that 1,800 households (rather than 1,200) would need to be visited in the main survey to recruit the initial panel of approximately 680 required at the beginning of the monitoring period. (It was assumed that this initial panel of 680 would be reduced by an attrition rate of approximately 25% to a final panel of approximately 500 and would thus safely meet the target size requirements of a panel of 450-500 remaining at the end of the 24 week monitoring period). A recruitment rate of 38% of visited households was therefore assumed for the main survey, and attention was drawn to the fact that this was a stage of the main survey which must be carefully prepared, adequately costed, and not rushed in any way.

Section 3.3 describes the actual experience of panel recruitment during the subsequent main survey. In the event, panel recruitment in the main survey proved to be even more arduous than had been expected (because of the worst snowfalls for 50 years and the subsequent paralysis of the transport system of the city) and a recruitment rate of only 30% of visited households was achieved (2012 households visited, 1237 'housewives' contacted and interviewed, 605 panel members recruited). However, the lower-than-planned initial panel size was offset by the achievement of a better-than-assumed panel attrition rate of only 20%. This resulted in a panel size at the end of the 24 week monitoring period of the main survey of 481 households, which was within the target range. These relationships between the assumed and achieved recruitment and attrition rates in the pilot survey, main survey and applications to SSRC are summarized in Table 2.1.

2.2.4 The Household Characteristics and Attitudes Questionnaire

The fifth objective of the pilot survey was to test methods of collecting demographic, household composition, car availability and attitudinal information. This would be needed in the main survey in order to segment the panel for analytical purposes. Interviews were carried out in two stages.

First a short demographic questionnaire was presented to all households contacted in the recruitment stage (potential panellists and non-panellists). This elicited details of sex, age and working status of the 'housewife' and the household's demographic composition and car availability. The second questionnaire was presented to panellists

only, and requested information on occupation of housewife and of head of household, length of residence, housewife's car availability, level of formal education of housewife, and household income. In addition, panellists were asked to indicate strength of agreement and disagreement with 22 statements about attitudes to shopping. Both questionnaires were administered successfully. Few problems were reported by fieldworkers, and there were no adverse effects on panel attrition rates. As a result the same pattern of household questionnaires was adopted for the main survey (see Section 5).

Table 2.1 Cardiff Consumer Panel Survey Assumed and Achieved Attrition and Recruitment Rates in Pilot Survey, Main Survey, and Applications to SSRC

	Initial Application (May, 1980)	12-week Pilot Survey (Sept-Dec.1980)	Revised Application (May, 1981)	Main Survey (Jan-July, 1982)
<i>Final Panel Size</i>				
Required	450-500	-	450-500	-
Achieved	-	26	-	481
<i>Initial Panel Size</i>				
Required	700	-	680	-
Achieved	-	29	-	605
<i>Attrition Rate</i>				
Assumed	30%	-	25%	-
Achieved	-	10%	-	20%
<i>Number of households visited to recruit panel</i>				
Assumed total (contacts and non-contacts)	1,200	-	1,800	-
Assumed number contacted and interviewed	-	-	1,260	-
Actual total (contacts and non-contacts)	-	90	-	2,012
Actual number contacted and interviewed	-	76	-	1,237
<i>Percentage of households visited who agreed to become panel members</i>				
Assumed	58%	-	38%	-
Achieved	-	32%	-	30%

3 THE MAIN SURVEY DESIGN AND PANEL RECRUITMENT

Following the successful completion of the pilot survey, a revised application for funding of the main survey was submitted by the principal investigators (Guy and Wrigley) to the Human Geography and Planning Committee of SSRC in May, 1981. The revised application was successful and permission was given to run the Cardiff Consumer Panel Diary Survey for 26 weeks (24 weeks plus a 2-week 'running in' period) from January to July 1982. In this section, three aspects of the design of the survey and recruitment of the consumer panel are considered. These are.

- (1) Design of the shopping diary which was to be used for data collection
- (2) Design of the multi-stage sampling scheme
- (3) Design and execution of a rigorous panel recruitment procedure

3.1 Design of the Shopping Diary

The unit of data collection selected for the Cardiff survey was a weekly *diary* of grocery activity. Each diary contained a set of printed (A4) pages or 'shop forms' which were to be completed in turn by the panellist as a record of food and grocery purchasing in *individual* shops. For survey purposes each week began on a Monday and finished on the following Sunday.

The objectives which governed the design of the diary were:

- (1) to provide sufficiently detailed information, for a variety of research purposes, on the food and grocery shopping behaviour of panellists and their households

- (2) to encourage detailed, accurate responses from panellists
- (3) to avoid intimidating panellists through an over-complex design and/or 'difficult' questions.

3.1.1 Basic Structure of the Diary

Each page of the diary could have been used to record grocery shopping during (i) a single day, (ii) a single shopping 'trip', or (iii) a visit to one shop. The final option was chosen because both the UWIST and Bristol research projects required information at this level of detail, because of problems relating to the definition of a shopping 'trip' and the communication of the definition to the panellists, and because of the increased chance of recall error (adversely affecting the quality of information recorded) associated with the first two options. However, this choice does not preclude subsequent analysis at other levels for information on the structure of shopping trips, or for individual days, may be recovered by grouping together the information from individual diary pages/shop forms.

Panellists were asked to fill in a diary page even if no food or grocery shopping took place that day. The main purpose of this procedure was to ensure that a continuous record of purchasing was returned. Interviewers assigned to panellists by the market research company were told to check that a record was completed for every day covered by a diary as a check on data quality.

3.1.2 Design of the Diary Page or 'Shop Form'

Figure 3.1 shows the design used for individual diary pages in the main survey. This is a modification of the piloted design (Figure 3.2) incorporating several improvements.

FOR OFFICE USE		Date	NO LISTED ITEMS BOUGHT THIS DAY <input type="checkbox"/>	TIME OF PURCHASE	MAIN FORM OF TRAVEL TO THIS SHOP/SUPPLIER		
Shop No	Day of Week	Person Buying		Before 10 a.m.	1	No travel	1
Week/day No	Monday 1	Panellist 1		10 - 12 Noon	2	Walked	2
	Tuesday 2			12 - 2 p.m.	3	Bus/Coach	3
	Wednesday 3	Other Household Member	2	2 - 4 p.m.	4	Car	4
	Thursday 4			4 - 6 p.m.	5	Train	5
	Friday 5			After 6 p.m.	6	Other (specify)	6
	Saturday 6	Non-Household Member	3				
	Sunday 7						
PRODUCTS PURCHASED (MARK WITH X BELOW)				CAME TO THIS SHOP/SUPPLIER FROM (PLACE)	WENT FROM THIS SHOP/SUPPLIER TO (PLACE)		
01	* Fabric conditioners	*	01	Supplier called	1	Supplier called	1
02	Washing-up liquid		02	Home	2	Home	2
03	Household soaps/cleaners/polishes		03	Workplace	3	Workplace	3
04	Washing powders/detergents		04	Shop where listed items bought	4	Shop where listed items bought	4
05	Kitchen foil/cling film		05	Shop where other items bought	5	Shop where other items bought	5
06	Matches		06	Other place (specify)	6	Other place (specify)	6
07	Paper kitchen towels/tissues/handkerchiefs		07				
08	Disinfectants		08				
09	* Toilet rolls/paper	*	09				
10	Bread, rolls, buns, scones, crumpets, etc		10				
11	Biscuits, crispbreads (any type)		11				
12	Cakes and pastries (fresh/packaged/frozen)		12				
13	Savoury snacks, crisps		13				
14	Plain flour		14				
15	Self-raising flour, cornflour		15				
16	Sugar (any type)		16				
17	Marmalade		17				
18	Jams, sweet spreads (other than honey/syrup)		18				
19	Honey, syrups, treacles		19				
20	Pastas, savoury/cheese spreads, pate		20				
21	* Canned baked beans (with tomato sauce only)	*	21				
22	Canned milk puddings		22				
23	Other canned desserts, canned custard		23				
24	Mixes (cake/pudding/pastry/dessert), custard powder		24				
25	Ice cream, frozen desserts, chilled desserts, etc		25				
26	Jellies		26				
27	Canned soups (any type)		27				
28	Dried/packet/cube soups		28				
29	Rice pasta products (not canned milk puddings)		29				
30	Breakfast cereals (any type)		30				
31	* Instant potato	*	31				
32	Other dried vegetables		32				
33	Fresh vegetables		33				
34	Frozen vegetables		34				
35	Canned/bottled vegetables		35				
36	Fresh fruit		36				
37	Frozen fruit		37				
38	Canned/bottled fruit		38				
39	Dried fruits, nuts, fruit and nut products		39				
40	* Margarine	*	40				
41	Butter		41				
42	Fresh liquid milk (including Long Life)		42				
43	Cream, yogurt, canned milk, milk powders		43				
44	Cheese (any type)		44				
45	Cooking fats, lard, suet		45				
46	Cooking oil		46				
47	Eggs		47				
48	Fresh meat, poultry		48				
49	Frozen meat, poultry		49				
50	Bacon, ham (uncooked)		50				
51	Sausages, meat pies, cooked meats, beefburgers		51				
52	Canned meat/ham/other meat products		52				
53	Fresh fish		53				
54	Frozen fish/fish products (not fish fingers)		54				
55	Fish fingers		55				
56	Canned/bottled/smoked fish		56				
57	* Instant coffee	*	57				
58	Ground, bottled coffee		58				
59	Cocoa		59				
60	Drinking chocolate, Ovaltine, Horlicks, Bournvita		60				
61	Tea (packet/bags/instant)		61				
62	Soft drinks, squashes, cordials (canned/bottled)		62				
63	Fruit juices (any pack)		63				
64	Sauces, pickles, salt, vinegar, stuffings, etc		64				
65	Meat/veg extracts, stock cubes, spices, herbs		65				
66	Baby food products (any type)		66				
67	Confectionery (chocolates and sweets)		67				
68	Other foods not listed (please specify below)		68				

SHOP/SUPPLIER	
Name	
Street	
District	
Town	

* MAKE/BRAND BOUGHT OF SELECTED ITEMS *	
FABRIC CONDITIONERS	TOILET ROLLS/PAPER
Comfort 1	Andrex 1
Lamor 2	Co-op own brand 2
Softlan 3	Dalsey 3
Spar own brand 4	Dixcel 4
Other (specify) 5	Isal 5
	Kleenex 6
	Other (specify) 7
BAKED BEANS	INSTANT POTATO
Chaf 1	Co-op own brand 1
Crosse & Blackwell 2	Smash 2
Heinz 3	Wondermesh 3
H.P. 4	Yaoman 4
Tesco own brand 5	Other (specify) 5
Other (specify) 6	
MARGARINE	INSTANT COFFEE
Blue Band 1	Brooke Bond
Echo 2	- Red Mountain 1
Flora 3	Co-op own brand 2
Krona 4	Maxwell House 3
Stork 5	Mellow Birds 4
Stork S.B. 6	Nescafé - Gold Blend 5
Tesco own brand 7	Nescafé - Standard 6
Other (specify) 8	Other (specify) 7

TOTAL AMOUNT SPENT ON LISTED ITEMS	£	P
TOTAL AMOUNT SPENT ON OTHER ITEMS	£	P
TOTAL AMOUNT SPENT ON ALL ITEMS	£	P

FIGURE 3 1 THE DIARY PAGE

DATE		NAME/ADDRESS OF SHOP	PERSON BUYING	START POINT		MAIN FORM OF TRAVEL TO THIS SHOP			
DAY OF WEEK				SELF 1	HOME 1	WALKED 1	BUS/COACH 2	CAR 3	TRAIN 4	OTHER 5
SUN	1		OTHER 2	WORKPLACE 2					
MON	2	THURS 5	(give details)	OTHER SHOP 3					
TUES	3	FRI 6	- - - - -	OTHER PLACE 4					
WED	4	SAT 7		(give details)				(give details)	
PRODUCTS PURCHASED (MARK WITH X BELOW)									
01	Breakfast cereals		01	Brand/Make/Type Bought (Write in below) (Of Breakfast Cereals)					
02	Sugar (any type)		02						
03	Marmalade		03						
04	Jams, sweet spreads (other than honey/syrup)		04						
05	Honey, syrups, treacles		05						
06	Pastes, savoury/cheese spreads, pate		06						
07	Confectionery (chocolates and sweets)		07						
08	Tea (packet, bags, instant)		08						
09	Instant coffee		09	Brand/Make Bought (Write in below) (Of Instant Coffee)					
10	Ground, bottled coffee		10						
11	Cocoa		11						
12	Drinking Chocolate, Ovaltine, Horlicks, Bournvita		12						
13	Fresh vegetables		13						
14	Frozen vegetables		14						
15	Canned/bottled vegetables (other than baked beans)		15						
16	Canned baked beans		16						
17	Instant potato		17	Brand/Make Bought (Write in below) (Of Instant Potato)					
18	Other dried vegetables		18						
19	Fresh meat, poultry		19						
20	Frozen meat, poultry		20						
21	Bacon, ham (uncooked)		21						
22	Sausages, meat-pies, cooked meats, beefburgers		22						
23	Canned meat/ham/meat products		23						
24	Fresh fish		24						
25	Frozen fish/fish products (other than fingers)		25						
26	Frozen fish fingers		26						
27	Canned/bottled/smoked fish		27						
28	Fresh liquid milk (including Long Life)		28						
29	Cream, yogurt, canned milk, milk powders		29						
30	Cheese (any type)		30						
31	Margarine		31	Brand/Make Bought (Write in below) (Of Margarine)					
32	Butter		32						
33	Cooking fats, lard, suet		33						
34	Cooking oil		34						
35	Eggs		35						
36	Fresh fruit		36						
37	Frozen fruit		37						
38	Canned/bottled fruit		38						
39	Dried fruit, nuts, fruit and nut products		39						
40	Rice, pasta products (not canned milk puddings)		40						
41	Canned soups (any type)		41						
42	Dried/packet/cube soups		42						
43	Sauces, pickles, salt, vinegar, stuffings, etc		43						
44	Meat/veg extracts, stock cubes, spices, herbs		44						
45	Bread, rolls, buns, scones, crumpets, etc		45						
46	Biscuits (sweet, plain, savoury etc), crispbreads		46						
47	Cakes and pastries (fresh/packaged/frozen)		47						
48	Plain flour		48						
49	Self-raising flour, cornflour		49						
50	Mixes (cake/pudding/pastry/dessert), custard powder		50						
51	Canned milk puddings		51						
52	Other canned desserts, canned custard		52						
53	Ice-cream, frozen desserts, chilled desserts etc		53						
54	Jellies		54						
55	Savoury snacks, crisps		55						
56	Soft drinks, squashes, cordials (canned/bottled)		56						
57	Fruit juices (any pack)		57						
58	Baby food products (any type)		58						
59	Other foods not listed above		59						
60	Washing powders/detergents		60	Brand/Make Bought (Write in below) (Of Washing Powder/ Detergent)					
61	Washing-up liquid		61						
62	Household soaps/cleaners/polishes, matches		62						
63	Paper kitchen towels/tissues/handkerchiefs		63						
64	Disinfectants		64						
65	Toilet Rolls/paper		65	Brand/Make Bought (Of Toilet Rolls/paper)					
TOTAL AMOUNT SPENT ON MARKED ITEMS			£		P	FOR OFFICE USE ONLY	Q ORDER	WEEK No	RESP No
TOTAL AMOUNT SPENT IN SHOP (ALL GOODS)			£		P		1		

FIGURE 3 2 PILOTED DESIGN OF THE DIARY PAGE

The modified diary page contains the following information:

- a) date, day of week
- b) person buying
- c) trip characteristics
- d) name of shop visited or name of supplier who called
- e) products purchased at that shop or bought from a supplier who called
- f) make or brand bought for six selected items
- g) total expenditure on all *listed* items, and on all items (listed and otherwise) in that shop

Most of this information will be self-explanatory. However, parts c, e and f may require further clarification.

(a) Trip characteristics

Though each page refers to purchases in individual shops, information on *shopping trips* is available. Each page contains three pieces of information which may be used to compose a picture of trip behaviour. These are

- (1) the question '*came to this shop from (Place)*', which is used to represent the origin of the shopping trip
- (2) the question '*went from this shop to (Place)*', which is used to represent the destination of the shopping trip
- (3) the question '*Time of Purchase*' which is used to order the purchasing correctly and to distinguish single trips to several shops from frequent single purpose trips.

A shopping trip can thus be composed by scanning diary pages in turn looking for origins and destinations. The '*Time of purchase*' acts as an added check on the validity of this hypothesised trip. The following sorts of trips are easy to recognise

- (1) single purpose trips from some origin (home) to single shops which terminate at the origin (home-shop-home trips)
- (2) multi-purpose trips involving several shops where listed items are purchased
- (3) work-based trips
- (4) other origin-destination combinations.

Slight difficulties emerge if a panellist visits a shop where listed items are not sold, or if the shopping trip includes a significant time-gap. In such cases the origin/destination information may not be clear, and the gap may suggest missing information.

(b) Products Purchased

The checklist of products purchased is very similar to that used in the pilot study, which was generally found to offer few difficulties to respondents. A small number of items were added to the pilot study list and respondents were also asked to specify any 'other foods not listed', rather than simply marking this category.

It is useful here to explain briefly the objectives that lay behind the selection of the 68 food and grocery items in the diary checklist.

These may be listed as

- (i) to allow meaningful categories or 'bundles' of goods to be subjected to analysis in the UWIST research programme,
- (ii) to allow a number of specific food and grocery products to be identified for analysis in the Bristol research programme,
- (iii) to allow broad comparisons to be made between the diary data and other information on purchasing habits, such as the Family Expenditure Survey reports,
- (iv) to assist rapid and accurate diary completion by providing easily recognisable and unambiguous categories,
- (v) to avoid omitting any important food or grocery item, apart from those which respondents were specifically asked *not* to record (eg. pet food),
- (vi) otherwise, to minimise the length of the list.

The result is a list which, while generally fulfilling criteria (iv) - (vi), is composed of 6 specific items required by the Bristol research programme (nos. 1, 9, 21, 31, 40, 57), and other broader categories designed simply to cover the remaining spectrum of food and grocery items while fulfilling criteria (i).

(c) Ordering of products

In general, similar products are grouped together (eg. 01-09, non-foods, 31-39, fruits and vegetables).

In order to investigate whether there is any bias towards reporting of products at particular points in the list (eg. around the middle), two lists were issued to respondents. The first list, printed on white paper, contained products 01-68 in correct order, the second list, printed on yellow paper, ran from 1-20, 40-67, 21-39, 68. Panellists received the same colour diary throughout the survey period; also an alphabetical reference list of all products and associated checklist categories (see Appendix A) to assist the recording of purchases.

(d) Make or Brand bought of Selected Items

The Bristol research programme required the reporting of brands chosen for six grocery items. Items were chosen which were expected to be purchased relatively frequently, and/or which appeared to have a small number of popular brands, and which were always clearly identifiable as pre-packaged and branded groceries. Five of the six items were included in the pilot study. 'Washing powder/detergent' was found unsatisfactory and replaced by 'fabric conditioner' in the main survey.

Reporting of brands was carried out in the pilot study by asking respondents to write in the brand purchased. This did not prove entirely satisfactory, and for the main survey respondents were asked to ring a code number for the brand chosen. If the brand was not listed on the diary page, the respondent would write it in below the list. The brands listed on the page included all those which we felt were likely to be important in the Cardiff area, based on both local knowledge and national sales information. Each list also included an 'own brand' selected at random from the many available in Cardiff.

The purpose of this was to prompt the mention of that or other own brands, where purchased. A complete list of the brands reported by panellists is given as Appendix B.

3.2 Selection of Study Areas and the Structure of the Sampling Design

The selection of both the study areas and the structure of the sampling design rests intimately upon the most central needs of the UWIST and Bristol research projects. Clearly, a most important consideration was the character of the conclusions each project wished to draw. From the outset both were more concerned with being able to make comparisons of shopping behaviour between geographically distinct areas within a single city than with making inferences about general patterns of consumer activity.

A set of such areas was thus required rather than a single area. Each of these areas (eight in number) was selected according to stratifications of three pre-selected binary indicator variables. Within each of these eight areas a sample of 225 households was drawn by systematically sampling the 1981-1982 electoral roll. These households were then approached by the market research company and invited to become members of the panel. It was expected that between 600 and 700 households would be prepared to do this. The combined list of 1,800 households was somewhat larger than originally anticipated, but was considered to be the minimum necessary to ensure that between 450 and 500 households would still be active in the survey at the end of the 24 week survey period.

3.2.1 Selection of Study Areas

In the pilot study a stratified multi-stage sampling frame was used to establish suitable locations for limited surveys. The main survey continued this approach by selecting eight areas from a random sample of 50 enumeration districts in Cardiff (1971 census classification). These areas were chosen from the strata of three binary indicator variables which were selected beforehand. These were

- (1) accessibility to local shops (divided into 'good' or 'poor' on the basis of more than or less than eight food shops within a quarter mile of the centroid of the enumeration district),
- (2) accessibility to district centres as defined by the South Glamorgan Structure Plan (divided into 'good' or 'poor' on the basis of a district centre located more than or less than a half mile of the centroid of the enumeration district,
- (3) potential mobility (divided into 'good' or 'poor' on the basis of the district car ownership rate of above or below 0.5 cars per household).

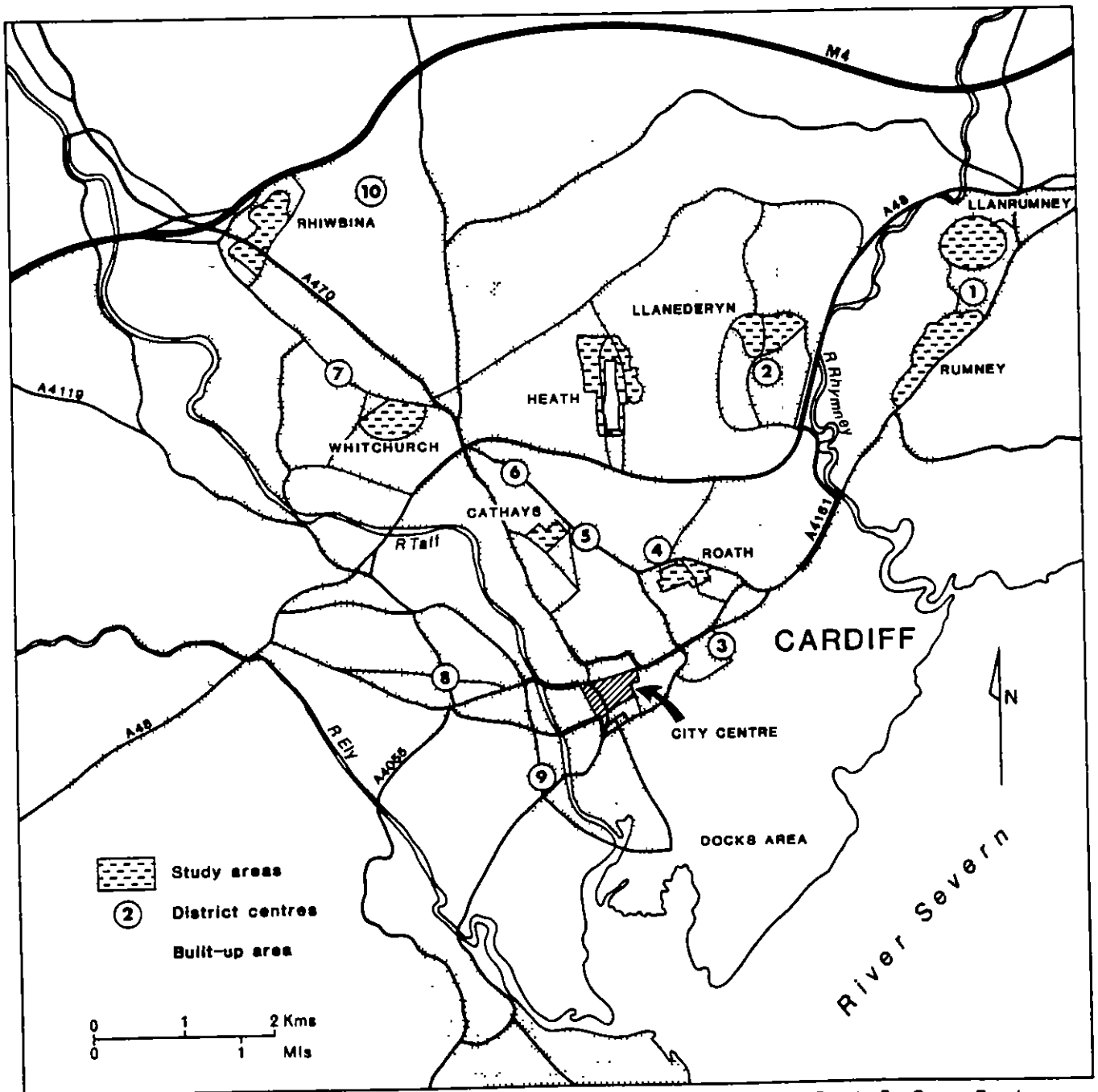
Within each stratum a single enumeration district was then selected at random. However, this selection was subject to two considerations

- (1) that selected areas had to be located to the east of the River Taff and to the north east of the city centre,
- (2) that if a sufficient sample of households could not be recruited from the selected areas, contiguous enumeration

districts which shared similar characteristics could be included to meet sampling requirements.

The second consideration proved to be particularly important because the experience gained by the pilot study indicated that panel requirement was a more difficult task than originally anticipated. The original estimate of the number of households to be visited was thus increased from 1200 to 1800 (225 households in each of the eight areas). A single enumeration district clearly could not provide 225 households and still retain any resemblance to random selection. Two extra enumeration districts were therefore added to each of the eight original selections creating small clusters across the city. (Figure 3.3). The characteristics of these areas according to the stratifications of the three indicator variables are given in Table 3.1.

Candidates for seven of the eight stratifications were found without difficulty but the eighth, referring to poor local shop accessibility, good district centre accessibility and poor potential mobility, was impossible to match. However, it should be noted that the Llanedeyrn area is almost an acceptable candidate. Its car ownership figure of exactly 50% across the three enumeration districts puts it in the 'good' potential mobility category. Clearly, this figure is sufficiently marginal to warrant the area's treatment as being representative of both strata. An eighth area was selected to meet the sampling criteria. This area, designated 'Heath', is a second representative of stratification PPG (poor local shop accessibility, poor district centre accessibility but good potential mobility). Once these areas were established lists of 225 households were drawn up



Key to District Centres 1 Countisbury Avenue 2 Maelfa 3 Leo's, Splott 4 Albany Road 5 Crwys Road
 6 Whitchurch Road 7 Merthyr Road 8 Cowbridge Road East 9 Clare Road 10 Hoel-y-deri

FIGURE 3 3: THE STUDY AREAS AND DISTRICT CENTRES IN CARDIFF

Note Centres (1) and (10) were not regarded as district centres in the process of selecting study areas.

Table 3.1. Characteristics of Selected Study Areas

Area Name	Combined Number of Households	Local Shop ¹ Code	District ² Centre Code	Mobility ³ Code
Rumney	586	P	P	P
Rh1wb1na	609	P	P	G
		P	G	P
Llanedeyrn	425	P	G	G
Llanrumney	681	G	P	P
Whitchurch	557	G	P	G
Roath	516	G	G	P
Cathays	510	G	G	G

Notes

- 1 Code P = less than eight local food shops
Code G = more than eight local food shops
- 2 Code P = distance to district centre exceeds $\frac{1}{2}$ mile
Code G = distance to district centre less than $\frac{1}{2}$ mile
- 3 Code P = car ownership level less than 50%
Code G = car ownership level exceeds 50%

for each area by systematically sampling the appropriate electoral rolls.

3.2.2 Sampling Procedure

(a) Preparation

After the eight study areas had been selected using the 1971 enumeration district map of Cardiff, systematic sampling of the 1981-1982 electoral roll for the city was used to select an initial list of addresses for panel recruitment. Because of the obvious difference in the dates of both sampling frames great care had to be exercised to ensure that the two frames matched each other. A particularly important task was to identify and remove from the electoral roll all those properties not located inside the study area boundaries as given by the 1971 enumeration district map. This usually meant excluding one side of a street or, in the older areas nearer the city centre, omitting sections of streets lying across the boundary.

The procedure used to ensure a match between both frames consisted of several stages. First, the boundaries of the eight study areas had to be established. This was achieved using the ordnance survey 1:1250 map series for the city. These maps show the house numbers along streets and thus provide an accurate means of discriminating between properties near the boundaries of the areas. Second, once the boundaries of the areas were established a complete alphabetical list of the roads in each area was made. These were created by visual inspection of the 1:1250 maps but were checked against the appropriate

electoral rolls for discrepancies. This was possible because the electoral roll is organised by parliamentary constituency polling districts and 1971 wards in effect a reasonably complete roster of electors in specified and well-defined areas. Few discrepancies, if any, were found. Third, using these alphabetical road lists the total number of electors in the areas was established. These figures had to be calculated to calibrate an appropriate sampling interval for each area which would allow 225 households to be given an equal chance of selection by systematic sampling. The fourth stage was the sampling itself.

(b) How the procedure operates

The object of the sampling procedure was to establish lists of 225 households in each of the eight areas. As far as possible all households in the study areas should have an equal chance of being selected. However, any simple way to ensuring this was frustrated because the electoral roll is not a roster of households but a list of electors who come from households of varying size. Some method of acknowledging this fact thus had to be developed.

The procedure used in the study, known as 'firsting', is an adaptation of the method reported by Hoinville *et al* (1978). It works in the following way.

- (1) establish the population of the study areas from the electoral rolls (N) and divide this by the number of households required in the sample. This gives the sampling interval (I)

$$I = \frac{N}{225}$$

In the ideal case where N refers to households and not electors the selection procedure can be completed in a single stage with the sample being made up of households located at I intervals down the list. Of course this is not possible because of the character of the electoral role.

- (2) The second stage involves scaling each of the eight Ns by a factor (λ) which reflects the average number of electors per household in that area. λ can be established empirically by inspecting the rolls and assuming that all residents at an address are in the same household or, theoretically, using a figure derived from the previous experience of established research agencies such as SCPR (Social and Community Planning Research). A figure of 2.2 is often reported, but sometimes has to be enlarged if the study area tends to be predominantly private residences. As Hoinville *et al* (1978, p.79) point out

"A divisor at 2.5 (3 in London) provides a safety margin for institutions to be excluded and for the possibility that the district has an above average ratio of electors to addresses".

In all eight cases the value of I was divided by $\lambda = 2.5$ to produce a new sampling interval I'. This figure was rounded up to the nearest whole number before using the rolls to select the sample.

- (3) Once I, λ and I' have been established it is possible to begin sampling properly. Two conditions have to be imposed however. First, that the starting point, which was to be between 1 and I, is drawn randomly

from random numbers tables. Second, that the user progresses down the roll at intervals at I' including households in the list to be surveyed *only* if the elector is the first listed at the address. Because the list of N electors has been modified by λ to turn it into a list of households and the firsting procedure is being applied, each household automatically has an equal chance at being selected

On occasions, where more than 225 addresses were selected the surplus was removed either (a) by systematic elimination if the number was small (i.e. less than 25) or (b) by choosing a set of random numbers between 1 and the size of the selected sample (the size of the set obviously being equal to the size of the surplus) and eliminating the entries corresponding to these numbers.

In a few cases a small deficiency was found. This is more difficult to deal with. The procedure employed was to repeat the systematic selection process with a new value of λ , but to search only for that number of households sufficient to make up the deficiency.

3.3 Panel Recruitment Procedures

The objective of the recruitment stage was to establish a panel who would complete weekly diaries recording their shopping behaviour over a six month period. Following a two week 'running-in' stage, it was hoped that 450-500 panellists would complete diaries for a further twenty-four weeks.

Since frequent personal contact between panellists and the fieldworkers was regarded as essential if continuity of reporting was to be maintained, it was planned that each panellist would be visited every other week by her (or his) interviewer once the recruitment stage was completed. For weeks when the interviewer was not due to call, the diary would be returned by post.

3.3.1. Basic Organisation

The initial plan was for the recruitment stage to be spread over three weeks. The week immediately following this period (25-31 January) would then become the first week proper of diary completion

In the event, this schedule was disrupted by the exceptionally heavy snowfalls on Friday and Saturday 8th/9th January. No fieldwork could be conducted between the 8th and 18th January and as a result the recruitment stage was not completed until 7th February. The detailed timetable appears at the end of this section.

UWIST selected 225 addresses in each of the eight areas of Cardiff chosen for the study and these were split between two interviewers. Every pre-selected address was visited and an interview was completed, if possible, with every household found at the address. A short questionnaire was used and up to three calls in total were made to each household before a non-interview was accepted.

A household was defined, for the purposes of this research, as a group of people living together regularly at the address who are all catered for (for at least one meal a day) by the same person. The respondent was the person in the household responsible for buying most of the groceries and provisions consumed by the household.

Once the interview had been completed, the respondent was asked whether she or he would be willing to help with diary completion over the 'next few months'. Those likely to participate were visited the following week and as many as possible were 'converted' into full panel members. The process of diary completion and what it would involve was fully explained to potential panellists. It was emphasised that they would receive a monetary token of appreciation every four weeks as long as diaries had been completed properly over that period. If pressed, the interviewers told respondents that the study was being undertaken by UWIST and the University of Bristol.

Certain persons were deliberately not recruited.

- 1) Those who would shortly be moving away from the address;

- ii) Those who knew they would be away for a period of more than two weeks during the next few months.
- iii) Those who read or wrote with difficulty or seemed mentally impaired
- iv) Those who were considered by the interviewer to be totally incapable of completing diaries for some other reason.

Once the respondent had agreed to participate, she or he was given the first diary (for Week 01 25-31 January) and a folder of information about the survey. This was to be retained by the panellist throughout the survey period and contained a free ballpoint pen, notes on diary completion, a check list of products to aid correct identification and spare diary pages.

The following week (Week 02 1-7 February) all panellists were visited so that the diaries for Week 01 could be collected and checked. Half of the panel was then told that the fieldworker would call again the following week, while the other half was told that they should post their diaries for Week 02 to Research and Marketing, since the interviewer would not call again until Week 04. A pre-paid envelope was supplied for this purpose.

It was at this point, at the end of Week 02, that the formal recruitment stage was considered to have finished. In the event, certain panellists commenced diary completion in Weeks 02 and 03 (rather than Week 01) but the same basic procedures applied. We now show the success rates achieved and describe the way the recruitment

actually progressed.

3.3.2 Initial Interviews

Table 3.2 shows the sample success rate within each of the eight areas, as far as the initial questionnaire was concerned. It also indicates, at the bottom of the table, the number of panellists eventually recruited within each area.

The proportion of households at which an interview was completed varied significantly by area from 49% in Roath to 80% in Llanrumney. Willingness to complete diaries also shows marked variation around the overall level of 30% of households selected from 11% in Roath to 46% in Rhwbona.

In four of the areas there was no need to visit more than the 225 addresses originally selected, in order to obtain a satisfactory number of panel members. In Roath, Whitchurch, Rumney and Heath, however, it soon became obvious that extra addresses would be needed if sufficient panellists were to be recruited. In the case of Roath, where the level of co-operation was especially low, a further 91 addresses were visited the required number of times and interviews were attempted whether or not the respondent wished to be a member of the panel. In the other three areas, extra households were selected and visited with the sole aim of recruiting further panellists. Interviews were only completed at these addresses if the respondent wished to complete diaries, which is why these households/interviews appear separately in the Table.

Table 3.2 Success Rates

	<u>TOTAL</u>	<u>A/B</u> <u>Rhiwbina</u>	<u>C/D</u> <u>Whitchurch</u>	<u>E/F</u> <u>Cathays</u>	<u>G</u> <u>Roath</u>	<u>J/K</u> <u>Rumney</u>	<u>L/M</u> <u>Llanrumney</u>	<u>N/P</u> <u>Llanedeyrn</u>	<u>Q/R</u> <u>Heath</u>
Households selected	1891	225	225	225	316	225	225	225	225
Non-interviews									
No.	696	63	101	62	162	92	45	93	78
%	37	28	45	28	51	41	20	41	35
Interviews									
No	1195	162	124	163	154	133	180	132	147
%	63	72	55	72	49	59	80	59	65
Extra households	121	-	67	-	-	32	-	-	22
Extra interviews (panellists only)	42	-	19	-	-	17	-	-	6
Total households	2012	225	292	225	316	257	225	225	247
* Panellists									
No	605	104	77	82	36	75	102	73	56
%	30	46	26	36	11	29	45	32	23

* A 'panellist' is defined as someone expressing an intention to be a panel member and accepting a diary for completion
50 panellists failed to complete even one diary

The differences between areas in terms of interviews completed and panellists recruited - and between the two parts of the same area in some cases - are largely related to variations in the demographic and socio-economic features of each district. Further details are given in Section 5.

However, we would like to elaborate further on the situation encountered in the particular part of Roath covered by the study. This district consists mainly of large, older houses subdivided into flats and let privately on a short term basis to students and others on low incomes. A substantial number of foreigners live in the district and much of the property is in a state of decline.

One of the main problems was finding persons at home to be interviewed, although the refusal rate was also above average. It soon became clear that extra addresses would be needed if sufficient panellists were to be recruited and even then the number eventually obtained was not enough to warrant using two interviewers in the area. As a result, all 36 panellists in Roath were allocated to the one fieldworker under the letter 'G', and letter 'H' was not used.

The completed questionnaires - 605 for panellists and 632 for non-panellists - were edited before being passed to DCMS for punching onto tape. Columns 1 - 4 were left blank so that a 'location of address' code could be added later, prior to analysis.

3.3.3 Panel Recruitment

Of the 2,012 households who were visited over the recruitment period, 605 (30%) expressed an intention to be a panel member and therefore accepted a diary for completion. The corresponding result in the pilot work completed at the end of 1980 was 32% of households selected.

551 started with a Week 01 diary, of whom 45 failed to complete it; 35 started with a Week 02 diary, of whom 3 did not complete it; 19 started with a Week 03 diary, of whom 2 failed to complete it. In all, therefore, 50 of the panellists recruited did not complete even one diary. Table 3.3 shows in more detail how the composition of the panel changed over the vital first three weeks of diary completion.

The relatively high loss of panellists in Llanrumney during Week 01 was almost entirely the result of 'over-selling' on the part of one interviewer covering that area. A significant (but small) number of the panellists she recruited should never have been regarded by her as having any real intention of participating. By the end of Week 01 these panellists were *sure* they did not wish to proceed further.

The changes in the panel over Weeks 04 and 05 are not shown on Table 3.3 but it was not until Week 05 that the panel could be considered to have stabilized. Until then, the number of panellists lost each week was falling and it was only after Week 04 that this number finally settled at between zero and three.

Table 3 3 Number of Panellists (Weeks 01 - 03)

AREA	WEEK 01		WEEK 02		WEEK 03	
	Began	Completed	Began	Completed	Began	Completed
RHIWBINA	104	100	100	98	98	98
WHITCHURCH						
Started Wk 01	58	58	58	52	52	49
Started Wk. 03	-	-	-	-	19	17
Total	58	58	58	52	71	66
CATHAYS	82	80	80	79	79	78
ROATH						
Started Wk 01	26	23	23	23	23	23
Started Wk 02	-	-	10	10	10	10
Total	26	23	33	33	33	33
RUMNEY						
Started Wk. 01	58	51	51	50	50	50
Started Wk 02	-	-	17	14	14	13
Total	58	51	68	64	64	63
LLANRUMNEY						
Started Wk 01	100	82	82	78	78	75
Started Wk 02	-	-	2	2	2	2
Total	100	82	84	80	80	77
LLANEDEYRN	73	68	68	68	68	64
HEATH						
Started Wk 01	50	44	44	43	43	43
Started Wk. 02	-	-	6	6	6	6
Total	50	44	50	49	49	49
GRAND TOTAL						
Started Wk 01	551	506	506	491	491	480
Started Wk 02	-	-	35	32	32	31
Started Wk 03	-	-	-	-	19	17
TOTAL	551	506	541	523	542	528

Panellists

<i>Dates</i>	<i>Week</i>	<i>Started Week</i>	<i>Finished Week</i>	<i>Loss</i>
25-31 Jan.	01	551	506	45
1-7 Feb.	02	541	523	18
8-14 Feb.	03	542	528	14
15-21 Feb.	04	528	519	9
22-28 Feb.	05	519	518	1
1-7 Mar.	06	518	516	2

The recruitment and 'running-in' stages of the project finished on 7th February, with the first week of effective diary completion being designated as Week 03. The diaries completed for that week were the first to be edited, coded and punched. All of the diaries for Weeks 01 and 02, although neither coded nor punched, were examined and thoroughly checked so that misunderstandings and errors on the part of both panellists and fieldworkers could be corrected. The aim was to achieve a satisfactory standard of diary completion as soon as possible.

3.3.4. Summary of Recruitment Timetable

The complete schedule of events over the recruitment period was as follows -

Briefing of interviewers	4 January, 1982
Initial fieldwork	. 5-7 January
Break in fieldwork because of heavy snowfall	. 8-18 January
Further interviewing	19-30 January
Extra addresses visited	. 1-7 February

Running-in period		25 Jan-7 Feb. (Wks.01/02)
Diary period proper started	.	8 February (Wk. 03)
Final interviewing (non-panellists) :		26 Feb - 20 March.

4. COLLECTION AND CODING OF DIARY DATA

This section outlines the various measures that were taken over the period of the research to maintain both the continuity of diary reporting and the quality of the information obtained from each panel member. They are described under three principal headings.

- a) Fieldwork organization
- b) Diary editing and coding
- c) Initial data processing

Throughout the nine month period of the project the progress of each stage was carefully monitored and regularly reviewed with the Market Research Company. Problems which arose were quickly isolated and any necessary action was taken.

4.1 *Fieldwork Organization*

4.1.1 Continuity of Reporting

It was essential that, following the 'running-in' period of about two weeks, as many panellists as possible should complete diaries for the full twenty-four weeks. With this aim in view, frequent personal contact between each member of the panel and her (or his) fieldworker was considered a necessity.

It was therefore planned that, once the recruitment stage was completed, each panellist would be visited fortnightly by the fieldworker concerned. For weeks when the fieldworker was not due

to call, the panel member would be asked to return the diary by post. Panellists would remain with the same fieldworker throughout the survey period, so that friendly and effective relationships could be established.

Although 54 panellists commenced diary completion in Weeks 02 and 03 (rather than Week 01), the formal recruitment stage was considered to have finished at the end of Week 02 (7th February). 542 panellists commenced Week 03, the first week proper of diary completion, but it was not until Week 05 (22nd - 28th February) that the panel could be considered to have stabilised. 519 members of the panel started Week 05 and it was only with this week that the number of panellists lost each week settled between zero and three.

The average number of panellists lost each week over the full twenty-four week period 03-26 was 2.5, but if Weeks 03 and 04 are excluded, the weekly average loss falls to 1.7. 481 panellists completed a diary for Week 26, 80% of the total number originally recruited and 89% of those starting Week 03. The various measures taken to maintain continuity were obviously successful and these are now described in some detail.

4.1.2 Fieldwork Administration

(a) Initial briefing

All fieldworkers working on the project were provided with printed

instructions and were fully briefed at an all-day meeting by Head Office and University staff on 4th January 1982. This meeting was in two major parts. The morning session covered the basic procedures that fieldworkers would be required to follow over the period of the research, commencing with the recruitment stage and proceeding to the weeks of routine diary completion, while the afternoon period was devoted to the diary document itself and how it was to be completed by respondents.

Each fieldworker working on the study had to become totally familiar with all aspects of diary completion so that she could help and encourage her panellists when necessary. This meant that each fieldworker had to read and absorb the contents of the folder given to every member of the panel when she or he was recruited. This contained instructions on how the diary was to be filled in (Appendix C), a check list of products (Appendix A) (indicating where particular items were to be entered on the diary page when bought), spare diary pages and a free ballpoint pen.

Panellists were not told exactly how long the survey was planned to run, since it was believed that knowledge of the study's duration might jeopardise their participation. They were merely informed that their help was required over 'the next few months'.

At the briefing, each fieldworker was given a detailed timetable covering the first eight weeks of the project. The various tasks to be undertaken were listed week by week, although the weeks shown on the timetable were later 're-dated' following the break in fieldwork from 8th-18th January brought about by the exceptionally heavy snowfalls in Cardiff on 8th/9th January.

(b) Fieldworker timetable

The fifteen fieldworkers who worked on the study were given four timetables at intervals during the research, covering Weeks 00 - 07, 08 - 15, 16 - 23 and finally Weeks 24 - 27. They are shown as Table 4.1. These timetables told them exactly what they had to do during each week of the project, firstly in terms of their contact with the panel and secondly in terms of their contact with the Research and Marketing office.

As far as the panel was concerned, each fieldworker had to perform the following tasks each week

- 1) Deliver diaries for that week to *all* of her panellists. This task was to be completed as early as possible, preferably on the Monday, the first day of diary completion. The diaries were placed in envelopes and put through the letter-boxes of the panellists.
- 11) Call on the *half* of her panellists not seen the previous week so that she could pick up and check the diary completed for that week. She also handed over a postage paid envelope for the return of the current week's diary - since she would not be calling again until the week after next.

The main variation in this routine came when participants received their financial incentive. As long as diaries had been completed satisfactorily, panellists received £4 for each four week period, paid by the fieldworker in the week following the period. Half of the panel was paid in one week and half in the following week, during the routine calls made by each fieldworker. On each payment occasion, the

panellist signed a document to certify that the money had been received.

The first payments were made in Weeks 06 and 07, covering Weeks 01 - 05 and 01 - 06 respectively, with further payments in Weeks 10/11, 14/15, 18/19, 22/23 and finally Week 27. On the last occasion, all panel members received either £5 (for Weeks 22-26) or £4 (for weeks 23-26), plus a £1 bonus for remaining on the panel to the end.

Once she had made all of her calls each week, the fieldworker returned to the Office of the Market Research Company (Research and Marketing (Wales and the West) Ltd.) in order to deliver and to pick up the various materials used in the research

- 1) Give office the diaries collected for the previous week, together with completed receipt slips if payments had been made.
- 11) Pick up the diaries to be delivered early the following week, together with postage paid envelopes for the half of the panel due to be called on that week. Respondent payments plus blank receipt slips were also collected if needed the following week.

Finally, at the very end of each week, fieldworkers were contacted by telephone and told which of their panellists due to return a diary by post had not in fact done so. This could then be queried with the panellists concerned when they were visited the following week. It was soon found that a small minority of panellists had to be visited *every* week if their continuity of reporting was to be maintained.

However, this procedure was only followed if absolutely essential to retain the panellist.

(c) Control in the Research and Marketing Office

One member of the Research and Marketing office staff, helped from time to time by others, was specifically assigned to deal with the fieldworkers when they called in with their completed diaries. She checked the documents brought in and prepared the various materials that were to be picked up each week, particularly the blank diaries. These were stamped on the front cover with the week number and dates (Monday to Sunday) before being given to the fieldworkers. The fieldworker herself was responsible for adding the respondent numbers and addresses before delivering the diaries to her panellists. She was also provided with printed labels to be stuck on to the front cover in the space provided. These indicated either that the diary would be collected by the fieldworker (and when), or that it should be posted by the panellist using the envelope provided.

All completed diaries, whether collected by fieldworkers or arriving through the post, were systematically logged as received, so that it was easy to establish which diaries were missing. These could then be queried with the fieldworkers concerned. Detailed records were kept for each panel member of diaries received, days holiday taken, missing diaries etc. and at the end of the study we were able to compile a panellist by week matrix summarising this information (Appendix E). We were also able to provide, on a regular basis, a statement of panel size by area and details of the panel members who had given up

or been removed from the panel because of inadequate reporting.

4.1.3. Fieldwork Supervision

There is always a danger with projects of this type that fieldworkers will begin to lose interest and that the standard of fieldwork will consequently start to decline. Because of this tendency, it was essential that the fieldworkers should be closely supervised and at the same time generally encouraged throughout the entire period of the study.

We have indicated in the previous section how fieldworkers were in regular and frequent personal contact with the Research and Marketing office staff and any problems which arose could be dealt with quickly and efficiently. The advisory role of the office was particularly important at the beginning of the project, when both fieldworkers and panellists were learning what was expected of them.

During Week 02 all field staff were reminded in writing of certain points in the instructions which were tending to be overlooked. In particular, the importance of checking all completed diaries *before* they left the panellists was emphasised. Fieldworkers were further formally reminded about this during Weeks 05 and 12 and supplementary instructions on a variety of other matters were provided as and when required.

The completed diaries for Weeks 01 and 02 were neither coded nor punched but they *were* examined minutely and thoroughly checked

by Research and Marketing so that misunderstandings and errors on the part of both panellists and fieldworkers could be corrected. The aim was to achieve a satisfactory standard of diary completion as soon as possible.

Following the detailed examination of these early diaries, each fieldworker was given a list of the errors made by her panellists. Some of the mistakes had arisen because of misunderstandings on the part of the fieldworker when explaining the procedures to the panellists. If it was suspected that a panellist might be consistently making the same error, then her diaries for a number of consecutive weeks were examined. This feedback from office to field staff to panellists continued as long as necessary in subsequent weeks and to some extent throughout the entire survey period.

The errors occurring in the early stages and which were quickly handled as described, involved such mistakes as using ticks instead of crosses, marking crosses in the wrong places, misunderstanding of 'amount spent', ringing words instead of code numbers, forgetting to complete the days absence section inside the front cover (Figure 4.1) - and other simple to correct mistakes of this nature

In order to encourage a consistently high frequency of reporting by the panel, the basic remuneration of fieldworkers was linked to the number of panellists from whom they collected completed diaries each week. Fieldworkers were also provided with two special financial incentives during the course of the study, the individual bonuses involved being based on the number of panellists that each was handling

FILLING IN YOUR DIARY

1. Each new diary starts on Monday and you must complete it daily, finishing on Sunday.
2. Fill in a separate page for each shop/supplier from which you purchase any of the products listed. Do not record regular deliveries of milk.
3. We are only interested in purchases made by yourself or by other persons on your behalf. Items bought to be given away to someone else must be entered in the diary, but presents given to you or members of your household must not be recorded.
4. If you purchase a product which is asterisked (*), indicate the make/brand that was bought in the box provided on the right of the page.
5. If none of the products listed are bought on a particular day, then still complete a diary page for that day, by putting a cross (X) in the box provided at the top of the page.
6. If you need more pages for the week, then use some of the spare pages you have been given and insert these inside the back cover.
7. Make a note of any queries that you have about filling in the diary, so that you can ask your interviewer when next she calls. Use the back of a diary page or the inside of the back cover.

PLEASE READ THE INSTRUCTION SHEET 'HOW TO FILL IN YOUR DIARY' THOROUGHLY.
REFER TO THIS AND THE 'CHECK LIST OF PRODUCTS' WHEN FILLING IN YOUR DIARY.

HOUSEHOLD AT HOME OR AWAY (MARK WITH X BELOW)			
DAY	HOUSEHOLD AT HOME	ALL HOUSEHOLD MEMBERS AWAY	REASON(S) FOR ABSENCE (IF ALL HOUSEHOLD MEMBERS AWAY)
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			
HAVE YOU FILLED IN A DIARY PAGE FOR EACH OF THESE DAYS ?			

FIGURE 4.1 INSIDE FRONT COVER OF DIARY.

in Weeks 06 and 26.

4.1.4 Contact with the Panellists

Continuity of reporting was directly influenced by three factors. the degree of interest in participation, the rewards offered for panel membership and the ease with which panel members could supply the information required.

We have already described how each panel member was visited regularly and frequently by her (or his) fieldworker and have outlined the method of participant remuneration that was employed. However, confusion about the information required and what each panellist was supposed to do was a great destroyer of interest. As a result, the educational role of the fieldworker, especially in the early stages of the study, also merited serious consideration.

It was emphasized at the fieldwork briefing that it was in everybody's interest for sufficient time to be spent at the recruitment stage explaining the procedure properly and fully to participants. At the very end of the notes given to panellists describing how the diary was to be filled in (Appendix E), respondents were reminded that 'your interviewer will be visiting you regularly to collect the completed diaries and to help you in any way she can' They were also told to make a note of any queries so that they could ask the fieldworker when next she called.

We have already indicated how this educational role of the fieldworkers was reinforced by the detailed checking undertaken in the Research and Marketing office

particularly of the diaries for Weeks 01 and 02. Misunderstandings and errors at this early stage (and to a lesser extent over the entire survey period) were thereby soon corrected.

Although the principal contacts with the panel members were through the fieldworkers, panellists also received a number of letters and other documents from the office, sometimes via the interviewer and sometimes through the post (see Appendix F).

The first letter of this kind was given to panellists by fieldworkers early in March (Weeks 07/08) and is shown here as letter 1. It describes the purpose of the project in some detail and was drafted because many fieldworkers were being pressed by some panel members to explain more fully what the survey was for and how the information collected was going to be used. These doubts were apparently eased by the letter and only one panellist was lost in Weeks 08 and 09. No reference was made in the letter to the planned duration of the project.

It was only in Week 20 that panel members were first given any formal indication of how long the reporting period was to last. Letter 2 was posted to them, with the aim of encouraging each panellist to remain with the project to the very end. It indicated that 'we are now three quarters of the way through the survey' and referred to the bonus which they would receive on its completion.

It was always accepted that a few respondents, while remaining on the panel, would persistently provide an inadequate record of their shopping behaviour, despite all the efforts of the fieldworkers. These

panellists would need to be formally removed from the survey by the office and this was done using letter 3. In the event, only seven panel members had to be dispensed with in this way.

Apart from a few phone calls by panellists to the office querying when their interviewer was due to call, the only other contacts with the panel which have not already been described, relate to the Shopping Attitudes Survey completed with panellists in Weeks 10 - 13 (see section 5.3). Following this work a report was prepared showing the detailed results of the interviewing, and at that stage it had still to be decided how the missing information from about 100 partially completed forms should be obtained. Fieldworkers had been told not to press for the more personal information requested in certain questions if it was felt that this might jeopardise continued completion of the diaries.

In the event, most of this missing information was obtained via self completion questionnaires given to the relevant (and still existing) panel members once diary completion had finished in Week 27. The questionnaire and explanatory letter was handed by fieldworkers to panellists in a sealed envelope and the fieldworkers were not involved further. A postage paid envelope was provided for the return of the completed questionnaire direct to the office.

A total of 82 questionnaires were given out in this way, with a further 24 sent later by post (Letter 4). A further, reminder, letter had to be sent to a number of panel members who had not returned the form and this is shown as Letter 5. It was dispatched to 34 panellists in

Week 28, with another questionnaire and postage paid envelope. A total of 84 completed questionnaires were eventually received as a result of these procedures.

4.2 Diary Editing and Coding

Once the completed diaries had been recorded as received from the field, they were edited and coded by a team of four experienced market research coders, working under the supervision of Research and Marketing's Processing Controller. This operation was carried out in a systematic way according to the set of editing and coding instructions. (Appendix G).

Formal coding commenced on 1st March (Week 06) when the first list of shop code numbers became available, and was finally completed on 23rd August (Week 31). As already indicated, Week 03 was designated as the first week proper of diary completion. Diaries for Weeks 01/02 were thoroughly checked, so that misunderstandings and errors could be eliminated but were neither coded nor punched.

Once a diary had been accepted for editing and coding it was scrutinised on three separate occasions. This was because three different tasks had to be undertaken

- 1) Editing
- 11) Brand coding
- 111) Shop coding

4.2.1. Editing

Full details of the editing are given in Appendix C. It was at this stage that basic errors of reporting were noticed and certain of these could only be corrected by referral back to the panel member, through the interviewer. Errors of this sort were

- 1) Brand name omitted
- 11) Shop name omitted (very rarely)
- 111) Two shops entered on the same diary page, so that products and amounts spent were inextricably mixed.

The procedure adopted was for the diary page in question to be photocopied and given to the fieldworker concerned so that it could be taken back to the panellist for amendment. When the correction came back, the information was transferred to the appropriate diary. Since fieldworkers called on only half of their panellists each week this process could take a relatively long time to complete. If panellists could not remember the details required, then the 'not answered' codes had to be used. It should be noted, however, that mistakes and omissions of this type were concentrated within the initial weeks of diary completion and once reporting had settled down, occurred very infrequently.

4.2.2. Brand Coding

One coder concentrated on brand coding and while doing this checked that where one of the six asterisked products had been purchased, a brand had been recorded in the relevant place on the diary page. Conversely, where a brand had been recorded, she checked that the appropriate

product had been marked as purchased.

The listing of brands purchased and the allocation of codes to them commenced with examination of the diaries for Weeks 01 and 02. Brands were added to the six lists week by week as necessary and the first formal list of brand codes was prepared in Week 09. The final list of brands appearing on the diary pages, which is shown in Appendix B, prepared on completion of the coding.

4.2.3. Shop Coding

A unique numerical code was allocated to each shop or other retail outlet used by a panel member for the purchase of one or more of the products listed on each diary page. The code for each shop was supplied by UWIST and encompassed the location of the shop, information about its function, information about its organisation and a unique digit to distinguish individual premises. (See section 6.1).

Preliminary lists of shops used by panel members were prepared from the diaries for Weeks 01 and 02 and most of these outlets were used on many further occasions. However, it was found that panellists often went to different shops - especially on the way home from holidays - and as a result new shop codes had to be added to the list right up to Week 26, the final week of diary completion.

Each coder concentrated on a particular area of the panel as far as shop coding was concerned and became very familiar with the outlets used by panel members living in that locality. All coders had lists of shops

situated 'outside Cardiff', in 'Central Cardiff' and in certain popular shopping areas such as Albany Road/Wellfield Road.

4.3 Initial Data Processing

Once the diaries had been edited and coded, the number of diary pages that would need to be punched was recorded on the back cover of each diary, along with the number of days that all household members had been away from home. The diaries were then counted and batched-up ready for punching. Each separate batch consisted of a set of diaries (in respondent number order) for a particular 'letter' (sub area of the panel) for a particular week. The diaries for a complete week therefore consisted of 15 batches of varying size.

These diaries were then taken to D.C.M.S. Ltd in Thornbury to be punched onto tape. Accompanying each van load of diaries transported to Thornbury were a series of sheets, one for each week in the load, showing the week number, the total number of diaries for that week and then, for each letter

- The total number of diaries delivered
- The number which were 'blank', i.e. no punching required
- The number to be punched
- The number of first records, i.e. diary pages to be punched.

'Blank' diaries were those where there were no pages to be punched - either because none of the listed items was purchased that week or because all household members were away for the whole week.

Deliveries of completed diaries were made to D.C.M.S. as follows.

<i>Diaries for</i>	<i>Date of delivery</i>
Weeks 03-04	26th March
Weeks 05-08	5th May
Weeks 09-13	11th June
Weeks 14-19	23rd July
Weeks 20-26	27th August

Once punching had been completed, a number of edit checks, according to an agreed specification, were applied to the data. These are detailed in section 4.4 but the basic procedure is now described.

Following each edit run, D.C.M.S. produced an error listing for each of the fifteen sub areas (letters) within the panel. This identified all errors and inconsistencies (as defined by the edit program) and in addition showed the number of diaries processed (within letter and week), as well as the number of diary pages punched, again within letter and week.

Three broad categories of error were possible, introduced at the editing, coding or punching stage. All three types were corrected by Research and Marketing staff, who first returned to the actual diary pages to check the details recorded. Any corrections necessary were then made upon the edit run print outs. If any amendments were made to the editing and coding, these were also noted on the diary pages themselves, in order to ensure consistency between the primary data and the computer records.

Following amendment of the error listings (by Research and Marketing) and correction of the computer files (by D.C.M.S. staff), the second consistency check between asterisked products purchased and brands coded was run. Any errors found at this stage were again corrected, once the original diary pages had been examined.

Research and Marketing's involvement in the preparation of the edited computer files ceased at this point.

4.4 Creation of Computer Tapes and Quality Checks Performed by DCMS

This section discusses the creation of the computer tapes by D.C.M.S., and the quality checks they performed on the punched data. For a variety of operational reasons it was not feasible to implement checks between the weeks of diary data. All the checks which follow were therefore applied to single week's data without reference to preceding or succeeding weeks. Most of these were checks that a value lay in the valid range for the variable (range checks). In addition, a small number of consistency checks were made. These compared values on several variables checking for inadmissible or impossible combinations.

Full details of the structure of these tapes are given in section 7.2 of this report. However, a few details of the structure of the tapes may help to clarify the discussion here. Each diary page contains information on the range of products purchased by the panellist or his/her representative in individual shops. Visits to shops constitute shopping trips and may take on a variety of forms.

single-purpose visits to individual shops, multi-purpose visits to a variety of shops, multi-purpose trips for shopping and other activities. Each trip is identified by means of a stated origin and destination. Consequently, each diary page represents both trip information and purchasing information.

Both elements are punched on tape in fixed 80 character records. Characters 1-8 contain general information such as the week number of the diary, the respondent number and the area code. Characters 9-18 contain information on the characteristics of the shopping trip. mode of transport used, time of trip, origin and destination of trip. Characters 19-79 contain information on the products purchased 19-31 hold the codes for brands of six selected items needed in the Bristol research project, 32-39 hold expenditure information; 40-51 hold flags which record whether any of the selected branded items have been purchased; 52-79 hold information on any other products purchased. For the majority of panellists the information recorded on a diary page can be accommodated in a single record. However, in a number of cases where the panellist has purchased a considerable number of products, a second or subsequent record is required. The 80th character position holds a dummy switch which determines how the next record is to be processed.

A major difficulty was encountered in punching the diary data onto tape. This concerned the handling of the list of products a panellist could purchase. In the section on the diary design, it was mentioned that each product was given a unique numerical code in the range 1-68. These products were then organised in two distinct sequences. The format

used for white diaries was to print the product list sequentially from 1-68. Yellow diaries were printed in the following format. 1-20, 40-67, 21-39, 68. The reason for this was our need to check that the pattern of purchasing behaviour was not being determined by the order on the printed diaries.

It became clear that the most efficient procedure for punching this information was to process the products purchased as they appeared on the diary page regardless of their numerical order. For white diaries this meant that the punched numerical list was always ordered sequentially from lower to higher numbers according to the pattern of purchases. For yellow diaries the numerical list was ordered sequentially only within subsets of the full product list with a jump in the numbers due to the switch in position between products in the ranges 40-67 and 21-39. Clearly, to allow consistent interpretation of the tapes, this anomaly had to be resolved. This was corrected at the error checking stage by repositioning the order on yellow diaries according to the pattern of white diaries. The tapes which were finally released were consistently ordered throughout.

The following table lists the range checks performed on particular variables. The logic behind the range checks is fairly straightforward. The punched values for each variable on the tape are compared against a string of permissible values for that variable using a powerful in-house tabulation package produced by D.C.M.S. If the value for any of these variables lies outside the listed valid range an error code for that entry is printed. Column 3 lists these codes by variable. Column 4 indicates a list of extended notes on variables which were

used in consistency checks. These notes are presented in the next section.

Table 4.1 Error Checks

<u>Variable name</u>	<u>Valid range</u>	<u>Error codes</u>	<u>Notes</u>
<i>General Information</i>			
Area	A-G,J-N,P-R	A	a
Respondent number	1-99	B	
Week number	3-26	C	a
Day number	1-7	D	
Page number	1-40	E	b
<i>Journey Information</i>			
Shop number	0-99999	F	
Person buying	0-3	H	c
Time of purchase	0-6,8,9	I	d
Form of travel	0-6,8,9	J	d
Previous shop	0-6,8,9	K	d/e
Next shop	0-6,8,9	L	d/f
<i>Purchased goods and expenditure *</i>			
Fabric conditioner 1	blank,A-H,J-N,P-Z	M	g
Fabric conditioner 2	blank,A-H,J-N,P-Z	M	g
Toilet rolls/paper 1	blank,A-H,J-N,P-Z,0-9	N	g
Toilet rolls/paper 2	blank,A-H,J-N,P-Z,0-9	N	g
Baked beans 1	blank,A-H,J-N,P-Z,0-9	O	g
Baked beans 2	blank,A-H,J-N,P-Z,0-9	O	g
Instant potato 1	blank,A-H,J-N,P-Z	P	g
Instant potato 2	blank,A-H,J-N,P-Z	P	g
Margarine 1	blank,A-H,J-N,P-Z,0-9	Q	g
Margarine 2	blank,A-H,J-N,P-Z,0-9	Q	g
Margarine 3	blank,A-H,J-N,P-Z,0-9	Q	g
Instant coffee 1	blank,A-H,J-N,P-Z,0-9	R	g
Instant coffee 2	blank,A-H,J-N,P-Z,0-9	R	g
Total spent on listed items	0-9900,9999	S	

<u>Variable name</u>	<u>Valid range</u>	<u>Error codes</u>	<u>Notes</u>
Total spent on other items	0-9910,9999	T	
Fabric conditioner purchased flag	0,1	U	g
Toilet rolls/paper purchased flag	0,9	V	g
Baked beans or margarine purchased flag	0,21,40	W	g
Instant potato or coffee purchased flag	0,31,57	X	g
Margarine or Baked beans purchased flag	0,40,21	Y	g
Instant coffee or potato purchased flag	0,57,31	Z	g
Other listed items			h

* Note Lists of six branded items were chosen for special study in the Bristol project from among the list of 68 possible product types. Each time one of these products was purchased its brand was also recorded as a separate variable, e.g., fabric conditioner 1 refers to the first named brand of fabric conditioner purchased by the panellist and recorded on the diary page. However, panellists were not limited to buying only one version of each of these items; indeed, they regularly bought more. Where this happened second or third versions of the branded item are also recorded on the diary page and are punched to tape as item No.2 or item No.3.

Notes:

The following notes are concerned with the character of variables used in consistency checks between several variables. Some of these checks require that a value originally punched on tape by D.C.M.S. be converted to a new value. Full details are given where this has happened. An

error is flagged by the edit program should the set of values prove inconsistent.

(a) Checks on the area code and the week number were limited to week and batch only. This occurred because weekly diaries were delivered by Research and Marketing to D.C.M.S. in limited batches of only a few weeks at a time. A check through all 24 week's data was thus not considered feasible computationally.

(b) If the number of pages in a single diary exceeded 30 a warning was printed. There is, in principle, no upper limit on the number of pages a panellist could complete in a week's diary. However, frequencies in excess of thirty are unlikely and, if found, may indicate an incorrectly punched diary.

(c) The *person buying* variable takes the following values to indicate who made each shopping trip

- 1 - the panellist
- 2 - another member of the panellist's household
- 3 - someone else.

Should nothing have been purchased that day this variable has the value 0.

If the *person buying* variable equals 1 or 2 a shopping trip has been made and products purchased by the panellist or a member of his/her household. Consequently, the *time of purchase*, *form of travel*, *previous shop* and *next shop* variables cannot be given codes 0

(indicating no purchases made that day), 8 (indicating the question is not applicable in the context), or 7 (an invalid code not used by Research and Marketing throughout the coding stage).

If the *person buying* variable equals 3 a shopping trip has been made by someone other than a member of the panellist's household. Because trip information is needed only for the panellist or his/her household, the *time of purchase*, *form of travel*, *previous shop* and *next shop* variables are coded 8, indicating these questions are irrelevant in the circumstances. Should these variables have been coded 0, indicating that no purchases have been made, they are recoded to 8.

If the *person buying* variable equals 0 no purchases have been made. Consequently, the variables *total spent on listed items* and *total spent on all items* must also be 0. As all the information contained on this diary page will fit on a single record of computer storage, the variable *switch for record processing* will equal 0 to indicate the termination of the record.

(d) If the *time of purchase*, *form of travel*, *previous shop* and *next shop* variables equal 8 (questions not applicable), the *person buying* variable must equal 3 (indicating that this shopping trip was made by a person not in the panellist's household). If any of these variables were coded 0 they are recoded to 8.

(e) If *previous shop* equals 1 (indicating that a supplier called to the panellist's house), the *form of travel* and *next shop* variables must also equal 1, indicating that no travel was involved by the

panellist or member of his/her household.

(f) If *next shop* equals 1 (indicating a supplier called) the *form of travel* and *previous shop* variables must equal 1 (indicating that no travel was involved).

(g) Six of the 68 products were specially selected by Bristol for study of brand purchase behaviour. Two separate pieces of information were thus collected for these products by the diaries. First, evidence that the product had been purchased, (made available by marking the list of 68 products on the diary page in the appropriate row). Second, the brand or variety of the product if purchased (collected by classifying the product against a previously created list of brands). Both pieces of information were transferred to tape.

Columns 19-31 in each record on the tape contain the brand codes for the six items. As panellists sometimes purchase more than one brand of a product at the same time, space has been left for coding at least two and, in some cases, three brands. A complete list of the codes for each product is given in section 7.2.

Columns 40-51 in each record of the tape contain the unique numerical codes for the six selected items in I2 format. If any of these products are purchased, the unique numerical code for that product is punched in the appropriate columns. These are, for white diaries only

<i>Product</i>	<i>Col No.</i>	<i>Code</i>
Fabric conditioner	40-41	01
Toilet rolls/paper	42-43	09
Baked beans	44-45	21
Instant potato	46-47	31
Margarine	48-49	40
Instant coffee	50-51	57

It is important to realise that the edit program is essentially geared to checking white diary forms and when faced with yellow forms must recode some of the variables.

The edit program not only checks the values in these columns for validity (see preceding table) but also checks positive (non-zero) entries for particular products with the brand codes punched earlier in the record. If, for example, a panellist purchases fabric conditioner, columns 40-41 should contain the code 01. The edit program checks that 01 is a valid entry for those columns and also checks that a valid code is present in column 19. The following table lists the consistency checks made between these two parts of the record.

<i>Product purchased</i>	<i>Check for positive, valid code in column no.</i>
Fabric conditioner	19
Toilet rolls/paper	21
Baked beans	23
Instant potato	25
Margarine	27
Instant coffee	30

If a panellist has bought only one brand of product it is coded in the columns given above. Panellists who buy more than one brand of each product will have these subsequent purchases also coded (in columns 20, 22, 24, 26, 28, 29, 31), but a consistency check is not made with these columns.

The complicating factor briefly mentioned already concerns the order of punching of products from yellow diaries. It so happens, that the printed positions of baked beans and instant potato on white forms are swapped with those of margarine and instant coffee on yellow forms. Consequently, if the diary being punched to tape is yellow, columns 44-45, 46-47, 48-49, 50-51 will refer to purchases of margarine, instant coffee, baked beans and instant potato and not to the list given above. Thus the range checks for these columns must be altered slightly when yellow diaries are being checked. The edit program does this by including the unique numerical codes for these products in the valid range of codes for these columns. If these are found, the program checks the *area* variable to see if the diary comes from a subarea where yellow diaries were administered. This is indicated if the *area* variable has any of the values B,D,F,K,M,P,R. If this check is positive, the edit program automatically swaps the values for the four product fields bringing them into line with the order for white diaries. The code for margarine (cols. 44-45) is swapped with that for baked beans (cols. 48-49) and the code for instant coffee (cols. 46-47) is swapped with that for instant potato (cols. 50-51). After the swap, which is internal to the edit program, the record is structured identically to those from white diaries. After this process, the record is stored on tape.

(h) Columns 52 onwards list any other items which were purchased but are not required for brand information. The valid range for any of these products is 0-68 except for the branded items (1, 9, 21, 31, 40 and 57) which are treated separately. Each item is entered in ascending numerical order in I2 format. This means that 14 products can be fitted between column 52 and the end of the record. Should more than 14 of these products have been purchased a second or subsequent record is used.

The order of punching entries is designed to fill the record from column 52 until the list of purchased products on the diary is exhausted. The important point to note is that the length of this list and the numbers punched in any of these columns depends entirely on the pattern of purchases of the panellist. The only operational decision used is that these entries be arranged in ascending order. The columns remaining in the record between the end of the list and column 80 are treated as blanks.

The edit program accommodates this structure in the following way. If one product has been purchased (other than a branded item), the valid range for columns 52-53 is 0-68 except for the brand codes. If two items are purchased (again other than branded items) the valid range for the second entry (cols. 54-55) is 0-68 except for the brand codes and code 2. The valid range for the first entry is as before. The logic behind this is simple. Code 0 is not applicable because goods have been purchased. Code 1 is also not applicable because it refers to a branded item. Code 2 is not applicable because, being the

smallest numerical code for other listed goods, it must *always* appear in columns 52-53 if purchased. If it appears elsewhere, the diary data has been incorrectly punched to tape.

An edit check for this procedure is comparatively simple. The edit program simply compares a value with its nearest right-hand neighbour. If the list is punched correctly this neighbour must be at least one unit larger. Errors are flagged if this neighbour is smaller or less than one unit larger. If the list of products carries onto additional records, the edit program is reactivated for entries from column 52 onwards of those records.

5. CHARACTERISTICS OF THE CONSUMER PANEL

5.1 *Panellists Compared with Non-Panellists: The Initial Questionnaire*

As part of the procedure of recruiting the consumer panel, fieldworkers carried out a short questionnaire survey. This was completed by all 1237 households contacted during the recruitment phase (see Section 3.3).

5.1.1 Design of the Questionnaire

The questionnaire was administered to the person in the household who was stated to be "responsible for buying most of the groceries and provisions eaten by the household". This person is subsequently termed the 'housewife'. This short questionnaire was not intended to extract a full description of the proto-panellist and his or her household, as this would be provided later in the Second Questionnaire survey (see Section 5.3).

It had three purposes:

- (a) To provide basic information about panellists and their households, prior to the administration of the Second Questionnaire;
- (b) To allow demographic comparisons to be made between panellists and those who were unwilling to become panellists ('non-panellists');
- (c) To establish the credentials of the interviewer. A blunt request from a stranger at the door to become

a panellist, without any prior discussion, would probably have been almost invariably unsuccessful.

The questionnaire itself is shown in Appendix H. It was short, so as not to antagonise respondents. Questions about items regarded by many as confidential (e.g. household income, type of employment) were not asked. Age of respondent was estimated by the interviewer. The first question (perception of number of times per week that the respondent buys groceries) was intended mainly to establish a reference to shopping, rather than for any intrinsic value of the responses. Other questions and information collected were felt sufficient for purposes (a) and (b) above. Finally the respondent was asked whether he/she was willing to become a panellist. The response rate to the questionnaire itself, and the acceptance rate of respondents becoming panellists, are discussed in Section 3.3.

5.1.2 Characteristics of Panellists and Non-Panellists

The initial questionnaire was administered to 1237 households during the recruitment stage. One question asked whether respondents were prepared to become panel members completing a shopping diary every week. Some 605 respondents answered yes (they are termed 'panellists' here), the remaining 632 answered no (they are termed 'non-panellists'). There follow some comparisons of the characteristics of panellists and non-panellists, using the remaining information collected in the initial questionnaire.

(a) Perceived weekly pattern of grocery shopping

Question 1 asked. 'About how many times a week do you normally buy groceries?'. Table 5.1 shows that the pattern of stated grocery shopping behaviour is virtually identical between these two groups. Both show a strong bimodal distribution with gradual decline in shopping incidence from a peak at frequencies of once a week or less until the aggregated category, 6 or more trips a week, is reached. The mean frequency of trips per week was stated as 3.19 for panellists and 3.03 for non-panellists. It should be noted however that these figures appear to be substantial understatements, as analysis of the diary data for panellists shows a mean frequency of around 5 trips per week. A total of 33 panellists and 68 non-panellists stated that their trip frequency varied from week to week they are omitted from this table.

Table 5.1 Weekly distribution of shopping trips

No. of trips	Panellists			Non-Panellists		
	No.	Rank	%	No.	Rank	%
1 or <1	138	1	24	176	1	31
2	113	3	20	111	3	20
3	100	4	17	85	4	15
4	71	5	12	37	5	7
5	21	6	4	21	6	4
6+	129	2	23	134	2	24
Total	572		100	564		100

(b) Mobility information

Question 2 asked 'How many cars and vans are normally available for use by you or members of your household (other than visitors)?'.

Table 5.2 shows that panellists were more likely to be members of households with at least one car (64%) than were non-panellists (55%).

Table 5.2 Distribution of vehicles per household

No. of vehicles	Panellists			Non-Panellists		
	No.	Rank	%	No.	Rank	%
0	216	2	36	288	2	45
1	306	1	51	304	1	48
2	75	3	12	33	3	5
3	6	4	1	3	5	1
4	2	5	0	4	4	1
Total	605		100	632		100

(c) Employment status of the 'housewife'

Question 3 asked 'Do you have a paid job?' The majority in each group were not working or retired, with a higher proportion among non-panellists

Table 5.3 Employment status of 'housewife'

	Panellists			Non-Panellists		
	No.	Rank	%	No.	Rank	%
Full-time job	84	3	14	115	3	18
Part-time job	180	2	30	120	2	19
Not working/retired	341	1	56	397	1	63
Total	605		100	632		100

(d) Demographic information

Tables 5.4 and 5.5 show that each group contained substantial numbers in each age group band and consisted mainly of women. However, older respondents generally, and men, were less likely to become panellists.

Table 5.4 Sex of respondent

	Panellists		Non-Panellists	
	No.	%	No.	%
Male	41	7	107	17
Female	564	93	525	83
Total	605	100	632	100

Table 5.5 Age disaggregated by sex of respondents

Age classes	Panellists		Non-Panellists	
	Male	Female	Male	Female
16 - 24	3	33	13	29
25 - 34	6	150	14	68
35 - 44	4	103	13	81
45 - 54	8	133	11	98
55 - 64	5	93	20	104
65+	15	52	36	145
Total	41	564	107	525

Household size and composition is shown in Tables 5.6 and 5.7.

Panellists came from larger households (average size 3.35 persons) than non-panellists (2.68). This was because panellists' households tended to contain more children and fewer people of retirement age.

Table 5.6: Household size

Number of people in household (incl. respondent)	Panellists		Non-Panellists	
	N	%	N	%
1	46	7	125	20
2	158	26	234	37
3	115	19	100	16
4	166	27	101	16
5	78	13	44	7
6	33	6	22	4
7	6	1	3	<1
8	2	<1	2	<1
9	1	<1	1	<1
Total number of people enumerated	2026		1695	

The following table lists the percentages of all households who have members in the listed age classes.

Table 5.7. Household composition by age classes

Age classes	Panellists		Non-Panellists	
	N	%*	N	%
0 - 4	111	18	55	9
5 - 15	258	43	134	21
16 - 44	434	72	320	51
45 - 64	263	43	273	43
65+	108	18	224	35

*Note. As a household can be classified in several categories simultaneously the percentages will not sum to 100%.

(e) Conclusion

It is clear that those respondents who did not wish to become panel members were more likely to be male, and/or of near or beyond retirement age, and/or from small households, than those who became panellists. Car ownership also was, not surprisingly, lower among non-panellists. While these differences are important, they do not necessarily mean that the panel is unrepresentative of the local population in each area surveyed. Rather, it is likely that older age groups were over-represented initially because they would be more likely to be at home when the interviewer called their greater refusal rate would then have redressed the balance. Researchers interested in the travel behaviour of relatively immobile groups should however note the slightly greater reluctance of such groups to participate in long-term panel surveys.

5.2 *Panel Attrition*

One of the most crucial and controversial features of the design of the Cardiff survey was the panel attrition rate assumption. It was noted in Section 2 how certain referees of the original proposal submitted to SSRC believed that a high attrition rate would occur over a 24 week survey period (an attrition rate which they believed would be much higher than our initial assumption of 30%). However, the pilot survey provided no evidence to support such a pessimistic view, as long as considerable care was devoted to the issues of panel recruitment, panel control, panel remuneration and fieldworker control. The revised application submitted to SSRC (see Table 2.1) assumed, therefore, that the panel attrition rate would be approximately 25%, and this figure

played a pivotal role in the design of the main survey. In the event, this assumption proved to be justified. Of the 605 members of the initially recruited panel, 481 completed the 24 week monitoring period. This produced an overall attrition rate of 20% and was one of the major successes of the survey. In this section, a breakdown of the overall attrition rate is provided, along with a discussion of the techniques which were adopted in the survey to control panel attrition. In addition, some of the characteristics of the panel members who remained on the panel for the whole period (the 'stayers') are compared to the characteristics of those who did not complete the whole period (the 'dropouts').

5.2.1. Attrition Rate

Table 5.8 provides a summary of the pattern of panel attrition, and breaks down the overall figure into survey area sub-totals. Over time panel attrition can be seen to follow the classical and *a priori* expected pattern, with a high initial rate, followed by a stabilisation around the third week of the monitoring period (survey code Week 05), and a marked slowing down thereafter. In fact, of the 605 panellists initially recruited, 77 had dropped out by the end of the *first* week of the main 24-week monitoring period (Week 03), and only another 47 dropped out during the remaining 23 weeks of the monitoring period. In other words, 62% of the panel attrition had taken place by the end of the first week of the main monitoring period, 69% by the end of the second week (Week 04), 73% by the end of the sixth week (Week 08), and 87% by the end of the twelfth week (Week 14). It is clear that once panel members had passed the initial hurdle of the first few weeks

Table 5.8: The pattern of panel attrition within the Cardiff survey

		Panellists During Run-In Period	Panellists Remaining at End of Week (survey week code shown in brackets)					Retained for Analysis Purposes*
			1 (03)	6 (08)	12 (14)	18 (20)	24 (26)	
Total Panel		605	528	514	497	486	481	454 (451)
Area Sub-totals	Rhiwbina	104	98	98	97	97	97	88
	Whitchurch	77	66	58	53	52	52	46 (44)
	Cathays	82	78	78	77	77	77	73
	Roath	36	33	32	32	30	28	27
	Rumney	75	63	63	63	61	61	60
	Llanrumney	102	77	74	71	68	68	66
	Llanadeyrn	73	64	63	58	57	56	55 (54)
	Heath	56	49	48	46	44	42	39

* See the discussion of 'complete' and 'incomplete' diary tapes in Section 7.1. Three of these households did not complete a Second Questionnaire (see Section 5.3) and thus for some analysis purposes only 451 households are used in the Bristol and UWIST research projects.

they developed a personal relationship with their area fieldworker and took an active interest in completing their diaries. Most of the attrition, therefore, was restricted to the 'run-in' period (Weeks 01 and 02) or the first week of the main monitoring period (Week 03), and from the third week of the main monitoring period (Week 05) onwards the average weekly loss of panel members was only 1.7.

Within this general pattern of panel attrition, individual survey areas varied considerably. For example, attrition rates were much lower than the 20% average in Cathays (6%) and Rhwbina (7%), and much higher than average in Whitchurch (32%) and Llanrumney (33%). To some extent this reflected differences in the socio-economic composition of the areas, but it also reflected variability in the performance of individual fieldworkers. For example, of the 102 panellists initially recruited within the survey area of Llanrumney, 25 had dropped out by the end of the first week of the monitoring period (Week 03). This high initial figure (74% of the attrition experienced within Llanrumney) and the resulting higher than average attrition rate was almost entirely the result of 'over-selling' during the recruitment phase by one fieldworker covering that area. In contrast, the survey areas of Rhwbina and Cathays benefitted during both the recruitment phase and the monitoring phase from having highly experienced fieldworkers who were also local residents.

5.2.2. Techniques of Attrition Control

The rate of panel attrition achieved in such a survey is a direct function of the attention devoted to the issues of panel recruitment, panel control, panel remuneration, and fieldwork control. In the

original design of the Cardiff survey considerable care was devoted to these aspects, and the pilot survey served to confirm their importance. Section 4.1 of this paper has already provided a detailed account of how the fieldwork was organized and controlled to maximize the continuity of reporting. However, it is worth reiterating at this stage six crucial points which require particular attention if panel attrition is to be effectively controlled.

(a) The frequency and nature of visits by fieldworkers to panel members

The Cardiff survey adopted a pattern of fieldwork visits to panel members at the end of weeks 1, 2, 4, 6, 8, . . . , 24 (though a small minority of panellists had to be visited every week), and individual panel members remained with the same fieldworker throughout the survey. This pattern of visits which involved the use of 15 fieldworkers was expensive but it was vital to the success of the survey. As noted in Sections 4.1.1 and 4.1.4 panellists soon build up a relationship with fieldworkers which then serves to significantly reduce attrition. In addition, fieldworkers play an important educational role (especially in the early stages of the survey) and if they are well trained and controlled this significantly improves the quality of the diary information obtained.

(b) The design and time span of the diary

The layout of the diary should make it as easy as possible for panel members to supply the required information. In this respect the main

Cardiff survey demonstrated the advantages to be gained from a pilot survey, for a number of improvements in layout and accompanying explanatory materials were suggested by the pilot survey and incorporated into the design of the diary (see Section 3.1). In addition, weekly (rather than fortnightly or monthly) diaries were used. Again, this increased the cost of the survey but it (i) resulted in a diary which was less daunting in size, (ii) allowed more effective office control, including a week by week checking of attrition rates, quality of reporting, panellist or fieldworker problems, etc., (iii) reduced the risk of 'slippage' in the completion of the diary by the panellists, resulting in undesirable 'completion by recall' at the end of the diary, or withdrawal from the panel

(c) Careful panel recruitment by trained and experienced fieldworkers

The arduous nature of the panel recruitment phase has already been stressed. It is a phase which should not be rushed in any way, and which must be carefully prepared and adequately costed. Once again, the main Cardiff survey benefitted considerably from the experience of panel recruitment gained during the pilot survey, and considerable attention was devoted to preparing this phase of the main survey and briefing the 15 fieldworkers.

(d) Suitable panel remuneration and incentives

Cash rewards to panel members undoubtedly reduce panel attrition. In the Cardiff survey, panel members received £4 at the end of each four week period for which diaries had been satisfactorily completed,

plus a bonus of £1 for remaining on the panel to the end of the monitoring period, plus a lottery ticket for 16 prizes of £3 Boots gift vouchers in return for agreeing to complete the household characteristics and shopping attitudes (Second) questionnaire. In other words, panellists who completed the 24 weeks received a minimum cash reward of £25 distributed in stages to encourage continued participation. Whilst such limited financial incentives did not retain panel members who had become seriously disaffected, they certainly influenced marginal cases and, perhaps more importantly, gave the majority of panel members the sense of doing a job which was 'valued'. In addition further incentive was provided in the form of a series of letters (see Section 4.1) from Research and Marketing. These explained the purpose of the survey, encouraged panel members to remain to the end once they were three quarters of the way through the monitoring period, and, in general, encouraged the panellists to take an interest in participation. In conjunction with the cash rewards and the fieldworker contact, these letters proved to be extremely valuable and effective tools for reducing panel attrition.

(e) Stringent fieldworker control

In long-term panel surveys there is a danger that fieldworkers as well as panel members will begin to lose interest and that the quality of the survey will begin to decline. For this reason, it is essential that fieldworkers are closely supervised and, at the same time, generally encouraged throughout the entire period of the survey. In the Cardiff survey, fieldworkers were strictly controlled by Research and Marketing and were in regular and frequent personal contact with

the fieldwork supervisor and office staff. Completed diaries were examined by the office staff, and each fieldworker was given lists of the errors made by her panellists, further briefings, and so on. In this way, data quality was continuously monitored and maintained through a process of supervisor/fieldworker/panellist feedback. Moreover, in order to reduce panel attrition, the basic remuneration of fieldworkers was linked to the number of panellists from whom they collected satisfactorily completed diaries each week. Fieldworkers were also provided with two special financial incentives during the course of the survey, the individual bonuses being based on the number of panellists remaining in the fieldworker's area at the end of the fourth and twenty-fourth weeks of the monitoring period (Weeks 06 and 26).

(f) The services of a professional market research or social survey organization

Clearly, long-term panel surveys of this type demand a large number of trained fieldworkers, experienced fieldworker supervisors, experienced data coders, processing controllers, and so on. It will generally be uneconomic and inefficient to attempt to set up such an organization for the purposes of one academic survey, and the Cardiff survey benefitted considerably from the services of a professional organization which had the necessary expertise and experience, which was committed to the requirements of an academic project, and which (very importantly) was local to the study area.

5.2.3 Characteristics of 'Stayers' versus 'Dropouts'

In Section 5.1.2 the characteristics of the 605 'housewives' who agreed to become members of the panel during the recruitment phase were compared to those of the 632 who were contacted and interviewed but refused to join the panel. In this section a similar comparison is provided of the 124 panellists who dropped out of the panel during the course of the monitoring period with the 481 panellists (the 'stayers') who remained on the panel to the end of the period. The comparison takes the form of a series of tables followed by a general evaluation. Once again, the two groups are compared on the basis of information supplied in the First Questionnaire.

Table 5.9 Age of 'housewife'

Age	Stayers		Dropouts	
	No.	%	No.	%
16 - 24	24	5	13	10
25 - 34	135	28	20	16
35 - 44	90	19	17	14
45 - 54	106	22	35	28
55 - 64	76	16	22	18
65+	50	10	17	14

Table 5.10 Employment status of 'housewife'

Employment Status	Stayers		Dropouts	
	No.	%	No.	%
Full-time work (30 hours plus per week)	70	15	15	12
Part-time work (less than 30 hours per week)	147	31	33	27
Not working/retired	264	55	76	61

Table 5.11 Number of vehicles available for use by members of household

Number of vehicles	Stayers		Dropouts	
	No.	%	No.	%
0	162	34	55	44
1	252	52	54	44
2	62	13	12	10
3	5	1	1	1
4	0	0	2	2

Table 5.12. Household size

Number of people in household (including 'housewife')	Stayers		Dropouts	
	No.	%	No.	%
1	36	7	11	9
2	126	26	32	26
3	91	19	24	19
4	133	28	33	27
5	61	13	16	13
6	30	6	3	2
7	4	1	2	2
8	0	0	2	2
9	0	0	1	1

On the basis of Tables 5.9 - 5.12, and similar tables, it appears that.

- (a) panel 'dropouts' were more likely to be in the older age groups (60% of dropouts were aged 45 and over compared to 48% of stayers) or in the youngest age group (10% of dropouts were in the 16-24 age group compared to 5% of stayers), whereas 'stayers' were much more concentrated in the 25-44 age group (47% of stayers compared to 30% of dropouts),
- (b) panel dropouts were less likely to have the use of a vehicle, and this can be taken to represent an index of both socio-economic status and potential mobility (44% of dropout households had no vehicle compared to 34% of stayer households).

The interaction of these two factors can be seen in Table 5.13. In general, stayers were much more likely to be 'housewives' aged 25-44 who were *also* members of households with a vehicle (and therefore probably of somewhat higher socio-economic status). Approximately twice as many stayers (32%) as dropouts (17%) fell into this category. In contrast, dropouts were approximately twice as likely as stayers to fall into the two categories (i) age 65 and over and members of households with no vehicle, (ii) age 45-54 and members of households with no vehicle. In addition they were three times as likely as stayers to fall into the category age 16-24 and members of households with no vehicle.

Table 5.13 Stayers and dropouts classified by age and household vehicle availability

Age	Stayers		Dropouts	
	Vehicle	No Vehicle	Vehicle	No Vehicle
16 - 24	17	7	8	5
25 - 34	91	44	12	8
35 - 44	65	25	9	8
45 - 54	74	32	20	15
55 - 64	50	26	15	7
65+	22	28	5	12

A further breakdown of the characteristics of the dropouts can be obtained by dividing them into two approximately equal sized groups. 'immediate dropouts' who dropped out during the run-in period (Weeks 01 and 02), and 'later dropouts' who dropped out during the main monitoring period (Weeks 03 - 26). From a comparison of Tables 5.14 and 5.15 with Tables 5.9 and 5.11 above, it is clear that 'immediate

dropouts' were much more likely to be older (79% of immediate dropouts' were aged 45 and over) and to be members of households with no vehicles than was the case for either 'stayers' or 'later dropouts'. In contrast, 'later dropouts' were very similar to 'stayers' in most respects, with the one minor exception that 'later dropouts' were much more likely to be in the youngest age group, 16-24, than was the case for either 'stayers' or 'initial dropouts'.

Table 5.14 Age of 'immediate' and 'later' dropout housewives

Age	Immediate Dropouts		Later Dropouts	
	No.	%	No.	%
16 - 24	2	3	11	18
25 - 34	5	8	15	25
35 - 44	6	10	11	18
45 - 54	23	37	12	20
55 - 64	13	21	9	15
65+	14	22	3	5

Table 5.15 Vehicle availability for 'immediate' and 'later' dropout households

	Immediate Dropouts		Later Dropouts	
	No.	%	No.	%
No-vehicle	27	59	18	30
Vehicle	26	41	43	70

The characteristics of the 'dropouts' and 'stayers' described above must be borne in mind (and used in conjunction with the results of Section 5.1.2) when assessing the representative nature of the Cardiff panel, or when using the data for inferential purposes. In addition, the similarity noted between the 'later dropouts' (Weeks 03 - 26) and 'stayers' is likely to be of value to those researchers who for some analytical purposes may wish to supplement the 'complete' diary tape (containing the records of 454 households - see Table 5.8) with the 'incomplete' diary tape (containing the records of 88 households who either dropped out of the panel during Weeks 03 - 26 or were subsequently removed from the panel for analysis purposes - see Section 7.1 for further details).

5.3 Characteristics of the 'Continuous Reporters'. The Second Questionnaire

5.3.1 Design of the Second Questionnaire

The 'Second Questionnaire' or 'Shopping Attitudes Survey' took place some 3 months after the Initial Questionnaire which was administered at the beginning of the survey. The Second Questionnaire was of panellists only, and the questions were asked by Research and Marketing's interviewing staff in the course of normal collecting of complete shopping diaries.

The purpose of this survey was to collect detailed information about demographic and socio-economic characteristics of panellists and their households, and about panellists' attitudes to shopping in general. A copy of this questionnaire is shown in Appendix I the following notes explain the purpose of certain parts of the questionnaire.

The *attitude questions* (Q.1) are designed principally to allow panellists to be assigned to various attitudinal categories for purposes of analysis of shopping behaviour. A number of methods are available for this purpose that chosen had the advantages of being simple to administer, and a well-tried technique in British shopping surveys.

Respondents were asked to indicate their strength of agreement or disagreement (on a 1-5 scale, with each scale point verbally labelled) with 28 questions about shopping. These questions covered topics such as the grocery shopping trip, factors underlying choice of store, and feelings about grocery shopping or shopping in general. The

questions themselves were based upon those used in previous surveys by Bruce and Delworth (1976), Bowlby (1979), and Williams (1981), with a small number of new questions designed to explore attitudes not covered in those surveys. The experience of the Cardiff pilot study (Section 2) was also taken into account: responses from that survey were examined, and where pairs of questions with similar topics produced almost identical sets of replies, one of the pair was dropped.

The ordering of the questions was arbitrary, except that questions dealing with rather similar topics were kept apart as far as possible. This was so that panellists would not be annoyed by apparent repetition, and to ensure independence of responses between questions. In addition, questions were administered in one of two orders chosen at random, so that any ordering effects could be identified at the analysis stage. The order chosen for each panellist has been recorded in the computer file of Second Questionnaire results (Section 7.3).

The remainder of the questions are straightforward and of the type commonly collected in this type of survey. They cover the topics of length of residence (Q.2), ownership of refrigerator or freezer (3), ownership and availability of cars (4-5), education of panellists (6-8); age, sex, and marital status (9-11), work status, type of work, and workplace address of panellist (12), and of head of household (14), and household income (15). The panellist's relationship to the head of household is asked in Q.13. In common with normal practice the most 'personal' questions were placed near the end of the questionnaire.

5.3.2 Conduct of the Second Questionnaire Survey

All panellists were interviewed during weeks 10-13 (29th March - 25th April), the vast majority in weeks 10 and 11. All those agreeing to be interviewed were included in a prize draw. Sixteen such panellists were selected at random and given a £3 Boots gift voucher.

It was considered essential that the continued completion of diaries should not be jeopardised by the administration of the questionnaire. Therefore, interviewers were allowed to stop after question 5, if they believed there was a danger that the panellist would become angry if asked for the more personal information requested in questions 6 - 15. As a result of this, 90 interviews were partially completed (questions 1 - 5 only), while 415 were fully completed. Only one panellist refused to be interviewed at all.

The missing information was sought in July 1982 through a self-completion questionnaire sent to the panellists who had not given full interviews. Of these 82 were returned completed, after the issue in some cases of a postal reminder. An overall response of 497 out of the 506 approached was thus obtained.

Editing and coding took place in the following manner. The process involved checks for consistency, and the insertion of codes, where the interviewer had obviously failed to mark the correct (or any) code for a response. For most questions the interviewer coded the responses herself. There were however some matters for which further work was generally necessary. Firstly, the question on 'examinations passed'

(Q 7) allowed a variety of responses under 'other (please specify)' (code 6) and it was necessary to consider whether these should be recoded, if felt to be equivalent to another more precise code. Of the 83 responses to this question which were coded (6), 23 were recoded, the majority to code (5) (GCE 'O' Level/Secretarial Diploma/Ordinary National Certificate).

The second problem was the coding of the panellist's and heads-of-household's occupations. These had been written in *verbatim* by the interviewers. These were coded according to socio-economic group, as defined for use in 1981 Population Census tabulations.

Thirdly, it was necessary to code the location of panellists' and heads-of-household's workplaces, which had been written *verbatim* on the forms. Workplaces which were clearly specified and in Cardiff were coded by 'Small Area', as defined by South Glamorgan County Council for their own use. There are 63 such Areas in Cardiff and their location is shown in Fig. 5.1. Extra codes were devised for workplaces in selected towns outside Cardiff, and also for unclearly specified workplaces, and 'work at home'. People whose work normally involved travel were coded as 'workplace varies' (e.g. salesmen, bus drivers), even if a precise workplace was given by the respondent. All these extra codes are listed in Section 7.3.

While this work was in progress the opportunity was taken to add locational codes to the Second Questionnaire data to represent the panellists' home addresses. Space had been left for this purpose at the start of the coding schedule. The South Glamorgan 'Small Area' data

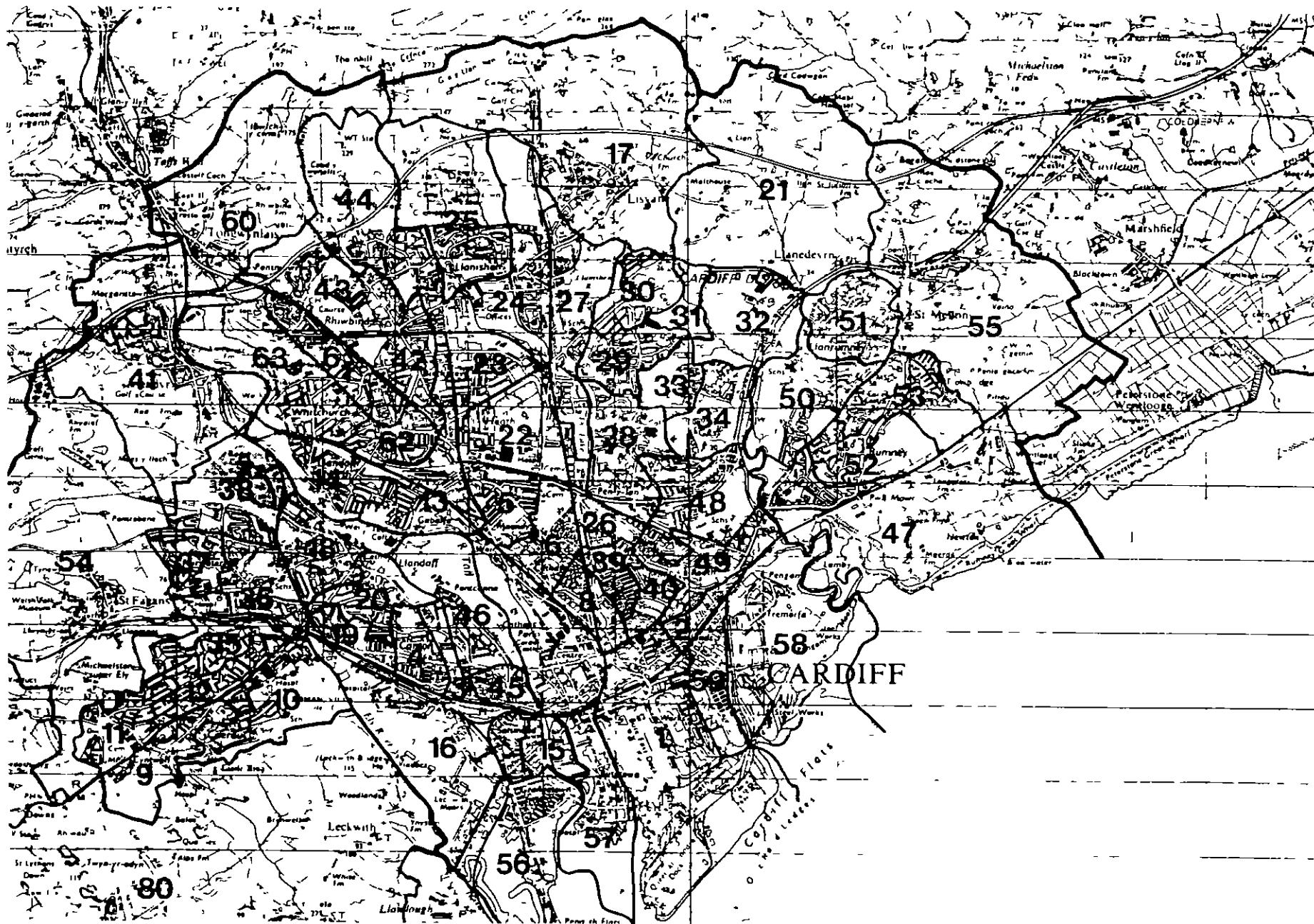


FIGURE 5 1 SOUTH GLAMORGAN 'SMALL AREAS' IN CARDIFF

were again used for this purpose. It is felt that this locational reference is sufficiently precise for most types of analysis and does not transgress confidentiality restrictions. A separate record of precise home addresses and workplaces will be made available in due course for *bona-fide* academic research purposes provided that confidentiality restrictions are observed (see Section 7.4).

Before sending the coded questionnaires for punching onto computer files, two further items of information were added. These were the 'household composition' and 'working status of adults in household' responses to the initial questionnaire (see Section 5.1). Although these data had already been put on First Questionnaire file, it was felt to be worth adding them to the Second Questionnaire file, in order to make it a more complete record.

Finally, a set of range checks was devised for use by DCMS Ltd. when creating the computer file of questionnaire responses.

5.3.3. A Summary of the Second Questionnaire Data

As noted above (5.3.2), 415 interviews were completed satisfactorily and 90 partially, of which 82 were subsequently made complete through self-completed questionnaire forms. Thus, information is available for 497 panellists. Not all of these have, however, been included in the final panel of 454 retained on the 'complete' computer tape for analysis purposes (see Table 5.8 and Section 7.1). Of this group, 3 panellists did not complete the entire questionnaire. The following information therefore relates to 451 panellists, for whom complete and

satisfactory records of both shopping behaviour and personal/household characteristics are available. A brief summary of the composition of the panel is presented below, followed by detailed tabulations which give the results of each question asked. Comments are made to assist interpretation of the results, where necessary.

(a) General summary of panellist characteristics

Of the 451 final panellists who completed questionnaires, approximately 94% were female. 81% were married. About one-third were aged under 35 and one-tenth aged 65 or over. About half the panel left school at the minimum legal age, and half possessed some formal qualification, but only 5% possessed a University degree. About 30% of panellists possessed a full-time job and a further 15% worked part-time. Of those at work, about three-quarters were in non-manual occupations, and 17% worked in the centre of Cardiff. Just over one-third of the panel held a driving licence, and 30% were able to use a car for shopping all of the time, 33% 'sometimes', and 37% not at all.

(b) General summary of household characteristics

Average household size among the panellists was 3.36 persons, with about one-third of the households being one- or two-person. About 18% of households contained at least one person aged over 65, while 19% contained at least one pre-school child and 45%, one or more school-age children. About half of the sampled households included one full-time wage-earner, and 22% possessed two or more. Of those heads of households working or previously employed (including panellists where

appropriate), 20% were in professional/managerial occupations and a further 33% in other non-manual work. Virtually all of the households owned a refrigerator and 71% owned a fridge-freezer or deep freezer. 53% of households owned or regularly used one car and a further 16% owned two or more.

The following tables give the results of each question, in the order in which questions were presented to respondents.

Table 5 16 Attitudes to shopping (q 1)

	AGREE STRONGLY	AGREE	NEITHER AGREE NOR DISAGREE	DIS-AGREE	DIS-AGREE STRONGLY	DON'T KNOW
Going grocery shopping gives you the chance to meet friends and acquaintances	15	175	47	183	30	1
Given a choice between good shops and good parking facilities, I would choose to shop where there is better parking	21	131	95	171	22	11
I would prefer to do all my shopping just once a week	37	188	23	186	15	2
I like to buy all my groceries at one shop, rather than shop around	38	169	24	194	25	1
Getting shopping done quickly is very important to me	54	197	39	153	7	1
There's not much difference between shops these days	5	170	28	194	45	9
I usually do a lot of comparing of prices for ordinary food purchases	65	198	39	133	15	1
I always try to buy good quality food, even if prices are higher	60	291	40	55	3	2
I think that supermarkets are cleaner than small food shops	18	149	119	139	11	15
I don't mind going out of my way to get to better shops	26	257	48	114	3	3

	AGREE STRONGLY	AGREE	NEITHER AGREE NOR DISAGREE	DIS-AGREE	DIS-AGREE STRONGLY	DON'T KNOW
I prefer to shop at the 'small man' type of shop	11	69	86	252	29	4
I find the staff more friendly in small shops	36	243	70	90	3	9
Chain stores and supermarkets make for better grocery shopping all round	36	315	44	46	8	2
I like to buy really fresh bread	220	199	18	10	1	3
When I am shopping I am usually in a hurry	47	168	29	191	14	2
I think the grocery shops in Cardiff are excellent	35	262	68	53	5	8
The convenience of local shops is worth the extra it can cost	21	262	50	103	11	4
Shopping for groceries is usually enjoyable	5	159	55	182	48	2
I prefer to buy meat in a supermarket because you can take your time choosing exactly what you want	10	96	39	219	83	4
I usually do my grocery shopping on a journey when I do other errands or other shopping	11	208	31	187	13	1
I try to avoid walking for more than five minutes with a bag of shopping	34	165	38	182	29	3
I find shopping for my groceries very tiring	25	166	68	181	10	1
I think you get better quality fruit and vegetables in a green-grocer's shop than in a supermarket	104	230	45	61	5	6
I find that shopping is a nuisance and I like to get it done as quickly as possible	64	154	50	165	17	1
I think you get better quality meat in a butcher's shop than in a supermarket	125	192	51	73	7	3
I like shopping because it gets me out of the house	27	152	39	177	54	2
The way a person shops for the household groceries is a good indication of how capable they are all round	22	251	69	82	18	9
I usually try hard to look for bargains	69	223	44	107	6	2

Table 5.17 Length of residence (q.2)

Response	Code	No.	%
Less than 3 months	1	1	0.2
3 - 6 months	2	5	1.1
6 - 12 months	3	23	5.1
1 - 2 years	4	23	5.1
2 - 3 years	5	30	6.7
3 - 10 years	6	117	25.9
10 years +	7	249	55.2
Can't remember	8	3	0.7
TOTAL		451	100.0

Table 5.18 Whether refrigerator, etc., owned (q.3)

Response	Code	Refrigerator		Fridge-freezer		Separate Freezer	
		No.	%	No.	%	No.	%
Yes	1	442	98.0	151	33.5	204	45.2
No	2	8	1.8	297	65.9	245	54.3
No answer	3	1	0.2	3	0.7	2	0.4
TOTAL		451	100.0	451	100.0	451	100.0

Comment It appears that virtually all panellists owned refrigerating equipment. There is however some overlap among these responses. Detailed inspection of the data reveals that 321 panellists (71.2%) owned some form of freezing equipment (fridge-freezer, separate deep freezer, or both).

Table 5.19 Number of cars or vans normally available to household (q.4)

Response	Code	No.	%
One	1	241	53.4
Two	2	66	14.6
Three	3	6	1.3
Four or more	4	2	0.4
None	9	136	30.2
TOTAL		451	100.0

Table 5.20 Use of cars for shopping (q.5a)

Response	Code	No.	%
All the time	1	134	29.7
Sometimes	2	151	33.5
Never	3	30	6.7
No car available	9	136	30.2
TOTAL		451	100.0

Comment The 'never' response relates only to panellists who stated in answer to question 4 that one or more cars were available to the household.

Table 5.21 Driving licence held by panellist (q.5b)

Response	Code	No.	%
Yes	1	162	35.9
No	2	153	33.9
No car available	9	136	30.2
TOTAL		451	100.0

Comment Panellists were not asked this question if no car was available to the household. The 'yes' response may therefore be an underestimate.

Table 5.22 Age at end of full-time education (q.6)

Response	Code	No.	%
14 or less	1	106	23.5
15	2	114	25.3
16	3	101	22.4
17	4	37	8.2
18	5	21	4.7
19+	6	46	10.2
Still Studying	7	6	1.3
Can't remember	9	20	4.4
TOTAL		451	100.0

Table 5.23 Nature of last examination passed (q.7)

Response	Code	No.	%
University degree	1	22	4.9
HNC, etc.	2	7	1.6
Teacher training	3	12	2.7
'A' Level, etc.	4	23	5.1
'O' Level, etc.	5	76	16.9
Other	6	54	12.0
Can't remember	7	4	0.9
No answer	8	15	3.3
No exam. passed	9	238	52.8
TOTAL		451	100.0

Comment. The response 'no exam passed' includes 228 panellists (50.6%) who stated they had definitely not passed any exams, plus 10 (2.2%) who could not remember whether they had passed any exams.

Table 5.24 Whether apprenticeship completed (q.8)

Response	Code	No.	%
Yes	1	37	8.2
No	2	395	87.6
No answer	3	19	4.2
TOTAL		451	100.0

Table 5.25 Sex of panellist (q 9)

Response	Code	No	%
Male	1	28	6.2
Female	2	423	93.8
	TOTAL	451	100.0

Table 5.26 Age of panellist (q.10)

Response	Code	No.	%
16 - 24	1	17	3.8
25 - 34	2	134	29.7
35 - 44	3	82	18.2
45 - 54	4	89	19.7
55 - 64	5	82	18.2
65 - 74	6	41	9.1
75+	7	6	1.3
	TOTAL	451	100.0

Table 5.27 Marital status of panellist (q.11)

Response	Code	No.	%
Married	1	365	80.9
Single	2	22	4.9
Widowed, divorced or separated	3	64	14.2
	TOTAL	451	100.0

Table 5.28 Work status of panellist (q.12a)

Response	Code	No.	%
Full-time job	1	69	15.3
Part-time job	2	130	28.8
Student	3	6	1.3
Retired/not working	4	246	54.5
	TOTAL	451	100.0

Table 5.29. Occupation of panellist (q.12b)

Response	Code	No.	%
Professional	4	8	1.8
Intermediate non-manual	5	50	11.1
Junior non-manual	6	80	17.7
Personal service	7	18	4.0
Foreman/supervisor (manual)	8	3	0.7
Skilled manual	9	4	0.9
Semi-skilled manual	10	5	1.1
Unskilled manual	11	29	6.4
Own account	12	3	0.7
Armed forces	16	1	0.2
Not working/no previous occupation given	95	235	52.1
Student	98	5	1.1
No answer	99	10	2.2
	TOTAL	451	100.0

Comment. There is some inconsistency between this and the previous table of the 246 who stated they were 'not working' in answer to question 12a, 10 declared an occupation and 3 refused to answer question 12b.

Table 5.30 Location of panellist's workplace (q.12b)

Response	Code	No.	%
Cardiff city centre	7	35	7.8
Elsewhere in Cardiff	1-6, 8-63, 91	127	28.2
Outside Cardiff	71-90, 92	10	2.2
Workplace varies	93	8	1.8
Works at home	94	5	1.1
No answer	99	20	4.4
Not working	95	246	54.5
	TOTAL	451	100.0

Comment. Unlike most of the other tables in this section the locational information is of necessity a summary. Each known workplace is given a precise locational code (see Section 5.3.2) which is held on the computer file.

Table 5 31 Relationship of panellist to head of household (q.13)

Response	Code	No.	%
Panellist is			
Head of household	1	92	20.4
Wife of head of household	2	345	76.5
Son, daughter	3	5	1.1
Other relative	4	4	0.9
No answer	9	5	1.1

Table 5.32 Occupation of head of household (including panellist where head of household (qs 12,13,14)

Response	Code	No.	%
Employer/manager (large establishment)	1	10	2.2
Employer/manager (small establishment)	2	10	2.2
Professional (self-employed)	3	1	0.2
Professional (employee)	4	51	11.3
Intermediate non-manual	5	82	18.2
Junior non-manual	6	20	4.4
Personal service	7	14	3.1
Foreman/supervisor (manual)	8	19	4.2
Skilled manual	9	59	13.1
Semi-skilled manual	10	50	11.1
Unskilled manual	11	16	3.5
Own account	12	18	4.0
Armed forces	16	2	0.4
Inadequately described	17	1	0.2
Not working - no previous occupation stated	95	69	15.3
Student	98	6	1.3
No answer	99	23	5.1
	TOTAL	451	100.0

Comment This table aggregates the stated occupations for panellists who were heads of households (qs. 12,13) with those for non-panellist heads of household (q.14), and also attempts to overcome some inconsistencies in responses to these questions. It should be noted that most responses in the 'not working' category probably indicate a state of retirement rather than unemployment.

Table 5.33 Location of workplace of head of household (where other than panellist (q.14))

Response	Code	No.	%
Cardiff city centre	7	39	8.6
Elsewhere in Cardiff	1-6, 8-63, 91	131	29.0
Outside Cardiff	71-90, 92	42	9.3
Workplace varies	93	33	7.3
Works at home	94	4	0.9
No answer	99	38	8.4
Not working	95	77	17.1
Panellist is head of household	97	87	19.3
	TOTAL	451	100.0

Comments as for Table 5.30

Table 5.34 Household income (q.15)

Response	Code	No.	%
Under £1000	1	3	0.7
£1000 - £1999	2	9	2.0
£2000 - £2999	3	45	10.0
£3000 - £4999	4	67	14.9
£5000 - £6999	5	58	12.9
£7000 - £9999	6	64	14.2
£10000 - £14999	7	44	9.8
£15000+	8	14	3.1
Don't know	9	63	14.0
Refused to say	0	84	18.6
	TOTAL	451	100.0

Comments Responses relate to total household income, before tax and

insurance deductions. The response rate is, as expected, much lower than for other questions. An examination of the demographic characteristics of non-respondents and their households does not indicate any major bias in this tabulation as a result of non-response. There is a slight over-representation of households with two or more adults working, in the 'don't know' category.

Table 5.35 Number of persons in each age group in household

No. of persons in household	Age group									
	0 - 4		5 - 15		16 - 44		45 - 64		65+	
	No.	%	No.	%	No.	%	No.	%	No.	%
0	364	80.7	249	55.2	123	27.3	259	57.4	370	82.0
1	69	15.3	89	19.7	81	18.0	62	13.7	53	11.8
2	18	4.0	73	16.2	215	47.7	130	28.8	26	5.8
3	-	-	32	7.1	24	5.3	-	-	1	0.2
4	-	-	8	1.8	7	1.6	-	-	1	0.2
5	-	-	-	-	1	0.2	-	-	-	-

Comment The data in this and the following tables were supplied in the initial questionnaire, and this predates information in Tables 5.16 - 5.34 by about 3 months.

Table 5.36 Total in household

No. of persons	No.	%
1	33	7.3
2	113	25.1
3	90	20.0
4	124	27.5
5	58	12.9
6	29	6.4
7	4	0.9
TOTAL	451	100.0

Table 5.37 Work status of adults in household

No. of adults	Working full-time		Working part-time		Retired/ not working		Total	
	No.	%	No.	%	No.	%	No.	%
0	127	28.2	305	67.6	131	29.0	-	-
1	223	49.4	142	31.5	206	45.7	49	10.9
2	82	18.2	4	0.9	100	22.2	270	59.9
3	16	3.5	-	-	10	2.2	84	18.6
4	3	0.7	-	-	4	0.9	40	8.9
5	-	-	-	-	-	-	7	1.6
6	-	-	-	-	-	-	1	0.2
	451	100.0	451	100.0	451	100.0	451	100.0

6 INFORMATION ON SHOPS IN THE CARDIFF AREA

6.1 Numerical Coding of Shops visited by the Panel

Every shop that was visited by members of the Cardiff Consumer Panel required a unique numerical code to identify it. A coding system was devised so as to include the location of the shop, information about its function, information about its organization, and a unique digit to distinguish individual premises.¹

6.1.1 Sources of Data for a Shop List

Before each shop could be given a unique code a list of such shops in the city and in the major settlements around Cardiff had to be compiled. This proved problematic given on the one hand the inadequacies of the available official records, and on the other hand the magnitude of effort involved in mounting a full-scale field survey. Two important sources of information were

- (a) the South Glamorgan County Council Shop List, and
- (b) information gathered directly by panellists and recorded on the diary forms

Two subsidiary sources were also used where necessary

- (c) directories
- (d) limited field surveys

¹ A list of all shop codes used is given in Appendix M

(a) South Glamorgan County Council Shop List

Prior to the beginning of the survey the only comprehensive list of grocery shops in Cardiff was the 1979 list collected by South Glamorgan County Council Planning Department. This list includes all retailing premises within the county operating at that time.

From the point of view of food and grocery shopping all general functional types are included butchers, fishmongers, bakers, greengrocers, confectioners, tobacconists and newsagents, delicatessens, grocers and supermarkets. For each shop the list gives its geographical location by enumeration district (1971 classification), the name of the shop or proprietor, its address, its function and its net floorspace (square metres). Because the data were gathered in 1979 they are now greatly inaccurate. Shops have changed hands, ceased trading or there has been a change of function at the same address. The list also includes some inaccuracies of detail (wrong addresses, incorrect functional headings).

In spite of these inaccuracies and errors the South Glamorgan list was the only available roster of grocery shops within Cardiff at the start of the survey. Local knowledge of changes in grocery provision on the part of the UWIST team and a limited survey of grocery shops by T. Howe as part of his Ph.D. research at UWIST helped to correct many of these deficiencies. A refined version of the list was therefore initially used for coding purposes by Research and Marketing.

(b) Information gathered by panellists

The most productive source for updating the South Glamorgan list of grocery shops was the weekly panel diaries themselves. Every time a visit to a grocery shop was made by a member of the panel the shop name and its address were recorded. On many occasions the shop's function was automatically included in the shop name, e.g. Jones' Butchers; Evans' Fish. Where this was not done the shop function could usually be derived by looking at the products bought there. Similarly, organizational information could sometimes be detected from these diaries because the shop name was sufficiently explicit to assist its coding, e.g., V.G. Foodstores, Spar Shop, Liptons

The diaries also provided the only reliable source of information on shops outside Cardiff. Because the survey operated over an extended period and included Easter holidays, a number of bank holidays and the start of the summer holidays, the population of out-of-Cardiff grocery shops that might be used could include an international list. As it was, only a few shops outside Britain were mentioned, notably in France, but the geographical dispersal of the panel within Britain was extensive. Of necessity the coding of these stores was based entirely on information supplied by panellists.

(c) Directories

A number of published lists of economic and business activity, such as Yellow Pages, were also consulted to compile the shop list. Their role

however, was marginal because they were generally out-of-date, and/or restricted to limited subsets of grocery activity

(d) Limited field survey

A fourth source of information on grocery shops were a number of limited field surveys undertaken as required by UWIST and Research and Marketing Ltd. Many of these surveys were made in response to queries raised by panel diaries. Often queries concerning individual shops could not be sorted out by published records or by local knowledge. When this occurred the only reliable procedure left was to visit the area concerned and list the shops there.

6.1.2 The Shop Code System

Each numerical code is a 5 digit number. Digits 1 and 2 represent locational information for each shop, digit 3 represents functional information, digit 4 represents organizational information and digit 5 represents a unique identifier for individual premises.

(a) Locational information

Digits 1 and 2 vary in range from 00 - 99. They have the following general interpretation

- 00 Mobile shops (e.g. ice-cream vans, dairymen)
- 01 City centre
- 02-29 District centres in Cardiff, as defined in the South

Glamorgan Structure Plan (1977).

- 10-68 Local centres
- 69-89 Individual shops not in district or local centres located by ward (1971 definitions)
- 90-95 Satellite towns to Cardiff
- 96 Markets (other than those in Cardiff)
- 98 Shops outside Cardiff but in Wales
- 99 Shops outside Cardiff

Code 97 was retained as an emergency code. A complete list of these centres and satellite shops is given as Appendix J. The location of the district centres is shown in Figure 3.3. It should be noted that these codes are not the same as the 'small areas' used in coding panellist's homes and workplaces (see Section 5.3)

(b) Functional information

Digit 3 ranges from 0 to 9 and represents the following functional arrangements for grocery shops

- 0 Superstores, department stores⁽¹⁾
- 1 Supermarkets (400 - 2000 m² net sales area)
- 2 Superettes (150 - 400 m²)
- 3 General grocers (< 150 m²)
- 4 Greengrocers
- 5 Butchers

(1) Most stores coded thus are department or variety stores (e.g. Marks and Spencer, Woolworth's). A list of codes for the 11 superstores visited by the panel is given in Table 6.1.

- 6 Bakers
- 7 Fishmongers
- 8 Health shops and Delicatessens
- 9 Other sorts of shop where grocery purchases might be made, e.g. newsagent, chemist.

Table 6.1. Superstores visited by the panel

Shop code	Superstore
1007	Tesco, The Hayes (Cardiff city centre)
64021	Leo's, Penarth Road
85021	Leo's, Moorland Road, Splott
90001	Carrefour, Caerphilly
91001	Asda, Newport
91101	Tesco, Newport
95001	Tesco, Llantrisant
98001	Woolco, Cwmbran
98002	Asda, Merthyr Tydfil
98060	Asda, Swansea
98101	Sainsbury, Cwmbran
98121	Leo's, Pyle

Codes 4 - 7 are clearly defined and we were, in general, able to code most shops by their function without difficulty. A problem arose however where a shop appeared to have two separate functions (e.g. Thayers ice-cream parlour on Wellfield Road, Roath, shares a common entrance with Thorntons Chocolates Shop). In these cases we have treated these functions as separate shops and coded them separately.

An additional problem concerns distinguishing between codes 1, 2 and 3. These are clearly distinguished on the basis of their net floorspace (i.e. the floorspace used exclusively for selling and not including check-outs, warehousing, stores, or other space outside the check-outs). Unfortunately, net floorspace is a volatile commodity and is particularly difficult to measure accurately. The information on the South Glamorgan list was found to be not wholly accurate, although of necessity it was used in drawing up shop codes. Thus, digit 3 is a less reliable indicator of shop size than the floorspace records subsequently established by field survey for most shops. The latter is available in the file concerning shop characteristics (see Sections 6.3, 7.5).

In the absence of other information all grocery shops have been coded 3. Spar shops, Mace and V.G. stores, Co-ops, Liptons and Londis stores have been coded 2. Kwiksave, Pricerite, Lo-Cost and International have been coded 1, as were Tesco Stores other than superstores

(c) Organizational information

Digit 4 represents organizational information. It ranges from 0 to 5 in the following order

- 0 National or regional multiples (e.g. Tesco)
- 1 Local multiple (e.g. Bruton's Bakers)
- 2 Co-operative
- 3 Independent, affiliated to a voluntary chain (e.g. Mace, V.G.)

- 4 Independent, non-affiliated
- 5 Other sort of ownership arrangements (e.g. Hospital canteen, British Rail buffet, Salvation Army hostel, and barrows).

Organizational information is important because it is known that a shop's purchasing behaviour is related to its ownership and organizational structure. Large chains, or voluntary trade associations such as Spar and Mace, can buy products in bulk and benefit from scale economies which may be reflected both in their pricing policies in the shop and in the range of products they carry.

The distinction between multiple shops and non-multiples depends entirely on the number of outlets used by the company, companies with two or more outlets being termed multiples. The distinction between local and regional multiples is not ambiguous either. A local multiple is any company which has two or more outlets entirely contained in a single town or city. Thus a company may be local to Newport or to Cardiff. If it has outlets in both cities it is termed a regional multiple. The Yellow Pages provided information on such companies in South Wales, and there was little difficulty in distinguishing between the two types of shop. Clearly this information could not be gathered as easily for shops visited in England or abroad. Apart from those whose structure is immediately recognisable (e.g. national chains, members of voluntary national associations) Category 4 has been the default code applied.

Code 5 represents all those forms of organization which are not normally visited for groceries but which have been recorded in the survey.

Because in certain areas more than nine shops of a particular type were recorded, a set of "emergency" codes had to be used. These codes were created only when necessary and only for three of the six organization categories. The emergency codes for national/regional multiples is 6, for non-affiliated, independent shops 7, and for other organizational types 8. These codes work in the following way. If the last code used for a nationally-owned department store in the city centre was 01009, the code for the next such shop was 01060. Codes could then continue up to 01069 making a total of 19 such shops in the area. In fact, 19 separate codes were never required, even in the city centre of Cardiff.

(d) Unique identifier

Clearly, in any area there may be several shops of the same general type (e.g. two independent, non-affiliated greengrocers). It is necessary to distinguish between these shops for analytical purposes. The 5th digit of the unique numerical code allows this distinction. It ranges from 1 - 9 in all cases except where an emergency code for organization has been applied. In this case it ranges from 1 - 9 for the first (or normal) organization code, and from 0 - 9 for the second. As already mentioned, when an emergency code is used 19 different shops of the same general type in the same area may be identified.

6.1.3 The Coding Procedure

The decision that UWIST should be responsible for assigning codes to each shop week by week was made before any coding began. A preparatory list

of grocery shops in Cardiff was compiled, based on the South Glamorgan list. Each shop was given a unique code as already outlined. Research and Marketing Ltd. were given this list of codes in time to code the first batch of diaries.

Initially Research and Marketing had to rely entirely on this list and refer any shops they could not code to UWIST. Each week a steady stream of new shops was added to the preparatory list held both by UWIST (on computer) and by Research and Marketing. The ability to generate new codes for shops was not a problem (apart from the need to introduce a small number of emergency codes for shop organization), but greater difficulty was met in sorting out the various queries which arose. Three sorts of problem were particularly important duplicate codes for single shops, inaccuracies of organizational information, inaccuracies of function.

If, as a result of a query a new code was required, this was immediately devised so that Research and Marketing could use the new code on the diaries of the next completed week. At the end of the survey the redundant or erroneous codes were removed from the diary tapes. Each code on these tapes therefore consistently refers to the same shop throughout the life of the survey. The codes of any shops which closed down during the survey period remained operative throughout, though, of course, patronage of the shop ceased.

(a) Duplicate codes for single shops

Perhaps the singly most pressing problem lay in identifying duplicate

codes for single shops. Because individual panellists might perceive a single shop differently from each other, and we tended to rely on panellists' observations to build the shop list, a certain amount of duplication of shop names occurred. Many local grocery shops, for example, do not have a sign indicating the official shop name so panellists identify the shop by referring to the person who served them or by mentioning the street in which the shop is found. A single shop could thus get 3 or 4 different codes initially. For example, 'Pantbach Stores', 'Spar, Pantbach Road', 'Gropetis', and 'Greek Stores' were all used by panellists to denote one store (code 43231). Initially in the survey, most panellist responses that could not be matched with familiar shops were given separate codes. As time progressed limited field surveys and occasional visits to particular localities reduced the duplication. Any duplication remaining in the file is, we believe, restricted to those less commonly visited areas of Cardiff where field visits and follow-up checks by the interviewers were at a minimum. All major centres, both district and local have been checked in the field and using published records such as Yellow Pages to reduce duplication.⁽²⁾

The reverse problem of several different shops sharing a single code does

(2) In addition, the following pair of codes were found after editing and coding of the diary data had been completed, to refer to one shop only

78341 } and 74347 }
78542 } 86331 }

not appear to have happened, nor, given the way coding has been organized, is this a likely problem.⁽³⁾

(b) Inaccuracies of organizational information

A second source of inaccuracy was the coding of organizational information. Panellists not only tended to be idiosyncratic in describing local, privately-owned grocery shops, they also tended to identify major stores in unusual ways. A particular problem occurred where one major retail multiple had taken over premises previously used by a different firm. Where this happened both shop names were found recorded. Because these are large stores the errors made could not be easily hidden. Most appeared at the editing stage and so have not led to duplication in the shop list.

A more pervasive problem concerning organizational information affects shops that are members of voluntary trade associations. It is known that shops which belong to such groups may trade differently to shops which do not. It was therefore important to be able to distinguish between these two types of shop. Established published lists such as Yellow Pages were not capable of providing this information because they list shops by name rather than by affiliation. The only satisfactory way forward on this problem was to contact all the voluntary associations operating in the city asking for lists of shops associated with them. Lists provided by

(3) The following shops were known to have changed ownership during the survey period:

	<i>start of survey period</i>	<i>end of survey period</i>
13203 Countisbury Avenue	International	Locost
07202 Clifton Street	International	Pricerite

Londis, Spar, Mace, Danish Bacon Co., V.G., and APT (Maid Marian, Family Food Store) allowed clear distinctions to be made.

Researchers should note the acquisition of Presto and Liptons stores by Argyll Foods (who also own Pricerite and Lo-cost stores in Cardiff) during the survey period.

(c) Inaccuracies of function

Functional inaccuracies have also occurred but have been relatively unimportant. On a number of occasions shops previously thought to be exclusively fishmongers or butchers were revealed to be more general in their stock. The solution varied. On some occasions where a shop clearly had two quite separate functions and was clearly *not* a general grocers two codes were permissible. On other occasions the replacing of the original code by a more appropriate code was made.

6.2 *The Grocery Prices Survey*

The panel survey was complemented by collection of information about food and grocery shopping opportunities (e.g. supermarkets, corner shops, market stalls, etc.) in the Cardiff area. This section describes the methods used in collecting data concerning typical grocery prices in these "opportunities". Many previous surveys of shoppers' attitudes have revealed prices to be an important part of the images presented by grocery stores and outlets. For some shoppers, the choice of destination for major grocery shopping trips appears to be determined largely by the shopper's impression of comparative prices for groceries.

Thus, in attempting to explain the ways in which the shopping diary panel allocate their shopping expenditure, it is essential to have reliable information about variations in typical grocery prices among the many shops accessible to the panel.

The following discussion of the methodology employed in carrying out the price survey is brief. The paper by Guy and O'Brien (1983) deals with this topic in greater detail.

6.2.1 The Choice of Items for which Prices were Surveyed

This stage involved the choice of a 'shopping basket' of grocery items for which prices were to be compared between stores in the Cardiff area. The most important restriction here was that items should be absolutely clearly defined, and of a standardized nature, so that price was likely to be the principal source of variation between stores. This entailed a restriction to packaged grocery items and rejection of most types of fresh food. Within this general restriction a choice of 27 items was made, using the following criteria

- (i) the items should be in frequent demand, such that their price would be visible and important to many shoppers in the panel. Observed frequencies of purchase by the panel of each of the 68 coded food and grocery items for weeks 03 - 04 were used as a guide,
- (ii) they included the six grocery products for which brand choice were recorded by the panel,

(iii) they were observed to be widely available in stores in the Cardiff area.

For most items the intention was to measure prices for both pre-selected brands and for the cheapest brand available in each store. This follows the common practice of compiling 'branded' and 'cheapest' shopping basket totals (e.g. Consumers' Association, 1982). The complete list of items, package sizes and brands is given in Appendix K.

6.2.2 The Choice of Stores to be Surveyed

The aim of this exercise was ideally to find an appropriate and accurate measure of 'price' for every grocery outlet in the Cardiff area. A first-hand survey of each of the 870 or so outlets used by the panel by Week 15 of the survey would have been extremely expensive and a waste of resources. Instead the best strategy appeared to be a stratified sample survey, such that 'price' measures could be inferred within known confidence limits for stores not surveyed.

The obvious criteria for stratification of the population of grocery outlets are (a) organization type and (b) size. In keeping with common practice and the coding system already in use for shops in Cardiff (see Section 6.1), strata were chosen as follows:

- (a) *Organization type*
 - (i) Multiple
 - (ii) Co-operative
 - (iii) Affiliated, and
 - (iv) Independent

These items are defined in Section 6.1

(b) *Size*

- (i) Superstores - over 2,000 sq.m. of net sales area.
- (ii) Supermarkets - between 400 sq.m. and 2,000 sq.m. (including some 'food halls' in department or variety stores, e.g. David Howell, and Marks and Spencer, respectively).
- (iii) Superettes - between 150 sq.m. and 400 sq.m. net sales area.
- (iv) Grocers - under 150 sq.m. net sales area.

Selection of stores proceeded as follows. The computer file of grocery and food outlets in the Cardiff area (see Section 6.1) included information on ownership type and net floor area, although neither at the time of sample selection (May 1982) was fully accurate. This enabled a list of outlets within each stratum to be output.

In choosing a sample of stores for price measurement, a controlled sampling technique was used (Avadhanı and Sukhatme, 1973). Representation of every organization type/size combination occurring in Cardiff was ensured, while combinations with several stores in Cardiff (e.g. affiliated grocers) were subjected to a further sampling process. Here, stores which were visited routinely by many panel members were chosen in preference to those visited relatively little.

The population and sample size chosen in each combination of strata are shown in Table 6.2

Table 6.2 Strata populations and sample sizes of grocery stores in Cardiff and its environs*

Size	Organizational type			Independent
	Multiple	Co-op	Affiliated	
Superstore	5 (5)	2 (1)	0	0
Supermarket	8 (6)	1 (0)	0	0
Superette	17 (7)	5 (2)	3 (1)	0
Grocer	0	0	34 (9)	94 (22)

*Sample sizes in brackets

6.2.3 Conduct of the Price Survey

The task of surveying prices in some 66 shops was clearly too great for the UWIST research team themselves to carry out. Therefore it was decided to ask Research and Marketing (Wales and the West) Ltd. to carry out this task, in addition to their regular duties in connection with the panel.

The survey was carried out during 24th-28th May, 1982 (Monday-Friday) by a team of interviewers, each of which was assigned to a particular group of shops. They were given survey sheets and instructed to approach the store management before carrying out the survey. Of the 66 stores, only 8 refusals were encountered (a response rate of 88%). The identity of each store surveyed is shown in Appendix L. The price data may be found in a computer file described in Section 7.5.

6.3 The Survey of Shop Characteristics

An essential part of the research programme was the assembly of information about the food and grocery shopping opportunities likely to be used by the diary panel. This note describes the information that was obtained, with the exception of data on prices, which were obtained in a separate survey (Section 6.2).

6.3.1 The Shops Surveyed

During the six months of the panel operation, some 1030 shops were visited by panellists of which 240 were outside Cardiff. Many of these shops were visited only once or twice, and it became clear that it would be impracticable to survey at first hand every shop visited by every panellist. The most sensible strategy in this situation was to survey in detail those shops likely to be visited frequently by panellists, in order to obtain an accurate record of their characteristics, and to use this information to infer, if necessary, the characteristics of the rarely-visited stores.

It was decided thus to survey stores selling food and groceries in the following areas

- (1) Cardiff central area
- (11) The eight 'district centres' in Cardiff, as defined in the South Glamorgan Structure Plan (1977)
Cowbridge Road East, Albany Road/Wellfield Road, Crwys Road, Whitchurch Road, Merthyr Road (Whitchurch),

Maelfa Centre (Llanedeyrn), Clifton Street,
and Grangetown;

- (iii) All other parts of the sector of Cardiff in which the panel live, namely the area east of the River Taff and north of the main Cardiff-Newport railway line,
- (iv) A few selected shopping centres and isolated stores in other parts of Cardiff, which the panel appeared to visit fairly frequently,
- (v) A few superstores outside Cardiff, likely to be visited fairly frequently.

Initially a list of shops classified as food shops, chemists and news-agent/tobacconists, ordered by street address in Cardiff, was obtained from South Glamorgan County Council Environment and Planning Department. This list was used as a basis for allocating codes to shops visited by the panel (see Section 6.1). During the operation of the panel, many alterations were made to this list, as a result of information received from coding of the panel diary data, these alterations were occasionally checked visually through field survey.

6.3.2 Timing of the Survey

Originally it has been intended to carry out one survey of shops before the start of the diary period, and a second survey after the end. However, on receipt of the list of shops from South Glamorgan, a number of errors and omissions were evident, such that the list appeared unsuitable as the basis for a survey without substantial modification. It was decided therefore to use the information about panel visits as

the main method of improving the data base (see above), and to carry out one full survey soon after the end of the diary period.

The survey itself was preceded by pilot surveys and was carried out during August and September 1982. In order to provide consistent information on certain characteristics, the survey was made on Wednesdays and Thursdays only. This avoided the quietest (Monday-Tuesday) and busiest (Friday-Saturday) parts of the week. Surveys were carried out during normal working hours and in dry weather. A further limitation was early closing of shops (1 p.m.) on Wednesdays in most parts of Cardiff.

6.3.3 Characteristics Surveyed

A specimen survey sheet is shown in Figure 6.1. These notes explain each of the eight items on the sheet

- (1) Name and address of shop this was normally obtained in advance from the computer file of shops in Cardiff.
- (2) Type of shop. (e.g. supermarket, greengrocer, chemist, etc.). This was recorded in the field and checked afterwards against the file.
- (3) Type of firm (e.g. national multiple, independent). This was recorded in the field and checked afterwards against the file
- (4) Floorspace although recorded already in the South Glamorgan data, a fresh estimate was made.
- (5) Goods sold most of the categories listed here are aggregated from those used in the shopping diaries.

FIGURE 6.1. SHOP SURVEY FORM

UWIST
 DEPARTMENT OF TOWN PLANNING
 CARDIFF SHOPS SURVEY, AUGUST 1982

DAY
 TIME
 WEATHER

1. Name and address of shop

2. Type of shop
3. Type of firm
4. Floorspace in sq m. (estimate of sales area)

5. Goods sold (tick if appropriate)

Baby foods	'Convenience' non-foods
Fresh fruit and veg	Bread, etc.
Fresh meat	Canned fruit and veg.
Meat products	Fresh poultry
Fresh fish	Canned meat products
Frozen foods	Fish products
Soft drinks	Eggs
Other groceries	Bacon
Sweets and ices	Delicatessen items
'Whole foods'	Health/dietary foods
Milk	Dairy produce

6. (If supermarket) Number of checkouts (operational)
7. (If grocer, or other food shop) Number of shop assistants
8. (If food shop) Quality assessment indicate whether below average for type of shop (0), average (1), or above average (2).
 - (a) Window display
 - (b) Range and variety of goods
 - (c) Cleanliness and clutter

The categories 'whole foods', 'delicatessen items', 'health, dietary foods' are not represented as such on the diary schedule. However, they are associated with distinctive types of shop, of which a record may be useful. Goods sold in very small quantities and/or with a very restricted range were not included.

- (6) Number of checkouts, and
- (7) Number of shop assistants these are alternative simple measures of 'size' of shop.
- (8) Quality assessment this is discussed in detail below.

6.3.4 Quality Assessment

In the retailing literature the most recent attempt to measure 'quality' of retail establishments in a field survey was found in Potter (1980). He used 4 measures of quality

- (1) Appearance (related to proportion of display advertisements)
- (2) Window display
- (3) Range (of goods)
- (4) Price level

A score ranging from 1 (high quality) to 5 (low quality) was awarded by Potter to each shop surveyed against each criterion.

Of Potter's criteria, 'price level' was clearly inappropriate for this survey, as it has been measured separately (see Section 6.2). Indeed the inclusion of 'price' in any 'quality' index would appear confusing.

It was also decided to combine his 'appearance' and 'window display' measures, which seemed to overlap. An extra measure used by Davies (1968) - 'level of cleanliness' was reintroduced, as this appeared intuitively to bear a strong relationship with a shop's attractiveness. Three criteria were thus defined as 'window display', 'range and variety of goods', and 'cleanliness'.

A pilot survey of shops in Cowbridge Road East was carried out by three surveyors acting independently, and the findings were compared and discussed. As a result, the criterion 'cleanliness' was changed to 'cleanliness and clutter', the latter term referring to the frequently observed phenomenon of full or empty cardboard boxes lying on shop floors, to the detriment of customers. In addition, it was decided to reduce the 5-point scale (extending from 'excellent' to 'very poor') to a 3-point ('below average', 'average' and 'above average'). These categories may be defined as follows

(a) Window display

- 0 (below average) - (supermarkets) untidy arrangement of price announcements
 - (fresh food shops) untidy and/or sparse display of food
- 1 (average) - (supermarkets) no display, or small number of tidily arranged price announcements
 - (fresh food shops) well stocked display with prices clearly shown
- 2 (above average) - (all shops) visually attractive display of food, often according to some 'theme'.

(b) Range and variety of goods

- 0 - low level of stock, and/or very limited choice of brands
- 1 - average levels of stock, and choice of brands, for the type and size of shop concerned
- 2 - above average choice of goods and/or brands for the type and size of shop concerned, including some unusual food items

(c) Cleanliness and clutter

- 0 - visibly dirty, and/or very untidy and cluttered
- 1 - fairly clean, and no more than a few cardboard boxes or other examples of clutter
- 2 - very clean, and no clutter

The general intention of this categorization was to identify (i) those shops which were unattractive enough to repel potential customers, and (ii) those which were attractive enough to have strong competitive advantages over other shops in the same area and of the same size and type. These exceptionally attractive shops would probably generate custom from a significant number of shoppers from beyond the normal catchment area for shops in that locality. Most food and grocery shops in Cardiff were not expected to fall into either of these types therefore the two surveyors who carried out this work were instructed to use the extreme categories sparingly. As a further check, any shops awarded at least two extreme marks by the surveyors were checked visually by two of the authors of this report (Guy and O'Brien).

6.3.5 Recording of Shop Characteristics

The information described in this Section, together with the code, name, address and grid reference of each shop, are stored on a computer file, the format of which is described in Section 7.5.

7. STRUCTURE AND FORMATTING OF THE DATA TAPES

7.1 'Complete' and 'Incomplete' Diary Tapes

In any long-term consumer panel there will inevitably be a number of panellists who remain conscientious and satisfactory reporters to the end of the monitoring period but have small gaps in the continuity of their purchasing records. In fact, the majority of panel members can be expected to fall into this category being away from home for the occasional day or weekend, or on holiday for a week or longer. In practice, absences for periods of less than one week cause no difficulties as such panellists are likely to adjust their weekly pattern of purchasing to compensate and can be regarded as just 'not buying anything' on those particular days as far as the panel is concerned. Continuous absences of a week or longer are, however, somewhat more problematic. In a personal communication to one of the principal investigators one of the leading experts in the field of consumer panel studies, Professor A.S.C. Ehrenberg of the London Business School, has summarized current practice as follows.

"Our usual way of dealing with non-reporters and other gaps in consumer panel data is that when we analyse data for various periods up to 48 weeks, say, we construct a single sub-sample tape of 'continuous reporters' for all 48 weeks (or get Audits of Great Britain Ltd., for example, to do so). This might be only of the order of 80% or 90% of the nominal panel size. Excluded are essentially people who are really not on the panel for any one or more weeks - as far as AGB can tell from their records. (Some panel operators keep no effective record whether a given household did respond in a given week but did

not buy anything.). People known to be away on holiday (and who come back afterwards) are however kept in the sample of continuous reporters (but just did not 'buy' as far as the panel is concerned.)

Many other analysts use a less 'rigorous' approach, partly to get larger samples. I believe that AGB's own practice is roughly to construct the best 'balanced' sub-sample of all continuous reporters in a given four weeks for each of their basic four-weekly reports - i.e. a different sample each month. They also construct *different* sub-samples of continuous reporters for any longer periods. All this of course leads to some discrepancies between the results for different periods. This usually does not matter too much in as far as few clients, or AGB themselves, do much by way of cross-analysis between periods of different lengths. But for us that would produce a lot of minor discrepancies, a nuisance that is well worth avoiding.

I also know that some other people (e.g. in America) tend to have great trouble with continuous reporters, because they take almost no precautions (and are sometimes not aware of the problem!). In August I discussed this for example with some people at Cornell (who were re-analysing some commercial tapes); they had made no allowance for continuous reporters at all and therefore got some very odd results in comparing penetration in short and long periods."

In the Cardiff survey, detailed records *were* kept for each panel member of diaries satisfactorily completed, days of holiday taken, missing diaries, etc. At the end of the monitoring period this information was summarized in the form of a panellist-by-week matrix for the 542 panellists who were on the panel at the beginning of the first week of the main monitoring period (Week 03). This matrix is of crucial

importance and it is included as Appendix D of this paper. From the information supplied in this matrix a computer tape of the diary records of 'continuous reporters' was constructed. This basically adopted the most rigorous approach in current practice (as outline above in the comments of Professor Ehrenberg) and added certain extra, more stringent, criteria. 'Continuous reporters' were, therefore, defined as

- (a) panellists who had remained on the panel satisfactorily completing diaries for the whole of the monitoring period and who, in addition, had
- (b) been away for a total of 32 days or less during the 24 weeks (168 days) of the main monitoring period (Weeks 03 - 26) and who had *also*
- (c) been away for no more than 15 consecutive days at any one time.

In other words, following current practice in the field and the advice of Professor Ehrenberg, panellists known to be away on holiday and who came back and resumed conscientious reporting after the standard British holiday period of 15 days or less were retained in the sample of 'continuous reporters' and were regarded as just 'not buying anything' within that period. However, panellists taking longer holidays, or who were more frequently absent (more than 32 days, i.e. more than 20% of the monitoring period) were excluded from the 'continuous reporters' file. To put these criteria into perspective, it should be noted that otherwise perfectly conscientious panellists who merely spent two-thirds of weekends away from the city at their holiday home or caravan, or who took a three week annual holiday during the monitoring period were thus

excluded from the 'continuous reporters' file. It should also be noted that 82% (371) of the 'continuous reporters' had no absences of more than 7 days, and 41% (185) had *not even a single day* away from home during the monitoring period.

Of the 481 panellists who satisfactorily completed the entire 24 weeks monitoring period, 27 failed to satisfy the additional criteria described above. In many cases the reason was the taking of a longer than 15-day annual holiday. (In fact 12 of the excluded panellists had total absences of 21 days or less and were otherwise perfect reporters). The result was a set of 454 'continuous reporters' whose diary records were placed on the main computer tape (known as the '*complete*' diary tape). The records of the 27 excluded panellists were added to those of the 61 panellists who began the main monitoring period (Week 03) but failed to complete it. These were placed on a second computer tape known as the '*incomplete*' diary tape

For most analytical purposes, the Bristol and UWIST research projects will utilize only the records of the 454 panellists on the 'complete' diary tape (sometimes further reduced to 451 as Second Questionnaire household characteristics and shopping attitudes information is not available for 3 of these panellists). However, other researchers may wish to adopt less stringent criteria for the definition of 'continuous reporters' and may wish to supplement the 'complete' diary tape with extra panellists drawn from the 'incomplete' diary tape. Furthermore, Section 5.2 3 has shown that the characteristics of the 'dropout' panellists on this 'incomplete' diary tape (i.e. the so-called 'later dropouts' from Weeks 03 - 26) have characteristics which

are very similar to the 'stayer' panellists, and thus some researchers may, for some purposes, wish to supplement the 'complete' diary tape using both excluded 'stayer' panellists and 'dropout' panellists drawn from the 'incomplete' diary tape. For these purposes, the panellist matrix (Appendix D) holds all the necessary information.

7.2 Structure and Formatting of the Diary Tapes

This section is concerned with the structure of the 24 computer files (Week 02 - Week 26 in the 'complete' diary tape (Section 7.1)). These files are organized in a fixed format of 80 characters per record. Each record contains the coded information of a single page of an individual panellist's weekly diary. In most cases one record is sufficiently large to cope with all the information contained there, but, on occasion, more records (up to a maximum of four additional records) are used. A dummy argument in the 80th column of the record acts as a control switch for record processing where this occurs. Further details are given below.

7.2.1 Structure of Each Record

There follows a list of the variables in each record by their position and according to generic classes of information. Their valid range of values are also given. A brief explanation of those variables which are not self-explanatory is given as a series of notes in the following section. The four columns refer to (1) the character position of each variable in the 80 character records, (2) the name of the variable held there, (3) the valid range of values that variable may take, (4) the

number of the note in Section 7.2 2 which contained additional information on each variable

(a) *General information*

1	Area	A,B,C,D,E,F,G,J, K,L,M,N,P,Q,R	See note 1
2-3	Respondent Number	1-99	See note 2
4-5	Week Number	3-26	See note 3
6	Day Number	1-7	See note 4
7-8	Page Number	1-40	See note 5

(b) *Journey information*

9 - 13	Shop Number	0-99999	See note 6
14	Person Buying	0-3	See note 7
15	Time of Purchase	0-6,8,9	See note 8
16	Form of Travel	0-6,8,9	See note 9
17	Previous Shop	0-6,8,9	See note 10
18	Next Shop	0-6,8,9	See note 10

(c) *Brands and expenditure information*

19-31	Selected Brands	A-H,J-N,P-Z (0-9 as needed)	See note 11
32-35	Grocery Expenditure	0-9900,9999	See note 12
36-39	Total Expenditure	0-9900,9999	See note 12
40-41	Fabric Conditioner	0,1	} Used in error checking procedures (Section 4.3)
42-43	Toilet Rolls/Paper	0,9	
44-45	Baked Beans	0,21	
46-47	Instant Potato	0,31	
48-49	Margarine	0,40	
50-51	Instant Coffee	0,57	

(d) *Other listed items*

52-79	Other items as purchased	0-68 except 1,9, 21,31,40,57	See note 13
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(e) *Dummy variable*

80	Switch for record processing	0-4	See note 14
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7.2 2 Notes

(1) The *Area* variable records three separate pieces of information (a) the name of the study area in which the panellist lived, (b) the identity of the fieldworker who was responsible for recruiting and assisting the panellist complete diaries, (c) the colour of the pages in the panellist's weekly diary. These three aspects are required to facilitate areal comparisons of shopping behaviour, to investigate biases introduced by particular fieldworkers, and to test for ordering effects in the pattern of diary responses. The letters used are interpreted in the following way

A	Rhıwbına	white diary
B	Rhıwbına	yellow diary
C	Whıtchurch	white diary
D	Whıtchurch	yellow diary
E	Cathays	white diary
F	Cathays	yellow diary
G	Roath	white diaries only
J	Rumney	white diary
K	Rumney	yellow diary
L	Llanrumney	white diary
M	Llanrumney	yellow diary

N	Llanedeyrn	white diary
P	Llanedeyrn	yellow diary
Q	Heath	white diary
R	Heath	yellow diary

The crucial difference between yellow and white diaries is the order of the 68 product fields. White diaries were organized linearly, from 1-68, yellow diaries had the same product fields but were printed in the following order - 1-20, 40-67, 21-39, 68. Those panellists who lived in Roath were given only white coloured diaries because this sample was too small to make order comparisons worthwhile.

(2) Each fieldworker was responsible for recruiting and supervising the weekly diary returns of up to 99 panellists located in clearly defined subareas of the eight study areas.

(3) Weeks 00, 01 and 02 were used as 'running-in' periods and were not placed on tape. The 24 weeks of diary data therefore begin in Week 03 and continue to Week 26.

(4) Each week begins on a Monday

(5) The number is arbitrary. In principle, there is no upper limit on the number of diary pages a panellist may complete each week.

(6) An explanation of the 5 figure unique numerical code for each shop is given in Section 6.1

(7) Ideally, all grocery shopping trips recorded should be made by the same person (i.e. the panellist). This was not likely to occur even for single person households given the length of the survey period. The *person buying* variable takes the following values to indicate who made each particular shopping trip

- 1 - the panellist
- 2 - another member of the panellist's household
- 3 - someone other than a member of the panellist's household
-

(8) The *time of purchase* variable corresponds to the following time periods

- 0 - no purchases that day
- 1 - before 10 a.m.
- 2 - 10 a.m. until noon
- 3 - noon until 2 p.m.
- 4 - 2 p.m. until 4 p.m.
- 5 - 4 p.m. until 6 p.m.
- 6 - after 6 p.m.
- 8 - question not applicable
- 9 - answer not known

(9) The *form of travel* variable corresponds to the following travel modes

- 1 - no travel involved
- 2 - walked
- 3 - bus/coach
- 4 - car
- 5 - train
- 6 - other mode (e.g. bicycle)
- 8 - question not applicable
- 9 - answer not known

(10) These *trip indicator* variables are used to record characteristics of the shopping trip. In particular, the places visited immediately before and after visiting the referenced shop need to be identified. The codes have the following interpretation

- 1 - supplier called (no travel involved)
- 2 - home
- 3 - workplace
- 4 - shop where *listed* items were bought
- 5 - other shop
- 6 - other place (e.g. school)
- 8 - question not applicable
- 9 - answer not known

(11) The letters and numbers identify which brand of the six branded items considered for study has been purchased by the panellist. The range varies with each commodity depending on the number of competitors available to the panel. The lists for each of the six items are given in Appendix B.

(12) A record of the amount spent on all *listed* items and on *all* items purchased in a single shop visit is kept. These records can take on any value in pounds (two characters) and pence (also two characters) up to 9900. Values in excess of 9900 are also recorded as 9900. If the amount is not known the value is given the code 9999.

(13) Columns 52 onwards list other items which were purchased on the individual shop visit (that is, other than the purchased branded items) in I2 format. The length of this list can, in principle, be 124 characters (62 purchased items) long, but in practice, most panellists

only purchase a few items. Should there be more than 14 of these items a second record is needed to store the coded information. For practical reasons at the data reading stage, the data on this second record starts from column 52 of that record rather than column 1. Should the panellist purchase more than 28 of these items a third record is needed. Four additional records are needed to store a complete set of responses. These additional records are also punched from column 52 onwards.

(14) If all the diary information is stored in a single record the record processing switch in column 80 indicates this by taking on the value of 0. If a second record is needed to hold all the code, record 1 has the value 1 in column 80, identifying it as the first record, and record 2 had the value 0, indicating the end of the code for that diary page. A similar logic applied should two, three or four additional records be needed. In these cases the 80th columns of the appropriate records would read 1,2,0, 1,2,3,0 and 1,2,3,4,0. Driving programs designed to read these data will therefore have to pay particular attention to the structure and value of this variable.

7.2.3 'Incomplete' diary tape

Files in the incomplete diary tape (see Section 7.1) are structured and formatted exactly as above. The composition of panellists will of course vary from week to week.

7.3 Structure and Formatting of Questionnaire Data

7.3.1 Structure of the First Questionnaire Data Files

The first or 'initial' questionnaire is discussed in Section 5.1. Each questionnaire has been punched into single computer records of fixed length (24 characters). Apart from the first two variables, the data are organized in I1 format. The following is a list of the variables contained in each record, along with their valid range of values and their format structure. The subsequent list of notes provides further information on particular variables.

<i>Col.No</i>	<i>Variable Name</i>	<i>Valid Range</i>	<i>Notes</i>
1 - 4	Location of address		1
5 - 7	Household code number		2
8	Household number	1-9	3
9	Frequency of weekly shopping	0-6,9	4
10	Vehicle availability	0-4,9	5
11	Employment status	0-3;9	6
12	Sex of respondent	1-2	7
13	Age of respondent	1-6	8
14	No. of children 0-4 years	0-9	9
15	No. of children 5-15 years	0-9	9
16	No. of adults 16-44 years	0-9	9
17	No. of adults 45-64 years	0-9	9
18	No. of adults 65+	0-9	9
19	Total household size	1-9,blank	10
20	No. of adults in household working full-time	0-9	9
21	No. of adults in household working part-time	0-9	9
22	No. of adults in household not working or retired	0-9	9

<i>Col No</i>	<i>Variable Name</i>	<i>Valid Range</i>	<i>Notes</i>
23	Total no. of adults	1-9,blank	10
24	Willingness to be on panel	1-2	11

Notes

(1) The *location of address* variable (I4 format) has been left blank in order to preserve respondent's anonymity.

(2) Each household questioned has a unique code number associated with it. This is made up of a letter to indicate locality and an I2 variable indicating the number of the house in the locality. The letter is also used to distinguish those respondents who became panellists from those who did not. This can be seen from the following table which also gives the number of respondents in each sub-area.

<i>Area</i>	<i>Panellists</i>		<i>Non-panellists</i>	
Rhwbina	A	40	S	58
	B	64		
Whitchurch	C	40	T	66
	D	37		
Cathays	E	40	U	81
	F	42		
Roath	G	36	V	99
			H	19
Rumney	J	38	W	75
	K	37		
Llanrumney	L	61	X	78
	M	41		
Llanedeyrn	N	23	Y	59
	P	50		
Heath	Q	38	Z	97
	R	18		

Panellists coded A - R have retained these codes for the diary tapes (Section 7.2).

(3) Several households can live at a single address. The household number variable is used to distinguish households where this occurs.

(4) The *frequency of weekly shopping* variable contains information on the regular grocery shopping activity of the household. Each level corresponds to a particular frequency of regular shopping visits.

These are

<i>Level</i>	<i>Frequency</i>
1	once a week or less frequently
2	twice a week
3	three times a week
4	four times a week
5	five times a week
6	six or more times a week

If the household's pattern of shopping activity was *not* regular it is coded 0. If the household felt the question was inappropriate in some way, or refused to answer, the code 9 was given.

(5) This variable records the number of vehicles (cars and vans) *normally available* to the respondent or members of his (her) household.

It has the following values

0	no vehicles available
1	one vehicle available
2	two vehicles available

3	three vehicles available
4	four or more vehicles available
9	question unanswered or not applicable

(6) The *employment status* variable has four levels

1	respondent works full-time (in excess of 30 hours per week)
2	respondent works part-time (less than 30 hours per week)
3	respondent is not working or has retired
9	question unanswered or not applicable.

(7) The *sex* variable has the value 1 if the respondent was male, or 2 if female.

(8) The *age* variable has six levels corresponding to the following age classes

1	age range 16-24
2	25 - 34
3	35 - 44
4	45 - 54
5	55 - 64
6	65+

(9) These variables record the number of occurrences of each category in the respondent's household and code this number directly. An arbitrary upper limit of 9 is imposed.

(10) These variables record the total household size and the total

number of adults in the respondent's household. If unanswered, the variables are not coded.

(11) If the respondent was willing to become a panel member and complete a shopping diary each week, the reply was coded 1, otherwise 2.

7 3.2 Structure of the Second Questionnaire Data File

The 'Second Questionnaire' file contains data about the shopping attitudes and personal and household characteristics of persons who were on the panel at the time of the survey. The sample of 497 persons includes 451 of the 454 panellists whose behaviour is recorded on the 'complete' diary tape, plus others who subsequently left the panel, or were absent from home for an unacceptably long time period, (see Sections 5.3, 7.1).

Each record (line) of the file refers to one panellist. Variables are recorded as follows

<i>Question</i>	<i>Columns</i>	<i>Variable</i>	<i>Coding scheme</i>
-	1 - 4	Location	South Glamorgan County Council 'Small Area' (cols. 3-4 only)
-	5 - 7	Panellist number	Letter followed by two digits
-	8	Questionnaire order	1 = question 1 ordered correctly 2 = question 1 ordered in reverse
1	9 - 36	Attitudes	1 agree strongly 2 agree 3 neither agree nor disagree 4 disagree

<i>Question</i>	<i>Columns</i>	<i>Variable</i>	<i>Coding scheme</i>
			5 disagree strongly 9 no answer (in response to statements about shopping one statement per column)
2	37	Length of residence	1 less than 3 months 2 3 - 5 months 3 6 - 12 months 4 1 - 2 years 5 2 - 3 years 6 3 - 10 years 7 10 years or more 8 can't remember
3a	38	Refrigerator owned	1 yes 2 no 3 no answer
3b	39	Fridge/freezer owned	1 yes 2 no 3 no answer
3c	40	Separate deep freezer owned	1 yes 2 no 3 no answer
4	41	No. of cars or vans owned	1 one 2 two 3 three 4 four or more 9 none
5a	42	Use of cars for shopping	1 all the time 2 sometimes 3 never 9 no car owned
5b	43	Driving licence held by panellist	1 yes 2 no 9 no car owned
6	44	Age at end of full-time education	1 14 or under 2 15 3 16 4 17 5 18 6 19 or older 7 still studying 8 never at school 9 can't remember

<i>Question</i>	<i>Columns</i>	<i>Variable</i>	<i>Coding scheme</i>
7a	45	Whether passed examination	1 yes 2 no 3 can't remember 9 refused to answer
7b	46	Last exam passed	1 Univ. degree 2 HNC etc. 3 teacher's training 4 'A' level etc. 5 'O' level etc. 6 other 7 can't remember 8 refused to answer 9 no exam passed
8	47	Apprenticeship completed	1 yes 2 no 3 no answer
9	48	Sex of panellist	1 male 2 female
10	49	Age of panellist	1 16 - 24 2 25 - 34 3 35 - 44 4 45 - 54 5 55 - 64 6 65 - 74 7 75 and over
11	50	Marital status of panellist	1 married 2 single 3 widowed/divorced/separated
12a	51	Work status of panellist	1 full-time job 2 part-time job 3 student 4 retired/not working
12b	52-53	Occupation of panellist	01-17 Census occupational codes used 95 not working/no previous occupation 98 student 99 refused to answer

<i>Question</i>	<i>Columns</i>	<i>Variable</i>	<i>Coding scheme</i>
	54-55	Workplace of panellist	01-69 South Glamorgan 'Small Area' 71-90 outside Cardiff 91 in Cardiff, area not clear 92 outside Cardiff, area not clear 93 workplace varies 94 works at home 95 not working 99 refused to answer
13	56	Relationship of panellist to head of household	1 panellist is h.o.h. 2 wife 3 son/daughter 4 other relative 5 friend/unrelated 9 not answered
14	57-58	Occupation of head of household	01-17, 95, 98, 99, as in cols. 52-53 97 panellist is h.o.h.
	59-60	Workplace of head of household	01-95, 99, as in cols. 54-55 97 panellist is h.o.h.
15	61	Household income	1 under £1000 2 £1000 - 1999 3 £2000 - 2999 4 £3000 - 4999 5 £5000 - 6999 6 £7000 - 9999 7 £10000 - 14999 8 £15000 or over 9 don't know 0 refused to answer
-	62	No. of children aged 0 - 4	actual number
-	63	No. of children aged 5 - 15	" "
-	64	No. of adults aged 16 - 44	" "
-	65	No. of adults aged 45 - 64	" "
-	66	No. of adults aged over 64	" "

<i>Question</i>	<i>Columns</i>	<i>Variable</i>	<i>Coding scheme</i>	
-	67	Total in household	actual number	
-	68	No. of adults working full-time	"	"
-	69	No. of adults working part-time	"	"
-	70	No. of adults retired/not working	"	"
-	71	Total no. adults	"	"

Notes

(1) The precise wording of the questions may be found in the questionnaire which is attached as an Appendix to this report

(2) Columns 62-71 contain data derived from the initial questionnaire held at the beginning of the survey period.

7.4 Locational Information on Panellists

For certain types of analysis of shopping behaviour it is essential to have accurate information on distances between shops and the origins of the trips to them. Those origins are the shopper's home for the majority of trips. The Cardiff survey collected information on every panellist's home location as a matter of course. For reasons of confidentiality, precisely specified home locations are not recorded on the computer file containing the Second Questionnaire response data. Instead, a zone reference is given (see Section 5.3). However, it is essential to have a record of precise home locations, with restrictions on availability so as to respect confidentiality. This section describes the record kept at UWIST of this information.

In order to create a computer file on locations, all home addresses have been digitized (i.e. expressed as a map reference). The references correspond with the National Grid system and consist of 8 digits (4 'northings' followed by 4 'eastings'). References omit the initial two letters in the National Grid system, and specify the location to within 10 metres. It is thus possible, although unlikely, for two panellists to have the same 'home' grid references. Digitizing was carried out in UWIST Department of Town Planning from 1.12.50 Ordnance Survey sheets, using Houston Instruments 'HiPad' digitizer linked to a Superbrain micro-computer.

The computer file consists of two items of information in each record, one record corresponding to a panellist. Records are in the same order as in each weekly shopping diary file, and in the Second Questionnaire file. The items of information are

- (1) Panellist's code reference, a letter followed by two digits,
- (11) Panellist's home location grid reference, 8 digits.

The full locational data have been placed in a file at UWIST with stringent safeguards to prevent unauthorized copying. Arrangements, however, can be made to make the data available to outside researchers in a form which does not allow individual panellists to be identified.

7.5 Structure and Formatting of the Shops Data

This section describes the two computer files containing information about shops in the Cardiff area the first of grocery prices in 58 stores (see Section 6.2), the second of other information about all stores visited by the panel (Sections 6.1, 6.3).

7.5.1 The Grocery Price File

This file contains all the price information collected in the survey, arranged by shop, in the order given in Appendix L. For each shop there are 49 prices shown (in pence), and for each item in the order of Appendix K. '0.0' indicates that the item was not available. The file is formatted 10F8.1 so records 5, 10, 15 etc. contain 9 entries rather than 10, indicating the end of the information for that shop.

7.5.2 The Shop Data File

This file contains information on all shops for which a code was devised (see Section 6.1). Most of these were visited by panel members. Each record refers to one shop, but there are two types of record. 'Short' records occupy up to 72 columns and give the code and name and address of the shop only. 'Long' records give in addition the information collected for that shop in the survey described in Section 6.3 and a grid reference. These records occupy

118 columns (i.e. two lines each on a visual display unit).

The 'long' records are arranged as follows:

<i>Column No.</i>	<i>Variable</i>	<i>Note</i>
1 - 2	(blank)	
3 - 7	Shop code	
8 - 38	Name of shop	(1)
39 - 72	Address of shop	
73 - 76	Floorspace	(2)
78 - 99	Products available in the shop	(3)
101 - 102	Number of checkouts (supermarkets only)	
104 - 105	Number of staff (not supermarkets)	
107 - 109	Quality rating	(4)
111 - 118	Grid reference	(5)

Notes

(1) The name 'unknown' means either that a panellist was unable to remember the name of the shop visited and we have been unable to ascertain the name, or, that the name given by the panellist is wrong and the trip cannot be allocated to another shop in the same area with any degree of certainty.

(2) Net floorspace in sq. m.

(3) The vector of 22 binary variables indicates which products can be purchased at the shop. Each takes the value 1 if the product is available or 0 otherwise. The products are arranged in the sequence shown on the survey form (Fig. 6.1), reading each column in turn.

(4) Each column is a dummy variable which can take one of three levels depending on the quality of the shop. Each column also refers to one particular attribute of quality thought to be a significant method of distinguishing shops. Column 1 refers to the quality of the window display, column 2 to the range and variety of goods available, column 3 to the cleanliness and clutter perceived at the time of the survey. A value of 0 in any of these columns indicates that the shop is below average (heuristically) on the attributes, 1 indicates average quality, and 2 indicates above average quality.

(5) Grid references consist of an Easting (first four digits) and a Northing (last four digits), both taken from the National Grid. These references are accurate to within 10 metres in each direction.

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APPENDIX A PRODUCT REFERENCE LIST

<u>PRODUCT</u>	<u>NO</u>	<u>PRODUCT</u>	<u>NO</u>
Air Fresheners (not included)		Beefburgers	51
Alcoholic Beverages (not included)		Beer (not included)	
Aluminium Foil (for cooking)	05	Beetroot (Bottled)	35
Angel Delight	24	(Fresh)	33
Angelica	68	(Pickled)	64
Apeel	63	Bicarbonate of Soda	68
Apples	36	Bird Seed (not included)	
Apple Sauce	64	Birds Eye Ice Magic	19
Apricots (Dried)	39	Biscuits (Sweet/Plain/ /Savoury/Choc)	11
(Fresh)	36	Bisto (Gravy Mix)	65
Aubergines (Fresh)	33	Black Pudding	68
Avocado	33	Blancmange	24
		Bleaches	03
		Body Lotions/Powders (not included)	
		Bones	48
		Bouquet Garni	65
		Bournvita	60
		Bovril	65
Baby Food Products (any type)	66	Bran	68
Bacon (any type)	50	Breadcrumbs	64
Baked Beans (no additions)	21	Bread/Rolls/Loaves	10
Baked Beans & Sausages	35	Bread Sauce	64
Baking Powder	68	Breakfast Cereals	30
Bananas (Fresh)	36	Brocoli in Cheese Sauce	68
Barley cup	60	Brown Sauce	64
Bath additives/Oils/Cubes (not included)		Brown Sugar	16
Beans (Canned - not Baked Beans)	35	Bubble & Squeak	68
(Dried)	32	Buns	10
(Fresh)	33	Butter	41
(Frozen)	34	Buttermilk	43
Beanfeast supreme	68	Cabbage	33
Bean sprouts	33	Cakes (Fresh)	12
Beef (Fresh)	48	(Frozen)	12
(Frozen)	49	Cake Decorations	68

<u>PRODUCT</u>	<u>PRODUCT NO</u>	<u>PRODUCT</u>	<u>PRODUCT NO</u>
Cake Mixes	24	Chocolate (Confectionery)	67
Camp Coffee	58	(Cooking)	68
Candied peel	68	(Drinking)	60
Canned Custard	23	(Eating)	67
Canned Desserts	23	Chocolate Spread	18
Canned Fruit	38	Chops (Fresh)	48
Canned Soup	27	(Frozen)	49
Canned Vegetables (not Baked Beans)	35	Chop Suey	68
Cannelloni (Canned)	29	Christmas Pudding	68
(Frozen)	29	Chutney	64
Carrots (Fresh)	33	Cigarettes/Cigars (not included)	
(Frozen)	34	Cinnamon	65
Caster Sugar	16	Cling Film	05
Cat Food (not included)		Clotted Cream	43
Cauliflower (Fresh)	33	Cloves	65
(Frozen)	34	Coat & Cook	64
Cereals (Breakfast)	30	Cocoa	59
Cheese (Cottage)	44	Coconut (Desiccated)	39
(Cream)	44	(Whole)	68
(Slices)	44	Coconut Cream	
(Solid)	44	(Health Stores)	68
(Spread)	20	Coffee (Bags)	58
Cheesecake (Fresh)	12	(Beans)	58
(Frozen)	12	(Bottled-Liquid)	58
(Packet Mix)	24	(Dandelion)	58
Cheese & Egg Pie	68	(Filter papers)	58
Cherries (Canned)	38	(Ground)	58
(Fresh)	36	(Instant)	57
(Frozen)	37	Coffee Compliment	43
(Glace)	68	Colas (Coca/Pepsi etc)	62
(Maraschino)	68	Cole Slaw	64
Chicken (Fresh)	48	Colourings (Food)	68
(Frozen)	49	Complan	68
Chicken Pie (Canned)	51	Cooked Meats/Ham/Poultry	51
(Frozen)	51	Cooking Fat	45
Chicken Supreme	68	Cooking Foil	05
Chilled Desserts	25	Cooking Oil	46
Chips (Frozen)	34	Confectionery	67

<u>PRODUCT</u>	<u>PRODUCT NO</u>	<u>PRODUCT</u>	<u>PRODUCT NO</u>
Cordials (any flavour)	62	Dates (Dried)	39
Corn on the Cob (Canned)	35	(Fresh)	36
(Fresh)	33	Demerara Sugar	16
(Frozen)	34	Denture Cleaners (<u>not included</u>)	
Cornflakes	30	Deodorants (<u>not included</u>)	
Cornflour	15	Desserts (Canned)	23
Corned Beef (Canned)	52	(not milk puddings)	
(Loose/sliced)	52	(Chilled)	25
Cosmetics (<u>not included</u>)		(Frozen)	25
Courgettes (Fresh)	33	(Mixes)	24
(Frozen) -	34	Dessert syrup	19
Crackers (Cream)	11	Disinfectants	08
(Savoury)	11	Dog Food (<u>not included</u>)	
Cream Crackers	11	Double Decker	68
Cranberry Jelly/Sauce	64	Dried Fruit	39
Cream (Clotted/Double/Fresh)	43	Dried Milk	43
(Single/Soured/Whipping)	43	Drinking Chocolate	60
(Frozen)	43	Dyes (<u>not included</u>)	
Crisps	13		
Crispbreads	11	Eggs (Fresh)	47
Crispy Pancakes	68	(Dried)	47
Crumpets	10	Essences (Vanilla etc)	68
Crunchy Bemax	68		
Cucumber	33		
Curried Baked Beans	35		
Curry (Sauce)	64		
(Canned)	68		
(Powders)	65		
Curry & Rice (Packet)	68		
(Dried)	68		
Custard Powder	24		
(Ready Made)	23		
(Canned)	23		
		Fabric Conditioner	01
		Faggots (Fresh)	51
		(Frozen)	51
		Faggots and Peas	52

<u>PRODUCT</u>	<u>PRODUCT NO</u>	<u>PRODUCT</u>	<u>PRODUCT NO</u>
Figs (Canned)	38	Gammon	50
(Dried)	39	Garlic	65
(Fresh)	36	Garlic Salt	65
Filler Papers for Coffee	58	Garlic Sausage	51
Fish (Canned/Bottled/ Smoked)	56	Gateaux	12
(Fresh)	53	Gelatine	68
(Frozen - not fish fingers)	54	Gherkins	64
Fish Cakes	54	Gin (<u>not included</u>)	
Fish Fingers	55	Ginger	65
Fish Paste	20	Ginger Ale (non-Alcoholic)	62
Fizzy Drinks - Non Alcoholic	62	Glace Cherries	68
Flan (Cases)	24	Glucose	68
(Mix - Packet)	24	Gold (St Ivel)	40
(Frozen)	24	Golden Raising Agent	68
Flavourings	68	Golden Syrup	19
Floor Polish	03	Goulash Mix	64
Flour (Cornflour)	15	Granary Flour	14
(Self-Raising)	15	Granulated Sugar	16
(Granary)	14	Grape Juice	63
(Plain)	14	Grapefruit Juice	63
(Wholemeal)	14	Gravy Browning/Powder	65
Foil Storage/Cooking Dishes (<u>not included</u>)		Gravy Granules	65
Fondant icing	68	Ground almonds	68
Freezer Bags (<u>not included</u>)		Ground Coffee	58
Fruit (Fresh)	36		
(Dried)	39	Hair Lacquer (<u>not included</u>)	
(Frozen)	37	Hair Shampoos/Conditioners (<u>not included</u>)	
(Canned)	38		
Fruit Juice	63	Ham (Cooked)	51
Fruit Pies	12	(Canned)	52
Fruit Pie Filling	68	(Frozen)	49
Furniture Polish	03	(Uncooked)	50
Fruit & Nuts	39		

<u>PRODUCT</u>	<u>PRODUCT NO</u>	<u>PRODUCT</u>	<u>PRODUCT NO</u>
Hazelnut Spread (Nutella)	18	Jif (Lemon, etc)	68
Hearts (Fresh)	48	Juice (Apple)	63
(Frozen)	49	(Grape)	63
Herbs	65	(Grapefruit)	63
Herring (Fresh)	53	(Orange)	63
(Frozen)	54	(Tomato)	63
(Rollmop)	56	(P L J)	63
Honey	19		
Honey Spread	19		
Horlicks	60		
Horseradish Sauce	64	Kelp tablets (<u>not included</u>)	
Hot-dogs	52	Ketchup (Tomato)	64
Hundreds & Thousands	68	(Brown)	64
(decoration)		(Fruity)	64
		Kidneys (Fresh)	48
		(Frozen)	49
		Kidney Beans (Red)	32
		(Fresh)	33
		(Canned)	35
		Kippers (Fresh)	56
		(Frozen)	56
		Kitchen Foil	05
		Kitchen Towels (Paper)	07
Ice Cream	25		
Icing Sugar	16		
Insecticides			
(<u>not included</u>)			
Instant Coffee	57		
Instant Dried Meals	68		
(Snackpot, etc)			
Instant Milk	43	Lamb (Fresh)	48
Instant Potato	31	(Frozen)	49
Instant Whip	24	Lard	45
Irish Stew (Canned)	52	Lasagne (Canned)	29
		(Frozen)	29
		Laverbread	68
		Lemonade	62
		Lemons	36
Jam	18	Lemon Tea	61
Jellies (Cubes)	26	Lentils	32
(Quick)	26	Lettuce	33
		Liver (Fresh)	48
		(Frozen)	49

<u>PRODUCT</u>	<u>PRODUCT NO</u>	<u>PRODUCT</u>	<u>PRODUCT NO</u>
Liver Sausage	20	Milk (Long Life)	42
Long Life Milk	42	Milk (Powdered for Babies)	66
Lucozade	62	Milk Pudding (Canned)	22
		Milk Shakes (Ready Made) (Mix-Powder)	42 43
		(Liquid)	43
		Mince (Fresh)	48
		(Frozen)	49
		Minced Beef (Canned)	52
Macaroni (Packet)	29	Mincemeat (Sweet)	68
Macaroni Cheese	29	Mince Pies	12
Macaroni Pudding (Canned)	22	Mineral Water	62
Mace (Spice)	65	Mint (Fresh)	65
Mandarin Oranges (Canned)	38	(Jelly)	64
Margarine (Soft)	40	(Sauce)	64
(Hard)	40	Mixed Peel	68
Marmalade	17	Mixed Vegetables (Fresh)	33
Marmite	65	(Frozen)	34
Marvel (Milk)	43	Moussaka	51
Marzipan	68	Mousse (Chilled)	25
Matches	06	Muesli	30
Mayonnaise	64	Mushrooms (Fresh)	33
Meat (Canned)	52	(Canned)	35
(Fresh)	48	Mustard	65
(Frozen)	49	Mustard Pickle	64
Meat Extract	65		
Meat Loaf	51		
Meat Paste	20	Noodles	29
Meat Pies	51	Nutella (Spread)	18
Melon (Fresh)	36	Nutmeg	65
(Canned)	38	Nuts (Dry Roasted)	13
Meringues	12	(Plain)	39
Milk- <u>delivered</u> daily (<u>not included</u>)		(Salted)	13
Milk (Condensed)	43		
(Dried/powdered)	43		
(Evaporated)	43		
(Fresh)	42		
(Skimmed)	42		

<u>PRODUCT</u>	<u>PRODUCT NO</u>	<u>PRODUCT</u>	<u>PRODUCT NO</u>
Oatcakes	11	Pasties (Fresh)	51
Oats (Breakfast Cereal)	30	(Frozen)	51
(Rolled)	68	Pastries (Sweet/Fruit)	12
Oatmeal Flour	15	Pastry (Frozen)	68
Offal (Fresh)	48	(Mixes)	24
(Frozen)	49	Pate	20
Olives (Fresh)	36	Peaches (Canned)	38
(Stuffed)	64	(Fresh)	36
Olive Oil	64	Peanuts (Fresh)	39
Onions (Dried)	32	(Salted)	13
(Fresh)	33	Peanut Butter	20
(Pickled)	64	Pears (Canned)	38
Onion Salt	64	(Fresh)	36
Onion Sauce	64	Peas (Canned)	35
Oranges (Canned)	38	(Dried)	32
(Fresh)	36	(Fresh)	33
Orange Cordial/Squash	62	(Frozen)	34
Orange Juice	63	Pepper (White/Black)	65
Outline (Soft Marg)	40	Peppercorns	65
Ovaltine	60	Peppers Red/Green(Fresh)	33
Oxo	65	(Diced/Frozen)	34
		<u>Petfoods (not included)</u>	
		Petits Fours	67
		<u>Pharmaceutical Products</u>	
		(not included)	
		Piccalilli	64
		Pickled Beetroot	64
		Pickled Cabbage	64
		Pickled Eggs	64
		Pickled Onions	64
		Pickles	64
		Pilchards (Canned)	56
		Pimento (Fresh)	33
		(Ground)	65
		(Whole Canned)	38
		Pineapple (Canned)	38
		(Fresh)	36
		Pizzas (Fresh)	68
		(Frozen)	68
Paella	68		
Paper Handkerchiefs	07		
Paper Tissues	07		
Paper Towels	07		
Paprika	65		
Parsley	65		
Parsley Sauce	64		
Parsnips (Fresh)	33		
(Frozen)	34		
Pasta Products	29		
Paste (Meat/Fish)	20		

<u>PRODUCT</u>	<u>PRODUCT NO</u>	<u>PRODUCT</u>	<u>PRODUCT NO</u>
P L J	63	Ratatouille	68
Plain Flour	14	Ravioli	29
Plums (Canned)	38	Razors (Disposable)	
(Fresh)	36	(not included)	
Polishes (Household)	03	Ready Meals (Snackpot)	68
Polony	20	(T V Dinners)	68
Popcorn	67	(Vesta)	68
Poppadums	68	Relishes	64
Pork (Fresh)	48	Ribena (Cordial)	62
(Frozen)	49	Rice (Brown)	29
Pork Pies	51	(White)	29
Porridge	30	(Frozen)	29
Potatoes (Canned)	35	(Savoury)	29
(Fresh)	33	(Ground)	24
(Instant Mashed)	31	Rice Krispies	30
Potato Crisps	13	Rice Pudding (Canned)	22
Potato Croquettes (Frozen)	34	Risotto	68
Potato Salad (Canned)	64	Rissoles (Fresh)	51
(Fresh)	64	(Frozen)	51
Poultry (Fresh)	48	Rum (not included)	
(Frozen)	49	Runner Beans (Fresh)	33
Preserves (Jams)	18	(Frozen)	34
(Marmalade)	17	Ryvita	11
Pudding Mixes	24		
Pulses	32		
		Sago Pudding (Canned)	22
Quaker Oats	30	Salad Cream/Dressing	64
Quiche	68	Salami	51
		Salmon (Canned)	56
		(Fresh)	53
		(Smoked Fresh)	56
		(Smoked Frozen)	54

<u>PRODUCT</u>	<u>PRODUCT</u> <u>NO</u>	<u>PRODUCT</u>	<u>PRODUCT</u> <u>NO</u>
Salt (Cooking/Table)	64	Smoked Salmon	56
Sandwiches	68	Soap (Household not Toilet Soap)	03
Sandwich Spread	20	Soap Powder / Flakes	04
Sanitary Towels (<u>not included</u>)		Soda Water	62
Sardines (Canned)	56	Soda (Bicarbonate of)	68
Sauce (Ketchup)	64	Soft Brown Sugar	16
Sauce (Cook-In - Canned)	64	Soft Drinks/Mixers	62
(Packet)	64	Softener (Fabric)	01
(Chocolate)	19	Soup Cubes	28
Sauerkraut	64	Soup (Canned)	27
Sausages	51	(Packet)	28
Sausage Meat	51	Soya (Beans)	32
Sausage Rolls (Fresh)	51	(Flour)	68
(Frozen)	51	(Mince & Veg)	68
Sausomix	68	Spaghetti (Canned)	29
Savoury Pancakes (Frozen)	51	(Packet)	29
Savoury Snacks	13	Spaghetti Bolognese	29
Savoury Toasts	68	Spices	65
Scones	10	Split Peas	32
Scotch Eggs	68	Sponge Fingers	12
Scouring Powders/Pastes/ Liquids	03	Sponge Mix (Packet)	24
Sea Food (Birds Eye)	54	Sponge Pudding (Canned)	23
Self-Raising Flour	15	Sprouts (Fresh)	33
Semolina Pudding (Canned)	22	(Frozen)	34
(Powder)	29	Squashes	62
Sewing Materials (<u>not included</u>)		Stationery (<u>not included</u>)	
Shaving Soap/Foam (<u>not included</u>)		Steak (Fresh)	48
Shepherds Pie (Canned)	51	(Frozen)	49
(Frozen)	51	Steaklets (Fresh)	51
Shoe Polish	03	(Frozen)	51
Shredded Wheat	30	Steak & Dumplings	52
Skimmed Milk	42	Steak & Kidney Pie (Canned)	51
Slimming Aids/Biscuits	68	(Frozen)	51
Smoked Fish (Fresh)	56	Stewed Steak (Canned)	52
(Frozen)	56	Stock Cubes	65
		Stuffings	64
		Suet	45

<u>PRODUCT</u>	<u>PRODUCT NO</u>	<u>PRODUCT</u>	<u>PRODUCT NO</u>
Sugar (Brown)	16	Toasters	20
(Caster)	16	Toilet Soaps (<u>not included</u>)	
(Demerara)	16	Tomatoes (Fresh)	33
(Granulated)	16	(Canned)	35
(Icing)	16	Tomato Juice	63
Super Acquatone (Health Food)	68	Tomato Paste	68
Surprise Beans (Dried)	32	Tomato Sauce	64
Surprise Peas (Dried)	32	Tongue (Canned)	52
Swede (Fresh)	33	(Loose-Slices)	51
(Frozen)	34	Tonic Water	62
Sweetcorn (Fresh-On the Cob)	33	Toothpaste (<u>not included</u>)	
(Canned)	35	Toys (<u>not included</u>)	
(Frozen)	34	Treacle	19
Sweet Pickle	64	Trifle (Chilled)	25
Sweet Spreads	19	Trifle Mix (Packet)	24
Sweets (Confectionery)	67	Tripe (Fresh)	48
Sweetex etc (<u>not included</u>)		(Frozen)	49
Syrup (Dessert)	19	Truffles (Sweet)	67
(Golden)	19	(Canned)	35
		Tuna Fish (Canned)	56
		Turkey (Fresh)	48
		(Frozen)	49
		Turnip	33
		Turkish Delight	67
Tahini	68		
Tangerines (Fresh)	36		
(Canned)	38		
Tapioca Pudding (Canned)	22		
Tartar Sauce	64		
Tea (Packet)	61	Vanilla Essence	68
(Bags)	61	Veal (Fresh)	48
(Instant)	61	(Frozen)	49
(Herbal)	61	Veal & Ham Pies	51
Thyme	65	Vegetables (Canned)	35
Tights (<u>not included</u>)		(Dried)	32
Tinned Fruit	38	(Fresh)	33
Tinned Meats	52	(Frozen)	34
Tobacco (<u>not included</u>)		Vegetable Extract	65
Tofu	68	Vegetable Salad	64
Toilet Rolls/Paper	09	Vermicelli	68
		(Cake Decoration)	

<u>PRODUCT</u>	<u>PRODUCT</u>	<u>PRODUCT</u>	<u>PRODUCT</u>
	<u>NO</u>		<u>NO</u>
Vinegar (Cider)	64		
(Malt)	64		
(White Wine)	64		
Vit-C (Cordial)	62		
Vodka (<u>not included</u>)			
Vol au Vent cases	68		
Waffles (Sweet/Savoury)	68		
Walnuts	39		
Washing Powder/Detergent	04		
Washing-up Liquid	02		
Water Chestnuts (Fresh/ Canned)	33		
Water Melons	36		
Weetabix	30		
Wheatgerm	68		
Whisky (<u>not included</u>)			
Wholemeal Flour	14		
Wine (<u>not included</u>)			
Worcester Sauce	64		
Yeast	68		
Yoghurt (Fruit/Natural)	43		
Yorkshire Pudding Mix	24		

Included , on Product Code List

Angelica	Mince-meat (sweet)
Baking powder	Mixed peel
Beanfeast supreme	Oats - rolled
Bicarbonate of soda	Paella
Black pudding	Pastrami (frozen)
Bran	Pizzas (fresh/frozen)
Broccoli in cheese sauce	Poppadoms
Bubble & squeak	Quiche
Cake decorations	Ratatouille
Candied peel	Ready meals (TV/Vesta/Snackpot)
Cheese and egg pie	Risotto
Cherries - glace	Sandwiches
Cherries - maraschino	Sausages
Chicken supreme	Savoury toasts
Chocolate - cooking	Scotch eggs
Chop suey	Slimming aids/biscuits
Christmas pudding	Soya flour
Coconut cream (Health shop)	Soya mince & veg.
Coconut - whole	Super acquatone (health food)
Colourings - food	Tahini
Complan	Tomato paste
Crispy pancakes	Tofu
Crunchy Bemax	Vanilla essence
Curry (canned)	Vermicelli
Curry and rice (packet/dried)	Vol au Vent cases
Double Decker (meal)	Waffles (sweet/savoury)
Essences (vanilla etc)	Wheatgerm
Fondant icing	Yeast
Fruit pie filling	
Gelatine	
Glucose	
Golden raising agent	
Ground almonds	
Hundreds & thousands	
Instant dried meals	
Jif lemon	
Laverbread	
Marzipan	

APPENDIX B. LIST OF BRANDS CODED

CODING FRAME

BRAND OF FABRIC CONDITIONER

- A Comfort
- B Lenor
- C Softlan
- D Spar own brand
- E Boots Nappy soft/Boots
- F Soft and Gentle
- G Tesco own brand
- H Softy
- J Fabulon Fabric Finish
- K Co-op own brand
- L Basics
- M Liptons Own Brand
- N International
- P Carrefour
- Q Hallmark
- R Betterware
- S Londis
- T Maid Marion
- U Sainsburys

- Z Not answered

CODING FRAME

BRAND OF TOILET ROLL/PAPER

A	Andrex		
B	Co-op own brand		
C	Delsey		
D	Dixcel		
E	Izal		
F	Kleenex		
G	Boots		
H	Boots VSP		
J	Bronco		
K	Daffodil		
L	Glen		
M	Super 4		
N	Tesco own brand		
P	Liptons own brand (Sunshine)	0	Petal
Q	Spar own brand	1	Windmill
R	Carrefour	2	Gateway Own
S	Basics	3	Recycled
T	VG own brand	4	Hallmark
U	International own brand	5	Fine Fare
V	Pricerite	6	Plover
W	Littlewoods	7	Medicare
X	Thoms Own Brand	8	Sainsburys
Y	Jeyes	9	Others:
			Reeves
			Peeres
			Target
			Londis
			Woolworths (Winfield)
			Albion
			Clan
			Cosy
			Edet
Z	Not answered		

CODING FRAME

BRAND OF BAKED BEANS

- | | | |
|---|---------------------------------|-----------------------|
| A | Chef | |
| B | Crosse & Blackwell | |
| C | Heinz | |
| D | H.P. | |
| E | Tesco own brand | |
| F | Armour | |
| G | Co-op own brand | |
| H | Hartleys | |
| J | International own brand | |
| K | Shop local | |
| L | Smedley | |
| M | V.G. | |
| N | Littlewoods own brand (Keynote) | 0 Newforge |
| P | Peacock | 1 British Home Stores |
| Q | Spar | 2 Morrell |
| R | Pricerite | 3 Hallmark |
| S | Mayflower | 4 Maid Marion |
| T | St. Nicholas | 5 Sainsburys |
| U | Liptons (Sunshine) | 6 Lo-cost |
| V | Londis | 7 Napolina |
| W | Finefare | 8 Landmark |
| X | Plover | 9 Others |
| Y | Carrefour | |
| Z | Not answered | |

CODING FRAME

BRAND OF INSTANT POTATO

- A Co-op own brand
- B Smash
- C Wondermash
- D Yeoman
- E Tesco own brand
- F Marks & Spencer own brand
- G Liptons (Sunshine)
- H International
- J Pricerite
- K Spar
- L Littlewoods (Keynote)
- M Conquest
- N British Home Stores
- P Sainsburys

- Z Not answered

CODING FRAME

BRAND OF MARGARINE

A	Blue Band	
B	Echo	
C	Flora	
D	Krona	
E	Stork	
F	Stork S.B.	
G	Tesco own brand	0 Kraft superfine
H	Co-op own brand	1 Derbyshire packers
J	Liptons own brand (Sunshine)	2 Summerfields
K	Fresh Fields / Softy	3 Weightwatchers
L	Kraft Kasino	4 Pricerite
M	Kraft	5 V.G.
N	Kraft sunflower	6 Peacock
P	Littlewoods own brand	7 Summer County
Q	Lo-cost own brand	8 Carrefour
R	Outline	9 Others:
S	St. Ivel Gold	Swish
T	Stork special soft	Sunflower from Holland
U	International own brand	A.P.T.
V	Banquet	Maid Marion
W	Spar own brand	St. Nicholas
X	Marks & Spencer own brand	Mayflower
Y	British Home Stores own brand	Sainsburys
		Telma
Z	Not answered	Londis
		Vitaquell
		Basics
		Woolworths
		Sterling
		Slimline

CODING FRAME

BRAND OF INSTANT COFFEE

A	Brooke Bond - Red Mountain	
B	Co-op own brand	
C	Maxwell House	
D	Mellow Birds	
E	Nescafe - Gold Blend	
F	Nescafe - Standard	
G	Brazilian	
H	Brooke Bond - Brazilian	0 Nescafe - Blend 37
J	Gold Roast	1 Nescore
K	Grandos	2 Golden Stream
L	Hallmark	3 Spar
M	Hallmark - Brazilian	4 Peacocks Own
N	Tesco own brand	5 Basics
P	Littlewoods own brand (Keynote)	6 Campaign (Traid Craft)
Q	Fine Fare own brand	7 Sol Cafe
R	International own brand	8 Lo Cost
S	Carrefour	9 Others:
T	Mantunna	Semener
U	Vendona	Nesta
V	Marks & Spencer own brand	Boots decaffienated
W	Liptons own brand (Sunshine)	British Home Stores
X	Pricerite own brand	Nestles
Y	Londis	Woolworths
		Gold Crown
Z	Not answered	V.G.
		Cafe Hag
		Bejam
		Twining
		Sainsburys
		Asda
		Coffee Break

APPENDIX C. INSTRUCTIONS TO PANELLISTS
FOR FILLING IN THE DIARY

HOUSEHOLD SHOPPING STUDY

HOW TO FILL IN YOUR DIARY

1) WHAT IS THE DIARY?

Each diary you will be given covers a specific seven day period, starting on a Monday and finishing on the following Sunday. All the pages in each diary are identical.

On the front cover of each diary that you receive your interviewer will have written in your (respondent) number, the week number and the exact period covered by that week. A new diary will be delivered to you at the beginning of each week and you must then complete it daily.

2) SUMMARY OF WHAT YOU HAVE TO DO

- a) Fill in a separate page for each shop/supplier from which you purchase any of the products listed. Do not record regular deliveries of milk.
- b) We are only interested in purchases made by yourself or by other persons on your behalf. Items bought to be given away to someone else must be entered in the diary, but presents given to you or members of your household must not be recorded.
- c) If you purchase a product which is asterisked (*), indicate the make/brand that was bought in the box provided on the right of the page.
- d) If none of the products listed are bought on a particular day, then still complete a diary page for that day, by putting a cross (X) in the box provided at the top of the page.
- e) If you need more pages for the week, then use some of the spare pages you have been given and insert these inside the back cover.
- f) Make a note of any queries that you have about filling in the diary, so that you can ask your interviewer when next she calls. Use the back of a diary page or the inside of the back cover.

3) HOUSEHOLD AT HOME OR AWAY

We would like you to indicate for each day of the week (on the table inside the front cover of each diary) whether or not your household was at home on that day. You do this by putting a cross (X) in the relevant box.

If all the members of your household were away from your address on a particular day (all 24 hours of it) then write in the reason in the space provided on the right of the table. You do not need to fill in a diary page for these days. If, however, one or more members of your household were at home on a day (or part of it) then at least one diary page must be filled in for that day. It may merely show that 'No listed items were bought this day'.

4) PRODUCTS LISTED

You will notice that we are only interested in purchases of food, non-alcoholic drinks and certain household items. These products are the ones listed on the left of each diary page and all you have to do is put a cross (X) against each type of product bought at the particular shop/supplier.

We have given you a 'Checklist of products' which shows those products included in the study and where they should be marked on the form. The list also shows some of the products which have been excluded from the study. Please refer to your 'Checklist' when filling in your diary pages, particularly when you are doubtful about where to put your cross or crosses. A look at the list should answer most of your queries, but if still in doubt, write the product/s in at the bottom of the diary page.

Remember, you only have to fill in a diary page for a shop/supplier if one or more of the products listed is bought there.

5) SHOP/SUPPLIER

By 'Shop/Supplier' we mean any shop or supplier from which you (or someone on your behalf) obtains any of the products listed. Therefore mail order catalogues, chemists, greengrocers, mobile shops, market stalls, etc., must all be regarded as 'shops' when you are filling in the diary. You must fill in a separate page for each one

Write in the name of the shop/supplier and as full an address as possible in the space provided on the diary page.

6) ASTERISKED PRODUCTS

Six of the products listed on the left of the diary page are asterisked (*):

01	Fabric Conditioners
09	Toilet rolls/paper
21	Canned baked beans (with tomato sauce only)
31	Instant potato
40	Margarine
57	Instant Coffee

Whenever you buy these products, we want you to record the make that you bought in the appropriate box on the right of the page. You do this either by putting a ring around the number next to the make - e.g. Andrex ① - or, if it is not already listed in the box, by writing in the name of the make in the space provided under 'Other (specify)'.

AMOUNTS SPENT

Please do not forget to fill in the boxes at the bottom right corner of the diary page, showing the total amounts spent.

- i) Total amount spent on listed items: here we need to know the total cost of all the products on the page that you have marked with an X. If you do not know or remember the exact cost then please write in the approximate cost.
- ii) Total amount spent on other items: here you should write in the total cost of all the other products (if any) that you bought at the shop/supplier, that is, those products not listed on the diary page (e.g. alcohol, pet foods, toothpaste etc.,) Again, it would be better to write in an estimate rather than leave the amount blank.
- iii) Total amount spent on all items: this is the grand total amount that you spent in the shop/supplier, that is, i) plus ii).

TOP OF THE DIARY PAGE

The boxes in the top left corner of the page are for office use only and must be left empty.

Date: Write in the date the shop/supplier was used.

Day of week: Put a ring around the number to the right of the particular day of the week that the shop/supplier was used, e.g. Saturday ⑥

Person buying: The person buying the products marked with an X might be yourself (the panellist); another member of the household buying on your behalf at your request (other household member); or possibly a neighbour or some other person not in your household buying on your behalf at your request (non household member). Indicate the person who actually bought the items by ringing the appropriate number on the right.

Time of purchase: Put a ring around the number to the right of the time which applies, e.g. 10 - 12 noon ② You should regard the time you entered the shop as the time of purchase, if in doubt.

Main form of travel to this shop/supplier: We want to know the main way you travelled to the shop/supplier written on the diary page. For example, if you travelled to a shopping centre by car, parked the car and then walked around a number of shops, then the main form of travel to each of those shops would be Car - ④

You would ring 'No travel' whenever something is bought on the doorstep, is bought by mail order etc.,

Came to this
shop/supplier
from (place).

Please indicate the place you were at immediately before you called at the shop/supplier written on the diary page.

- If the supplier called to your home, then ring ①
- If you came from home to this shop, ring ②
- If you came to this shop from another shop where you bought listed items (for which there should be a diary page), then ring ④
- If you came to this shop from another shop where you bought other (i.e. non-listed items), then ring ⑤

Went from this
shop/supplier
to (place):

Here you indicate where you went immediately after you left the shop/supplier written on the diary page. If you went to another shop and bought items listed on the diary page, then there must be a diary page completed for that shop. If you went to your hairdresser (for example) then write this in under 'Other place (specify)'

9) SOME OTHER POINTS TO REMEMBER

- 1) Do not record regular deliveries of milk to your door but do record any milk that you buy from a shop and take home. You must also record any other things that you buy from your milkman, such as fruit juice, cream etc.,
- 11) Goods ordered and then delivered later must be regarded as bought on the day they are delivered.
- 111) Gifts/presents given to you or members of your household should not be recorded in the diary, but items which you pay for and then later give away to someone else must be recorded, as long, of course, as they are listed on the diary page.
- iv) Food and other listed products which you buy on behalf of a friend, or neighbour and which is paid for, eventually, by the other person must not be recorded in your diary
- v) Only mark products as purchased if they are brought back (wholly or partially) to your home. For example, food bought and totally consumed while you are out must not be recorded in the diary, but if some or all of it is brought back home, then fill in a diary page for it. The only exception to this rule is hot cooked food (e.g. fish and chips) brought into the home to be eaten. This must not be entered on a diary page.

FINALLY,

- Remember that your interviewer will be visiting you regularly to collect the completed diaries and to help you in any way she can. Make a note, on the back of a diary page or the inside of the back cover, of any queries that you have about filling in the diary so that you can ask your interviewer when next she calls.

THANK YOU FOR YOUR HELP AND CO-OPERATION.

Research and Marketing,
(Wales & The West) Limited,
389, Newport Road,
CARDIFF CF2 1RP.

J.4040

GMH/SJH

APPENDIX D: FIELDWORKER TIMETABLES

Fieldworker Timetable
(Weeks 00-08)

WEEK	CONTACT WITH PANEL	CONTACT WITH OFFICE*
00	Complete initial interviews. Make list of likely panellists.	Briefing meeting (4 Jan). Post completed questionnaires and contact record sheets to office.
01 (25-31 JAN)	Revisit likely panellists and recruit as many as possible. Give each panellist his/her wallet, and diary for Week 01. Explain procedure fully. Fix time to call back next week.	Once all possible panellists recruited, call into office to give details. Pick up diaries for Week 02. Pick up pre-paid envelopes. " " front cover labels.
02 (1-7 FEB)	Visit all panellists to: - Pick up <u>and check</u> diaries for Week 01 - Hand over diary for Week 02. Decide which panellists need not be visited next week and give these an envelope for return of diary 02. Fix appointments with rest for next week.	Give office the diaries for Week 01 - confirm state of panel. Tell office which panellists will be posting diaries for Week 02. Pick up diaries for Week 03. Pick up pre-paid envelopes. (END OF RECRUITMENT STAGE)
03 (8-14 FEB)	Deliver diaries for Week 03 to whole panel. Call on half (approx) of panel to: - Pick up <u>and check</u> diary 02 - Hand over pre-paid envelope for return of diary 03.	Give office the diaries collected for Week 02. Pick up diaries for Week 04. Pick up pre-paid envelopes. Office will notify you concern- ing postal returns (for Week 02)
04 (15-21 FEB)	Deliver diaries for Week 04 to whole panel. Call on other half (not seen last week): - Pick up <u>and check</u> diary 03 - Hand over pre-paid envelope for return of diary 04.	Give office the diaries for Week 03. Pick up diaries for Week 05 Pick up pre-paid envelopes. Office will notify concerning postal returns (for Week 03)
05 (22-28 FEB)	Deliver diaries for Week 05 to whole panel. Call on half (not seen last week) - Pick up <u>and check</u> diary 04 - Hand over envelope for return of diary 05.	Give office diaries for Week 04. Pick up diaries for Week 06. Pick up pre-paid envelopes. Pick up respondent payments (half) Office will notify concerning postal returns (Week 04)

WEEK	CONTACT WITH PANEL	CONTACT WITH OFFICE*
06 (1-7 MAR)	Deliver diaries for Week 06 to whole panel. Call on half (not seen last week) - Pick up <u>and check</u> diary 05 - Hand over envelope for return of diary 06. - Pay respondent for Weeks 01 - 05 (if completed properly) - £5	Give office the diaries for Week 05 and receipt slips for payments. Pick up diaries for Week 07. Pick up pre-paid envelopes. Pick up respondent payments (other half). Office will notify concerning postal returns (Week 05). Pick up explanatory letter
07 (8-14 MAR)	Deliver diaries for Week 07 to whole panel. Call on half (not seen last week). - Pick up <u>and check</u> diary 06. - Hand over envelope for return of diary 07. - Pay respondent for Weeks 01-06 (if completed properly) - £6 - Give respondent explanatory letter	Give office the diaries for Week 06 and receipt slips for payments. Pick up diaries for Week 08. Pick up pre-paid envelopes. Office will notify concerning postal returns (Week 06).

*Office = Research and Marketing Office

Fieldworker Timetable
(Weeks 08 - 15)

WEEK	CONTACT WITH PANEL	CONTACT WITH OFFICE
08 (15-21 MAR)	<p>Deliver diaries for Week 08 to whole panel.</p> <p>Call on half (not seen last week)</p> <ul style="list-style-type: none"> - Pick up <u>and check</u> diary 07 - Hand over envelope for return of diary 08. - Give respondent explanatory letter 	<p>Give office the diaries for Week 07 (numerical order).</p> <p>Pick up diaries for Week 09 (with plain envelopes).</p> <p>Pick up pre-paid envelopes.</p> <p>Pick up front cover labels (if needed).</p> <p>Office will notify on Friday 19th concerning postal returns (Week 07)</p>
09 (22-28 MAR)	<p>Deliver diaries for Week 09 to whole panel.</p> <p>Call on half (not seen last week)</p> <ul style="list-style-type: none"> - Pick up <u>and check</u> diary 08 - Hand over envelope for return of diary 09. 	<p>Give office the diaries for Week 08 (numerical order).</p> <p>Pick up diaries for Week 10 (with plain envelopes).</p> <p>Pick up pre-paid envelopes.</p> <p>Pick up respondent payments (half).</p> <p>Office will notify on Friday 26th concerning postal returns (Week 08)</p> <p>Pick up Shopping Attitudes questionnaire</p>
10 (29 MAR - 4 APR)	<p>Deliver diaries for Week 10 to whole panel.</p> <p>Call on half (not seen last week)</p> <ul style="list-style-type: none"> - Pick up <u>and check</u> diary 09 - Hand over envelope for return of diary 10 - Pay respondent for Weeks 06-09 (if completed properly) - £4 - Interview respondent (Shopping Attitudes questionnaire) 	<p>Give office the diaries for Week 09 (numerical order) and receipt slips for payments.</p> <p>Pick up diaries for Week 11 (with plain envelopes).</p> <p>Pick up pre-paid envelopes.</p> <p>Pick up respondent payments (other half).</p> <p>Pick up pay claim form (for Weeks 06-09).</p> <p><u>Office will pay you</u> for Weeks 03-05 plus Bonus.</p> <p>Office will notify you on Friday 2nd concerning postal returns (Week 09)</p>
11 (5 - 11 APR) GOOD FRIDAY 9th	<p>Deliver diaries for Week 11 to whole panel.</p> <p>Call on half (not seen last week)</p> <ul style="list-style-type: none"> - Pick up <u>and check</u> diary 10. - Hand over envelope for return of diary 11. - Pay respondent for Weeks 07-10 (if completed properly) - £4 	<p>Give office the diaries for Week 10 (numerical order) and receipt slips for payments.</p> <p>Pick up diaries for Week 12 (with plain envelopes).</p> <p>Pick up pre-paid envelopes.</p> <p>Give office your pay claim for Weeks 06-09, payable end April.</p> <p>Office will notify you concerning postal returns (Week 10)</p>

WEEK	CONTACT WITH PANEL	CONTACT WITH OFFICE
12 (12-18 APR) BANK HOLIDAY ON MON 12th	Deliver diaries for Week 12 to whole panel Call on half (not seen last week) - Pick up <u>and check</u> diary 11 - Hand over envelope for return of diary 12	Give office the diaries for Week 11 (numerical order). Pick up diaries for Week 13 (with plain envelopes). Pick up pre-paid envelopes. Office will notify you on Friday 16th concerning postal returns (Week 11)
13 (19-25 APR)	Deliver diaries for Week 13 to whole panel Call on half (not seen last week) - Pick up <u>and check</u> diary 12 - Hand over envelope for return of diary 13	Give office the diaries for Week 12 (numerical order). Pick up diaries for Week 14 (with plain envelopes). Pick up pre-paid envelopes. Pick up respondent payments (half) Office will notify you on Friday 23rd concerning postal returns (Week 12)
14 (26 APR - 2 MAY)	Deliver diaries for Week 14 to whole panel Call on half (not seen last week) - Pick up <u>and check</u> diary 13 - Hand over envelope for return of diary 14 - Pay respondent for Weeks 10-13 (if completed properly) - £4	Give office the diaries for Week 13 (numerical order) and receipt slips for payments. Pick-up diaries for Week 15 (with plain envelopes). Pick up pre-paid envelopes Pick up respondent payments (other half). Pick up pay claim form (for Weeks 10-14), payable 25 May. <u>Office will pay you</u> for Weeks 06-09. Office will notify you on Friday concerning postal returns (Week 13)
15 (3 - 9 MAY) BANK HOLIDAY ON MON 3RD	Deliver diaries for Week 15 to whole panel Call on half (not seen last week) - Pick up diary 14 - Hand over envelope for return of diary 15 - Pay respondent for Weeks 11-14 (if completed properly) - £4	Give office the diaries for Week 14 (numerical order) and receipt slips for payments. Pick up diaries for Week 16 (with plain envelopes) Pick up pre paid envelopes Give office your pay claim for Weeks 10-14, payable 25 May. Office will notify you concerning postal returns (Week 14).

Fieldworker Timetable
(Weeks 16 - 23)

WEEK	CONTACT WITH PANEL	CONTACT WITH OFFICE
16 (10-16 MAY)	Deliver diaries for Week 16 to whole panel. Call on half (not seen last week) - Pick up <u>and check</u> diary 15 - Hand over envelope for return of diary 16.	Give office the diaries for Week 15. Pick up diaries for Week 17 (with plain envelopes) Pick up pre-paid envelopes. Office will notify you on Friday 14th concerning postal returns (Week 15)
17 (17-23 MAY)	Deliver diaries for Week 17 to whole panel. Call on half (not seen last week) - Pick up <u>and check</u> diary 16 - Hand over envelope for return of diary 17.	Give office the diaries for Week 16. Pick up diaries for Week 18 (with plain envelopes) Pick up pre-paid envelopes Pick up respondent payments (half) Office will notify you on Friday 21st concerning postal returns (Week 16)
18 (24-30 MAY)	Deliver diaries for Week 18 to whole panel. Call on half (not seen last week) - Pick up <u>and check</u> diary 17 - Hand over envelope for return of diary 18 - Pay respondent for Weeks 14-17 (if completed properly) - £4	Give office the diaries for Week 17 and receipt slips for payments. Pick up diaries for Week 19 (with plain envelopes) Pick up pre-paid envelopes Pick up respondent payments (other half) <u>Office will pay you for Weeks 10-14.</u> Office will notify you on Friday concerning postal returns (Week 17)
19 (31 MAY - 6 JUNE) BANK HOLIDAY ON MON 31ST MAY	Deliver diaries for Week 19 to whole panel. Call on half (not seen last week) - Pick up <u>and check</u> diary 18 - Hand over envelope for return of diary 19 - Pay respondent for Weeks 15-18 (if completed properly)- £4	Give office the diaries for Week 18 and receipt slips for payments. Pick up diaries for Week 20 (with plain envelopes) Pick up pre-paid envelopes Pick up pay claim form (for Weeks 15-18) payable 29th June. Office will notify you on Friday concerning postal returns (Week 18)

Continued/.

WEEK	CONTACT WITH PANEL	CONTACT WITH OFFICE
20 (7-13 JUNE)	Deliver diaries for Week 20 to whole panel. Call on half (not seen last week) - Pick up <u>and check</u> diary 19 - Hand over envelope for return of diary 20	Give office the diaries for Week 19. Pick up diaries for Week 21 (with plain envelopes) Pick up pre-paid envelopes Give office your pay claim for Weeks 15-18, payable 29 June. Office will notify you concerning postal returns (Week 19)
21 (14-20 JUNE)	Deliver diaries for Week 21 to whole panel Call on half (not seen last week) - Pick up <u>and check</u> diary 20 - Hand over envelope for return of diary 21	Give office the diaries for Week 20. Pick up diaries for Week 22 (with plain envelopes) Pick up pre-paid envelopes Pick up respondent payments (half) Office will notify you on Friday concerning postal returns (Week 20)
22 (21-27 JUNE)	Deliver diaries for Week 22 to whole panel Call on half (not seen last week) - Pick up <u>and check</u> diary 21 - Hand over envelope for return of diary 22 - Pay respondent for Weeks 18-21 (if completed properly) - £4	Give office the diaries for Week 21 and receipt slips for payments Pick-up diaries for Week 23 (with plain envelopes) Pick up pre-paid envelopes Pick up respondent payments (other half) Office will notify you on Friday concerning postal returns (Week 21)
23 (28 JUNE-4 JULY)	Deliver diaries for Week 23 to whole panel Call on half (not seen last week) - Pick up <u>and check</u> diary 22 - Hand over envelope for return of diary 23 - Pay respondent for Weeks 19 - 22 (if completed properly) - £4	Give office the diaries for Week 22 and receipt slips for payments. Pick-up diaries for Week 24 (with plain envelopes) Pick up pre-paid envelopes Pick up pay claim form (for Weeks 19-23), payable 27th July. Office will pay you for Weeks 15-18. Office will notify you on Friday concerning postal returns (Week 22)

Final Fieldworker Timetable
(Weeks 23 - 27)

WEEK	CONTACT WITH PANEL	CONTACT WITH OFFICE
<p style="text-align: center;">24 (5-11 JULY)</p>	<p>Deliver diaries for Week 24 to whole panel. Call on half (not seen last week)</p> <ul style="list-style-type: none"> - Pick up <u>and check</u> diary 23 - Hand over envelope for return of diary 24 	<p>Give office the diaries for Week 23. Pick up diaries for Week 25 Pick up pre-paid envelopes. Office will phone you concerning postal returns (Week 23)</p>
<p style="text-align: center;">25 (12-18 JULY)</p>	<p>Deliver diaries for Week 25 to whole panel. Call on half (not seen last week)</p> <ul style="list-style-type: none"> - Pick up <u>and check</u> diary 24 - Hand over envelope for return of diary 25 	<p>Give office the diaries for Week 24 Pick up diaries for Week 26 (Pre-paid envelopes <u>not</u> required) Office will phone you concerning postal returns (Week 24)</p>
<p style="text-align: center;">26 (19-25 JULY) FINAL WEEK FOR PANELLISTS</p>	<p>Deliver diaries for Week 26 to whole panel Call on half (not seen last week)</p> <ul style="list-style-type: none"> - Pick up <u>and check</u> diary 25 <p>No envelope needed for return of diary 26 since <u>all Week 26 diaries will be picked up next week.</u></p>	<p>Give office the diaries for Week 25 Pick up final respondent payments Office will phone you concerning postal returns (Week 25) Pick up self-completion questionnaire (if needed)</p>
<p style="text-align: center;">27 (26 JULY - 1 AUGUST)</p>	<p>Call on <u>all</u> your panellists.</p> <ul style="list-style-type: none"> - Pick up <u>and check</u> diary 26 - Check that no back diaries are still in panellist's possession. - Pick up other diary materials (product lists etc) if necessary. - Pay respondents <p style="padding-left: 40px;">Either for Weeks 22-26 £5 plus £1 bonus</p> <p style="padding-left: 40px;">Or for Weeks 23-26 £4 plus £1 bonus</p> <ul style="list-style-type: none"> - Hand over self completion form if relevant - Thank respondent for their help over the last six months 	<p>Give office the diaries for Week 26, and receipt slips for payments</p> <p>Also return other diary materials in your possession (pre-paid envelopes, spare diaries, etc)</p> <p>Pick-up pay claim form (for weeks 24-27), payable end of August.</p> <p><u>Office will pay you for Weeks 19-23.</u></p>

APPENDIX E: COMPLETE RECORD OF DIARY COMPLETION
RATES BY PANELLISTS

TOTAL NUMBER OF PANELLISTS ABSENT NO
MORE THAN 15 CONSECUTIVE DAYS

RHIWBINA	88
WHITCHURCH	46
CATHAYS	73
ROATH	27
RUMNEY	60
LLANRUMNEY	66
LLANEDERYN	55
HEATH	39
<hr/>	
TOTAL	454

Panellist Number

24 weeks
'complete'

Those in file 1

03 - 26

Total absences

INDEX TO MATRIX

given for each panellist on the panel at the beginning of week 03
(total = 542)

Those marked with a star remained on the panel throughout the survey period
(total = 481)

Those marked with a black spot do not appear anywhere on the tape records
(total = 15)

Those panellists who remained on the panel throughout the survey period and were absent for no more than 15 days as a consecutive period
(total = 454)

week numbers figures indicate number of days absent in each week, by panellist number (7 = absent all week, no data on tape for that week)
.1 = missing diary

Other cases of no data on tape are when there were no purchases made in that week (which may be combined with an absence of < 7 days)
X = week when panellist 'dropped out'

The sum of the absences recorded over weeks 03 - 26 for each panellist, excluding missing diaries

Please note the following change of addresses -

<u>Week No</u>	<u>Panellist No</u>	<u>New Address</u>
12	E57	(moved from CATHAYS to ROATH)
14	G30	(remained in ROATH)
19	G48	(moved from ROATH to RUMNEY)

Throughout the survey period these panellists have been treated as if they remained in their initial recruitment Areas, and appear as such on all tables

RHWBINA -1

PARCEL NUMBER	AC1	AC4	AC5	AC6	AC7	AC8	AC9	A11	A12	A13	A14	A17	A18	A19	A21	A24	A31	A32	A33	A36	A37	A41	A52	A54	A55	A57	AC1	AC2	AC4	A67
24 WEEKS COMPLETE	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
TRACES IN FILE 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
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TOTAL RESERVE	4	0	4	3	0	26	3	19	12	0	1	0	2	0	24	0	24	0	0	0	2	28	18	7	22	0	0	5	0	14

PARCEL NUMBER	A71	A72	A73	A74	A75	A76	A21	A22	A25	B01	Bc2	In	Bc4	Bc5	Bc6	Bc7	Bc8	Bc9	B10	B11	B13	B14	B15	B16	B17	B18	B19	B20	B21	B22
IN WAYS COMPLETE	*	*	*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
TRUCK IN FILE 1	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓	
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24				7			4					1										2	1				2			
25									3			7									2		7				2			
26							3					7									3	5		7			2			2
TOTAL RESOURCES	0	0	7	19	0	0	14	0	10		11	15	5	21	4	15	0	0	19	19	10	21	15	5	4	25	26	0	23	14

PROJECT NUMBER	B23	B24	B26	B27	B28	B29	B30	B31	B32	B33	B34	B35	B36	B37	B38	B39	B40	B41	B42	B43	B44	B45	B46	B47	B48	B49	B50	B51	B52	B53	B54	B55	B56	B57	B58	B59	B60	B61		
IN WORKS COMPLETE	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
TABLE IN FILE 2	✓		✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
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TOTAL RESOURCES	10	48	2	7	21	3	0	0	6	14	0	2	0	0	9	0	0	7	0	0	8	16	2	6	4	0	8	14	21	2										

ANALYST NUMBER	C02	C03	C06	C07	C09	C10	C11	C12	C16	C17	C18	C19	C22	C23	C24	C25	C27	C28	C29	C30	C32	C36	C37	C38	C40	C41	C44	C46	C47	C48
4 WETS COMPLETE		*	*	*	*	*				*		*		*	*	*	*	*	●	*	*	*	●		*	*		*	●	*
FILES IN FILE 1		✓	✓	✓	✓	✓				✓		✓		✓	✓		✓	✓		✓	✓	✓			✓	✓		✓		✓
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TOTAL NUMBER		14	15	9	4	0				13		7		21	14	23	2	0			12	2	32			5	10		C	12

WHITCMURCH -2

PARCEL NUMBER	C49	C50	C51	C52	C53	C54	D01	D02	D03	D04	D05	D06	D07	D08	D09	D10	D11	D12	D13	D14	D15	D16	D17	D18	D20	D21	D22	D23	D25	D28		
IN MAPS COMPLETE	●	*	*	*		*	*	*	*	*	●	*	*	*	*	*		*	*		*	*	*	*	*	*	*	*	*	*		
THOSE IN FILE 1		✓	✓	✓			✓	✓	✓	✓		✓	✓	✓	✓			✓	✓		✓	✓	✓	✓	✓				✓	✓		
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25				7												M										7						
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TOTAL PARCELS		19	2	12		16	0	0	14	0		6	0	0	0	21		0	1		15	3	21	0	12	21	4		7	10		

CATHAYS - I

PARCEL NUMBER	E01	E04	E06	E07	E11	E18	E20	E22	E23	E26	E28	E30	E31	E32	E33	E39	E40	E45	E46	E47	E48	E49	E50	E51	E52	E53	E56	E57	E58	E60
24 WARD NUMBER	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
HOUSE NO + LC I	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
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26					M						4		5							2	2				3			7		2
TOTAL PARCELS	0	0	7	11	0	12	0	0	0	0	21	7	19	0	5	6	0	0	0	5	2	0	0		19	1	6	22		5

CATHAYS - 2

PROJECT NUMBER	E61	E63	E65	E67	E70	E71	E7A	E76	F02	F0A	F06	F09	F12	F1A	F16	F17	F20	F23	F26	F29	F30	F31	F34	F36	F38	F39	F40	F41	F42	F44
IN WORK COMPLETE	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
FILED IN FILE I	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
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11			3										4		3					3								3	3	
12			2		3								2		1					2					7			1	1	
13	1		6																											
14	2		4											1																
15	2		2																2					3						
16											M								5					5						
17													M																	
18			2			2						2						2											3	
19			6			7						7						5								5		3	1	
20						1														3						M				
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22			2																						7			2		
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25	1												3																	
26	1																												1	
TOTAL PERSONS	9	0	41	0	3	10	0	0	0	0	0	9	16	1	4	7	7	5	7	8	13	0	7	8	21	10	0	9	11	10

RCYTH 1

MINIJOB NUMBER	G15	G16	G17	G20	G21	G22	G23	G24	G25	G26	G27	G28	G29	G30	G31	G32	G34	G35	G36	G37	G38	G40	G42	G43	G44	G47	G48	G51	G53	G54
4 WEEKS COMPLETE	*	*		*	*	*	*	*			*	*	*	*		*		*	*	*	*	*	*	*	*	*	*	*	*	*
TRUCK NO. & L.C. #	✓	✓		✓	✓		✓	✓			✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
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07					1														2											
08									3								M		1											
09					1							1					2		1											
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15					1	7													1					1		1				
16			5		1	1						1					2													
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18					1						7			7			M		2							7				
19		7		4	2						4						7										7			
20					M						7																			
21					1												M						3							
22					2	7						6			⊗						7									
23					1						5										5									
24						1	6				4						⊗						3							
25					2														1								7			
26					1									7					2								7			
TOTAL PERSONS	0	7		4	17	25	6	0			27	8	0	31		0		0	10	12	0	16	0	3	0	32	0	0	0	

RUMBLE - 1

Prime No NUMBER	J01	J02	J03	J04	J05	J06	J08	J09	J10	J11	J12	J13	J14	J15	J17	J18	J19	J20	J21	J23	J24	J27	J41	J42	J65	J66	J88	J73	J74	J75
W/O CORRECTION	*	*	*	*	*	*	*	●	*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*	*
W/O CORRECTION	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
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12		1					M								2														2	
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22			1				M		3					7					7					6						
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25																	5												1	
26																		2							3				6	
TOTAL RESORCE	0	4	1	10	0	0	7		4	0	1	0	7	16	4		13	18	21	0	0	0	0	25	3	9	0	0	0	11

RUMNEY - 2

PARCEL NUMBER	J78	J79	J80	K05	K10	K13	K16	K17	K18	K24	K27	K28	K30	K31	K33	K34	K37	K38	K40	K43	K45	K47	K48	K52	K53	K58	K59	K61	K62	K68
24 WAYS COMPLETE	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
TRUCK IN FILE 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
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23																	M							M						6
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25					2			1												2				M						
26								7	7						1					1								3		
TOTAL PARCELS	0	12	9	0	12	0	0	15	7	0	0	3	0	0	13	7	3	0	0	10	0	1	12	0	0	3	0	3	7	

MANIFEST NUMBER	L01	L02	L04	L05	L06	L07	L09	L12	L13	L14	L17	L18	L22	L23	L25	L26	L28	L29	L31	L34	L36	L37	L41	L42	L43	L48	L49	L50	L51	L53
24 WRS COMPLETE	*	*	*	*	*	*	*	*	*	*	*	*	*	*				●	*	*	●		*	*	*	*	*	*	*	*
THOSE IN FILE 1		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				/	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓
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TOTAL-ABSORBE	17	26	0	1	0	0	0	0	0	14	0	14	0	0					0	7			0	0	14	0	7	0	0	0

L-ANNRUMHEY - 2

ANNUST NUMBER	L54	L55	L56	L57	L58	L60	L61	L62	L63	L64	L67	L74	L77	L78	L79	M02	M03	M05	M07	M09	M13	M26	M28	M29	M30	M34	M37	M38	M40	M41	
24 MONTHS COMPLETE	*	*	*	*	*	*	*	*	*	*	*	*	*			*	*	*	*	*	*		*	*	*	*	*	*	*	*	*
TRUCKS IN FILE	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	
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25																															
26																	1														
TOTAL RECORDS	0	0	7	0	0	15	0	8	0	24	0	0	14			8	10	0	7	0	4		0	3	0	7	1	2	0	14	

AMOUNT NUMBER	M44	M46	M51	M58	M67	M73	M76	M77	M81	M85	M87	M88	M89	M93	M94	M95	M96	M97	M98	M99
24 WRS COMPLETED	*	*	*	*	*	*	*	*	*		*	*	*	*	*	*		*	●	*
INOSC ON FILE 1	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓				
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25									2											
26																				
TOTAL	0	0	16	0	0	0	0	0	17		1	0	8	0	24	0		16		0

LLANEDERNYN - 1

PROJECT NUMBER	NO2	NO6	NO8	NO9	N11	N12	N14	N16	N17	N19	N20	N24	N25	N28	N32	N42	N43	N44	N47	N49	PO1	PO2	PO3	PO5	PO6	PO7	PO8	PI0	PI1	PI2	
24 WORKS COMPLETE	*	*	*	*	*	*	*	*	*		*	*		*		*	*	●	*	*	*	*	*	*	*	*	*	*	*	*	*
GRADE IN FILE 1	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓		✓	✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	
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09		2													×		3						M								
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23				2						3						4															
24		3		7						×																					
25									3										M												
26																			M								2	5			
TOTAL RESOURCES	0	18	0	9	2	0	0	0	11		5	0		0		22	14		0	0	0	3	0	0	0	11	0	11	5	17	

PARCEL NUMBER	P15	P16	P17	P18	P21	P23	P24	P25	P27	P28	P29	P31	P33	P34	P36	P37	PA1	PA3	PAA	PA5	P50	P53	P55	P58	P59	P60	P62	P63	P64	P65
24 WARD COMPLETE	*	*	*	*	*	*	*	*	*	●	*	*	●	●	*	*		*	*	*	*	*	*	*		*	*		*	●
TOTALS IN FILE 1	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓			✓	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	
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19							M				7	3														5			1	
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26				2	2	2			3			1									7					2	2		2	
TOTAL PARCELS	0	0	19	2	6	2	2	1	6		24	7			0	0		0	14	3	14	10	0	0		9	6		6	

HEATH - I

218

INVOICE NUMBER	Q01	Q02	Q03	Q08	Q09	Q13	Q17	Q24	Q25	Q26	Q27	Q28	Q29	Q31	Q33	Q34	Q38	Q39	Q41	Q42	Q44	Q46	Q49	Q50	Q51	Q55	Q56	Q57	Q60	Q61
24 WRS COMPLETE	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*	*	*		*	*		*	*	*		*	*	*
THOSE IN FILE 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓			✓	✓	✓		✓	✓	✓
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06		4								2						3				X		3								
07		1																												
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09									3																					2
10								M		7						1										7				
11									1				7					3								7				
12				M							4		7	3		7		4									M			
13																2													2	
14																3	3						X			2			2	
15	3															1		2			3	1						1	1	
16		3														2		7			7	7						2		
17	3																	5								6			1	
18									2	3						2										1	5	M		
19				1					1	2			7	X								3					7	6		
20															4			2				7								
21																		5				3	6							
22				1						1												5					7	M		
23									2	7												2								
24		3								7																	X	M		
25									2													1								
26			2						2							1						2						2	2	
TOTAL PERSONS	6	14	2	5	0	4	0	0	20	27	4	0	24		0	26	+	18	14		16	36		0	0	3		5	2	9

APPENDIX F. LETTERS SENT TO PANELLISTS

Research and Marketing

Wales and the West Limited

R & M BUILDING
389 Newport Road
Cardiff
CF2 1RP
TEL 0222 484541
(4 lines)

1

March 1982

Dear Panellist,

This letter is to tell you something about the purpose of the shopping diaries which you have kindly agreed to fill in

These diaries that you, and many other people in Cardiff, are currently filling in each day, are an essential part of a big research project in progress at UWIST and Bristol University. The information will be used to develop a better understanding of the factors that influence where people buy their food and groceries, and how often they make these sorts of shopping trips. By asking you to keep a record of your food shopping over a period of time, we are hoping to obtain a very accurate and detailed impression of how day-to-day shopping actually takes place. The results of this survey should lead to improvements not just in academic knowledge, but also in the way that major retail firms serve the public. In addition, this knowledge will assist town planners in predicting how people will react to new shopping developments like hypermarkets, superstores and freezer centres, and whether they are likely to stay loyal to their small local shops.

Diaries of the type that you are filling in are commonly used in this country, North America and Western Europe to record not only grocery shopping but many other items of household expenditure, and even to monitor programmes seen on television. This survey is unique however in concentrating entirely on one city for an extended period of time, and the results will provide invaluable knowledge of a type not available from previous surveys.

Although the project has practical and commercial value, we should like to emphasise two points. Firstly, this research is completely independent of any food manufacturer or retailer. Secondly, the diary forms and any other information that you supply will remain strictly confidential, and it will not be possible for any outside person to identify you, or anyone else, as a panellist.

We hope that this letter makes clear the purpose of the diaries, and that you will continue to supply this vital information on your shopping habits. Please continue to present any queries to your interviewer, or in cases of emergency, directly to us at the above address

Yours sincerely,



G. K. HISCOCKS
Research Director

Research and Marketing Wales and the West Limited

Market Research
Sales Promotion
Door to Door Distribution
Computer Services
Direct Mail

The R&M Building
389 Newport Road
Cardiff
CF2 1RP
telephone 0222 484541 (4 lines)

June 1982

Dear Panel Member,

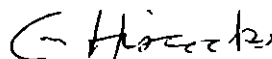
HOUSEHOLD SHOPPING DIARY

I am writing on behalf of our Research Department to thank you for your continued co-operation in filling out your weekly diaries. We particularly appreciate your posting them to us when the interviewer does not call. Included in your final payment at the end of the survey will be an extra £1 as a small "thank you".

We are now three quarters of the way through the Survey, and if you should have any comments, queries or complaints, please do not hesitate to write to me personally, or 'phone me at the above address. All your comments will be treated with the strictest confidence.

Once again, many thanks for your help.

Yours sincerely,



G.K. HISCOCKS
Research Director

Directors
Trevor Jones BA (Chairman and Managing Director)
Sheila Jones (Company Secretary)
G.K. Hiscocks BSc

Registered Office
Penhill House 11-13 Penhill Road Cardiff
Registered Number 1623024 England

Research and Marketing Wales and the West Limited

GKH/MH

Mail Room
Director
Director
Computer
Director

The R&M Building
389 Newport Road
Cardiff
CF2 1RP

telephone 0222 484541 (4 lines)

Dear Panellist,

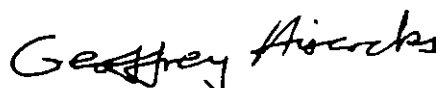
Thank you for helping us with the Household Shopping research that we are conducting for UWIST and Bristol University

It is now necessary for us to remove from the panel those housewives from whom we have not received shopping diaries regularly. It is extremely important that diaries are completed on a continuous basis and since we have not received a number of your diaries for recent weeks (whatever the reason) we no longer require you to remain on the panel

Your interviewer will not be calling on you again and, so that you can send back any diary still in your possession, we have enclosed a postage paid envelope for its return.

Many thanks for your assistance and co-operation

Yours sincerely,



**G.K.HISCOCKS
RESEARCH DIRECTOR**

Directors
Trevor Jones BA (Chairman and Managing Director)
Sheila Jones (Company Secretary)
G.K. Hiscocks BS.

Registered Office
Penhill House 11-13 Penhill Road Cardiff
Registered Number 1027094 (England)

Research and Marketing Wales and the West Limited

GKH/MH

Marketing and
Distribution
Director (Cardiff)
Computer Services
Director (Cardiff)

The R&M Building
389 Newport Road
Cardiff
CF2 1RP

telephone 0222 484541 (4 lines)

July 1982

Dear Panel Member,

HOUSEHOLD SHOPPING DIARY

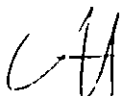
Thank you for helping us with the Household Shopping research that we have been conducting for U.W.I.S.T. and Bristol University

Now that the study is completed we would appreciate it if you could fill in the enclosed questionnaire. This information will enable us to show that our panel was representative of the areas of Cardiff covered by the research. Again, may I stress that this and all other information you have given us will remain strictly confidential.

As you know, your interviewer will not be calling on you again, so we have enclosed a postage paid envelope for you to return the questionnaire direct to my office.

Once more, many thanks for your assistance and co-operation over the last six months, it has been much appreciated.

Yours sincerely,



**G. K. HISCOCKS
RESEARCH DIRECTOR**

Directors
Ivor Jones BA (Chairman and Managing Director)
Neil Jones (Company Secretary)
G. K. Hiscocks BSc

Registered Office
Penhill House 11-13 Penhill Road Cardiff
Registered Number 1023024 England

(5-1)

Research and Marketing Wales and the West Limited

Wales and the West
Research and Marketing
Limited

The R&M Building
389 Newport Road
Cardiff
CF2 1RP

tele phone 0222 484641 (4 lines)

6th August 1982

Dear Panel Member,

Household Shopping Diary

Now that the Household Shopping research is completed, UWIST and Bristol University have asked us to collect some information to enable us to show that our panel was representative of the areas of Cardiff. Many people have already returned the questionnaire distributed by our interviewers when they made their final calls. Unfortunately, there appears to be no record of our having received a reply from you.

Since your interviewer last called, there is a good chance that you have mislaid either the questionnaire or the return envelope, and so I am enclosing a new form together with another postage paid envelope. I would like to assure you once again that all replies are treated confidentially, and I would be extremely grateful if you could return the completed form as soon as possible.

We remain indebted for your assistance in regularly completing the shopping diaries.

Yours sincerely,

G. K. Hiscocks

G.K. Hiscocks
Director

Directors
The Hon. John BA (Barman) MBE
Llew Jones (Company Secretary)
G.K. Hiscocks BSc

Registered Office
Penhill House 1 to Penhill Road Cardiff
Registered Number 1023024 England

APPENDIX G: EDITING AND CODING INSTRUCTIONS

INTRODUCTION

The objective of this research is to persuade at least 500 housewives (spread over 8 areas of Cardiff) to complete weekly diaries showing their purchasing of food and some household goods for a period of 6 months. To allow for housewives dropping off the "panel" as the study progresses, approximately 600 will be recruited at the start.

Each interviewer is identified by a code letter, which appears on all the diaries filled in by her panellists.

Each panellist fills in a diary which covers a specific seven day period, starting on a Monday and finishing on the following Sunday.

Half the diaries consist of white pages, with black printing on the cover, and the other half of yellow pages, with blue printing on the cover. The difference between them is the order in which the products are listed on the diary pages. A panellist always has the same colour diary, and the interviewer's diaries are all the same colour.

The diaries are organised into batches, each batch consisting of a set of diaries for a particular week (03-26) for a particular interviewer (A, B, C, etc). The diaries must be kept in the batches throughout.

Please read the panellists' instructions:
"HOW TO FILL IN YOUR DIARY"

FOR EACH DIARY

- 1 Check information given inside front cover if ALL HOUSEHOLD MEMBERS AWAY is indicated for any day, check that no page has been filled in for the relevant day(s) If such a page has been filled in, then change front cover to HOUSEHOLD AT HOME
- 2 On the back cover, enter the number of days absent (as indicated on the inside front cover) in the box D A.
- 3 Where the panellist has entered X in NO LISTED ITEMS BOUGHT THIS DAY, there need be nothing further entered. Cancel this page with a diagonal line right across it
4. Any other pages which are blank or not valid should be cancelled similarly, up to and including the last page marked in the diary
5. Transfer the following (card columns are not printed on the diary pages but are written on your specimen page).
 - a) Respondent No. from front cover into columns 1-3 of each diary page to be punched
 - b) Week No from front cover into columns 4-5 of each page
 - c) Day of week across into Column 6, and cancel code in DAY OF WEEK.
6. Use columns 7-8 to serial number (01, 02...) the diary pages to be punched. Enter the number of sheets for punching (i.e the highest serial no.) on the back cover in the box S.F P
- 7 Leave unused pages at back of diary completely blank
Do not cross out

FOR EACH DIARY PAGE

- 1 Person Buying must be coded
 - a) If blank, assume PANELLIST (Column 14/1)
 - b) If non-household member (column 14/3), then columns 15-18 are not applicable. Cross out anything coded, and write in the NOT APPLICABLE code 8, in all four columns 15-18.

- 2 If any of columns 15-18 should be coded, but have been left blank, code as NOT ANSWERED code 9, except if Supplier called, code 1 in cols 16, 17 and 18.

3. Make lists of "other forms of travel" and "other places" written in Code 6 in column 16, 17 or 18.

4. Check AMOUNT SPENT ON LISTED ITEMS and AMOUNT SPENT ON OTHER ITEMS (if any) add to the TOTAL If listed items only filled in, assume there are no other items and leave blank. The total amount need not be filled in.

There are two columns for pounds and two for pence
Leading zeros need not be entered. For amounts of £99 or more, code 99.00 Cross out any ½p.

If all amounts have been left blank, code 99.99 in listed items boxes.

- 5 Check PRODUCTS PURCHASED are clearly marked X.

6. Check PRODUCTS PURCHASED marked with an asterisk * against MAKE/BRAND BOUGHT.

- 6) Cont'd
- a) If an asterisked product has been marked X, then the related brand should be recorded. If not, refer to supervisor, as diary should be returned to interviewer. However, if the panellist couldn't remember, then write in N.A.
 - b) If a brand has been marked as bought, then the related product should be marked X.
 - c) One or two brands can be coded, (for margarine, one, two or three). If more have been marked, then choose two (three).
- 7 Other (product code 68) - Check, using Check List of Products, whether any written in should be otherwise coded. Tick at left hand side to indicate checked. Make a list of those foods not already on Check List, which remain in product code 68,
8. When every page in a diary has been edited, initial the Edited box on the back cover.
9. The MAKE/BRANDS BOUGHT OF SELECTED ITEMS are to be alpha-coded using capital letters, except I and O; and/or numeric-coded for Toilet rolls, Baked beans, Margarine and Instant Coffee. These will be entered to the left of the item name, and the second coded to the right, if two brands are given. In the case of margarine, up to three brands can be coded, one to the left of the title and two to the right. The order is immaterial.

After alpha-numeric coding, cross out any numerical pre-codes ringed. The N.A. code is entered in the left position only. The Lists of Brands and their codes provided can be added to at any time a new brand is mentioned, in consultation with supervisor.

10. Using List of Shops and their Codes, code SHOP/SUPPLIER in Columns 9-13

FINALLY

- 11 Check that every page has been edited and coded. Initial the Coded box on the back cover Sort each batch into numerical order of respondent number

Before the batches are punched, the number of diaries in each batch will be checked once more against field records, and the number of DAYS ABSENT and SHEETS FOR PUNCHING will be recorded.

APPENDIX H. THE INITIAL QUESTIONNAIRE

4	0	4	0
Job Number			

Code Number		

CARDIFF HOUSEHOLD SURVEY - J,4040

(Cols 1-7)

ADDRESS _____

HOUSEHOLD NUMBER: _____
(Col 8)

INTERVIEW THE PERSON IN THE HOUSEHOLD WHO IS RESPONSIBLE FOR BUYING MOST OF THE GROCERIES AND PROVISIONS EATEN BY THE HOUSEHOLD.

Good morning/afternoon/evening. I'm working for Research & Marketing Ltd, who are doing a survey of household shopping in this area.

Q.1. About how many times a week do you normally buy groceries? (9)

Once a week or less often	1
Twice a week	2
Three times a week	3
Four times a week	4
Five times a week	5
Six or seven times a week	6
Varies	0

Q.2. How many cars and vans are normally available for use by you or members of your household (other than visitors) ? (10)

(Include any car or van provided by employers if normally available for use by members of the household but exclude vans used solely for the carriage of goods)

One	1
Two	2
Three	3
Four or more	4
None	0

Q.3. Do you have a paid job ? (11)

Yes. Work full-time (30 hrs or more per week)	1
Yes. Work part-time (less than 30 hrs per week)	2
No: Not working/retired	3

CLASSIFICATION SECTION

SEX OF RESPONDENT (12)

Male	1
Female	2

AGE OF RESPONDENT (13)

16-24	1
25-34	2
35-44	3
45-54	4
55-64	5
65 and over	6

HOUSEHOLD COMPOSITION (14-19)

No. of children 0-4 years	_____
No. of children 5-15 years	_____
No. of adults 16-44 years	_____
No. of adults 45-64 years	_____
No. of adults Over 64 years	_____
TOTAL in household (including respondent)	_____

WORKING STATUS OF ADULTS IN H/H
(Those aged 16 and over)

Number of adults in household. (20-23)

Working full-time (30 hrs or more per week)	_____
Working part-time (Less than 30 hrs per week)	_____
Not working/retired	_____
TOTAL adults	_____

RESPONDENT'S NAME

Mr/Mrs/Miss: _____

Thank respondent and ask if he/she is willing to become a panel member, completing a shopping diary every week. (24)

Interested in completing diaries; code number (top right of this page) written on contact record sheet	1
<u>Will not</u> be completing diaries	2

Interviewer's Name: _____

Date of interview: _____

APPENDIX I. THE SECOND QUESTIONNAIRE

SHOPPING ATTITUDES SURVEY

INTERVIEW EACH OF YOUR PANELLISTS

NAME OF PANELLIST _____

PANELLIST
NUMBER.

(Cols. 1-4 BLANK)

(Cols. 5-7)		

ADDRESS _____

QUESTIONNAIRE ORDER.

(8)

2

SHOW CARD A

Q.1) I am going to read out some comments that might be made about shopping

Would you please tell me, using this card, how strongly you agree or disagree with each comment

(READ OUT)

	AGREE STRONGLY	AGREE	NEITHER AGREE NOR DISAGREE	DIS-AGREE	DIS-AGREE STRONGLY	DON'T KNOW	
I usually try hard to look for bargains	1	2	3	4	5	9	(36)
The way a person shops for the household groceries is a good indication of how capable they are all round	1	2	3	4	5	9	(35)
I like shopping because it gets me out of the house	1	2	3	4	5	9	(34)
I think you get better quality meat in a butcher's shop than in a supermarket	1	2	3	4	5	9	(33)
I find that shopping is a nuisance and I like to get it done as quickly as possible	1	2	3	4	5	9	(32)
I think you get better quality fruit and vegetables in a green-grocer's shop than in a supermarket	1	2	3	4	5	9	(31)
I find shopping for my groceries very tiring	1	2	3	4	5	9	(30)
I try to avoid walking for more than five minutes with a bag of shopping	1	2	3	4	5	9	(29)
I usually do my grocery shopping on a journey when I do other errands or other shopping	1	2	3	4	5	9	(28)
I prefer to buy meat in a super-market because you can take your time choosing exactly what you want	1	2	3	4	5	9	(27)

	AGREE STRONG- LY	AGREE	NEITHER AGREE NOR DISAGREE	DIS- AGREE	DIS- AGREE STRONGLY	DON'T KNOW	
Shopping for groceries is usually enjoyable	1	2	3	4	5	9	(26)
The convenience of local shops is worth the extra it can cost	1	2	3	4	5	9	(25)
I think the grocery shops in Cardiff are excellent	1	2	3	4	5	9	(24)
When I am shopping I am usually in a hurry	1	2	3	4	5	9	(23)
I like to buy really fresh bread	1	2	3	4	5	9	(22)
Chain stores and supermarkets make for better grocery shopping all round	1	2	3	4	5	9	(21)
I find the staff more friendly in small shops	1	2	3	4	5	9	(20)
I prefer to shop at the 'small man' type of shop	1	2	3	4	5	9	(19)
I don't mind going out of my way to get to better shops	1	2	3	4	5	9	(18)
I think that supermarkets are cleaner than small food shops	1	2	3	4	5	9	(17)
I always try to buy good quality food, even if prices are higher	1	2	3	4	5	9	(16)
I usually do a lot of comparing of prices for ordinary food purchases	1	2	3	4	5	9	(15)
There's not much difference between shops these days	1	2	3	4	5	9	(14)
Getting shopping done quickly is very important to me	1	2	3	4	5	9	(13)
I like to buy all my groceries at one shop, rather than shop around	1	2	3	4	5	9	(12)
I would prefer to do all my shopping just once a week	1	2	3	4	5	9	(11)
Given a choice between good shops and good parking facilities, I would choose to shop where there is better parking	1	2	3	4	5	9	(10)
Going grocery shopping gives you the chance to meet friends and acquaintances	1	2	3	4	5	9	(9)

Now I would like to ask you some general questions about your household.

Q.2)	How long have you been living at this address ?		(37)
	Less than three months		1
	3 months but less than 6 months		2
	6 months but less than 1 year		3
	1 year but less than 2 years		4
	2 years but less than 3 years		5
	3 years but less than 10 years		6
	10 years or more		7
	Can't remember		8

Q 3a)	Do you have a refrigerator ?		(38)
		Yes	1
		No	2

b)	Do you have a fridge freezer ?		(39)
		Yes	1
		No	2

c)	Do you have a separate deep freeze ?		(40)
		Yes	1
		No	2

Q.4)	How many cars and vans are normally available for use by you or members of your household (other than visitors) ?		(41)
	<u>(Include</u> any car or van provided by employers if normally available for use by members of the household but <u>exclude</u> vans used solely for the carriage of goods)	One	1
		Two	2
		Three	3
		Four or more	4
		None	0
			Q5a)
			Q 6

IF CAR OR VAN AVAILABLE: OTHERS GO TO Q. 6

Q.5a)	Do you have the use of any of these vehicles when shopping. sometimes, all the time or never ?		(42)
	<input type="checkbox"/> Code 'Yes' if the panellist uses the vehicle/s as driver <u>or</u> passenger <input type="checkbox"/>	Yes; all the time	1
		Yes; sometimes	2
		No, never	3

b)	Do you, yourself, hold a current full driving licence ?		(43)
		Yes	1
		No	2

ASK ALL

Q 6)	How old were you when you finished your full-time education?	(44)
	14 years or under	1
	15	2
	16	3
	17	4
	18	5
	19 or older	6
	Still studying	7
	Never at school	8
	Can't remember	9

Q 7a)	Did you pass any recognised examinations as part of your education or training ?	(45)
	Yes	1 → b)
	No	2 } → Q 8
	Can't remember	3 }

IF YES: OTHERS GO TO Q. 8

b)	What was the last examination you passed ?	(46)
	University degree/Dip.Ed or above	1
	Professional Institute's final exam/Higher National Certificate	2
	Teachers Training Certificate	3
	G.C E 'A' level/Professional Institute's Intermediate Exam/ S R.N.	4
	G C E. 'O' level/Secretarial Diploma/Ordinary National Certificate	5
	Other (please specify)	6
	Can't remember	7

ASK ALL

Q 8)	Did you complete a full industrial apprenticeship ?	(47)
	Yes	1
	No	2
Q 9)	Sex of panellist	(48)
	Male	1
	Female	2
Q.10)	Age of panellist (Estimate if refuses to say)	(49)
	16-24	1
	25-34	2
	35-44	3
	45-54	4
	55-64	5
	65-74	6
	75 and over	7

Q 11) Marital status of panellist

- Married
- Single
- Widowed/divorced/separated

(50)

- 1
- 2
- 3

Q 12a) Do you have a paid job ?

- Yes. Work full-time (30 hrs or more per week)
- Yes. Work part-time (less than 30 hrs per week)
- Student (full-time)
- Wholly retired/other not working

(51)

- 1]
- 2] → b)
- 3]
- 4] → Q.13

IF WORKING FULL OR PART-TIME : OTHERS GO TO Q.13

b) Occupation details of panellist (WRITE IN BELOW)

JOB TITLE _____

POSITION/RANK/GRADE _____

WORK-PLACE (name & address) _____

FOR OFFICE USE ONLY

(52 - 53)

(54 - 55)

ASK ALL

Q.13) Code relationship of panellist to Head of Household

- Respondent is Head of Household
- Wife
- Son/daughter
- Other relative
- Friend/unrelated

(56)

- 1 → Q 15
- 2]
- 3] → Q.14
- 4]
- 5]

IF PANELLIST IS NOT H. OF H. : OTHERS GO TO Q. 15

Q 14) Occupation details of Head of Household (WRITE IN)

JOB TITLE _____ (Give last job if unemployed or wholly retired)

POSITION/RANK/GRADE _____

WORK-PLACE (name & address) _____

FOR OFFICE USE ONLY

(57 - 58)

(59 - 60)

PLEASE TURN OVER PAGE

ASK ALL

SHOW CARD B

Q.15) Could you please tell me, using this card, which of these comes closest to the total income of your household from all sources, before tax and insurance is deducted.

I only want to know the letter to the left of the one which is closest.

<u>Letter</u>	<u>Weekly</u>	<u>Monthly</u>	<u>Annual</u>	(61)
G	Under £20	Under £84	Under £1000	1
F	£20 - £39	£84 - £167	£1000 - £1999	2
E	£40 - £58	£168 - £250	£2000 - £2999	3
D	£59 - £97	£251 - £417	£3000 - £4999	4
C	£98 - £135	£418 - £584	£5000 - £6999	5
B	£136 - £192	£585 - £834	£7000 - £9999	6
A	£193 - £289	£835 - £1249	£10000 - £14999	7
X	£290 +	£1250 +	£15000 +	8
			Don't know	9
			Refused to say	0

CLOSE INTERVIEW, THANK PANELLIST AND SAY THAT HIS/HER NUMBER WILL NOW BE ENTERED IN THE PRIZE DRAW. THERE WILL BE ONE WINNER OF £3 IN EACH OF THE 15 AREAS OF CARDIFF ON THE PANEL AND THIS WILL BE THE FIRST OF SEVERAL SIMILAR DRAWS.

INTERVIEWER DECLARATION

I declare that this interview has been conducted with the person named on the front page at his/her address as instructed

Date of interview: _____ 1982

Interviewer's signature _____

APPENDIX J · LOCATIONAL INFORMATION INCORPORATED IN THE SHOP CODING SYSTEM

- 00 Mobile shops
- 01 City Centre

District Centres

- 02 Albany Road - Wellfield Road
- 03 Cowbridge Road East
- 04 Crwys Road
- 05 Whitchurch Road
- 06 Merthyr Road (Incl. The Philog) (1)
- 07 Clifton Street
- 08 Clare Road
- 09 Maelfa Shopping Centre

Local Centres

- | | | | |
|----|---------------------|---|-------------------------|
| 10 | Burnham Avenue | } | Local |
| 11 | Cae Glas Road | | centres in |
| 12 | Caernarvon Way | | St. Mellons |
| 13 | Countisbury Avenue | } | Local centres in Rumney |
| 14 | Harris Avenue | | |
| 15 | Llanrumney Avenue | | |
| 16 | New Road | | |
| 17 | Newport Road Rumney | | |
| 18 | Newport Road Roath | | |
| 19 | Wentloog Road | | |

20	Clearwater Way	}	Local centres in Cyncoed
21	Cyncoed Road		
22	Rhydypenau Road		
23	Clarendon Road		
24	City Road	}	Local centres in Roath
25	Donald Street		
26	Kimberly Road		
27	Lady Margarets Court		
28	Maryport Road		
29	Waterloo Road		
30	Cathays Terrace	}	Local centres in Cathays
31	Salisbury Road		
32	Wyeverne Road		
33	North Road Maindy		
34	North Road Gabalfa		
35	Caerphilly Road	}	Local centres in North Cardiff
36	St Isan Road		
37	Beulah Road Crossroads to Thornhill Road		
38	Fishguard Road		
39	Heol Llanishen Fach		
40	Station Road		
41	Llangrannog Road		
42	Church Road		
43	Beulah Road Crossroads to Pantbach Road		
44	Heol Ffynnon Wen		
45	Merthyr Road Tongwynlais		

46	Hollybush Estate	}	Local centres in Whitchurch
47	Lon-y-Celyn		
48	Park Road		
49	Plas Melin		
50	Plas Newydd	}	Local centres in Llandaff North
51	Gabaifa Avenue		
52	Station Road		
53	Watson Road		
54	High Street, Waungron Road, Ely Road	-	Local centres in Llandaff
55	Beechley Drive, Fairwater Green	}	Local centres in Fairwater
	Plasmawr, Pwllmelin Road		
56	Station Road, Radyr		
57	Bishopston Road, Caerau Lane	}	Local centres in Caerau
	Jacrow Square, Heol Trenewydd,		
	Llanover Road Michaelston Road		
58	Wilson Road, Caerau		
59	Grand Avenue Ely and Cowbridge	}	Local centres in Ely
	Road West		
60	Cowbridge Road East (not incl. in main district centre)	}	Local centres in Canton
61	Clive Road, Romilly Cres.,		
	Severn Road, Kings Road		
62	Cathedral Road, Pontcanna		
63	Wells Street, Tudor Street	}	Local centres in Riverside
	Lower Cathedral Road		
64	Cornwall Street, Penarth Road	}	Local centres in Grangetown
	Corporation Road, Paget Street		
	Holmesdale Street		

65	Bute Street North	}	Local centres in Butetown
	London Square, James Street		
66	Broadway	}	Local centres in South Cardiff
67	Meteor Street, Moira Place		
68	Carlisle Street		
	Sploott Road		
	Tweedsmuir Road		

Individual Shops Located by Ward

- 69 Central Area
- 70 Plasnewydd
- 71 Roath
- 72 Rumney
- 73 St. Mellons
- 74 Penylan
- 75 Cathays
- 76 Llanishen
- 77 Rhwbina
- 78 Whitchurch
- 79 Gabalfa
- 80 Llandaff
- 81 Canton
- 82 Riverside
- 83 Grangetown/South Cardiff
- 84 Adamsdown
- 85 Sploott
- 86 Llanedeyrn/Lisvane
- 87 Tongwynlais/Radyr
- 88 St. Fagans/Plasmawr
- 89 Ely

Satellites Outside Cardiff and Other

- 90 Caerphilly
- 91 Newport, Rogerstone, Bassaleg, Caerleon
- 92 Penarth, Dinas Powis
- 93 Barry, Cowbridge, Llantwit Major
- 94 Port Talbot
- 95 Llantrisant, Church Village
- 96 Markets
- 97 (Emergency code, not used)
- 98 Other Wales (e.g. Cwmbran, Pontypridd)
- 99 Rest of World (e.g. Bristol, London, Plymouth, Paris)

Note

- (1) The Philog group of shops lies about $\frac{1}{2}$ mile east of the main concentration of shops in the Merthyr Road district centre. Shops coded 6331, 6341, 6342, 6542, 6641, 6941, 6942, and 6946 are in the Philog group, all others beginning with 06 are in the district centre proper.

APPENDIX K: CARDIFF SHOP PRICE SURVEY, MAY 1982

List of Items Surveyed

<u>Product</u>	<u>Brand</u>	<u>Size</u>	<u>Cheapest Brand also?</u>
Sausages - pork	Wall's	1lb.	Yes (loose or packaged)
Cheese (Cheddar)	-	1lb.	Yes (fresh or packaged)
Margarine - soft (block, not cooking)	krona	250g.	Yes
Butter	Anchor	250g	Yes
Lard	-	250g	Yes
Eggs	-	Size 3 (6 eggs Grade A)	Yes
Frozen Peas	Birds Eye	1lb.	Yes
Sugar (white granulated)	-	1kg.	Yes
Flour - self raising (white)	Homepride	1½kg.	Yes
Corn Flakes	Kellogg's	500g.	Yes
Instant Potato	Smash	2.4oz/ 68g.	Yes
Bread - white sliced	Mother's Pride	Large/std.	Yes
Cream Crackers (not savoury)	Jacobs	200g	Yes
Biscuits - chocolate digestive	McVitie's Home Wheat	200g	Yes (Milk or Plain chocolate)
Instant Coffee	Nescafe	100g	Yes
Tea - packet	PG Tips	125g	Yes
Tea - bags	Tetley	80 bags	Yes

<u>Product</u>	<u>Brand</u>	<u>Size</u>	<u>Cheapest Brand also'</u>
Orange squash	Quosh	26 fl.oz.	Yes
Corned Beef	Fray Bentos	12 oz.	Yes (canned only)
Baked Beans	Heinz	450g	Yes
Canned soup - tomato	Heinz	15.3oz/ 453g.	Yes
Tomato Sauce	Heinz	12oz.	Yes
Washing-up Liquid	Fairy	540ml.	Yes
Fabric Conditioner	Comfort	1 litre	Yes
Washing powder	Persil	E3	Yes (soap powder; not automatic)
Toilet rolls - soft	Andrex	2-roll pack	Yes
Mints	Polo	5-pack	No

APPENDIX L: SHOPS SURVEYED FOR GROCERY PRICES

<i>Name of shop</i>	<i>Address</i>	<i>Type</i> ⁽¹⁾	<i>Size</i> ⁽²⁾	<i>Code</i> ⁽³⁾
International	Heol y Deri	1	3	43201
Kwik-Save	Merthyr Road	1	3	6202
Londis	Heol y Deri	3	4	43331
Hills	The Philog	4	4	6342
Popats	The Philog	4	4	6341
Centre	North Road	3	4	34331
Co-op	Heol y Deri	2	3	43221
Braddeley	Heol y Deri	4	4	43342
Tesco	Cowbridge Road	1	2	3101
International	Cowbridge Road	1	2	3102
Ditta	Brithdir Street	4	4	75943
Scott's	Flora Street	4	4	75348
Cosmeston Stores ⁽⁴⁾	Cosmeston Street	4	4	75343
Stadium Stores	Lisvane Street	4	4	75344
Christine's	Strathnairn Street	4	4	71343
Sheik's	Strathnairn Street	4	4	71342
Spar	City Road	3	4	24331
English and Continental Stores	City Road	4	4	24341
Yousef	Arran Place	4	4	70342
Khan's Mini Market	Arran Street	4	4	70341
Eggars	Brithdir Street	4	4	75341
Orley Westlake	Cathays Terrace	4	4	30343
Sainsbury	Cwmbran	1	1	98101
Asda	Newport	1	1	91001

<i>Name of shop</i>	<i>Address</i>	<i>Type</i> ⁽¹⁾	<i>Size</i> ⁽²⁾	<i>Code</i> ⁽³⁾
V.G.	Llanrumney Ave.	3	4	15331
Co-op	Countisbury Ave.	2	3	13321
V.G.	Burnham Avenue	3	4	10331
Londis	Llanrumney Ave.	3	4	15332
Centra	Albany Road	3	4	2331
Collins	Albany Road	4	4	2444
Highfield Stores	Highfield Road	4	4	74346
Marlborough Stores	Birchgrove Road	4	4	79331
Lo-Cost	Crwys Road	1	2	4101
Markas	Crwys Road	4	4	4341
Tesco	Albany Road	1	2	2101
Kwik-Save	Albany Road	1	2	2102
Lipton	Albany Road	1	3	2201
Price Rite	Albany Road	1	3	2202
Tesco	Llantrisant	1	1	95001
Carrefour	Caerphilly	1	1	90001
Devi Stores	Wenallt Road	4	4	43343
Spar	Pantbach Road	3	4	43231
Mace	Heol Ffynnon Wen	3	4	44331
Whalley's	Pantbach Road	4	4	43341
Coryton Stores	Coryton Rise	4	4	78341
British Home Stores	Queen Street	1	5	1001
Littlewood	Queen Street	1	5	1003
Marks and Spencer	Queen Street	1	5	1004
James Howell	St. Mary Street	1	5	1002

<i>Name of shop</i>	<i>Address</i>	<i>Type</i> ⁽¹⁾	<i>Size</i> ⁽²⁾	<i>Code</i> ⁽³⁾
Tesco	The Hayes	1	1	1007
David Morgan	The Hayes	1	5	1011
Fine Fare	Clifton Street	1	3	7201
Leo's	Moorland Road	2	1	85021
Lipton's	Maelfa Centre	1	3	9202
International	Maelfa Centre	1	3	9201
Gibbons	Coed y Gores	4	4	74344
Spar	Glenwood	3	4	74331
International	Merthyr Road	1	3	6203

Notes

(1) Ownership type, as follows

1. Multiple
2. Co-operative
3. Affiliated
4. Independent

(2) Size, as follows

1. Superstore
2. Supermarket
3. Superette
4. Grocer
5. Department Store Food Hall

(See Section 6.2 for detailed definitions)

(3) Shop codes used in the diary tapes (Section 6.1)

(4) This store did not give a full response

(5) This list is in the same order as the computer file (see Section 7.5)

APPENDIX M

LIST OF SHOP CODES, NAMES AND ADDRESSES.

			01642	bakers (?)	castle s
			01741	piscus	royal arcade
			01742	FISH & CHIPS	CAROLINE S
			01811	HOLLAND AND BARRETT	11 high s
			01841	WALLYS	46 ROYAL ARCADE
			01842	HEALTH FOOD SHOP	MORGAN ARCADE
			01901	J.MENZIES	10 ST DAVIDS CENTRE
			01902	J.MENZIES	92 QUEEN S
			01903	J.MENZIES	QUEEN S STATION
00341	MR BUTCHER	LLANDAFF	01904	THORNTON CHOC	HIGH S
00342	JOES	LLANRUMNEY	01905	R.GORDON.DRUMMOND	15 THE HAYES
00343	shervington.d.c	newport	01906	timothy white	st davids centre
00344	MISTRAL FROZEN FOODS	NEWTOWN LLANTWIT	01907	VICTORIA WINE	ST DAVIDS CENTRE
00441	WINTER ST.MELLOWS	MOBILE	01911	THE BUNGALOW	st mary s
00442	PENROSE.A LISVANE	MOBILE	01912	THOM	church s
00443	SILVERWAYS	MOBILE	01941	SWEETSHOP	MORGAN ARCADE
00444	ALIS	MOBILE	01942	ROMBOUTS CAFE	19 MORGAN ARCADE
00445	STAGG.L	MOBILE	01943	COSTA RICA COFFEE CU	62 ST MARY S
00446	HARRINGTON.P	MOBILE	01944	TORACCONIST	CASTLE S
00447	WARD	MOBILE	01945	baxendales	queen s
00448	GREENGROCER	BACTON RD GARALFA	01946	the choc box	royal arcade
00449	HUNT	MOBILE PENARTH	01947	jones	st mary s
00741	KING.J RHIWBINA	rhibina	01948	RENDEZVOUS	ST MARY S
00742	BEVAN.W.A	MOBILE	01951	CENTRAL MARKET	LITY CENTRE
00743	LLOYD	centre	01952	OPEN AIR MARKET	CITY CENTRE
00744	BUTLER LLANDAFF	llandaff	01953	BARROW	WORKING S
00745	cardiff fish centre	centre	01954	BARROW	ST MARY S
00746	snowden	mobile	01955	BARROW	WINDSOR PL
00747	CURTAIN.M	MOBILE	01956	BARROW	MR DAVID MORGAN
00748	MR FROSTY	MOBILE RUMNEY	01957	BARROW	QUEEN S
00749	FREEZER CO	MOBILE LLANRUMNEY	01958	BARROW	CHARLES S
00901	ALPINE DRINKS PENTWY	PENTWYH	01959	BARROW	CHURCHILL WAY
00902	CORONA NEWPORT	NEWPORT	01980	BARROW	CENTRAL SQ
00903	LYONS PAID	MOBILE	01981	barrow	the hayes
00904	MIDLAND COUNTIES	MOBILE	02001	WOULWORTH	51 albany rd
00905	UNIGATE	MOBILE	02002	BOOTS	77 albany rd
00906	COOP MILK	MOBILE	02101	TESCO	11- albany rd
00907	mason soft drinks	mobile	02102	XWIKSAVE	61- albany rd
00911	FARMERS AND DAIRYMAN	MOBILE	02201	LIPTONS	47 albany rd
00941	FOTHERS DAIRY	MOBILE	02202	FRICERITE	52 albany rd
00942	LAVERS DAIRY	MOBILE	02331	CENTRA	128 albany rd
00943	TOMYS	MOBILE	02341	NEELUM	157 albany rd
00944	CHARLIES	MOBILE	02342	UNKNOWN	? albany rd
00945	HUSBANDS	MOBILE	02411	ORANGE GROVE	43 wellfield rd
00946	MR SOFTIES ICE CREAM	MOBILE	02441	MIGROS FRUIT	32 albany rd
00951	BETTERMAKRE REP	MOBILE	02442	ALBANY FRUIT SUPPLY	90 albany rd
00952	ICE CREAM VENDOR	MOBILE	02443	PIPPINS	91 albany rd
01001	BRITISH HOME STORES	QUEEN S	02444	COLLINS	92 albany rd
01002	JAMES HOWELL	ST MARY S	02445	BOND.M.E	163 albany rd
01003	LITTLEWOODS	QUEEN S	02446	CHUGG.M	22 wellfield rd
01004	MARKS AND SPENCER	72 QUEEN S	02447	THE SPOT	wackintosh pl
01005	BOOTS	36 QUEEN S	02448	PEACHES	wellfield rd
01006	BOOTS	5 WOOD S	02501	DEMHURST	33 albany rd
01007	TESCO	THE HAYES	02502	WOODLEYS	32 wellfield rd
01008	ALLDERS	QUEEN S	02503	UNKNOWN	ALBANY RD
01009	MEDICARE	ST DAVIDS CENTRE	02511	KEEN L.T	37 wellfield rd
01011	DAVID MORGAN	THE HAYES	02512	FARM PRODUCE	26 wellfield rd
01060	WOULWORTH	ST DAVIDS CENTRE	02541	CLEBORN.C	48 albany rd
01061	W.H.SAITH	QUEEN S	02542	LEWIS.K.R	82 albany rd
01062	DERENHAMS	ST DAVIDS CENTRE	02543	CHATFIELD.L	47 wellfield rd
01441	OLDFIELD.D	MORGAN ARCADE	02544	UNKNOWN	? albany rd
01442	FRUIT SHOP	THE HAYES	02601	MERRETTIS	89 albany rd
01443	GREENGROCER	CASTLE ST ARCADE	02602	FERRARIS	35 wellfield rd
01501	DEMHURST	working s	02611	BRUTONS	23 albany rd
01502	baxters	st davids centre	02612	JONES.E.J	81a albany rd
01601	MERRETTS	1 WOOD S (CENTRAL SQ)	02641	UNKNOWN	? albany rd
01602	MERRETTS	20 ROYAL ARCADE	02642	CHORLEYS	100 albany rd
01603	MERRETTS	18 QUEEN S ARCADE	02643	SUZANNE'S CAKES	20 wellfield rd
01604	HOPKIN MORGAN	THE HAYES	02741	UNKNOWN	albany rd
01605	MERRETTS	8 THE HAYES	02742	PIPPINS	albany rd
01606	BIRT.D	3 ST DAVIDS CENTRE	02811	BATEMANS	50 albany rd
01641	NIKI S HOTBREAD STAL	ST DAVIDS CENTRE	02841	BERNIS DELICATESSEN	57 wellfield rd

02842	ROATH HEALTH FOOD ST	39	wellfield rd	04543	BRIM AND SON	126	cryws rd
02901	ARTHUR COOPER	38	albany rd	04544	CAREY, K	128	cryws rd
02902	NCC	71	albany rd	04545	STORM, W.H	106	cryws rd
02903	THAYERSÞTONS	13	wellfield rd	04546	UNKNOWN	?	cryws rd
02904	THE WELLFIELD	53	wellfield rd	04601	FERRARIS		cryws rd
02905	R.GORDON.DRUMMOND		wellfield rd	04611	BETTYS&JONES.E.J	94	cryws rd
02906	HOUSE OF HOPSON	27	albany rd	04641	UNKNOWN	?	cryws rd
02941	UNKNOWN	?	albany rd	04741	TWANLEYS	80	cryws rd
02942	DUDDEN,A.J	80	albany rd	04742	UNKNOWN	?	cryws rd
02943	NEWSAGENT	83	albany rd	04801	BATEMANS	98	cryws rd
02944	CELLARS HOMEBREW	114	albany rd	04841	HEALTH FOOD SHOP		CRYWS RD
02945	HERES NEWS	32	albany rd	04901	VICTORIA WINE	129	cryws rd
02946	CONTINENTAL WINE	15	wellfield rd	04911	UNKNOWN		cryws rd
02947	THE ORCHARD	129	albany rd	04912	FREDS BARGAIN STORES	?	cryws rd
02948	BILLYS	61	wellfield rd	04941	DAIRY BOX	50	cryws rd
02949	ANITAS	81	albany rd	04942	GILL,T.R	146	cryws rd
02951	BAKROW (BS)		bangor st	04943	COX,V.H	112	cryws rd
02970	BAKER,A.H	?	wellfield rd	04944	chinese take away		cryws rd
03001	WOOLWORTHS		cre	04945	KIMS DISCOUNT		cryws rd
03002	boots		cre	04951	barrow (rays) (cr)		cryws rd
03101	TESCO		cre	05321	COOP	25	whitchurch rd
03102	INTERNATIONAL		cre	05331	PENNINGTON		whitchurch rd
03103	KWIKSAVE		cre	05332	WHITCHURCH MINI MKT		WHITCHURCH RD
03341	DUDDRIDGE,R		cre	05341	COLES	99	whitchurch rd
03342	popes		cre	05342	WHITCHURCH RD STORES		whitchurch rd
03343	EDMUNDS		CRE	05343	NEWSBOX	97	whitchurch rd
03401	DREWS		CRE	05344	UNKNOWN		whitchurch rd
03441	KENNARD		cie	05441	BERGONZI	180	whitchurch rd
03442	CITY FRUIT STORES	198	cre	05442	UNKNOWN		whitchurch rd
03443	FRUIT SHOP (220)	220	cre	05443	JONES		WHITCHURCH RD
03444	ROSEMARYS		cre	05444	FRUIT BOWL		WHITCHURCH RD
03445	UNKNOWN		cre	05501	DEWHURST	21	whitchurch rd
03446	BENDERS		cre	05502	DANISH BACON CO		whitchurch rd
03447	griffiths and evans		cre	05541	SLEEP,H	17	whitchurch rd
03501	WOODLEYS		cre	05542	WILLIAMS,H	184	whitchurch rd
03502	DEWHURST		cre	05611	HENRY,P.J	51	WHITCHURCH RD
03511	ATKINS,W		cre	05641	MITCHELLS	122	whitchurch rd
03541	UNKNOWN		cre	05642	UNKNOWN		WHITCHURCH RD
03542	ELLIOTS		CRE	05643	CROWLEYS		WHITCHURCH RD
03543	KRAITHWAITE		cre	05741	GRAPEVINE (GEORGES)	39	whitchurch rd
03544	DAVIES,A		cre	05742	devonia		whitchurch rd
03545	BIDDLECOMBE		cie	05901	WINE CELLARS OF WALL		whitchurch rd
03546	NICHOLAS,I.G		cre	05941	PHILLIPS,A		whitchurch rd
03547	DAHENEY,R	230	cre	05942	UDP		WHITCHURCH RD
03611	HENRY,P.J		cre	06001	BOOTS		werthyr rd
03641	UNKNOWN		CRE	06201	LIPTONS	5	werthyr rd
03642	FRANKLIN		cre	06202	KWIKSAVE		werthyr rd
03643	PROLE,J.H		cre	06203	INTERNATIONAL	28	werthyr rd
03741	JONATHAN SCOTT		cre	06321	COOP	42	werthyr rd
03742	PHIL THE FISH		cre	06331	UNKNOWN		THE PHILOC
03801	batemans		cre	06341	POPATS		werthyr rd
03901	NEWSCARDS		cre	06342	HILLS		werthyr rd
03941	ZIO PIN WINES		cre	06343	WORTHINGS		werthyr rd
03942	UFF,S	154	cre	06441	BIRDS		werthyr rd
03943	HOSGOOD,S	238	cre	04501	DEWHURST	23	werthyr rd
03944	UNKNOWN		cre	04502	WOODLEY	29	werthyr rd
03945	THE LONDON SHOP		cre	04511	ATKINS,W		werthyr rd
03951	po canton		cre	04541	REES,J,K		werthyr rd
04000	UNKNOWN		CRYWS RD	04542	MORGAN,W		THE PHILOC
04101	LO-COST		cryws rd	04543	PAGE		werthyr rd
04331	UNKNOWN	?	cryws rd	04601	FERRARIS	10	werthyr rd
04341	MARKAS SUPERSTORE	132	cryws rd	04602	MERRETTTS	35	werthyr rd
04342	CARDIFF FROZEN FOODS	150	cryws rd	04641	EDDY S	79	THE PHILOC
04441	UNKNOWN	?	cryws rd	04901	NSS NEWS	68	werthyr rd
04442	STYLO,S		cryws rd	04902	COLORAMA diy		werthyr rd
04443	MIKE S FRUIT		CRYWS RD	04941	SWEETSHOP (358)	358	werthyr rd
04444	CRYWS GARDEN BASKET		cryws rd	04942	POYNERS DAIRY	48	THE PHILOC
04501	WOODLEYS	56	cryws rd	04943	FOREST FARM DAIRY	25	werthyr rd
04502	DEWHURST	.02	cryws rd	04944	WHITSONS news	31	werthyr rd
04511	UNKNOWN		cryws rd	04945	THE PHILOC PD		werthyr rd
04541	PRING,D	106	cryws rd	04946	JONES L.A. & E.J		werthyr rd
04542	HUTCHINGS,K	124	cryws rd	04947	STEPHENS		werthyr rd

06948	NEW ASIAN TAKE-AWAY		MERTHYR RD	12201	PRICERITE	7	caernarvon way
06949	MUSSEYS		merthyr rd	12321	CRS	2	caernarvon way
07001	WOOLWORTHS	31	clifton s	12341	DAVIES.L		caernarvon way
07201	FINE FARE	21	clifton s	12441	CONTES	93	caernarvon way
07202	PRICERITE	33	clifton s	12541	BUTCHERS (5 CW)	5	caernarvon way
07231	UNKNOWN		CLIFTON S	12542	JONES	105	caernarvon way
07341	LIAS	116	clifton s	12641	CAKE SHOP (3 CW)	3	caernarvon way
07342	UNKNOWN		clifton s	12811	BATEMANS		caernarvon way
07441	DAVIES.C.H	142	clifton s	12901	NSS NEWS	6	caernarvon way
07442	UNKNOWN	130	clifton s	13001	BOOTS		countisbury ave
07501	WOODLEYS	7	clifton s	13201	INTERNATIONAL		countisbury ave
07502	UNKNOWN		clifton s	13202	LIPTONS	15	countisbury ave
07511	UNKNOWN	15	clifton s	13321	COOP	18	countisbury ave
07512	EVANS.J.S&DANISH BAC	27	clifton s	13441	COUNTISBURY FRUIT SU		countisbury ave
07541	GRIFFITHS.M	116	clifton s	13442	MARKOS (NICROS)		countisbury ave
07542	PARSONS AND ROWLANDS	15	clifton s	13501	DEWHURST	11	countisbury ave
07543	SILVER.D	118	clifton s	13502	EVANS.J.S		countisbury ave
07544	LES MATHEWS	28	clifton s	13541	SWEETMAN	21	countisbury ave
07545	PELLATT.G	107	clifton s	13601	PICKWICK	10	countisbury ave
07546	TODD.J.W	117	clifton s	13611	MERRETTIS	20	countisbury ave
07547	UNKNOWN		clifton s	13741	DYERS		countisbury ave
07601	MERRETTIS	12	clifton s	13901	FORBOUYS	13	countisbury ave
07602	PICKWICK	10	clifton s	13902	NEWSCARDS	19	countisbury ave
07611	BRUTONS		clifton s	13903	GALLEON WINE		COUNTISBURY AVE
07641	MR IAN THE BAKER	115	clifton s	13911	JACO drapers	14	countisbury ave
07801	BATEMANS		clifton s	13941	WIGLEY.M CHEMIST		countisbury ave
07841	INDIAN DELICATESSEN		clifton s	14331	vg		harris ave
07901	THRESHERS wines	135	clifton s	14941	NEWSAGENTS		harris ave
07941	UNKNOWN		clifton s	15331	VC		llanrumney ave
07951	BARRON (CS)		clifton s	15332	LONDIS	6v	llanrumney ave
08201	PRICERITE	174	clare rd	15341	MAC		LLANRUMNEY AVE
08202	GATEWAY	185	clare rd	15541	FENGILLEY.R.C	65	llanrumney ave
08221	COOP	158	clare rd	15951	CLINIC CENTRE		llanrumney ave
08301	UNKNOWN	163	clare rd	16341	NEW ROAD GROCER	196	new rd
08341	GROCER (132)	132	clare rd	16541	DAVIS.M		new rd
08441	FRUIT SHOP (106)	106	clare rd	16542	DIRECT MEAT	192	new rd
08442	SEAKOURNES		clare rd	16911	DANKS & COUGH	194	new rd
08501	DEWHURST	156	clare rd	16941	GAPAGE		new rd
08541	MONKS.H		clare rd	17001	BOOTS		newport rd
08542	BUTCHER (180)	180	clare rd	17341	MILIORIZOS (RUMNEY H	756	newport rd
08601	MERRETTIS	148	clare rd	17342	CAWLEYS		newport rd
08611	SQUIRES	69	clare rd	17343	WARR.H		NEWPORT RD RUMNEY
08612	BRUTONS	104	clare rd	17441	THE ORCHARD	761	newport rd
08741	MOORCROFT.W		clare rd	17442	FOULKES.G.J	818	newport rd
08941	UNKNOWN	58	clare rd	17601	FERRARIS	775	newport rd
08942	SAUNDERS	154	clare rd	17641	GODSALL	828	newport rd
09201	INTERNATIONAL		maelfa	17841	GARNESS	769	newport rd
09202	LIPTONS	18	maelfa	17901	GARRODS	763	newport rd
09411	ORANGE GROVE	6	maelfa	17941	JONES NEWS		newport rd
09501	WOODLEY	10	maelfa	17942	NEWPORT RD PO		newport rd
09641	FORD.V (homemade bak	14	maelfa	17943	LLOYD NEWS		newport rd
09901	NSS NEWS		maelfa	17944	DYERS CHIPS		newport rd
09902	FORBOUYS	2	maelfa	17945	chinese takeaway		newport rd
09941	BRIAN PRICE CHEMIST		maelfa	17946	WINES GALORE		NEWPORT RD RUMNEY
09942	MAELFA PO		maelfa	17947	bhogal.g.s		newport rd
				17951	OAKLAND HOTEL		RUMNEY HILL
				18941	RICHARDS DAIRY	511	newport rd roath
				18942	WINES GALORE		newport rd roath
				19341	SPITTERI		wentloog rd
				19441	VEG SHOP		wentloog rd
				19541	HUTCHINGS.S	105	wentloog rd
				19542	COLEMAN		wentloog rd
				19941	wentloog rd offic		wentloog rd
				19942	wentloog rd news	94	wentloog rd
				19943	pick and chew		wentloog rd
				19951	wentloog rd minimkt		wentloog rd
10331	harris		burnham ave	20331	APT		clearwater way
10441	TURTONS	191	burnham ave	20441	LAKESTIDE SALAD BOWL	21	clearwater way
10541	SWEETMAN	187	burnham ave	20541	PALMER AND SON	31	clearwater way
10941	ROUCH NEWS	189	burnham ave	20641	LAKESTIDE GRANARY	37	clearwater way
11331	londis (cosmos)	69	caeglas rd	20901	FORBOUYS	23	clearwater way
11441	GREENS	73	caeglas rd	20902	ARTHUR COOPER	58	clearwater way
11541	SHELLARD.P.V	71	caeglas rd				
11901	GARRODS	67	caeglas rd				

20941	CHEMIST		clearwater way	35342	BUSHEL BASKET		caerphilly rd
20942	HARDWARE SHOP		CLEARWATER WAY	35343	WAYSIDE STORES	232	caerphilly rd
21231	SPAR	360	cyncoed rd	35344	unknown		CAERPHILLY RD
21341	ARGYLL STORES	2y3	cyncoed rd	35441	JOHN AND ROGER	95	caerphilly rd
21441	FIRTH.A	289	cyncoed rd	35442	HAMPSONS	121	caerphilly rd
21442	JOHN.J		CYNCOED RD	35511	WELSH BROS		caerphilly rd
21541	CYNCOED FARM PRODUCE		cyncoed rd	35601	MERRETT'S	125	caerphilly rd
21841	DELICATESSEN CYNCOED		cyncoed rd	35901	AUGUSTUS BARNETT	79	caerphilly rd
21901	NSS NEWS	287	cyncoed rd	35902	ARTHUR COOPER	493	caerphilly rd
21941	CYNCOED WINE	364	cyncoed rd	35911	jenkyn.r.g	111	caerphilly rd
21951	CYNCOED RD PO		cyncoed rd	35941	BRENDANS	108	caerphilly rd
22341	GROCER (KHY R)		hydypenau rd	35942	BIRCHCROVE	112	caerphilly rd
22342	CRANE.G (OVAL STORES		LLANDENNIS RD	35943	ANDREWS.P		CAERPHILLY RD
22342	JAMES.F.R (FR)		FIDLAS RD	35951	PETROL STATION		CAERPHILLY RD
22441	CROSSWAYS		heathwood rd	36331	spar		st isan rd
22541	STRONGS		heathwood rd	36441	KENS (MAYFAIR)		st isan rd
22941	PARKERS DAIRY	8	hydypenau rd	36541	REES.W		st isan rd
22942	MURCHELLS		heathwood rd	36641	DAVIES.L		st isan rd
22943	FIDLAS RD CHEMIST		FIDLAS RD	36941	GALLEON WINE		st isan rd
22951	IRONMONGERS		hydypenau rd	36942	AHMED		st isan rd
23331	unknown	3	clarendon rd	36943	power.m		st isan rd
23341	LLOYD-LEWIS.D		clarendon rd	37331	mace		thornhill rd
23541	CORURN.A.J	7	clarendon rd	37441	MILLSCHRIS		thornhill rd
23941	DEHALO WINE	5	clarendon rd	37541	unknown		thornhill rd
24000	typewriter shop		city rd	37901	NSS NEWS		thornhill rd
24331	SPAR		city rd	38331	vg		fishguard rd
24341	ENGLISH CONTINENTAL	66	city rd	38341	HILL.C		fishguard rd
24342	SARWAR		city rd	38541	MILLER.T.D		fishguard rd
24541	KROTOSIKY.A		city rd	39331	spar		heol llanishen fach
24901	CHANNINGS	2	city rd	39332	VG		heol llanishen fach
24902	CAMBRIAN UNITED DAIR	47	city rd	39541	REID.S		heol llanishen fach
24941	FRENCH WINE CENTRE	130	city rd	39941	WILLIAMS		heol llanishen fach
25331	mace	144	donald s	40321	COOP		station rd llanishen
25341	MUSCAT.M		donald s	40441	PHILLIPS		station rd llanishen
25342	DAVIES.J.R		donald s	40442	LLANISHEN FRUIT		station rd llanishen
25343	MINIMKT		donald s	40501	ROWCOTTS		station rd llanishen
25344	ADILS		donald s	40611	SQUIRES		station rd llanishen
25951	BARROW (DS)		donald s	40901	nss news		station rd llanishen
26341	DRAMS	70	kimberly rd	40941	KIMBERLEY NEWS		station rd llanishen
26342	OPSOLINI (KIMBERLEY	71	kimberly rd	41321	COOP		llangrannog rd
26441	CALWAN.F	72	kimberly rd	41441	PENROSE.A.J		llangrannog rd
26341	LADY MARY STORES	18	maryport rd	41541	JENKINS.T.G		llangrannog rd
28441	CROSBY.A		maryport rd	42331	londis		church rd
28541	BRISON		maryport rd	43201	INTERNATIONAL	8	heol y deri
28911	DEHALO WINE	20	maryport rd	43221	COOP (HYD)	11	heol y deri
28941	EVES NEWS	10	maryport rd	43231	spar	100	pantbach rd
29341	PENYLLAN HILL STORES	59	waterloo rd	43331	londis	123	heol y deri
29342	HILL TOP STORES	65	waterloo rd	43341	whalleys		pantbach rd
30341	MACS	51	cathays terr	43342	BRADDELEY	19	heol y deri
30342	ROBERTS.D.W	62	cathays terr	43343	DERI STORES (WR)	1	wenallt rd
30343	WESTGATE (WESTLAKE)		cathays terr	43344	EVANS (PR)	163	pantbach rd
30344	ITALIAN GROCER		cathays terr	43411	BIRDS	4	beulah rd
30345	WAVERLEYS		cathays terr	43412	BEST		park rd
30541	DOYLES		cathays terr	43441	RHIWBINA FRUIT (A.GI		heol y deri
30542	LLOYDS		cathays terr	43442	unknown		pantbach rd
31341	TEA STORES		salisbury rd	43511	ROWCOTTS	6	heol y deri
31342	EXINTARIS		salisbury rd	43541	SHIELDS.P	6	beulah rd
31343	SAUTO		SALISBURY RD	43542	RAYBOULD	15	heol y deri
31441	SALAD BOWL		salisbury rd	43601	PICKICK (SYLVESTERS	5	beulah rd
31541	FRATT.T		salisbury rd	43641	THE CABIN		HEDL Y DERI
31641	ROATH BAKERY		salisbury rd	43901	GARRODS		heol y deri
31642	GOLDEN RING BAKERY		salisbury rd	43902	arthur cooper		beulah rd
31941	IRONMONGERS		SALISBURY RD	43941	NEWSBOX		PANTBACH RD
32541	SUMMERHAYES.H		myverne rd	44331	mace		heol ffynnon wen
33341	GENERAL STORE		north rd maindy	44441	DAVES (JONES)		heol ffynnon wen
33901	LINFOOD CASH&CARRY		north rd maindy	44541	DAVIES.E		heol ffynnon wen
34231	spar		north rd gabalfa	44941	COTTRELL		heol ffynnon wen
34331	centra		north rd gabalfa	44942	SEASONS		heol ffynnon wen
34941	NORTH RD OFFLIC		north rd gabalfa	46341	TUTSELLS		hollybush est
35201	INTERNATIONAL	122	caerphilly rd	46541	LAVY AND SIMS		hollybush est
35331	MACE		caerphilly rd	46941	WILLIAMS NEWS		hollybush est
35341	WELSH FREEZER CENTRE	77	caerphilly rd	47341	GROCCRS (60 LONHC)		lon y celyn

47941	COLLINS	LUN-Y-CELYN	64442	TANTI	x
48000	bowden	park rd	64443	JONES (53) (CORP R)	53 corporation rd
48001	BOOTS	park rd	64444	DAISYS	PAGET S
48331	spar	park rd	64445	JOHNSON,K (60 MERCH	60 merches gardens
48341	malve-n confectioner	park rd	64446	parrys	paget s
48411	BESTS (PARK FRUIT SU	park rd	64541	KING,A.H (CORP R)	corporation rd
48541	JACKSON,R.H	park rd	64542	unknown	corporation rd
48542	LOWYS	park rd	64543	KELLY,P (130 PEN R)	130 penarth rd
48543	THOMAS	park rd	64544	HEDGES,J (PAGET S)	paget s
48941	JACKSONS NEWS	park rd	64545	BROOKINGS (PAGET S)	paget s
48942	ANDREW AND COURIER C	park rd	64546	BACCA,L (83 PAGET S)	83 paget s
49541	PEARSON,J,E	plas newydd	64641	MATHEWS	corporation rd
50341	GENERAL FOOD	plas newydd	64642	STOCKDALES	penarth rd
50441	woods	plas newydd	64741	YOUNGS	144 penarth rd
50941	STANSFIELDS	plas newydd	64742	GRANGE FISH BAR	penarth rd
51201	INTERNATIONAL	gabalfa ave	64901	THAYERS (PEN R)	247 penarth rd
51331	LONDIS	gabalfa ave	64941	NEWS (75) (CORNWALL	75 cornwall s
51441	GWYNNE,D,J	gabalfa ave	64942	KEARLEY AND TONGUE	penarth rd
51541	BUTCHER	GABALFA AVE	64943	LYNCH (CORP R)	corporation rd
51641	GABALFA BAKERY -	gabalfa ave	64944	NOBEL (PAGET S)	paget s
51901	GALLEON WINE	gabalfa ave	64945	MORGAN,D (PAGET S)	paget s
52301	LIPTONS	station rd llandaff n	64951	GRANGE MINTKNT	corporation rd
52331	VG	station rd llandaff n	66331	VG (140)	broadway
52341	PORTERS	station rd llandaff n	66332	unknown	broadway
52441	LLYMS FRUIT	station rd llandaff n	66333	apt	broadway
52442	GEOFFS	station rd llandaff n	66341	BROADWAY FOODS	broadway
52443	fruit bowl	station rd llandaff n	66342	MCDONALDS STORES	broadway
52444	top fruit co	station rd llandaff n	66343	SANDYS	broadway
02943	NEWSAGENT	83 albany rd	66344	ASH,D,M	broadway
58601	PICKWICK	wilson rd	66441	FORGET-ME-NOT	BROADWAY
59221	COOP	cowbridge rd west	66641	EDGECOMBE	broadway
59331	MAID MARION	cowbridge rd west	66642	COOMES	broadway
60101	PRICERITE*LO-COST	cre	66841	MAGIC BEAN BAG	broadway
60341	THE TRICO	cre	66941	JAUUCEY	broadway
60601	PICKWICK	cre	66942	GERRARDS	broadway
60951	ESSO GARAGE	CRE	66943	FRANCIS	broadway
61341	GROCERS	ROMILLY CRES	66944	GIRBS	broadway
61342	KEIRL,D	clive rd	66945	FERRIAM	broadway
61343	HOWELLS	clive rd	67331	spar	meteor s
61344	LAHTZOS,D (KINGS STO	severn rd	67441	DUFFYS (MS)	meteor s
61345	COLLINS,L,J	Kings rd	68331	NACE	carlisle s
61541	BUTCHER (73)	x	68332	VG	carlisle s
61641	LUKE,E	severn grove	68341	unknown	14 carlisle s
61841	BEANS N HERBS	KINGS RD CANTON	68342	OLLIN & WHITEHURST	36 x
61901	WINE SELLERS OF WALE	clive rd	68343	BEAN,G	splott rd
61941	STREET,J,R	clive rd	68344	IDAS	splott rd
62341	massai s & bernie	cathedral rd	68345	ROATH STORES	carlisle s
62441	THE FRUIT BOWL	cathedral rd	68346	CARLISLE MINTKNT	38 tweedsmuir rd
62541	BRISCOLL,D,J	cathedral rd	68441	unknown	27 x
62542	PURCELL	cathedral rd	68442	kakia	35 x
62601	pickwick	cathedral rd	68443	TRENORFA VEG SHOP	tweedsmuir rd
62841	JOES DELICATESSEN	cathedral rd	68444	BURTONS	35 splott rd
62941	THE CANDY BOX	cathedral rd	68541	WOODHOUSE butcher	15 carlisle s
62942	NEWS (233)	cathedral rd	68542	SHAPLAND,W,S	carlisle s
63241	MAH KIU CHINESE SUFE	tudor s	68543	PATYER BROS	carlisle s
63341	asian food stores	tudor s	68601	PICKWICK (REES)	carlisle s
63342	BOLWELL (MS)	wells s	68641	CARLISLE BAKERY	splott rd
63343	PATEL SELF SERVICE (	tudor s	68642	JANETS BAKERY	carlisle s
63344	EASTERN CULTURAL SER	x	68741	MOORCRAFT,W	splott rd
63441	HARRIS,G (WELLS S)	wells s	68911	cellars homebrew	carlisle s
64021	LEDS	penarth rd	68941	OFFLICENCE (25)	25 x
64101	INTERNATIONAL	penarth rd	68942	fish & chip shop	tweedsmuir rd
64341	unknown	96 cornwall s	68943	unknown	46 x
64342	SLOLEY,I	cornwall s	68944	williams	55 carlisle s
64343	farmers stores	cornwall s	68945	butt,j,s	147 carlisle s
64344	SULLIVAN (CORP R)	corporation rd	68946	chemist	tweedsmuir rd
64345	GRIFFITHS (CORP R)	corporation rd	69341	GHAFFER,A (CS)	coburn s
64346	MASONS STORES (PAGET	paget s	69342	YDRATH	WOODVILLE RD
64347	ARIN,S (PAGET S)	paget s	69441	MORGAN	WOODVILLE RD
64348	PHILLIPS,V, (PAGET S	paget s	69601	MERKETTTS (PP)	park place
64349	GANDY,J (PEN R)	10 penarth rd	69901	THORNTON CHOC	x
64441	FRUIT SHOP (51) (COR	51 cornwall s	69941	S.WALES NEWS	y

69942	NEEDS,A.C NEWS (NR)	woodville rd	76501	BAXTERS (TGA)	TY-GLAS AVE
70341	KHANS MINIMKT (AS)	arran s	76601	MERRETT'S	X
70342	YOUSEF,A (Y.ALI) (AP)	arran pl	76641	MEMORY LANE CAKES (H)	MAES Y COED RD
70343	PATEL,D (AS)	arran s	76642	BAKERS (SCR)	ST GILDAS RD
70344	GIALOPPOS (MP)	ackintosh pl	76941	nurden peacock	ty glas rd
70345	HIGGINSON (UKS)	upper kincraig s	76951	HEATH HOSPITAL SHOP	heath hospital
70346	amins (IP)	inverness pl	76952	EMERALDA (MYC)	MAES Y COED RD
70347	corner shop	cynfartha s	76953	NEWS (MYC)	MAES Y COED RD
70641	ADAMS BAKERS	arran pl	77000	TRAIDCRAFT	RHWIBINA
70841	SPICE OF LIFE WHOLEF	inverness pl	77911	ANDREWS AND COURIE C	heol y deri
70941	AGRAL	penylan rd	77941	SMARTS	HEOL Y BRYN
70951	BARROW (IP)	inverness pl	77951	CLINIC	heol y deri
71331	MACE (OFF CS)	OFF CLIFTON ST	78341	CORYTON STORES	coryton rise
71341	PRO-CUT (NR)	MARLBOROUGH RD	78342	ST.MARGARETS STORES	st margarets s
71342	SHEIKS	strathnairn s	78343	VELINCRE STORES	velindre rd
71343	CHRISTINES	strathnairn s	78344	SLADE	PARK CRES WHITCHURCH
71344	STEVES	strathnairn s	78345	OAKWAY (CR)	CORYTON RISE
71541	WILLIAMS	WATERLOO GDNS	78441	VEG SHOP	MAES GLAS
71951	PO (WC)	WATERLOO GARDENS	78442	WOODWARD (CollR)	COLLEGE RD
71952	MARLEY HOMECARE CENT	OFF NEWPORT RD	78443	austins	coryton rise
72541	TURTONS (BR)	BALL RD	78444	fruit shop	heol don
73000	GARAGE	ST MELLONS	78541	RIVERS,L (HILLIER)	coryton rise
73221	COOP	TROMBRIDGE EST	78542	JIMS	X
73341	TON STORES	X	78641	HONEYPOT BAKERIES	X
73541	JONES,G.K (TE)	TROMBRIDGE ESTATE	78741	williams.f	Kyle ave whitchurch
73888	FARM	ST MELLONS	78751	fish fryers assoc.	brook rd whitchurch
73951	ST.MELLONS PO	st mellons	78941	PARK CRES PO	PARK CRES
74201	LIPTONS	coed y gores	78942	CORNER SHOP (OCR)	old church rd
74221	COOP	bryn celyn	78943	PRINCES (FR)	FORELAND RD
74331	spai	glenwood	78944	SNF (BR)	BISHOPS RD
74332	LONDIS (WR)	WELLWOOD RD	78945	VICTORIA FISH & CHIP	OLD CHURCH RD
74341	MENG.C.S (BC)	BRYN CELYN	78946	MCULLAN & WIFE	KELSTON S
74342	LAVE,E.A (PENTWYN ST	X	78951	WHITCHURCH HOSPITAL	wells s
74343	TRINICKS (CW)	CHAPELWOOD	78952	CLINIC	BISHOPS RD
74344	GIBBONS,C (COED Y GO	COED Y GORES	79231	VG	COLWINSTONE S
74346	HIGHFIELD STORES (HK	HIGHFIELD RD	79331	MARLBOROUGH STORES	birchgrove
74347	Jewis meason	bryn celyn	79332	SPAR (CS)	COLWINSTONE S
74348	PENNSYLVANNIA STORES	pennsylvania	79341	SUCHAKS	COLWINSTONE S
74349	WERN GOCH STORES	wern goch	80941	LLANDAFF PO	X
74641	pentwyn bakery	bryn celyn	80951	CANTEEN	LLANDAFF
74841	delicatessen	penywan rd	81331	spar	NEVILLE S
74941	WINDMILL KIOSK (LRW)	LAKE RD WEST	81332	spar	atlas rd
74942	chemist	bryn celyn	81341	unknwm	ALBERT S
74951	MURSEY	ST EDEYRN RD	81342	BRUNSWICK STORES	X
74952	OVERHAWD HEALTH CEN	X	81343	REGAN,X (EP)	EARLE PL
75321	unknown	maindy rd	81344	STRATFORD,H (EP)	ETON PL
75341	EGGARS (BS)	BRITHDIR S	81641	LUKES	X
75342	indian grocer (ps)	PENTYRCH S	81941	NEWS SHOP	PENBROKE RD CANTON
75343	COSMESTON STORES	COSMESTON S	82841	THE COOK SHOP (PS)	PONTCAHNA S
75344	MALIKS (MAINDY STORE	lisvane s	83001	DODGE CITY	HADFIELD RD
75345	scotts corner shop (	FLORA S	83341	GROCERY	X
75346	radfords (gen stores	MERTHYR S	83342	PENLYNN STORES (BS)	BROAD S
75347	JONES (MS)	MAY S	83343	JONES,H.A (CS)	clive rd
75348	SCOTT (DS)	DALTON S	83344	GUY,A (HS)	HOLMESDALE S
75349	DIMOND (DS)	DANIEL S	83345	CARDIFF DEEP FREEZE	hadfield rd
75370	CATHAYS MINIMKT	X	83346	MO S	HUNTER S
75641	ADAMS,D (CS)	COSMESTON S	83611	KRUTON (HS)	HOLMESDALE S
75642	WOODHAM (NR)	MAINDY R	83641	AVONIA BAKERIES	grangetown
75643	CONTINENTAL BAKERS	FAIROAK RD	83941	WILLIAMS,T.J	X
75841	WHOLEFOOD SHOP	fitzroy s	83942	MOORDALE OFFLIC (AR)	AVONDALE RD
75941	EAST,R	X	83943	HEALTH DEPT (CR)	CURRAN RD
75942	MACATE	may s	83951	BESSENER RD MARKET	BESSENER RD
75943	BITTA (BS)	BRITHDIR S	84341	HERBERT ST FREEZER C	HERBERT S
75951	CLINIC	minny s	84541	SWIFTS (AS)	ADAM S
75952	BAKROW (TS)	TEMKESBURY S	84951	CARDIFF ROYAL INFIRM	cardiff royal infirmary
75953	THE SALVATION ARMY	may s	85021	LEDS	moorland s
76331	spar	ALLENSBANK R	85501	DANISH BACON CO	clydesmuir rd
76332	unknown	HIGHFIELD RD	85951	SANQUAHR OPEN MARKE	sanquahr s
76341	TOP SPOT	rhydheilig ave	87331	SPAR	radyr
76342	WILLIAMS,T.E (FR)	FIDLAS RD	87441	GREENGROCER	TONGWYMLAIS
76343	RHYDHEILIG STORES	rhydheilig ave	87641	HEWMANS	morganstown
76441	FRUIT MARKET (HK)	HEATHWOOD RD	87642	PARRYS	X

88000	fish fryers assoc	brook rd whitchurch	92741	FISH PENARTH (PAGET	PENARTH
88121	COOP (D)	DANESCOURT	92742	SADLERS FISH PENARTH	PENARTH
88331	MACE (MR)	MILL RD	92911	THAYERS	PENARTH
88341	KHAN,A (FR)	PETHYBRIDGE RD	93001	boots	barry
88342	SPINNING WHEEL (BD)	BEECHLEY DR	93100	supermarket llantwit	llantwit major
88441	YOUNG,B (CR)	CHESNUT RD	93101	FRESTO BARRY	BARRY
88442	RADYR COURT FRUIT (D)	DANESCOURT	93102	KWIKSAVE	BARRY
88443	MILL RD FRUIT	MILL RD	93103	TESCO BARRY (HOLTON	BARRY
88444	DAVIES (FG)	FAIRWATER GREEN	93221	COOP	COMBRIDGE
88641	BAKERS	danescourt	93222	coop	barry
88901	GARRODS (CR)	CHESNUT RD	93231	SPAR	BARRY
89331	GORMANS	HEOL POYSTON ELY	93232	spar	combridge
89541	underdown.c	sevenoak rd	93341	STONES	RHOOSE
90001	CARREFOUR	CAERPHILLY	93441	PRESS,H BARRY (HOLTO	BARRY
90002	ROOTS CAERPHILLY	CAERPHILLY	93442	H&M FRUITERER BARRY	BARRY
90003	tesco	caerphilly	93443	davies & bros	barry
90101	KWIKSAVE CAERPHILLY	CAERPHILLY	93444	GOVIER	HOLTON RD BARRY
90341	MINIMKT CAERPHILLY	CAERPHILLY	93501	woodleys barry (Holt	BARRY
90541	pughs (bartlett s) c	caerphilly	93502	BAXTERS	COMBRIDGE
90741	FISH SHOP	REDWAS	93541	VIC HOPKINS	BARRY
91001	ASDA NEWPORT	NEWPORT	93542	MONKS	BARRY
91002	LITTLEWOODS NEWPORT	newport	93601	hopkin morgan	barry
91003	BRITISH HOME STORES	NEWPORT	93602	PICKWICK	BARRY
91004	MARKS AND SPENCER NE	NEWPORT	93611	TAYLOR,J.G (JOHNS) B	BARRY
91005	WOOLWORTH NEWPORT	NEWPORT	93641	TOPSETT,F	BARRY
91006	ROOTS NEWPORT	NEWPORT	93642	BAKERY	COMBRIDGE
91007	MEDICARE NEWPORT	NEWPORT	93841	diamonds (bairy)	barry
91008	bejam	newport	93941	JOHNSONS BAKRY (RROA	BARRY
91009	safeways	newport	93951	pleasure park	barry
91060	SHOFFERS PARADISE NE	NEWPORT	94001	TESCO PORT TALBOT	FORT TALBOT
91101	TESCO NEWPORT	NEWPORT	94501	DEWHURST FORT TALBOT	FORT TALBOT
91102	KWIKSAVE NEWPORT (CO	NEWPORT	95001	TESCO LLANTRISANT	LLANTRISANT
91201	GATEWAY	NEWPORT	95101	GATEWAY CHURCH VILLA	CHURCH VILLAGE
91221	COOP	CAERLEON RD NEWPORT	95331	spar	talbot green
91231	SPAR	CAERLEON RD NEWPORT	95441	flew veg	llantrisant
91232	SPAR	COMMERCIAL S NEWPORT	95641	GRANARY CHURCH VILLA	CHURCH VILLAGE
91341	palmers newport	newport	95951	NURSERY	CREIGAU
91342	young.c	bassaleg	96951	MARKET PONTYFRIDD	PONTYFRIDD
91343	CHARLIES	BESSALEG	96952	MARKET MERTHYR TYDFI	MERTHYR TYDFIL
91344	cox	newport	96953	MARKET PONTYCLUN	PONTYCLUN
91441	SHEILAS NEWPORT	NEWPORT	96954	MARKET SWANSEA	SWANSEA
91501	DEWHURST NEWPORT (HI	NEWPORT	96955	MARKET SWANSEA INDOO	SWANSEA
91541	GATERWELL NEWPORT (M	NEWPORT	96956	MARKET ABERGAVENNEY	abergavenny
91542	WILDINGS NEWPORT (SH	NEWPORT	96957	MARKET GLOUCESTER	GLOUCESTER
91601	FERRARIS NEWPORT (SK	NEWPORT	96958	MARKET SWANSEA FISH	SWANSEA
91602	MERKETS NEWPORT	NEWPORT	96959	MARKET EXETER	EXETER
91611	oven door (caerleon	newport	96980	market	bath
91612	lovelis bakery	newport	96981	HEREFORD MARKET	HEREFORD
91613	avana	bassaleg	96982	LLANELLI MARKET	LLANELLI
91641	MR CRUSTY	RISCA	96983	market	penarth
91841	health shop	newport	96984	MARKET SHREWSBURY	SHREWSBURY
91911	thons	NEWPORT	96985	NEWPORT MARKET	NEWPORT
91941	coffee pot	newport	98000	CHESNEL	CRICKHOWELL
91942	ICE CREAM SHOP	QUEENSWAY	98001	WOOLCO CUMBRAN	CUMBRAN
91951	MIKT GDM	QUEENSWAY	98002	ASDA MERTHYR TYDFIL	MERTHYR TYDFIL
92000	TOPLAS	PENARTH	98003	woolworths	pontypridd
92001	WOOLWORTHS PENARTH (	PENARTH	98004	littlewoods	swansea
92101	INTERNATIONAL PENART	PENARTH	98005	marks & spencer	swansea
92201	liptons	penarth	98006	marks & spencer	cumbran
92231	MACE	LAVERNOCK	98007	littlewoods	carwarthen
92321	COOP PENARTH (LINDSO	PENARTH	98008	bejam	bridgend
92341	TENTILTEN DINAS POWI	DINAS POWIS	98009	marks & spencer	pontypridd
92441	ROBINSONS PENARTH (G	PENARTH	98060	ASDA	MORRISTON
92442	WARD,N PENARTH	PENARTH	98061	BEJAM	SWANSEA
92443	DAVIES,I	PENARTH	98062	woolworth	porthcawl
92444	MINI FRUIT MARKET	PENARTH	98063	woolworth	swansea
92501	DEWHURST PENARTH (WI	PENARTH	98064	BOOTS	ROSS ON WYE
92541	LASH	GLEBE S PENARTH	98101	SAINSBURYS CUMBRAN	CUMBRAN
92601	FERRARIS PENARTH (WI	PENARTH	98102	FINEFARE	abergavenny
92641	DIAMOND BAKERY	PENARTH	98103	TESCO SWANSEA	SWANSEA
92642	CORNERWELL PENARTH	PENARTH	98104	tesco	neath
92643	williams	windsor rd penarth	98105	TESCO PONTYFRIDD	PONTYFRIDD

98106	INTERNATIONAL CAMERA	CUMBRAN	99109	sainsburys	swindon
98107	KWIKSIVE PONTYPRIDD	PONTYPRIDD	99160	SAINSBURYS	HASTINGS
98108	fine fare	pontypridd	99161	SAINSBURYS	SEAFORD
98109	tesco	carwarthen	99162	fine fare	swindon
98121	LEOS	PYLE	99321	COOP KIDDERMINSTER	KIDDERMINSTER
98160	TESCO	LLANELLI	99322	CO-OP	OXFORD
98161	tesco	abergavenny	99323	COOP	BERKELEY
98162	TESCO	HAVERFORDWEST	99341	GROCCERS	TAMMORTH
98163	INTERNATIONAL	RHYDYFELIN	99342	GEN STORES	ST.AGNES CORNWALL
98164	presto	swansea	99441	FRUITIQUE BRISTOL	KRISTOL
98165	tesco	swansea	99442	FRUITSHOP TAUNTON	TAUNTON
98201	GATEWAY	SKETTY	99443	THE FARMHOUSE GLOUCE	GLOUCESTER
98202	GATEWAYS	TONTEC	99444	MANFREDS TEMKESBURY	TEMKESBURY
98203	GATEWAY	MONMOUTH	99445	BARROW WHITELADIES R	BRISTOL
98204	LIPTONS	MERTHYR TYDFIL	99446	greengrocer	cheltenham
98221	COOP	NEWBRIDGE GWENT	99447	MARSHALLS	SHREMSBURY
98222	COOP	MERTHYR TYDFIL	99448	greengrocer	sidaouth
98223	COOP	SWANSEA	99449	sanders	weston-super-ware
98224	COOP	ROSS-ON-WYE	99541	butchers	street
98225	LEOS	TAFFS WELL	99542	WARNERS	GLOUCESTER
98226	coop	monmouth	99543	BUTCHER	ST.AGNES CORNWALL
98227	COOP BRECON	BRECON	99641	DET DAWKIE HAUS BRIS	BRISTOL
98228	COOP NELSON	NELSON	99642	bakers	plymouth
98231	SPAR	PONTYCLUN	99643	baker	cheltenham
98232	SPAR	SWANSEA	99644	annes pantry	gloucester
98233	SPAR PEMBROKE	PENBROKE	99645	CHARLOTTES	CLIFTON BRISTOL
98234	SPAR (GORLAS) LLANEL	LLANELLI	99646	BAKER	BATH
98235	VG MARSHFIELD	MARSHFIELD	99741	fish shop	beer devon
98341	LITEBITE ABERGAVENNE	abergavenny	99841	HEALTH SHOP	STOW-ON-THE-WOLD
98342	DEL DISCOUNT MONMOUT	MONMOUTH	99901	MAYNARDS	TEMKESBURY
98343	PRINCES CAFE PONTYPR	pontypridd	99941	Higgins coffee merch	london w1
98344	sefton meadow frozen	taffs well	99942	ZOO SHOP	BRISTOL
98345	tea shop	brecon	99943	TROUT FARM	BROADWAY
98346	EVANS	HENGOED	99944	DAIRY	ST.AGNES CORNWALL
98347	D&J STORES	LLANBRADDOCK	99951	PUB	LYNDHURST
98441	GARDEN BASKET CUMBRA	CUMBRAN	99952	garage	temkeshire
98442	FRUITS OF THE WORLD	CHEPSTOW	99953	beer dairy	beer devon
98443	greengrocer	pontypridd			
98444	GREENCROCCER	SWANSEA			
98445	ggreengrocer	porthcawl			
98446	medilion	abergavenny			
98541	LLANELLI MEAT CO	LLANELLI			
98542	WILDING AND KENT CUM	CUMBRAN			
98543	tudor.j.e	bridgend			
98641	HOT BREAD SHOP SWANS	SWANSEA			
98642	JILLS HENGOED	HENGOED			
98841	WHOLEFOODS ROSS-ON-W	ROSS ON WYE			
98842	health shop	monmouth			
98901	COTTAGE CRAFTS	X			
98941	ROYAL CAFE CRICKHOWE	CRICKHOWELL			
98942	GAMBERINI PENYCRAIG	PENYCRAIG RHONDDA			
98943	college crafts	cross keys			
98944	health shop	monmouth			
98945	TAKE-AWAY	PORT EYNON			
98951	STALL	PORHCAML			
98952	DARE VALLEY CENTRE	aberdare			
99000	fortnum and mason	london			
99001	lewis s	liverpool			
99002	woolworths	swindon			
99003	MARKS AND SPENCER	SHREMSBURY			
99004	WOOLWORTHS	WESTON-SUPER-MARE			
99005	MARKS & SPENCER	GLOUCESTER			
99006	WOOLWORTHS	GLOUCESTER			
99007	BOOTS (CLIFTON DOWN)	BRISTOL			
99101	SAFEMAYS EALING	EALING LONDON			
99102	SAINSBURYS GLOUCESTE	GLOUCESTER			
99103	SAINSBURYS (CLIFTON	BRISTOL			
99104	international	bourton-on-the-water			
99105	SAFEWAY WIMBORNE	WIMBORNE DORSET			
99106	fine fare	cheltenham			
99107	tesco	barnstaple			
99108	WAITROSE	bournemouth			

NOTES.

- 1 This Appendix contains codes, names and addresses for all 'shops' for which codes were prepared, including all those reported as being used by panellists (see Section 6.1)
2. No significance should be attached to the use of capitals as opposed to lower case letters.
3. 'CRE' means Cowbridge Road East
4. 'Cryws Rd' is a misspelling of 'Crwys Road'

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