PRICES OF CHARACTERISTICS FOR KNITTED PRODUCTS AT RETAIL IN MELBOURNE*

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Markets seldom, if ever, reflect basic economic theory which views them as having a simple stable structure - competitive or monopolistic - and trading in homogeneous products. Rather, markets are replete with varying structures, in which price takers become price makers and the reverse and sporadically engage in price discrimination, product differentiation and amalgams of both. The price and non-price offers of retail firms are as complex as the variety of products they sell, the market segments they face, and the composition of each product in their range.

Product differentiation and price discrimination which it makes possible are not, however, engines of market inefficiency but may be conducive to a product-mix which may not be achieveable under competitive conditions unless information is indeed readily available and costless. Our understanding of how a potential improvement may be achieved in the product mix is enhanced when we view products as sets of characteristics as proposed in various ways by Waugh (1928, 1929), Theil (1952), Houthakker (1952), Lancaster (1966a,1966b,1971) and Stigler and Becker (1977). Product variety reflects the search for a match between the quantity and nature of the characteristics which are imparted to products by entrepreneurs and the quantity and mix of characteristics demanded by consumers. As Ladd (1982) has argued, "the idea of 'product', 'good', or 'service' is a basic or primitive concept."

The contribution of search to markets by producers and consumers involve costs to both, and market participants continually seek means of economising on these costs. Institutions such as grading, branding, labelling, promotion and clientele relationships develop to achieve economies and their emergence influences the profit-maximising pricing practices of retailers.

The nature of these institutions enables us to 'extend' the specification of product characteristics to the shopping environment and perhaps to include the expected characteristics of consumers as indicators of the product and shop characteristics which consumers prefer.

A simple model of additive implicit prices of 'extended' product characteristics is developed here and implicit prices are estimated from cross sectional data on retail prices for men's and women's knitted garments in Melbourne.

As with many empirical papers, cited by Ladd (1982), which use hedonic prices or shadow prices of characteristics reference is made here to the work of Lancaster (1971), Muth (1966) and Stigler and Becker (1977) but, as yet, the nature of the theoretical support provided is tenuous.

The principal application of knowledge about implicit prices is that products may be designed to attract optimal prices by imparting to them optimal mixes of characteristics, Ladd and Martin (1977). By identifying characteristics which are imparted to the product at point of sale, account can be taken of shop and consumer characteristics which have been neglected because they have not been properly viewed as subtle forms of product characteristics. (A contrary view can be found in Griliches (1971).

Taken in this light, market research and demand analyses become profitable since they are likely to improve production efficiency and consumption efficiency and to reduce business failure which arises from errors in the choice of the characteristics-mix in products. As Ladd (1982) and Ladd and Zober (1977) argue, 'if the price of the product exceeds the marginal

money value of the product's characteristics, the product is not worth what it costs; and it is not purchased.'

In the retail market where product differentiation extends to characteristics of the shopping environment consumers are price takers and retailers vary the price and non-price components of their offer by changing the level of their markups in such a way that the implicit markup for characteristics, in the simplest case, is equal to minus the inverse of the price elasticity of demand for the characteristic.

Retailers thus practice a form of price discrimination which rests on product differentiation - different mixes of characteristics of products, shops and shopping experience.

Markups which reflect these differences emerge from the profit-maximising, product differentiating activities of manufacturers and retailers. Avoidance of the prescription of Ladd is therefore conditional on the retailer's capacity to identify adequately the range of characteristics embodied in the product and to modify the equilibrium markup to account for cross effects in the shop.

In the retail environment there are a number of product, shop and consumer characteristics which contribute to the level of product price which is sustainable by individual retailers and in the product market as a whole. This paper is concerned mainly with the nature of these characteristics for a restricted product range. The analysis is based on the use of cross-sectional data derived by observation and by a questionnaire administered to specialist and multi-product retailers. The study is a largely empirical attempt to obtain an understanding of the contribution of 'product' and 'shop'

characteristics to the level of sustainable retail prices for knitted garments in Melbourne.

Two categories of product characteristics may be distinguished, those which are objectively measurable (quantifiable) and characteristics which satisfy sensory or other subjective perceptions. However, to perform any evaluation of the products, the consumer is assumed to attach a certain, individualistic, weight to each characteristic. Hence it can be suggested that utilising the valuation of various characteristics embodied in the product a 'quality hierarchy' may be developed.

It is consistent with this view that consumers consider not only the product attributes but also the characteristics of the shopping environment. Thus by considering these two broad attributes jointly, some inferences about relative importance in influencing consumer preferences may be drawn. It may be argued that a rational retailer aims his activities at the harmony of the offer of product characteristics, services (in terms of personnel, real services provided, interior of the shop) with socio-demographic characteristics of the area in which the shop is located and so develops a concept of a 'product in the broad sense' comprising all of these characteristics.

This study is aimed at an improvement of understanding of the pricing decision process by pursuing some determinants of the consumer's responsiveness to the retailer's price and non-price offers. The retailer's success depends, to a considerable extent on the responsiveness of the customer. The retailer's capacity to price according to the consumer's valuation of product characteristics, and to identify the optimal proportion of relevant characteristics in the product range, may help to overcome

discrepancies between producers' and consumers' valuations by reducing the costs of search.

The view adopted here is in accordance with the suggestion of Dalrymple and Thompson (1969) that it is reasonable to assume that consumers select shops in much the same way as they select products. They argue that whatever significance may be attributed to the product must be affected by the conditions under which it is obtained. It seems fairly certain, in their view, that shops and products in them are rarely viewed in isolation. Martineau's (1958) description of 'store image' - "the way in which the store is defined in the shopper's mind, partly by its functional quality and partly by psychological attributes" - may be, to some extent, regarded as support for the concept of 'joint' product characteristics adopted in this study.

A simpler view is that of Parish (1967) who suggests that grading of product (and hence segregation of product with different sets of characteristics), may be achieved by stores 'grading' or identifying themselves as locations where products with identified sets of characteristics may be obtained. As Stigler (1961) points out - identification is one of the major costs of search.

Consumer shopping behaviour may, to a degree, be based on 'store image' and fashioned according to forces among which price may not be a dominant factor. The consumer may search for a retailer who best matches his choice, in terms of quality, style range, appeal, and location,[1] for he may put more

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[1] Friedman (1983) points out that the location at which a product is sold may be an aspect of the product itself. Rather than being identical two products from different locations are differentiated according to a locational characteristic.

emphasis on the valuation in terms of his satisfaction through values like being admired, or being different from or similar to others. The concept may be especially important with 'shopping' goods like clothes where the 'comparison' element in shopping is very important.

The argument may take the approach that one way people show their individuality is in the choice of clothes. (We are all snobs at heart.) Important consequences may emerge from the fact - the demand for 'specialty shops' and 'up-market' outlets offering exclusive high quality products. It may be an important feature of the structures of the retail clothing market structure that a rational retailer is expected to alter the hierarchy of factors in his strategy with respect to consumers' observed incentives and respond readily to consumers' wants. By implication, some weakening in the power of price, as the critical factor of market performance, emphasized in the traditional economic theory, is to be expected. Non-price factors are explicitly recognized and play an important role as subtle forms of prices or implicit prices of characteristics.

Considering the preceding assumptions it can be suggested that retailers rank themselves and price their products in the market, in accordance with 'quality', in terms of the quantitative and qualitative characteristics, of their offer. By analogy, consumers may rank themselves in a 'social hierarchy'[2] which is disclosed by their purchasing behaviour.Thus it may be hypothesized that product and shop characteristics jointly establish a

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[2] This assumption may appear too restrictive, however, in general, one may agree that the buying pattern differs between social classes and each class may be characterised by absolute and structural spending patterns and hence loyalty to retailers who cater to them.

retailer's market niche which is broadly identified by the 'average' price level of the shop. Consequently, consumers establish, to some degree, 'loyalty' indicating the extent to which preferences are in accordance with the joint product and shop characteristics offered by the retailer.

The central objective of the study is the development and testing of hypotheses concerning the impact of product characteristics as components of the retail price. The research environment is restricted to selected ladies' and men's knitted garments from cross-sectional data collected from Melbourne retail shops.

An implicit assumption has been adopted that each consumer attaches a positive utility to each attribute so that his willingness to pay higher prices increases with an increasing proportion or the presence of a certain attribute in the product. It is postulated that characteristics or 'qualities'[3] need not necessarily be objectively measurable. What is believed to be important is the identification of their relevance to the price of the product as perceived by consumers.Of a particular interest are price differences and consumer response to fibre composition, especially wool content in the garment.

It is postulated that the consumer associates wool content with quality and that the associated purchase pattern is reflected in prices. A linear positive relationship is expected between the retail price of a garment and the proportion of wool in it.

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[3] 'Quality' is defined as the set of identifiable characteristics exhibited by a given product (such as weight, wool content, style elements), however in the context adopted in the study, quality includes characteristics representing a given shop.

If it is argued that consumers derive utility from product attributes and that consumers' lack of knowledge prevails in the market, a retailer to pursue a 'designed' profit is required to co-ordinate optimally a whole complex of both price and non-price offers. Since the clothing market shows a substantial degree of product differentiation, through differences in the bundles of characteristics offered, a contribution towards efficiency of the pricing system is of benefit to both retailers and consumers.

Investigation of the contribution of characteristics to the value (price) of a product is the main theme of the paper. It is expected that the retailer, preoccupied by the estimates of the perceived values by the consumer of various product attributes and taking them sufficiently into account in the price determination process, may significantly increase economic efficiency in the market and their profits.

Given the framework addressed, the objectives of the paper may be stated as a limited part of a broader study which has three main dimensions:

1. To derive estimates of the consumer's implicit valuation of product characteristics (quantitative and qualitative) considered to be relevant to the consumer's choice decision.
2. To test an hypothesis concerning 'joint' impact of product and shop characteristics.

3. This analysis is intended to provide a basis to test some elements of the retailer's strategy for profit maximization in a later study. Particular attention will be given to differences in intertemporal price elasticities of demand for a garment and the intertemporal price pattern. In his long term pricing decision the retailer is

assumed to account for the specific characteristics of clothes, such as slow stock turnover, dynamics in fashion, and seasonal effects).

A merchandising view of retail price setting is adopted here. Such a view of pricing is not inconsistent with marginalist theory but accommodates, within a profit maximising framework, the constraints which influence the demand for the 'characteristics mix' presented by individual stores, in particular locations.

The characteristics mix selected by stores and the socio-economic characteristics of their target markets are not unrelated. Stores are like they are because their expected clienteles are like they are. In differentiated product markets, the characteristics of the product (a prime basis for price discrimination) are themselves differentiated according to the characteristics of the store and the setting in which sales take place. In an oblique but significant way store characteristics represent information which enables economies of search for an appropriate (to the selected clientele) product characteristics mix. Store characteristics are thus additive to the explanation of a sustainable retail price.

The Implicit Price Function and its Estimation

The model adopted for estimation was that employed by Ladd and Suvannunt (1976) and Dhrymes (1971). The empirical price function which captures the essence of their reasoning can be expressed so that sustainable retail price for the g^{th} garment, (P_g), is a function of product characteristics and shop characteristics.

The product characteristics are of two kinds - physical (objective)

characteristics, (C_i) and state (subjective) characteristics, (G_j). Shop characteristics,(S_k) were all state characteristics.

Thus the general implicit price equation was of the form

$$(1) \qquad P_g = f(C_i, G_j, S_k)$$

Ladd and Suvannunt present cogent reasons why this 'garment price' function may be best estimated in linear form and the strategy adopted here was to use proportions of the constituent fibres and dummy variables such that their coefficients represented premiums and discounts compared with a base class.

Hence the estimating equation was of the form

$$(2) \qquad P_g = \alpha_n + \sum_{i=1}^{n-1} (\alpha_i - \alpha_n)\pi_i + \sum_{k=1}^{m-1} \beta_k Z_k + \lambda W_g + \varepsilon_g$$

$$g = 1 \ldots k \text{ (garments)}$$

$$i = 1 \ldots n \text{ (fibres)}$$

$$k = 1 \ldots m \text{ (characteristics)}$$

where π_i are the proportions of the various fibres and the base omitted fibre was 'speciality fibres'. The variables used are defined in Table 1.
Z_k are the qualitative variables associated with both product and shops.
α_i, β_i are implicit price premiums or discounts.
W_g is weight of the garment, and ε_g are the random errors associated with OLS estimation of (2).

The data used in OLS estimates of the price function was collected for 732 knitted garments from 21 ladies' and 18 men's shops in Melbourne. The

estimates of the coefficients are presented in Tables 2-5. Our expectations about sign with respect to the base class are shown in Table 1. On prior grounds we would expect the size of the coefficient for proportions of fibre to follow the rank order shown in the table.

An alternative approach is to consider the estimation of the price function of the garment to derive the implicit unit prices (per gram) of the component fibres. In such a case for each component it is possible to derive implicit price functions for each fibre in the product range.

Suppose that there are two fibres, wool and synthetics in knitted garments and that the relationship of interest is that between retail price and a single characteristic of the product. For this situation the relationship might be written for wool as:

$$P_1/W_1 = a_1 + b_1C \tag{3}$$

where a_1 and b_1 are parameters relating P_1, the price per gram of wool in the garment, to the characteristic which for simplicity is assumed to be a metric variable. Then the relationship for synthetics may be written as:

$$P_2/W_2 = a_2 + b_1C \tag{4}$$

if it is assumed that the coefficient (b_1) of the characteristic variable (C) and W_2 is the weight of synthetic in the garment. When the proportion of the total weight of the garment (W) which is wool is defined as:
$\pi = W_1/W = W_1/(W_1 + W_2)$ so that $W_2/W = 1 - \pi$. The two price functions can then be written as:

$$(6) \qquad \frac{P_2}{(1-\pi)W} = a_2 + b_1 C$$

Although P_1 and P_2 are not directly observable data can be obtained on the other variables. If one denotes the price of the garment per gram as $P/W = P_1/W_1 + P_2/W_2$, by rearrangement and addition of the two equations one obtains:

$$(7) \qquad \frac{P}{W} = a_2 + (a_1 - a_2)\,\pi + b_1 C$$

If the assumption that b_1 is the same for both fibres is relaxed then defining slope parameters for b_1 for wool and b_2 for synthetics, one may then derive an alternative estimating equation

$$(8) \qquad \frac{P}{W} = a_2 + (a_1 - a_2)\,\pi + (b_1 - b_2)\,\pi C + b_2 C$$

The analysis may be extended to n groups of interest from the point of view of implicit pricing of various fibres in knitted garments so that the set of implicit price functions may be written as:

$$(9) \qquad \frac{P_1}{W_1} = \frac{P_1}{\pi_1 W} = \alpha_1 + \sum_{k=1}^{m-1} \beta_{1k} Z_k$$

$$\frac{P_2}{W_2} = \frac{P_2}{\pi_2 W} = \alpha_2 + \sum_{k=1}^{m-1} \beta_{2k} Z_k$$

$$\vdots \qquad \vdots \qquad \vdots \qquad \vdots$$

$$\frac{P_n}{W_n} = \frac{P_n}{(1 - \sum_{i=1}^{n-1} \pi_i) W} = \alpha_n + \sum_{k=1}^{m-1} \beta_{nk} Z_k$$

Summation of (9) Yields.

$$(10) \qquad \frac{P_g}{W_g} = \alpha_n + \sum_{i=1}^{n-1} (\alpha_i - \alpha_n) \pi_i$$

$$+ \sum_{k=1}^{m-1} \beta_k Z_k + \sum_{i=1}^{n-1} \sum_{k=1}^{m-1} (\beta_{ik} - \beta_{nk}) \pi_i Z_k$$

The variables in equation (10) are all directly observable and estimation makes it possible to derive the parameters of the set of non-observable equations in (9) and prices of the constituent fibres.

In this instance Z replaces C and is a set of m dummy variables for product and shop characteristics Z_m defined as the base class. Experiments with this form of the implicit price function have also been frustrated by multicollinearity but have been sufficiently successful omitting the final term in (10), to confirm the expectation that both product and shop characteristics are important components of implicit prices.

Results and Conclusion

The data on men's and women's sweaters and cardigans accounted for a reasonable part of variation in retail price due to the differences in the attributes of the garments.

First, the model of product characteristics i.e. the influence of the C_i and G_j sets of the variables on the price was estimated. The relatively high R^2 suggests that the variables account for much of the variation in retail prices of knitted garments. However, comparison of the results in Table 2 with our prior hypotheses stated in Table 1 leads to the conclusion that not all coefficients confirm our expectations.

The signs and t-values indicate that women value the complex 'trendy' characteristics ('baggy', pattern, knitting) in terms of current fashion rather than detailed attributes such as style of neck or sleeves. An interesting point is that men appear, as we 'suspected' to place higher value on some more finely defined characteristics which make a product more attractive or different (style of neck).

Concerning fibre composition our a priori expectations have been confirmed. The negative signs of the coefficient are to be interpreted relative to speciality fibres. As indicated in Table 2 wool content is a potentially significant factor in explaining price differences between knitted products. A significant positive coefficient of the 'weight' implies a positive linear relationship between price and the weight of the garment in terms of fibre.

In both categories the country of the producer appeared to be an important feature of a product. In particular the coefficient of 'Made-in Europe' is large and highly significant. The negative estimates of 'developing countries' origin confirm our expectations.

The 'care' variables are not statistically significant and do not appear to be relevant to consumer choice as we imagined. The results indicate that consumers associate higher value with the 'dry clean only' instruction. The statistically significant (at the 10 per cent level) negative coefficient for the men's category may indicate doubt about the quality of machine washable wool due to consumer ignorance of that aspect. This may suggest more extensive promotion in that respect. Poor statistical performance of the estimate in the women's category may support that view.

Statistical testing of the hypotheses, via the F statistics, about product and shop characteristics are consistent with the prior belief that the specification of the implicit price equations are improved by the addition of shop characteristics to the models which specify product characteristics alone. The results indicate a larger impact of shop characteristics in the women's category.

The next step in the analysis was to eliminate from the model of the variables which appeared to be irrelevant in the explanation of price differences in knitted garments. As a result the so called 'truncated' model was exhibited. The results from estimation of the truncated version of equation (10) for men's and women's knitwear are reported in Tables 4 and 5.

Our hypotheses with respect to location have not been confirmed. A location such as Toorak was expected to have a significant positive sign was negative and statistically significant in women's and positive in the men's data set. Analysis of the estimates indicates that the shop itself with all its characteristics may be more important than its location. Doncaster appears to be ranked higher than Toorak by women. This indication may be, however, misleading since the men's data for Toorak represent up-market shops,

in the women's set the up-market shops were in Doncaster. The city location has shown to be favoured by both groups.

When account is taken of the heterogeneity of shops and garments in the sample and the range of shop and product characteristics considered, the estimation of the equation was, in a statistical sense, quite successful.

As one might expect the results for men's and women's knitted goods are asymmetric. The differences emerge from an expected disparity in sensitivity of men and women to particular characteristics which are gender specific or for which more precise definition and selection of categories is necessary.

Economic theory is of minor help only in assessing performance of the various equations. Addition of characteristics which are 'goods' are expected for the same product class to increase price premiums, reduce the price elasticity of demand and hence increase the markup. The use of a surrogate for average cost in the form of end-of-season prices will enable the derivation of implicit price elasticities of demand for the product characteristics.

TABLE 1: LIST OF THE VARIABLES

VARIABLE NAMES	EXPLANATION
P_1	Retail Price in $A/garment
C_i	Product Characteristics - Measurable
WGHT	Weight in grams (+)**
PROPW	Proportion of wool (-)
PRSHET	Proportion of Shetland (-)
PRACR	Proportion of Acrylic (-)
PROSYN	Proportion of other man-made fibres (-)
PRSPP*	Proportion of speciality fibres
G_j	Product Characteristics Non-Measurable
NECKV	'Vee' neck (-)
NECKC*	'Crew' neck
NECKOT	Collar, polo, boat neck (+)
SLEVSI	'Set-in' sleeves (-)
SLEVSO*	'Dropped shoulders' sleeves
SLEVOT	Raglan, saddle, dolman sleeves (+)
PATPL	Pattern - plain (-)
PATJQ	Pattern - 'Jacquard' (+)
PATSF*	Self-patterned
BAG	'Baggy' style (+)
FIT*	Fitted style
HANDK	Hand-knitted (+)
MASHK*	Machine-knitted
HANDW	Hand-washable (-)
MASHW	Machine-washable (+)
DCO*	Dry clean only
WL*	Woollen
WD	Worsted (-)
MADA*	Region of manufacture - Australia
MADE	Region of manufacture - Europe (+)
MADKH	Region of manufacture - Hong Kong (-)
MADOD	Region of manufacture - other developing countries (-)
S_k	Shop Characteristics
SHOPDP*	Department store
SHOPDS	Discount store (-)
SHOPCH	Specialty chain (?)
SHOPSP	Specialty (+)
SHOPJ	Jeans store (-)
LOCCI*	Location - city
LOCNL	Location - Northland, Preston (-)
LOCT	Location - Toorak (+)
LOCD	Location - Doncaster (?)

* Base class
** Expected sign of the estimate.

TABLE 2: PARAMETERS ESTIMATES AND t-VALUES FOR WOMEN'S AND MEN'S SELECTED KNITWEAR*.

THE MODEL OF PRODUCT CHARACTERISTICS.

VARIABLE	WOMEN'S COEFFICIENT	t-VALUE	MEN'S COEFFICIENT	t-VALUE
DEPENDENT VARIABLE P_I				
INTERCEPT	101.03	3.70	182.59	7.13
WGHT	0.09	4.49	0.10	5.49
PROPW	-103.21	5.32	-157.56	8.04
PRSHET	-113.52	5.70	-169.83	8.00
PRACR	-128.28	6.28	-161.42	6.96
PROSYN	25.22	0.65	-57.38	1.02
NECKV	11.09	1.77	4.26	0.55
NECKOT	9.04	1.52	28.17	2.73
SLEVSL	3.44	0.41	-13.46	1.35
SLEVOT	8.94	1.35	-10.92	1.17
PATPL	-3.89	0.42	17.80	1.67
PATJQ	22.44	2.37	12.80	1.19
BAG	18.77	3.12	12.80	1.59
HANDK	18.90	2.27	23.16	1.91
HANDW	-2.16	0.32	-7.90	1.01
MASHW	-1.02	0.06	-34.10	1.97
WD	11.24	1.83	6.91	0.93
MADE	195.12	9.16	154.95	12.66
MADHK	36.40	5.01	-3.56	0.40
MADOD	-8.82	1.20	-28.35	2.62
ADJ R^2	.62		0.64	
F-VALUE	29.76		27.92	
N	341		315	

*sweaters and cardigans

TABLE 3: PARAMETERS ESTIMATES AND t-VALUES FOR WOMEN'S AND MEN'S SELECTED KNITWEAR*.

THE MODEL OF PRODUCT AND SHOP CHARACTERISTICS

VARIABLE	WOMEN'S COEFFICIENT	t-VALUE	MEN'S COEFFICIENT	T-VALUE
DEPENDENT VARIABLE P_1				
INTERCEPT	107.24	5.25	164.25	6.29
WGHT	0.09	6.00	0.07	3.70
PROPW	-51.31	3.66	-149.15	8.25
PRSHET	-62.80	4.34	-156.94	7.94
PRACR	-85.01	5.82	-152.47	7.05
PROSYN	-16.31	0.59	-87.37	1.69
NECKV	-0.16	0.04	2.10	0.30
NECKOT	2.32	0.55	21.47	2.26
SLEVSL	3.72	0.62	-4.90	0.52
SLEVOT	4.53	0.97	-3.00	0.35
PATPL	10.24	1.53	14.17	0.88
PATJQ	2.70	0.41	8.60	1.45
BAG	14.95	3.46	11.96	1.62
HANDK	15.36	2.57	19.17	1.74
HANDW	-7.87	1.58	-2.52	0.35
MASHW	10.72	0.84	-26.91	1.87
WD	2.22	0.51	5.30	0.78
MADE	141.62	9.26	111.32	7.99
MADHK	4.61	0.84	-9.97	1.20
MADOD	-11.36	2.16	-15.48	1.40
SHOPDS	-24.21	3.70	-8.12	0.60
SHOPCH	-0.9?	0.17	51.37	5.75
SHOPSP	103.54	10.77	51.45	2.69
SHOPJ	-11.39	1.60	23.66	1.45
LOCNL	-27.43	2.44	-4.67	0.47
LOCT	-77.39	5.24	33.12	1.41
LOCD	-21.69	1.86	-20.25	1.67
ADJ R^2	.81		.69	
F-VALUE	57.53		27.93	
N	341		315	

* sweaters and cardigans

TABLE 4: PARAMETERS ESTIMATES AND t-VALUES FOR WOMEN'S SELECTED KNITWEAR*

TRUNCATED MODEL

VARIABLE	WOMEN'S COEFFICIENT	t-VALUE
DEPENDENT VARIABLE P_1		
INTERCEPT	106.08	6.99
WGHT	0.09	6.55
PROPW	-45.45	4.89
PRSHET	-45.12	5.69
PRACR	-77.25	7.65
SLEVOT	2.90	0.70
PATJQ	11.25	2.89
BAG	14.33	3.86
HANDK	14.87	2.59
HANDW	-10.38	2.35
MADE	137.86	9.63
MADOD	-15.00	3.82
SHOPDS	-23.68	4.31
SHOPSP	106.37	14.38
SHOPJ	-11.29	1.74
LOCNL	-28.23	2.65
LOCT	-80.23	5.76
LOCD	-23.39	2.08
ADJ R^2	.82	
F-VALUE	89.56	
N	341	

* sweaters and cardigans

TABLE 5: PARAMETER ESTIMATES AND t-VALUES FOR MEN'S SELECTED KNITWEAR*

TRUNCATED MODEL

VARIABLE	MEN'S COEFFICIENT	T-VALUE
DEPENDENT VARIABLE P_1		
INTERCEPT	164.17	7.80
WGHT	0.10	6.02
PRPW	-141.49	7.55
PRACR	-139.28	6.11
PRDSYN	-66.89	1.24
NECKOT	24.63	2.58
PATJQ	13.64	1.97
BAG	14.33	1.87
HANDK	21.94	1.92
MASHW	-24.37	1.62
MADE	104.88	7.49
MADHK	-15.22	1.85
MADOD	-36.50	3.71
SHOPSP	11.89	0.63
SHOPJ	6.23	0.39
LOCT	51.42	2.30
LOCD	8.48	0.92
ADJ R^2	.65	
F-VALUE	34.75	
N	315	

* Sweaters and cardigans

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