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Current developments in the UK rice market: 1994

Consumption and distribution

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Introduction

This paper updates and expands the information on the UK rice market, contained in past reports to be found in the survey of "Rice Consumption in Europe", published by INRA in 1991 and in the "Prospects for Rice Consumption in Europe", published in Verona University Conference Papers 1992.

The paper comprises the following two sections:

Section 1. The first section provides an overview of the UK market for rice. In particular it presents an account of the UK market size, structure and the main consumption trends, together with the major sources of rice imports into the UK. Secondary data is used for the analysis, principally the Economist Intelligence Unit Report on the Rice Market, supplemented by trade interviews where necessary. There is some discontinuity in the data due to measurement methods, but the differences are minor and do not materially affect the trends.

Section 2. In the second section the results of primary research dealing with the factors which influence the relationships of customers and suppliers, at different levels of the distribution of rice, are presented.

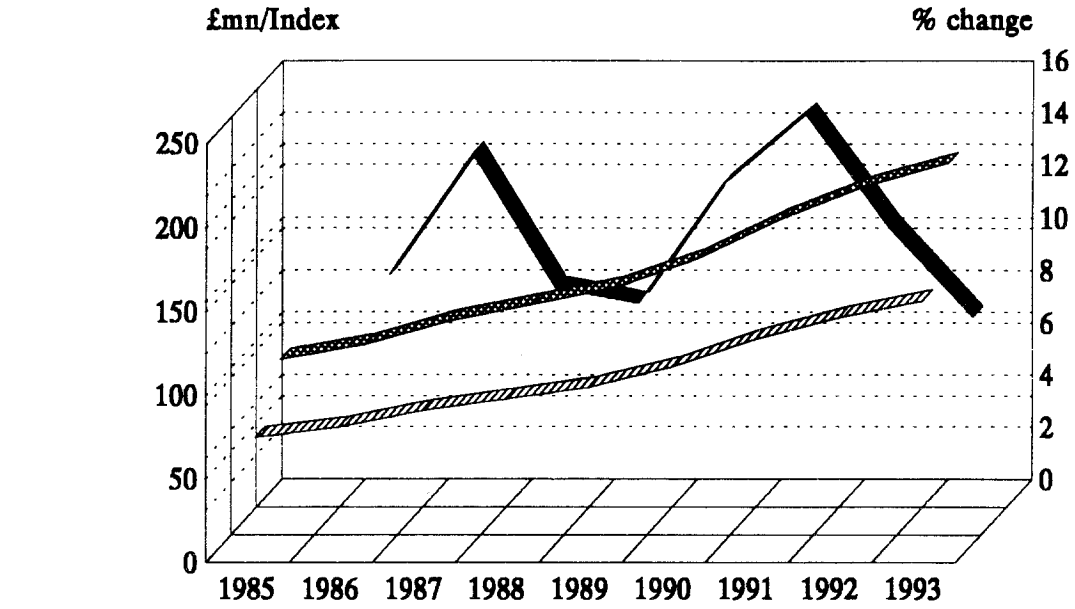
I – The UK market for rice

1. Market size

The market for rice, measured in terms of retail sales for 1993, is estimated to be now worth over £150mn, an increase of 7% on the previous estimate of £142mn in 1992 (*Figure 1*). The growth rate in the market appears to have increased from the small 'pause' recorded towards the end of 1989. The total retail market growth rate is influenced both by increased consumption and the trading up to higher added value products, although it is not possible to disentangle the two effects with any precision. Some of the growth rate in 1992 and 1993 could also be attributed to a small rise in import prices, influenced by poor harvests in the previous years in India first and then in the USA. Changes in consumption patterns are examined in a later section.

Retail sales breakdown by type reflects the innovations which have taken place since the last report and are presented in *Figure 2*. The resurgence of growth in savoury rice can be attributed to the new product development activity by the brand leader Batchelors. A range of delicately flavoured savoury rice was launched in 1991 at premium prices and the standard brand was relaunched. There have also been new entrants, for example Nestlé launched risotto recipes under the Buitoni brand, and a new brand Rice Choice was introduced by a leading own label supplier as a wholesaler brand. Short grain rice continues its long term decline, accelerated by the increasing availability of convenience rice puddings, for example Muller creamed rice and fruit or canned rice varieties. Major innovation in the long grain rice sector is in the development of higher added value rice blends, such as Thai jasmine rice and wild rice as well as greater convenience such as frozen rice. This sector is increasing rapidly especially with rice mixed with other vegetables or meat.

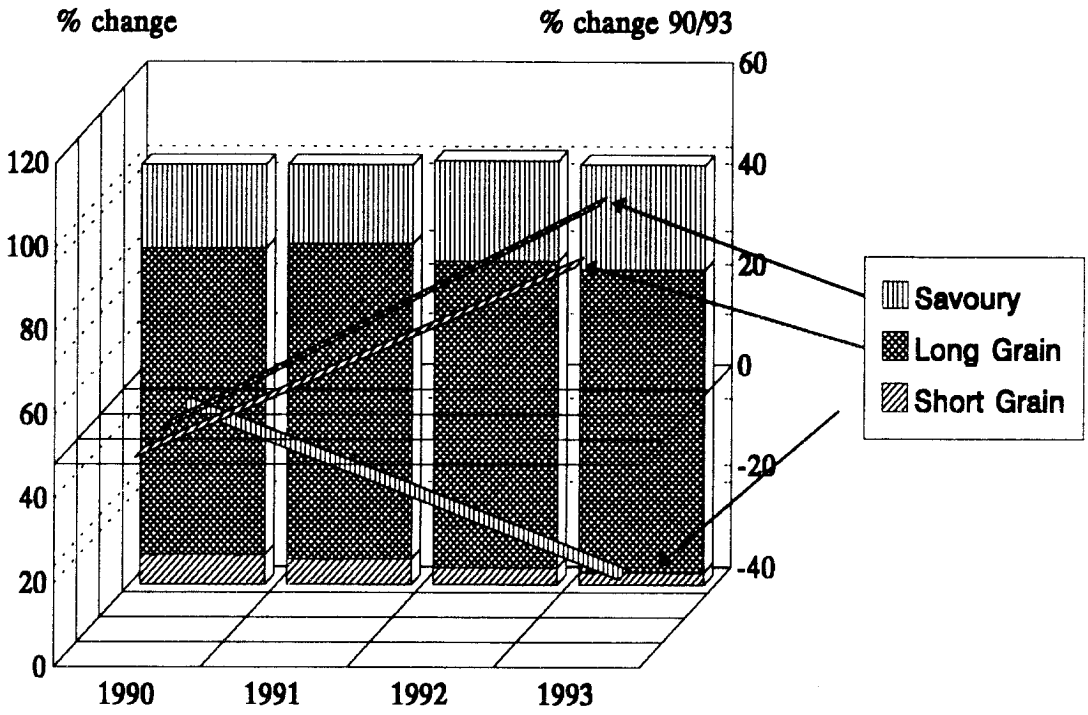
Figure 1. UK retail sales of rice 1985–1993



	1985	1986	1987	1988	1989	1990	1991	1992	1993
£mn rsp	70	76	86	93	100	112	129	142	152
Index	100	109	123	133	143	160	184	203	217
% Change		8.6	13.2	8.1	7.5	12	14.7	10.4	7

Source: Mintel/Retail Business & Kingston Estimates.

Figure 2. Share of UK retail sales of rice by type based on value estimates

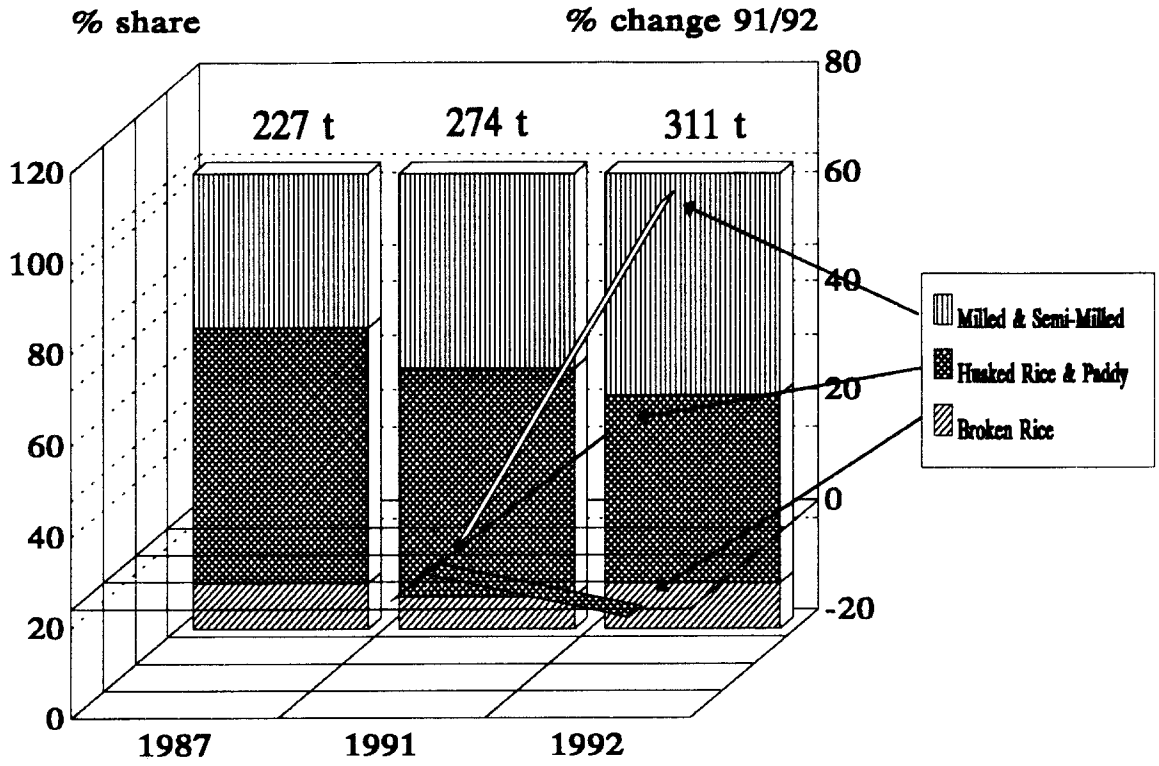


Source: Trade Estimates/Retail Business.

2. Supply structure

In 1992, 311,200 tonnes of rice were imported into the UK, which was a big jump in imports of 14% over 1991, compared to the slower import volume growth rates of around 2% to 4% of the previous four years (*Figure 3*). The level of re-exports also increased to 14,300 tons from 9,000 previously, leaving some 297,000 tons for domestic use. A comparison with 1987 and 1991 shows the relative changes in the composition of imports, with a large increase in husked and paddy rice at the expense of milled and semi-milled rice. Again it should be noted that the majority of re-exports are milled and semi-milled rice products to the EU. This data indicate a return to greater processing in the UK, but again, as in 1986, it is difficult to say whether this is a permanent trend. In value terms it should be noted that imports increased by 16% to a level of £137mn in 1992 over 1991, reversing a trend of declining relative rice import values since 1987. It has already been noted that this can be attributed in part to poor harvests and is expected to continue into 1993.

Figure 3. UK imports of rice – Volume (,000 tons)



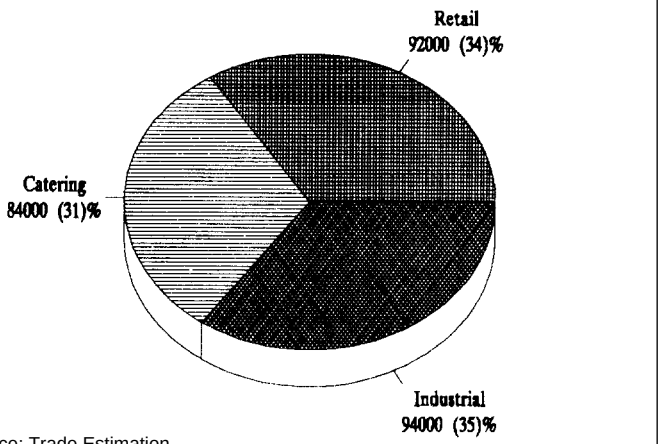
Source: Customs & Excise.

There are no major changes in the pattern of countries of origin for UK rice imports, although there are some changes in individual country shares. The European Community share of UK imports in volume terms accounts for 54%, while USA (12%) still remains ahead of India (11%) as the two other major suppliers. The USA is especially a main source of husked or paddy rice, while the European Community is of course the major source of milled or semi-milled rice. The major supplier of broken rice is Australia. The European Community suppliers are Netherlands (27%), which is back into a leading supplier position compared with Italy (16%), followed by Belgium (8%), and Spain (2%).

3. Destination of rice imports

Trade estimates of destination obtained by interview indicate that a third of the rice imported is used for industrial processing, mainly breakfast cereals (*Figure 4*). Some 45% of the remainder is consumed in the home and the rest of the consumption is accounted for by catering.

Figure 4. Destination of UK imports of rice – 1993 volume tons



Source: Trade Estimation.

Trade sources considered that nearly three quarters of the industrial use of rice was for breakfast cereals and other uses such as breadcrumbs or rice flour thickening. The remaining industrial use was for incorporation into convenience meals for retail sale.

The growth in importance of the retailers continues to increase as own label brand share rose to 65% by value of long grain rice in 1993 compared with 53% in 1992. The shares held by major branded and integrated producers Master Foods and Tilda fell to 28% from 33%. There is only one other branded rice, Whitworth, on the market with a small and declining share of now 2%, while the main manufacturer of savoury rice is Batchelors with a 8% share of the total market. Both these manufacturers source from mills.

The bulk of the market is sold under own brands of the retailers, supplied by rice millers through intermediaries or direct. The major own label supplier is Stevens and Brotherton, but this is an area where there are new entrants, for example *Rizière* Trading. This company entered the market in 1992, involved with importing, milling and supplying own label brands as well as marketing a brand of basmati rice. The specialty areas of frozen foods or rice varieties has seen new entrants and new brands in particular.

The real extent of the power of the multiples in the market place can also be seen through their share of total rice sales, which stood at 83% by value in 1992 increased from 75% in 1989. As previously noted the purchasing criteria of the major multiples has a major impact on the introduction of rice sourced from new regions/suppliers and their marketing practices largely determine the availability and sale of rice varieties, its packaging and promotion. In terms of product innovation they tend to follow the lead of Master Foods or Tilda, but then it is their decision to stock the brand and/or to specify a cheaper version own brand which has the impact on market volume. In this sense the market can be described as having entry barriers.

4. The consumer

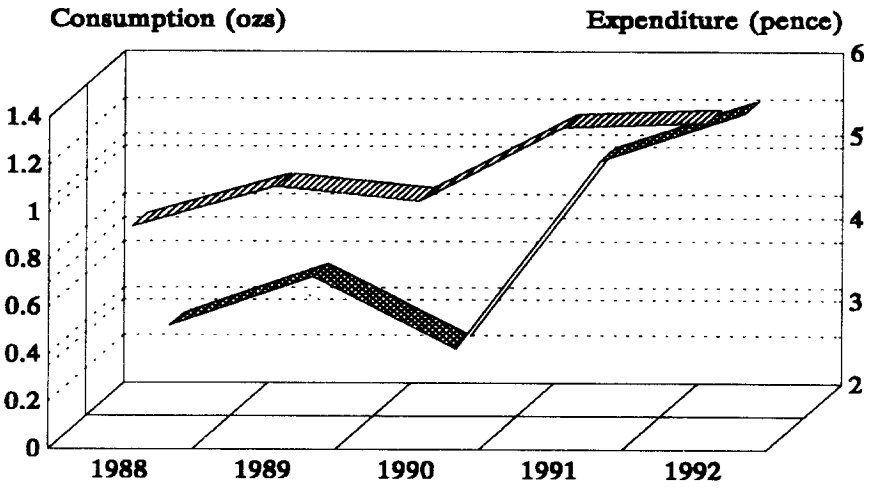
The per capita consumption figures derived from the National Food Survey confirm that weekly consumption of rice in real terms and expenditure continues to grow (*Figure 5*).

The growth rate of 50% in volume and 87% in value between 1988 and 1992 still leaves the UK consumer behind in the league of European consumers, but there is an indication that the growth, which had shown signs of slowing, has again accelerated. The factors behind this resurgence is attributed by Masterfoods and other commentators to the following:

- ❏ Growing realisation of rice as a health food ;
- ❏ The increased number and varieties of accompanying sauces has been a major dynamic factor as predicted ;
- ❏ A changing approach to planning menus from first deciding on the meat and then on the accompaniments to first deciding on the type of flavour, e.g. Mexican, Oriental, etc ;
- ❏ Changing pattern of emphasis in the diet away from meat to increased consumption of vegetables and carbohydrates.

The success of these factors in influencing rice consumption is related to the product innovations and marketing activity of the major manufacturers, as well as to Government publicity given to findings on healthy diets and influencing perceptions about carbohydrates and vegetables.

Figure 5. UK consumption and expenditure on rice – Weekly per capita



	1988	1989	1990	1991	1992
Consumption	0.9	1.07	1.01	1.32	1.34
Expenditure	2.97	3.56	2.69	4.97	5.54

Source: National Food Survey.

Prepared sauces which can be used specifically with rice have seen new manufacturers enter the market; Dalgetty Spillers entered in autumn 1993 with a well known brand, Homepride, and Sharwoods, owned by Rank Hovis Macdougal, entered with special rice sauces in 1992. Masterfoods also emphasises its range of Uncle Ben's sauces as the only advertising on television of the brand name. These sauces have increased the use of rice in terms of meal occasions due to their convenience factor.

Masterfoods in particular continues to concentrate promotional effort on consumer education, launching in 1993 the NutriTest, a computer package for consumers to use to learn about nutritional food values, assess their own intakes and have advice on how to achieve a healthy diet. Tilda also spend promotional budget on education with cook books and information leaflets.

However, the industry as a whole has set up the Rice Bureau to promote the values of rice in general especially in view of the competition rice faces from potatoes and pasta. The Rice Bureau is funded by the UK Rice Association, US Rice Council and Italian *Ente Nationale* and *Risi* and launched a cook book in autumn 1993.

In general the usual conclusion that the UK consumer is still relatively ignorant about the virtues of rice may still be true but major efforts are now being made to correct it. The question remains whether enough is being spent. The Rice Bureau is quoted in November 1993 in the trade press as saying that the UK market lags behind the US market by 5 years but is ahead of continental countries by three to five years.

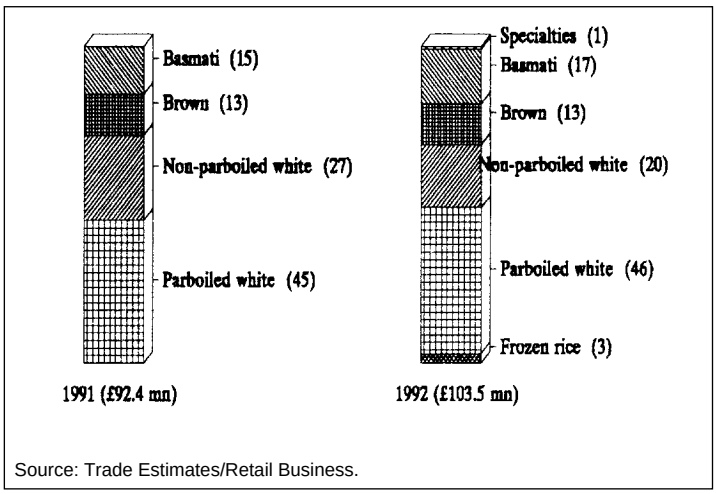
5. Demographic profiles

A recent study by Audience Selection of supermarket rice buyers commissioned by the Supermarketing journal in 1992 confirmed the demographic profiles already identified by previous studies of consumers by BMRB. The demographic profile of the consumer based on the BMRB survey of 909 housewives indicates a bias towards the upper socio-economic scale, working housewives, families with children and in the 25-34 age group. There is also a geographic bias towards the Southern half of the country. However the differences are not significantly large and over 50% of all categories had eaten rice in the home in the previous month.

6. Consumption trends

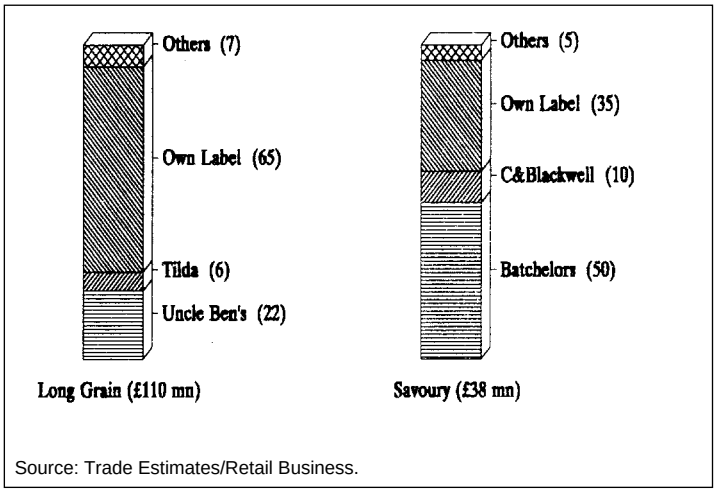
As already noted the long grain rice sector constitutes the growth engine of the market. The market breaks down into the types presented in *Figure 6*.

Figure 6. UK sales of long grain rice – Percent share by type



Source: Trade Estimates/Retail Business.

Figure 7. UK retail sales of rice – 1993 Percent brand share



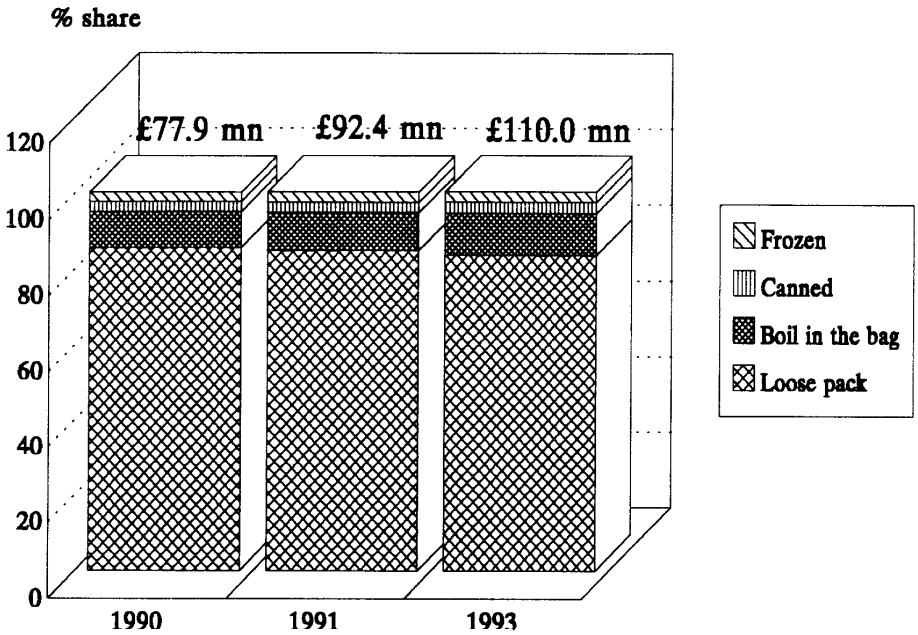
Source: Trade Estimates/Retail Business.

The dynamic sectors of the market reflect the product innovations already noted of specialty products and the extra convenience of frozen rice. Convenience products now account for half the market. Basmati rice segment continues to grow while brown rice maintains its share of the market. The brand shares of retail sales breaks down as illustrated in *Figure 7*.

The major changes in brand shares of the long grain rice segment since 1991 as already discussed has been the growth of own brands from 54% to 65% of the market by value and 75% of the market by volume. In the face of this onslaught Uncle Bens brand has marginally lost from 25% to 22%, but the major looser has been Tilda from 11% to 6% as the hardest hit brand. There is some evidence to show that Tilda share has not declined to the extent estimated by Retail Business, but the decline is reflection that own brands are now being launched in the specialty/ basmati rice range. In the savoury rice sector the own brand share did increase from 30% to 35%, but the major brand leaders held on to their share.

In terms of packaging rice is mainly sold loose in packs, which accounts for 85% of retail sales. The breakdown of long grain rice by type of packaging shows some growth in other presentations, but their shares of the market remain small at present (*Figure 8*).

Figure 8. UK retail sales of long grain rice by pack



Source: Trade Estimates/Retail Business.

II – Customer-supplier relationships in the UK trade of rice

1. The theoretical framework

It has frequently been noted that buyer-seller or customer-supplier interdependence is a crucial characteristic in business marketing (Webster, 1991), i.e. that business firms establish customer-supplier relationships which are often close, complex and frequently long-term. Customer-supplier relations can be examined with reference to the interaction approach as developed by the IMP group (Cunningham, 1980) as well as concepts drawn from the 'New Institutionalists' within economics (Williamson, 1975).

The interaction approach provides the theoretical framework of this study and it proposes that customer-supplier relationships take place between two active parties as compared to the more traditional view of marketing which analyses the reaction of an aggregate market to a supplier's offerings. It also considers that either customer or supplier may take the initiative in seeking a partner (Ford, 1990). Thus, business marketing and purchasing can properly be described as the 'management of customer-supplier relationships' over time, and consequently the focus should be on the customer-supplier dyad (Morris, 1992).

Existing research indicates that there are four sets of components or variables which determine the workings and results of any customer-supplier dyad: relational variables, social structural variables, social actor variables, and normative variables (Bonoma et al, 1978). It is furthermore argued that such relationships evolve over time (Gross et al., 1993), and Hakansson (1982) has proposed that the relationships development process consists of five stages: the prerelationship stage, the early stage, the development stage, the long-term stage and the final stage. At the same time, there is evidence to suggest that the importance of the factors which define such relationships changes as one moves along the business chain (Simitiras & Ahmed, 1993).

It is the work by Simitiras and Ahmed and in particular their 1994 study which provided the background for the research presented here. Their study, dealing with the nature of relationships at the upstream level of Greek rice farmers, identified sixteen variables which were considered important in determining, i.e. both creating and maintaining, a business relationship. The study presented here makes use of the research methodology followed and extends the findings presented by the above authors.

2. Aim and Objectives

The main aim of the research is to examine the importance of the variables involved in determining customer-supplier relationships at three different levels of the UK market for rice. The three levels were chosen so as to reflect distinct stages in the distribution chain and represented millers/importers, manufacturers and retailers of rice products.

More specifically the objectives of his study are:

- ❏ To determine possible differences depending on whether the relationship is viewed form an upstream (i.e. importance placed by customers in their relationships with suppliers) or a downstream (i.e. perceived importance of suppliers in their relationships with customers) perspective;
- ❏ To examine the relative importance of those elements which are viewed as determining the customer-supplier relationship;
- ❏ To determine whether the importance of the variables under investigation changed along the distribution chain (i.e. existence of significant differences between the three levels);
- ❏ To identify whether the variables under consideration form reliable underlying dimensions and establish their internal consistency and relative strength and importance.

3. Methodology

The data gathering instrument employed was the one developed by Ahmed and Simitiras (1994) and it comprised the following multi-purpose set of sixteen variables *(Table 1)*.

Table 1. List of variables influencing customer-supplier relationships

Product consistency	Price
Cooperative attitudes	Privilege information
Credit policy	Product quality
Empathy	Reliability
Flexibility	Respectability
Friendliness	Responsiveness
Likability	Service
Personal relationship	Trustworthiness

Parallel research, telephone interviews, was carried out at three distribution levels within the UK market for rice. The respondents were requested to indicate the importance of each variable on a 5-point scale, where 1 stood for 'not at all important' and 5 for 'extremely important'. In total fifty six interviews were conducted and the breakdown, by type of respondent's firm, was as follows:

Millers/importers:	30
Manufacturers:	14
Retailers:	12

Millers/importers and manufacturers of rice products were requested to evaluate the importance of the variables under investigation twice: once for their suppliers (upstream) and once for their customers (downstream). The retailers were asked questions only about their relationships with their suppliers. To avoid possible bias the order of presenting the variables was randomised between respondents.

4. Analysis and results

The importance of the sixteen variables in determining the customer-supplier relationships is presented in *Table 2*. The column headed as Suppliers provides the upstream importance of the variables (i.e. the importance that respondents placed in their relationship with their suppliers) while the Customers column presents the downstream importance (i.e. the importance that respondents placed in their relationship with their customers).

In order to examine the difference in the perceived importance of the sixteen factors, a series of t-tests for paired samples was performed. The results indicated significant differences only in four of the sixteen variables, these were 'Likability', 'Price', 'Privilege information' and 'Trustworthiness'. For each of these variables we can see that the suppliers' values (upstream) were higher than the corresponding customers' (downstream) values. This indicates that the respondents were more demanding in their relationship with their suppliers and less so when they were considering their customers.

Conclusion 1. The results suggest the existence of overall similarities in the importance of the relationship determining variables when viewed from a downstream and upstream perspective. Nevertheless, it is also suggested that the respondents were more demanding when considering upstream relationships.

Table 2. Perceived importance of variables influencing customer-supplier relationships

Variables	Mean		t-test 1 tail-sig
	Suppliers	Customers	
Product consistency	4.44	4.17	.071
Cooperative attitudes	3.88	3.65	.146
Credit policy	4.11	4.33	.190
Empathy	3.29	3.29	.500
Flexibility	3.94	4.17	.052
Friendliness	3.28	3.55	.119
Likability	3.23	1.43	.004
Personal relationship	3.89	4.11	.080
Price	4.67	4.39	.043
Privilege information	3.89	3.17	.003
Product quality	4.39	4.33	.402
Reliability	4.44	4.50	.300
Respectability	3.67	3.83	.140
Responsiveness	4.17	3.94	.127
Service	4.05	4.22	.155
Trustworthiness	4.61	4.17	.026

Given that no differences were identified between upstream and downstream, levels the upstream dataset provided the basis for the reset of the analysis (this was mainly so as not to eliminate the retailers' answers). Analysis was carried out in order to examine whether significant differences existed between the variables, between the three levels of distribution and whether there was evidence of interaction effects. A summary of the ANOVA is presented in *Table 3* where we can see that there were no significant differences between the levels of distribution ($p<0.267$), while significant differences existed between the variables ($p<0.00$) and there is also evidence of interaction effects ($p<0.034$).

Table 3. ANOVA results

Source of variation	Sign of F
Main effects of:	
Variables	.000
Distribution level	.267
Interaction effects	.034

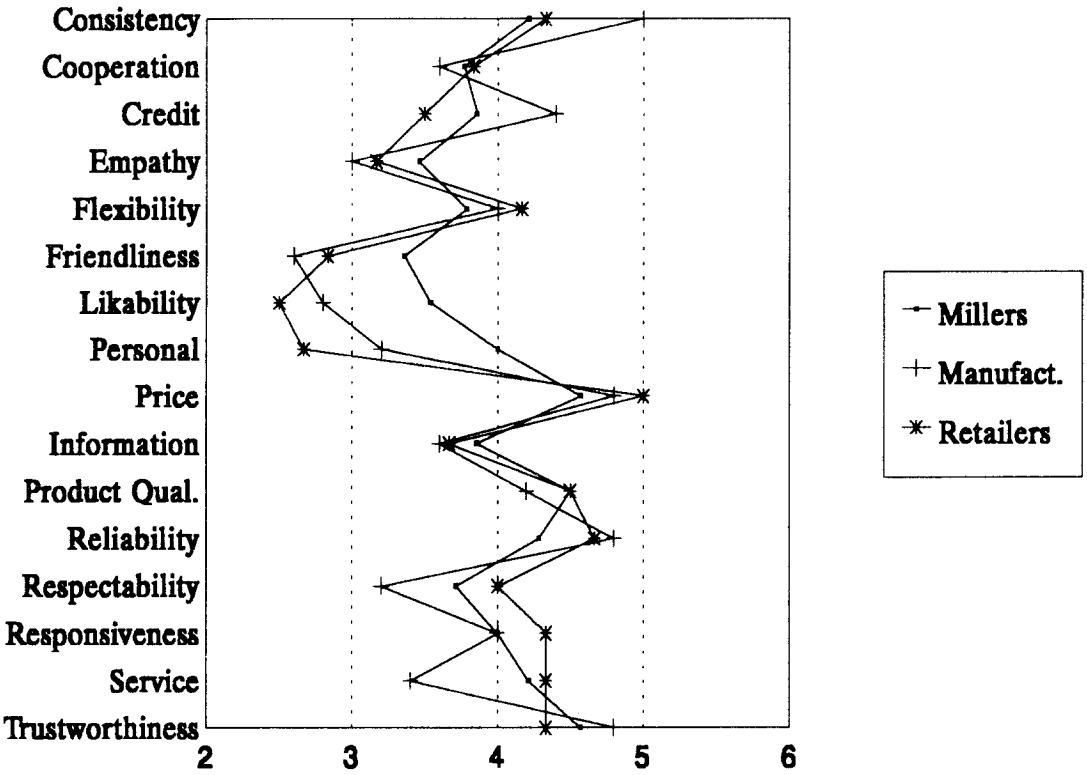
Examination of the differences between the variables (LSD option of multiple comparisons) revealed the existence of three groups *(Table 4)*. We can see that soft/personal variables were rated as having the lowest importance while hard/product related variables were rated as having the highest importance.

Table 4. Importance of variables

Group A (lowest importance):	Friendliness, likability, empathy, personal relationship
Group B (middle importance):	Service, cooperative attitudes, respectability, responsiveness, flexibility, privilege information, credit
Group C (highest importance):	Product consistency, product quality, reliability, trustworthiness, price

As for the interaction effects, *Figure 9* illustrates that there was greater agreement for Group C variables (e.g. Product consistency) while there were some notable differences for Group A variables (e.g. Likability).

Figure 9. Importance of variables by level of distribution



Conclusion 2. The variables appear to be differentiated into three groups. Those which predominantly represented personal relationships are viewed as least important while those dealing with tangible or product elements are the most important.

Conclusion 3. There is very little evidence to suggest that the importance of the variables under consideration varied along the distribution chain.

Based on the apparent lack of significant differences between the three distribution levels, it was decided to proceed with analysis on an aggregate level. In order to identify the underlying dimensions of the variables which were perceived to be important by the respondents the sixteen variables were factor analysed. The authors are aware of the limitations of the present dataset (Hair et al., 1992) and the objections raised against factor analysis (Ehrenberg & Goodhart, 1976; Stewart, 1981) but given the investigative nature of the study it was felt that the approach provided a useful insight into the subject. The principal component extraction method and varimax rotation were chosen and the final solution is presented in *Table 5*. The chosen solution, based on the suggested rule of latent roots greater than 1, indicates the existence of five factors which collectively accounted for a satisfactory 84.4 percent of the variance. Furthermore, the communality column provides further evidence of the overall sufficiency of the solution (i.e. with the exception of 'Credit policy' all other variables exhibit communality values greater than .75).

Table 5. Varimax - Rotated Principal Component Statistics

Variables	Communality	Factor	Eigen value	Pct of Var	Cum Pct
Product consistency	.9100	1	6.12	38.2	38.2
Cooperative attitudes	.8154	2	2.42	15.1	53.3
Credit policy	.6255	3	2.21	13.8	67.2
Empathy	.8855	4	1.55	9.7	76.9
Flexibility	.8044	5	1.21	7.6	84.4
Friendliness	.9580				
Likability	.7500				
Personal relationship	.8296				
Price	.8422				
Privilege information	.8022				
Product quality	.9320				
Reliability	.8843				
Respectability	.8965				
Responsiveness	.8022				
Service	.8710				
Trustworthiness	.9022				

Having established that the analysis has provided a stable solution examination of the Varimax-rotated factor loading can be performed *(Table 6)*. Although there is evidence of some crossloading for 'Privilege information' and 'Product quality' these two variables have been retained for completeness. The first factor, accounting for 38.2 percent of the solution can be labeled as Interpersonal or Intangible Criteria. This factor contains six variables which represent soft relationship issues, such as personal and qualitative determinants of a relationship. The second factor accounts for an additional 15.1 percent of the variance and is labeled as Integrative Criteria since the four variables which make up this factor are related to the supplier's willingness or ability to go beyond minimal actions in meeting customers' expectations. The third factor accounted for 13.8 percent of the variance and is labeled as Relationship Monitoring Criteria and comprised two variables. The fourth factor which comprised 'Price' and 'Credit policy' accounted for less than 10 percent of the variance and, not surprising, is termed Price Criteria. Finally, the fifth factor accounted for another 7.6 percent of the variation and since it included variables related to hard criteria such as 'Product quality' and 'Product consistency' is termed Product Criteria.

Table 6. Varimax – Rotated Principal Component Loadings

Variables	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Product consistency	0.170	0.233	0.252	0.111	***0.866***
Cooperative attitudes	0.113	***0.872***	0.200	0.001	0.035
Credit policy	-0.131	0.179	-0.162	***0.678***	0.302
Empathy	***0.773***	0.073	0.531	0.026	0.001
Flexibility	0.019	***0.812***	0.351	0.007	0.148
Friendliness	***0.653***	0.477	-0.330	-0.151	0.415
Likability	***0.660***	0.199	0.312	-0.380	0.178
Personal relationship	***0.759***	0.389	0.085	-0.238	0.194
Price	0.093	-0.114	-0.045	***0.898***	-0.110
Privilege information	0.293	***0.567***	0.300	0.534	-0.138
Product quality	0.607	-0.235	0.159	-0.094	***0.689***
Reliability	0.123	0.293	***0.734***	-0.027	0.494
Respectability	***0.846***	0.257	0.177	0.209	0.198
Responsiveness	0.179	***0.868***	-0.084	0.017	0.090
Service	***0.819***	-0.116	-0.225	0.368	-0.013
Trustworthiness	0.095	0.162	***0.912***	-0.153	0.108

The derived scales appear to possess considerable internal consistency (*Table 7*). Of the five scales only Price exhibited an alpha value lower than the widely employed threshold of .70 (Churchill, 1979). On the other hand if Nunnally's (1967) suggestion of accepting any alpha values over .50 is followed all scales

are viewed as providing reliable measures. It is, nevertheless, interesting to note that those scales which represent the softer elements of relationships, i.e. Interpersonal, Integrative and Monitoring, appear to be more reliable indicators than the harder ones. These findings support earlier results presented in *Table 4*.

Table 7. Internal Consistency of Scales

Scale	No of items	Weighted mean	Cronb. Alpha
Interpersonal	6	3.48	0.880
Integrative	3	3.88	0.838
Monitoring	2	4.52	0.808
Price	2	4.29	0.556
Product	2	4.42	0.761

In order to examine possible differences in the perceived importance of the five factors, t-tests for paired samples were performed *(Table 8)*. The results indicate that with the exception of Price and Product there are statistically significant differences between all other criteria (all significant at $p<0.005$). Based on these results we can derive the following ascending order of importance:

- ❏ Interpersonal criteria
- ❏ Integrative criteria
- ❏ Price criteria & Product criteria
- ❏ Monitoring criteria.

Table 8. Comparisons of scales

Scale	Means	t-test	1 tail-sig
Interpersonal - Integrative	3.48 - 3.88	-6.66	***
Interpersonal - Monitoring	3.48 - 4.52	-18.95	***
Interpersonal - Price	3.48 - 4.29	-8.03	***
Interpersonal - Product	3.48 - 4.42	-17.27	***
Integrative - Monitoring	3.88 - 4.52	-23.78	***
Integrative - Price	3.88 - 4.29	-4.62	***
Integrative - Product	3.88 - 4.42	-20.73	***
Monitoring - Price	4.52 - 4.29	2.69	**
Monitoring - Product	4.52 - 4.42	11.18	***
Price - Product	4.29 - 4.42	1.53	ns

*** Significant at 0.001; ** Significant at 0.005; ns = Not significant

Conclusion 4. The above provide clear evidence of the existence of five underlying dimensions which define business relationships within the UK market for rice.

Conclusions

The following are the main conclusions that can be drawn from the above discussion:

- ❏ Rice consumption is still increasing in the UK at the rate of 5% per annum at constant prices.
- ❏ There is room for further growth from the current estimates of domestic consumption of 1.34 ozs per capita per week.
- ❏ Growth is mainly in the long grain sector, which has been stimulated recently through the introduction of new products and product varieties.
- ❏ Masterfoods continue to increase promotional expenditure aimed at consumer education. In their efforts they have been joined by Tilda and more recently by the Rice Bureau.
- ❏ Competition between the retailers encourages interest in value added products and has resulted in an increased market share by 'own brands'.

- ❏ There evidence to suggest existence of overall similarities in the importance of the relationship determining variables when viewed from a downstream and upstream perspective.
- ❏ The customer-supplier relationships within the UK market for rice appears to be determined by the following five dimensions (ascending order of importance): Interpersonal Criteria, Integrative Criteria, Price Criteria, Product Criteria and Monitoring Criteria.

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