CHAPTER 5:   BIVARIATE CORRELATES OF EXPORTING PERFORMANCE

5. 0. 1. Having (in Chapter 4[1]) described our survey research data and compared it with other relevant research, it is now appropriate to advance again in pursuit of the determinants of successful export performance. Accordingly, this present chapter will commence the process of investigating the relationships, if any, between the dependent and independent variables that have been derived from the fieldwork data. This first step, which will take the form of Pearson Product Moment correlations, may also be expected to bring about some data reduction by eliminating from further consideration independent variables which show no significant correlations with dependent variable(s). We begin with some preliminary ground-clearing.

 5. 0. 2.   For the reasons stated below, this bivariate correlation process will need to be succeeded by appropriate forms of multivariate analysis. But its own importance needs to be appreciated: *In reality, the multiple-variable model rests upon the foundation laid by the thorough analysis of the 2-variable model. The proper specification of the theoretical model at the bivariate level is essential to the quality of subsequent multivariate analysis (Aneshensel, C.S., 2003, p2).*

5. 0. 3. Because there is not universal agreement on its definition *(Hair et al, 1992, p4)*, `multivariate' will be understood here as including both two or more independent

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[1] Although the completed sample comprised 71 exporting firms, the bivariate correlations are confined to the 69 who were exporting at the time of the survey.

variables with a single dependent variable (multiple regression) and multiple independent and dependent variables (e.g.canonical correlation*).

5. 0. 4. In Chapter 3 and through the medium of the questionnaire we have already operationalised the independent variables which will feature in the following bivariate analysis [2]. But before proceeding thereto, there are three problems to be addressed or readdressed:

    (a)   Measuring export performance;

    (b)   Interpreting the strength of the Correlation Coefficient;

    (c)   Correlation and causality.

5. 0. 5 . Beginning with (a), as we have seen (Chapter 1*) there is no consensus among scholars about how export performance can best be measured *(Zou, S. et al,1998, p341).* Indeed, the many different ways in which it has been assessed by researchers in the past is claimed as one key reason for the fragmentation of knowledge in this field *(op.cit, p333).* Moreover, there is now a widespread scholarly view that `export performance' is multi-faceted and needs a multi-dimensional construct, not a single-item one such as a firm's export ratio, to capture it adequately *(Gemunden, H.G. 1991, p41 ; Matthyssen, P. et al, 1996, p110; Katsikeas, C.S., et al, 2000, p501).*

5. 0. 6. It is from this multi-dimensional orientation that our apparent difficulty arises. We need to make an initial testing of the relationships between the selected independent variables and one or more dependent variables. But to comply with the requirements of sound methodology the outcome of this research should reflect expert views on the need for multi-dimensionality. The apparent difficulty is to reconcile this

need with that of the correlational measure we need to employ here. Pearson's Product

Moment Correlation Coefficient will only function with one dependent variable, which

must be metric. The variable which appears to fill this role best, despite its limitations,

is the ratio of exports to total sales. While necessity is one justification for its use, two

others can be called in aid: first, despite its inadequacies, the export ratio has been

widely used in the past, producing useful results; and, second, selected data from the

survey are later given further (multivariate) statistical analyses that meet the

requirements of multi-dimensional export performance measurement.

5. 0. 7.   Turning to (b), while there is no unclarity about the description and meaning of zero, perfect positive and perfect negative relationships between variables (0, +1 and -1), this is not so for the intermediate degrees of correlation. All agree of course that the larger the correlation, the stronger the relationship. There does, however, appear to be a need to be aware of the variety of scholarly terminology used in describing the strengths of correlations found in specific cases. Table 5.1 seeks to assist in this direction by integrating four specialist views. .
Table 5.1

Interpreting The Strength Of Correlation Coefficients: Between $r = 0$ and $r = +/- 1$

	Authorities			
`r' Value	Losh*	Green*	Pallant*	Fink*
0.10	v.weak	small	—	—
0.25	weak	—	—	little/none
0.26	moderate	—	—	a fair degree of
0.29	—	—	small	—
0.30	—	medium	medium	—
0.50	—	large	large	—
0.51	strong	—	—	moderate
0.76	v.strong	—	—	v.good/ excellent

Sources: * Losh, C. (2005); Green et al (2000, p236); Pallant, J (2001,p 120); Fink, A. (1995, p36)
Note: Fink describes her ratings as `A conservative rule of thumb'.

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[2]   The dependent variable was of course operationalised in Chapter 1.

These varying scales need to be seen in the context of the generally low levels of correlation coefficients that characterise social science research. Cohen, for example, notes that most coefficients of correlation in social research are around 0.5 or less *(Cohen, L., 1994, p130).*

5. 0. 8.   While any decision about a minimum acceptable degree of correlation must be somewhat arbitrary, at this preliminary stage it seems wise to set it relatively low. To this end, any correlation coefficient lower than $r = +/- 0.25$ will be rejected. Just how low this value is can be seen by squaring it to produce the more informative coefficient of determinism (0.063). This value of correlation between, say, an independent and a dependent variable would have accounted for just over 6 per cent of the variance in the latter

5. 0. 9.   Turning to (c) above, it is useful to recall that causality can only be established by sound theory and/ or properly designed and conducted experiments *(Moser, C. et al, 1971, p211, 212).* And there are several conditions that must be satisfied, including one event preceding the other in time, before some result or outcome can accurately be described as the effect of a particular cause. Nor can strong correlations between two variables be interpreted with certainty as causality; both may be the effect eg of a third variable. Our export performance model (Chapter 1) does suggest, within the limits imposed by the use of correlation measures, that there is a causal relationship, in the direction shown, between the model's IVs and export performance. But we need to keep in mind the dangers of appearing to attribute

causality on the basis of the correlations, however strong, to which we are restricted in this type of research.

5. 0. 10.   What correlation (Pearson in this case) can and will do is to show the strength and direction of the correlations between the selected variables *(Tabachnick, B. G. et al, 2001, p54: Pallant J. 2001, p109).*   In turn, this will help us to winnow out those variables that are related weakly or not at all to the adopted measure of export performance. The rest can then be subjected to multivariate analysis, which may be expected to clarify further the nature of the relationship. From theory and earlier empirical research (eg the model in Chapter 1) we shall assume that the direction of influence is from selected independent to dependent variable (s) — though this will not necessarily always be the case.

5. 1. TESTING THE HYPOTHESES: BIVARIATE CORRELATION

5. 1. 0.   We now turn to the Pearsonian correlation of the selected variables and follow-up, a process on which this chapter will report under three main themes:

   - Bivariate correlations of the dependent with selected independent variables**;**

   - Comparison and integration of these results with previous research;

   - Conclusions and prelude to multivariate analysis of data.

For convenience, the first and second of these will be discussed together.

5. 1. 1.   Section 1 is divided in turn into 5 subsections, imposing a structure and order on the analysis, with each identifying the related hypotheses (Hx)**.** These sections are:
 - Company Size And Export Performance;
 - Managements' export commitment, positive attitudes and perceptions*;*
 - Exporting: Organisation, Planning And Research;
 - Export Markets: Selection Methods And Numbers of Markets & Regions Served;
 - The Exports Marketing Mix*;*
        (i)   Product Adaptation
        (ii) Product Pricing
        (iii) Export Sales Channels
        (iv)   Promotion

<u>5. 2. . Company Size And Export Performance (H)</u>

5. 2. 1. The frequently researched question of whether firm size has any effect on export performance is an important one that needs to be addressed. Zou, for example, warns that failing to take adequate account of firm size would introduce biases into the results because success factors may differ between large and other-sized firms. But his meta-analysis showed that size of firm has mixed effects, some positive and some negative, with positive ones being associated chiefly with turnover as the indicator of size and negative ones mainly linked to `number of employees' measures *(Zou, S. et al, 1998, p350-353).*

Table 5.2: Export Performance And Sample Company Size

Category	Measure	Outcome[3]
Firm Size	Turnover	r = -.106
	No of employees	r = -.201

5. 2. 2 As will be seen, our correlations reveal the effects of size to be mildly negative for each of these measurement methods. (But it may *be* worthy of note that, although they both lie below zero, they are in the same rank order as the 1998 Zou findings). However, in view of the weakness of both's correlations with the DV and the high value for that between these two IVs (.823**: significance: .000)+**,** it was felt worthwhile to investigate whether collinearity, in the form of confounding or otherwise, might be responsible for the former. But when these two IVs were correlated in turn with the DV in Partial Correlation (SPSS v.14), controlling in each case for the other IV, the correlations remained substantially the same**.** Thus no evidence was found for a third

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[3] All significance tests reported in this document were 2-tailed

influencing IV. *(Pallant, J., 2001, pp110, 130).* Because, however, of the continuing prominence given to the size/ performance argument, a final, multivariate, test of the hypothesis is reported in Chapter 6. (But we need also to appreciate that there is likely, in any case, to be a natural positive correlation between value of turnover and number of employees- though its strength may vary considerably between firm types and sectors (eg manufacturing v software engineering)**.**

5. 2. 3. Some other indicators also point to less differences between large and other sizes of firms in respect of key variables. For instance, of his research evidence Katsikeas comments that it `...*does not suggest that there is a direct relationship between firm size and export performance' (Katsikeas, C.S. et al, 1996, p27).* We do, however, need to keep in mind the possibility that size may have an indirect effect on performance.

5. 3. Managements' Export Commitment, Positive Attitudes And Perceptions (H1)

5. 3. 1. The seven measures drawn from the survey sample data and shown in Table 5.3 (a), ranging from length of exporting experience to the use of external services, were considered likely usefully to assess commitment from a number of relevant angles. But the results were found to be mixed.

5. 3. 2. First, with only 6 per cent exporting for less than 5 years and 82 per cent for 10 years or more, the great majority of sample companies, predominantly continuously involved, are well experienced exporters. *Prima facie*, this fact might have been expected to show a relationship to performance and indeed it does; but the correlation is only weakly positive. But this is not a unique outcome. Thus, in his study, Katsikeas concluded that `years exporting' appeared not to be a significant determinant of

performance (*Katsikeas, C.S., op.cit, 1996, p25),* and Zou quotes two instances of findings of a negative impact on export profitability and sales (*Zou, S. et al, 1998, p350*).

5. 3. 3.   Next, the sample firms as a group have high positive scores on three factors which together seem likely,   *ceteris paribus*, to enhance export performance: commitment (77%), policies of expansion (82%) or holding existing shares (15%), and continuity of overseas sales (86%) (Table 4.13). The second and third of these can reasonably be interpreted as manifestations of the first. Here Zou found that, with almost no exceptions, and consistent with all previous reviews, managements' export commitment was one of the key determinants of export performance (*Zou et al, 1998, p348)*. This is also the case for our survey sample firms, where a moderate positive relationship is revealed; it is not clear why those of the two export policy variables should be both opposite in sign and so weakly correlated.

Table 5.3.   Export Commitment And International Orientation

Aspect	Measure	Outcome
(a) Management Commitment		
Exporting Experience	Years Exporting	r = .186
Continuity of Exporting	Continuous	r = .382**
Committed or Passive	Committed	r = .288*
Exporting Policy	Increase exports	r = -.011
	Hold existing share	r = .036
External Services	Use External Services	r = -.011
	Number Used	r = .205
(b) Management's Positive Attitudes and Perceptions		
Perceptions	Measure	Outcome
Positive	UK should join Euro?	r = .320**
	Benefits of Exporting	r = .182
	No of such Benefits	r = .094
Negative		
	No of perceived obstacles	r = .166

Note: * Significant at the 0.05 level. ** at the 0.01 level

5. 3. 4.   The rationale for the inclusion of `external services', is that they are `tuned' to the needs of exporters and can fortify firms' own efforts. Of these UK Fashion and Chambers of Commerce are respectively industry and commercial organisations. Others named are all government bodies. Collectively they provide a range of services to exporters, often with some overlap. Inward and outward trade missions, for example, are organised by both public and private sector bodies. The role of ECGD is to offer insurance against market hazards (eg non-payment for orders) at affordable premia. Consulates and Embassies in foreign markets are well placed (given suitable staffing) to garner for home exporters valuable marketing information. Overall, the quality of these external services can vary, but most are likely to be of considerable assistance to exporters, especially the smaller firms.

5. 3. 4. 1. The survey indicated that they were indeed popular with firms. Four-fifths (82%) of the sample use one or more of these services: at 62 per cent, UK Fashion (BKCEC) had the highest usage, but the other 4 (44%) were also widely used by firms (See Table 4.27). This `commonality' across successful and less- successful exporters may help to account for the first of the related measures showing a small negative correlation and the second only a weak positive one.

5. 3. 5.   The four independent variables selected to measure `Managements' Positive Attitudes & Perceptions' are intended to fit within one or other of Zou's positive and negative measures: Managements' perceived export advantages and export barriers' *(Zou, S. et al, 1998, p346)*. The second and third measures, which relate to the list of benefits reported by survey firms (Table 4.24, 4.25), are of course intended to fit into the `advantages' category; while their reported barriers (Tables 4.39, 4.40) slot into his category of the same name. As to the first: a firm's readiness to join the Euro seems a

clearly positive indicator. A generally optimistic attitude on the part of management should also tend to minimise the obstacles the firm perceives, whatever the objective reality.

5. 3. 6.   Almost all of the survey firms claimed to gain one or more of the 9 potential benefits from exporting (Table 4.24), with three-quarters of respondents reporting two or more. On the negative side of the scale, all survey sample firms perceived one or more of 9 obstacles to exports, with adverse exchange rates (65 firms) being the most general (Tables 4.38, 4.39).

5.   3. 7. As can be seen, all of the positive and negative independent variables are positively related to export performance, but only `Join the Euro' is of moderate strength. Part of the explanation for this outcome may be down to obstacles objectively perceived by firms with good export ratios. In this context, the related tables and text will show that the great majority of sample firms were concerned not only about exchange rates but also low-cost import competition. Though many were performing well, the trading environment gave little grounds for good cheer.

5. 4.   The Exporting Firm: Organisation, Planning, And Research (H2,H3, H4)

5.   4.   0.   It is useful next to assess our sample of exporting companies under the three broad headings of export organisation, planning, and marketing research. The underlying assumption here is that, *prima facie*, the more these are manifest and especially the more detailed planning,   assessment and research that is undertaken, the better export performance is likely to be.

5. 4. 1. Turning to Organisation, Zou, reporting on his review of the 50 studies of export performance, concluded that a good export organisation `seems to pay off' but also that some studies had found this an insignificant factor *(Zou, S. et al, 1998, p344)*. While the nature of the export organisation is not defined, the research tradition in the area of UK garment manufacturing has been that such an organisation comprised one or more of: special export department, dedicated production lines, and an export manager. Specialised staff skills, within or without a special export department, have also usually been regarded as important.

Table 5.4. The Exporting Firm: (a) Organisation

Aspect of Organisation	Practical Implementation	Outcome
Functional	Special Export Department	$r = .185$
Production	Dedicated Production Lines	$r = .198$
Staffing	Export Manager	$r = .080$
Skills	Special Staff Skills	$r = .274*$

* Significant at the 0.05 per cent level

5. 4. 2. . Such an export organisation was a minority feature in our sample. As Table 4.26 shows, some three-fifths of firms did not have any of the specific assets listed and fewer than a quarter of all firms had one or more. The reasons may vary with, for example, the individual firm's export ratio and the extent to which it has to adapt its products for export. Low ratios may not justify special provisions, which may in any case be unnecessary if home and export market product matching is feasible. For firms with a very high ratio, staffing and production arrangements may be the *de facto* mainstream, with home sales the `poor relation'. It is also possible that firms exporting large numbers of high-price luxury garments are prepared to absorb in their profit margin inefficiences stemming from their lack of separate facilities. For instance, in the

1970s the writer found this to be the case at the E. London factory of a famous raincoat manufacturer, in respect of total output.

(b) Planning

5. 4. 3.   The expectation that export performance will be better when planned than where unplanned, is both grounded in commonsense and supported by empirical research. Thus Zou reports that it is `...a consistent determinant of export sales and the composite measure of export performance, and a predictor of export profits and export growth...underscores the importance of systematic planning in export operations.'.(*Zou, S. et al, 1998, p345*).

5. 4. 4.. But sample survey results produce a varied picture, positive and negative. It will be seen that two of the eight variables used to test the firms' main planning practices generated negative correlations, albeit weak ones. And it is interesting to note that the other six are all positive, three of them weakly so. It will be **seen** that the strongest positive correlations (which are also significant) are those for the analysis of export profitability, formal export market plans and the forecasting of export sales. The first of these may indicate an indirect effect.

Table 5.5:   The Exporting Firm: (b) Planning

Planning (Corporate Level)	Formal Strategic Plan	$r = .126$
Planning (Exports)	Separate Exports Budget	$r = .100$
and assessment	Formal Export Market Plans	$r = .278*$
	Forecast Export Sales	$r = .278*$
	Separately Assess E/ Performance	$r = -.107$
	Analyses Export Profitability	$r = .453**$
	Analyses Sales Volume	$r = -.124$
	Form of Analysis	$r = .220$

Note: *Significant at the 0.05 level; ** at the 0.01 level

(Note: The IV `Forecast Export Sales' was included in the questionnaire to cater for firms, some of whom were known not to engage in <u>formal export market</u> <u>planning</u> but who did make some kind of export sales forecasts.. Unsurprisingly, these two variables are not autonomous but are related as whole and part and have a correlation of .522**. They are later combined with another variable to produce the composite COMPLAN (See Table 6.3)

5. 4. 5   Our survey results are consistent with Zou's findings, but, as against these, Katsikeas' research confounded his own expectations in showing export planning and control to be associated negatively with export performance *(Katsikeas, C.S. et al, 1996, p25)*. But this contradiction appears to be more apparent than real. Zou contends that the few negative findings, including those of Katsikeas, are down to the increased costs of export planning in particular situations *(Zou, S. op cit, p345)*

 <u>(c) Research</u>

5. 4. 6. It appears indubitable that relevant and reliable marketing information plays a key role in export success *(See eg Leonidou, L.C. et al, 2002, p61).* In pursuit of such data all sample firms were found to be using one or more of the main sources listed in Table 5.6, under `Measures'. For the seven explicitly titled channels, the level of usage ranged downwards from 76 per cent of respondents (feedback from final retail customers) to 23 per cent (formal market research). In rank order, the four most popular sources were: feedback from final retail customer (76%); visits to overseas retailers (75%); visits to trade fairs and exhibitions (70%) and, much less so, trade press and similar (54%). (See also Table 4.30).

5. 4. 7. But, as Souchon explains, while such acquisition of information is critical, its impact on export performance depends on whether and, if so, how effectively, it is

used.*(Souchon, A. et al, 2000, p2).* Zou found that while the use of international marketing research positively affects a number of measures of export performance, its overall effects were mixed *(Zou, S. et al, op.cit., p344).* Our sample survey did not elicit the extent to which marketing research information was put to use nor how. However, nearly 60 per cent of respondents did rank their information sources for value. Trade fairs/ exhibitions were rated best (29%); visits to overseas retailers came second (27%), third was feedback from M & D intermediaries (17%); and last were jointly trade missions and feedback from final retail customers (See Table 4.31). Therefore it appears reasonable to conclude that this group of firms did put the acquired marketing information to practical use.

Table 5.6:The Exporting Firm: (c) Main Sources Of International Marketing Information

Sources	Measure	Outcome
	Formal marketing research	r = .015
Activities:	Trade Missions	r = .292*
	Visits To Trade Fairs/ Exhibitions	r = .397**
	Visit s To Foreign Retailers	r = .281*
Feedback from:	Channel Intermediaries	r = .167
	Final Retail Customer	r = .199
	Other sources	r = -.248*
Print Media:	Trade Press/ Similar	r = .026

Notes: 1* Statistical significance at the 0.05 level; ** at the 0.01 level.
   2. It is not possible to distinguish the data collection from the product promotion roles of visits

5. 5. Export Markets: Selection Methods And Numbers (H5, H7)

5. 5. 0.   Market selection methods are relevant because the nature of the markets chosen is likely strongly to influence firms' prospects for successful export performance. Clearly unsuitable choices will involve higher financial and other risks.

Therefore the selection methods available to firms, their respective merits and which ones are used are all important (See also Table 4.28). These issues are discussed below in the context of the survey sample and the correlates of selection methods.; as is the market concentration hypothesis.

5. 5. 1.   Koch's description of the three main market entry modes may be summarised, in ascending order, as: selection without any market entry strategy or systematic approach (often called `informal'); selection in line with an existing market entry strategy, using naive or pragmatic rules; or, a selection process that considers some strategy rules and uses a systematic approach (often dubbed `formal'). But he and other scholars argue that, in the face of growing international competition, only the last of these, a quality formal systematic method, is now adequate. *(Koch, A.J., 2001, p65).*

Table 5.7. Export Markets: Selection Methods: Market Numbers And Regions

(a) <u>Method</u>	Measure of	Outcome
<u>Selection method</u>	Informal	r = -.295*
	Formal	r = -.120
	Formal & informal	r = .372**
(b) <u>Markets</u>	Number of markets	r = .344**
(c) <u>Regions</u>	Number of Regions+	r = .320**

Note: Statistical significance: * significant at 0.05 level; ** significant at 0.01 level.
+ Refers to the world's 11 geographical regions listed in Table 4.15.

5. 5. 2. . Systematic market selection can be further analysed. Rahman states that it must   comprise three stages: screening, market identification, and market selection *(Rahman, S.H. 2003, p119),* And Wood describes the wide range of information which practising export managers need if they are to conduct adequate export market evaluations.*(Wood, V. et al, 2000, p34 et seq).*

5. 5. 3.   The recommended formal systematic approach was neither widespread among survey sample firms nor significant in the correlates. First, only 6 per cent of firms adopted a formal approach to export market selection, while two-thirds used purely informal methods and the remainder employed both formal and informal (Table 4.28*)*. Second, as Table 5.7 indicates, only the joint use of both formal and informal selection methods produced a positive, moderate, correlation with the export ratio.

5. 5. 4.   Rahman's assertion that in most firms processes evolve; from often unplanned entry into a foreign market to the gradual development with experience of plans and systems *(op.cit, p121)* may be true of some sectors. But is not a persuasive explanation for the high level of informal selection among the survey sample firms. They are all experienced exporters, long past the exporting tyro stage (See Table 4.11). There is, however, some possibility that the informal selection methods of so many of these firms is less random than it might appear[4]. For instance, some 78 per cent of those who use informal selection, in whole or part, visit trade fairs - and many find them useful. The possibility remains open that greater formality than appears underlies their selection of the trade fairs and exhibitions to attend. But, overall, the single positive correlation may indicate that using both methods together confers a beneficial flexibility.

5. 5. 5.   Further clarification is not possible for it seems that not enough is known about market selection methods in general. For example, the Zou meta-analysis makes no reference at all to the market selection methods used by the firms reviewed.*(Zou, S. et all, op cit, 1998).* And Leonidou includes foreign market selection in his list of

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[4]   Our 2007 mini- follow-up survey suggested this is not so. See Chapter 7 for fuller details

marketing strategy variables that are not adequately covered by extant empirical research *(Leonidou, L.C. et al, 2002, p64).*

(i) Market concentration versus market spreading. (H7)

5. 5. 6.   BETRO/ITT suggested that exporters could achieve as good or better results from never selling to more than 10 countries as firms who sold to 160 (BETRO, 1976, p16). We now test this hypothesis, in respect of knitted apparel exports, with sample `No of markets/ success status' and then with bivariate correlations. First, of the 81 per cent of sample exporters with 10 or fewer markets, less than half (46 per cent; 26 cases) were successful exporters (i.e. having an export ratio of 25% or more). But, some 30 per cent of the full group of successful exporters (37 cases) had export markets ranging in number from 11 to 31. The mean export ratio is 58 per cent for these 11 successful exporters, but 70 per cent for the larger subgroup of 26- raising the possibility that the higher ratio is evidence for the BETRO thesis. But a comparison of the means of these two subgroups of successful exporters gives a P-value of 0.148 (0.05 level). Therefore the difference in means is not statistically significant. And it should be noted that at least some sample firms' numbers of markets appeared to owe as much to trading conditions as to strategy (See Table 4.18 for trends in survey sample markets). Thus, there does not appear to be any evidence from these subgroup comparisons in favour of the concentration hypothesis.

5. 5. 7. . Nor, second, does the correlation coefficient provide such evidence. From Table 5.7 it will be noted that there is a reasonably strong positive correlation of number of export markets with export ratio (.344**). Moreover, this correlation is little less strong in the case of geographical regions- an interesting result that runs counter to geographical concentration as well. Thus it seems clear that the findings from both of our tests lend reasonable support not to BETRO's recommended market concentration

strategy but to that of market spreading- without of course impugning the potential validity of the former in suitable circumstances. (And it should be appreciated here that for exporters of eg high quality, high price cashmere pullovers a market-spreading strategy may be an absolute necessity). Our findings are more clearcut than those of Zou et al and they resonate with those of two other researchers (see below).

5. 5. 8. Tests of the BETRO proposition and its opposite have been reported upon at least three times, with mixed results. Zou concluded: *The general exporting strategy's effect in terms of... using a concentration or diversification strategy etc. is mostly insignificant (op.cit., 1998, p345).* In his review, Leonidou found that the results were mixed, with each of these two strategies being seen to have a significant positive influence/strong impact on some export performance indicators, but a weak association with others *(Leonidou,L.C.etal,2002,p58,59,63).* Finally, Crick's study of high performing exporters in both strategy categories found no significant difference between the groups in relation to their perceived export performance *(Crick, D. 2002, p373, 376).*

5. 6. The Product `Package' ; Marketing Mix: (H6, H8, H9, H10,)

5. 6. 0. For convenience the main factors that affect the success of the selling operation are often referred to as the marketing mix. Its four constituent items are: product, pricing, placing and promotion. `Placing' is essentially distribution and it includes sales channels. The hypotheses for testing here collectively relate to all four.

(i) Product adaptation

5. 6. 1. Broadly, firms may seek to export their existing products unchanged to markets with similar requirements to those of the UK— the matching process recommended by Tookey many years ago *(Tookey, D. 1975, p47, 51)*; and, to the extent that they succeed, there are clear advantages, including the economies that stem from

longer production --runs. Branded Scottish cashmere high-quality, high-price classic garments are clearly a case in point.

5. 6. 2.   But other manufacturers of less well-known and often more fashion-oriented products will usually need to adapt, to a greater or lesser degree, their existing UK knitted apparel to the needs of export markets, as established by marketing research or otherwise. *Prima facie*, this seems likely to be the more common situation. It clearly was in the case of the survey sample, with the great majority of firms (59) reporting product adaptation for exports, in 1 to 5 forms of alteration.

5.   6. 3.   The extent to which sample firms possess qualified designers [38 (firms)], have their own design departments (37), design separately for exports (44), and use a formal product development process (45), suggests that many of the adaptors have the capability to `fine tune' their products to the requirements of their export customers. And, as noted, most sample firms do adapt their products for export.   One might therefore have expected to find

Table 5.8	(a) Adaptation For Export Markets	
Adaptation Aspects	Measure	Outcome
	Qualified Designer	r = -. 014
	Own Design Department	r = .003
	Designs Separately for Exports	r = .072
	Formal Product Development	r = -.076
	Product Adaptation	r = .137

some or all of these factors reflected positively in the performance indicators. But, as can be seen, these variables produced only correlations ranging from the very weakly positive to the weakly negative.

5. 6.   4.   Our survey sample results tend to conflict with two other sets of findings. Zou, who considered product adaptation with product strength, found the results mixed,

felt more research was needed, but concluded that the overall effect seemed positive *(Zou, S. et al, 1998, p348).* And Leonidou reported that adaptation was correlated with superior export performance, but that significant results were confined to those studies that used export sales-based performance measures. On a narrower measure, he also found that, overall, product style and design had a significantly positive impact on export performance — but only in respect of consumer goods *(Leonidou,L.C., op.cit. 2002, p60,61).*

(ii)   Product Pricing

5. 6. 5.   Although product pricing is only one of the four main elements in the so-called marketing mix, its importance is often underlined by reference to its being the only one of these variables that generates revenue *(eg Zou, S. et al, op.cit, 1998, p348)***.** Getting the pricing right is clearly important and it may offer greater flexibility than the others in terms of the range of adjustment possible. It must thus be varied to meet the widely different selling conditions and competition to be found in foreign markets *(Leonidou, L.C. et al, op.cit. p62).* Key aspects of pricing and sales terms are discussed below.

5. 6. 6.   Kotler's three main types of pricing method (in practice often simplified to cost-plus and market-based methods) are not all of equal merit *(Kotler, P**.** et al, 1996, p646).* This is especially so in markets where price competition is an important aspect of competitiveness. While the market-based methods should provide the necessary flexibility, this is very unlikely to be so with the cost-plus approach. Experts criticise it generally for not paying enough attention to environmental dynamics and, more specifically, for being essentially a mechanical formula that ignores demand and

competitive conditions in the markets, also noting that it remains the dominant price-setting method *(Diamantopoulos, A, 1991, p337; Doyle, P., 1994, p218).*

5. 6. 7.   It was also found to play a leading role in export pricing by survey sample firms. Thus the cost-plus method was employed by half of respondents, with variants of the market-based approach used by over a quarter and the remaining 20 per cent applying both methods.(Table 4. 29**).** It is then surprising to find, when these pricing methods are correlated with export performance, that cost-plus, market-based, and separate market pricing all produce considerable negative correlations, of which cost-plus is much the smallest.   And   cost-plus combined with market-based methods generates a moderate-sized positive correlation that seems to reflect the benefits of pricing flexibility.

5. 6. 8.   Again, it is informative to compare these survey outcomes with the Zou and Leonidou's meta-analysis results. Their findings differ. Agreeing that the diversity of foreign market pricing determinants makes it essential for firms to adapt their prices if they are to survive and prosper abroad, Leonidou notes that his results confirm this. He found a strong positive link between price adjustment and both overall and individual export performance measurements -except for sales volume *(Leonidou, L. C., et al, op.cit, p62).* Zou reports that while how price was determined had little effect on export performance, price adaptation seemed positively to influence export sales, profits and growth in some studies but is insignificant in others *(Zou, S. et al, op cit, p348).*

Table 5.10	Methods	Measure	Outcome
	Pricing Aspect	Separately for each Market	$r = -.060$
		Cost-plus Method	$r = -.023$
		Market-Based Method	$r = -.184$
		Cost plus & Market-Based	$r = .275*$
	Pricing etc Currency	Sterling only	$r = -.168$

		Local currency only	$r =$ .173
		Sterling & Local	$r =$ .054
	Quotation Terms	Ex-Factory	$r =$ .199
		F.O.B	$r =$ .137
		C.I. F	$r =$ -.005
		Franco Domicile	$r =$ .224
		Other forms	$r =$ -.123
		Number of forms used	$r =$ .261*

5. 6. 9.   Closely allied to main pricing methods, as competitive tools, are the sales or quotation terms offered by the exporter and the currency (with main options being sterling, local and both) in which transactions are denominated. It has usually been taken for granted that the less risk and responsibility the supplier places on the customer, the more attractive the vendor's offer to the latter (*eg Leonidou, L.C. et al, 2002, p63*). On this basis, ex-factory quotations in sterling would be much less attractive to a potential customer than, say, the same offer in franco domicile terms and denominated in the customer's own currency.

5. 6. 10.   Sample survey findings show some three-fifths of firms using one or other of the standard forms of sales terms (eg FOB, CIF) and most of the remainder using two or more. On currencies, those employing both sterling and local have the greatest weighting among respondents (48%), followed by sterling only (39%) and local only (13%). (Table 4.29)**.** On quotation/ sales terms, it will be seen that the correlates are mixed, and at best only weakly positive. But   currency usage is more in line with predictions: local currency-only is best, sterling-only is worst, and a mix of the two shows an intermediate positive correlation.(Table 5. 10) .

5. 6. 11.   These results largely agree with those of another researcher. Leonidou's review did not find that the price quotation terms used by those sample firms assisted

their export performance, but he did find that the use of foreign currency did enhance

export intensity and some other measures of export performance. *(op.cit., p63)* Zou's

review did not address either sales terms or currency strategy.

(iii) Export Sales Channels

5. 6. 12.   Sample survey firms are using one or more sales channels**,** with the type of channel used often differing from one market to the next. Two types of channel per firm was the most common. Slightly fewer used one channel and, unsurprisingly, firms using three were only about half as numerous. In terms of the numbers of firms using each, the main named categories of channel had these `popularity' ratings: Direct to Retail (86), Commission Agents (79), Importers/ Distributors (74) and Buying Offices (42) (Table 4. 20, 4.21a).

5. 6. 13.   The Buying Office, especially if located in the UK, is often regarded as the least sophisticated export channel, with the least export growth potential. Its limited use, together with the natural progression to `Direct' by sample firms could be regarded as a rough measure

Table 5.9. Type of Channel	Measure of	Outcome
Channel	Buying Office	$r = -.059$
	Commission Agent	$r = .313^{**}$
	Importer/Distributor	$r = .232$
	Direct to Customer	$r = .116$
Variety	No of Channels Used	$r = .367^{**}$
Note:	** significant at the 0.01 level.	

of their sophistication. But that is not reflected in the performance correlates (Table 5.9

).   Indeed, the weakly negative correlation for Buying Offices aside, the actual

progression is almost reversed, with Commission Agents having the strongest positive

score. No obvious explanation suggests itself for this outcome; but it seems possible that

the strong-ish positive score for the number of channels used may indicate a rewarding

flexibility on the part of the exporter, while careful selection and expert management

may account for the Commission Agent score.

5. 6. 14.　These sample survey results are more like than unlike the findings of other major researchers. Thus Zou found that the effects of channel type on export performance were mixed (*op.cit., p348*). And Leonidou reported weak results for the relationship between export channel intermediary type and overall export performance; he also found mixed results for the relationships of the individual firm's performance measures with specific export distribution modes. He holds that the latter findings imply that the appropriateness of a particular channel is not static; but depends largely on the variability of conditions in overseas markets (*op.cit, P62*).

(iv) Promotion

5. 6. 15　In addition to advertising, the main promotional methods available to exporters include personal selling, trade fairs and personal visits. Survey sample firms were mostly not users of advertising nor did they engage in personal selling, in the narrow sense. But trade fairs/exhibitions (72%) and personal visits (87%) are, as seen earlier, widely used by these companies.

5. 6. 16. Zou's conclusion was that the intensity of promotion appeared to have a positive effect on export sales, profits and satisfaction with export sales (*op.cit, p348*). More specifically, Leonidou reported that the various studies reviewed confirm that trade fair participation has a positive impact on both export intensity and composite measures of export performance. Noting that many researchers have emphasised the value of personal visits to export markets, he added that his findings generally supported their arguments (*op.cit. p62,63*).

Table 5.11	(iv) Promotion of Exports	Measure	Outcome
	Aspect of promotion+	Trade Missions	$r = .292*$
		Visits to Trade Fairs/Exhibitions	$r = .397**$
		Man-days abroad each year	$r = .473**$
		Annual Face-to-Face Meetings ~	$r = .304**$
		F-to F Equally or mostly abroad	$r = .206$
		Managers at F-to-F Meetings	$r = -.093$
		Annual Frequency Other Non-F-to-F Contacts.	$r = .043$

Notes: * Significant at the 0.05 level; ** at the 0.01 level.
+ Such visits/meetings are of course also relevant to the acquisition of market information, as are trade fairs/ exhibitions (See also Tables 4.30,4.31)
~ These meetings include export intermediaries and final retail customers

5. 6. 17.   Visits to foreign markets include calls on retailers, agents and other marketing intermediaries, while those to trade fairs include UK and foreign venues. Both are seen to correlate quite reasonably strongly with export performance. But the strongest correlation in this division is of course `man-days abroad', spent primarily on one or both of those activities. From the other independent variables it appears that in-person meetings that are held at least equally as often abroad as in the UK are more effective than face-to-face meetings *per se.* The single, weakly negative correlation suggests that company managers at such meetings may not necessarily be beneficial.

5. 7. SUMMARY OF BIVARIATE HYPOTHESES TESTS OUTCOMES

5. 7. 0.   . Having now completed the testing of our 11 hypotheses by Pearsonian bivariate correlation, it is timely to summarise the outcomes. This is done below, first in tabular and then in textual form. It will be noted that a subgroup of correlation coefficients has been omitted from Table 5. 12. These are those with $r < 0.25$.

Table 5. 12:
SUMMARY OF BIVARIATE CORRELATIONS: EXPORT PERFORMANCE

Pearson Correlations & Statistical Significance

Independent Variables		(1%) 0.01	(5%) 0.05	(>5%) >0.05
Managements' export commitment, positive attitudes, and perceptions.				
(i) Management commitment	Continuity of exporting	0.382	-	-
	Committed	-	0.288	-
(ii) Managements' positive attitudes and perceptions				
	UK should join the Euro	0.320	-	-
The exporting firm: (a)Organisation	Special staff skills	-	0.274	-
(b) Planning	Formal export market plans	-	0.278	-
	Forecast export sales	-	0.278	-
	Analyses export profitability	0.453	-	-
(c) Research:				
Main sources of information	Trade missions	-	0.292	-
	Visits to Trade Fairs etc.	0.397	-	-
	Visits to foreign retailers	-	0.281	-
Market selection	Formal & informal methods	0.372	-	-
	Number of markets	0.344	-	-
	Number of regions	0.320	-	-
Products: Marketing Mix:				
(i) Sales channels	Commission Agents	0.313	-	-
	Number of sales channels	0.367	-	-
(ii) Pricing	Cost plus and market-based	-	0.275	-
Sales terms	No of (st) forms used	-	0.261	-
(iii) Promotion	Trade missions	-	0.292	-
	Face-To-Face Meetings	0.304	-	-
	Annual Man-days abroad	0.473	-	-

5. 7. 1.   The bivariate correlates of export performance were calculated and assessed under five main headings: Company Size And Export Performance ; Managements'Export Commitment, Positive Attitudes And Perceptions; Exporting: Organisation, Planning And Research;   Export Markets: Selection Methods And Numbers of Markets & Regions Served; and The Exports `Package', the Marketing Mix : (i) Product Adaptation; (ii) Product Pricing (iii) Export Sales Channels (iv) Promotion.

5. 7. 2. For these Pearson Correlations the chosen dependent variable was the export ratio. The independent variables were selected chiefly to align as far as possible with the various hypotheses being tested. Survey sample correlations were compared with the findings of other empirical research, with particular emphasis on the findings of the two meta-analyses, mainly because of the weight of empirical evidence underlying each of these studies. Main findings, which reflect the $r > 0.25$, are summarised below.

Company Size And Export Performance

5. 7. 3. While it may possibly have an indirect effect, exporting company size is not found to be related to export performance, reducing the possible risk that the key relevant factors may differ between large and other-sized enterprises. This result should be motivational for smaller potential exporting firms. Company size undergoes a final test in Chapter 6.

Managements' Export Commitment, Positive Attitudes And Perceptions

5. 7. 4. Higher export ratios are associated with; management commitment; continuous exporting; and a wish to see the UK join the Euro. They are only weakly related to length of experience of exporting.

Exporting: Organisation, Planning And Research

5. 7. 5. Special staff skills are associated with higher export performance but a special export department, dedicated production lines, an export manager and a separate exports budget, are not. Company planning and some associated activities, in the forms of formal export market plans, forecasting of export sales, and the assessment of export profitability are all positively linked with the said performance .. Company research — (interpreted as `main sources of information') — in the forms of visits to trade fairs and exhibitions, participation in trade missions, and visits to foreign retailers are found to be clearly associated with better export performance.

<u>Export Markets: Selection Methods And Numbers of Markets & Regions Served</u>;

5. 7. 6. Formal and informal methods of export market selection, when used together, are associated with higher export ratios, but correlations are negative when each is used on its own. This survey gives no support to the BETRO market concentration strategy, but it is consistent with its opposite, the market spreading strategy. Export performance is linked with both increasing numbers of markets and of geographical regions.

<u>The Exports `Package' (The 4 Ps); the Marketing Mix</u> :

5. 7. 7. <u>(i) Product adaptation</u>: Export performance is found to be only weakly associated, positively and negatively, with product adaptation, design capabilities/ practices, and product development processes.

5. 7. 8. <u>(ii) Sales channels</u>: Of the four main types of sales channels routes, only Commission Agents shows a positive association with performance that rises above our cut-off level. This is also the case for the number of sales channels used, suggesting that flexibility in this regard may be advantageous.

5. 7. 9. <u>(iii) Pricing, currency, sales terms</u>: Neither cost plus nor market-based pricing methods, when used singly, have any apparent impact on export performance, but in their combined form they are found to show a reasonable level of positive correlation. The claimed benefits of pricing and invoicing in the customer's currency does not find any support in these correlations, except that `sterling only' is negatively associated with export performance. Each of the main quotation/sales terms correlates positively but only weakly with export performance while the number of terms used by

a firm shows a positive correlation of reasonable strength, suggesting beneficial flexibility.

5. 7. 10. <u>(iv)   Promotion</u>**:** Of the main forms of promotion, there is no specific information on survey sample firms' advertising spending levels, or personal selling, but there are clear indications in respect of other forms**.** The strongest positive correlation with export performance is total man-days spent abroad each year. Next are visits to trade fairs & exhibitions, followed in turn by trade missions and visits to foreign retailers**.** The final useful correlation is for face-to-face meetings, variously with sales channel intermediaries and existing/ potential customers, which are conducted equally or mostly abroad.

5. 8. MODIFICATION OF THE RESEARCH HYPOTHESES

5. 8. 0.   In line with good scientific method, the hypotheses guiding the research need to be modified to reflect the outcome of the foregoing correlations. *(`…if the* theory *is in conflict with the evidence, it will usually be amended to make it consistent with those facts (thereby making it a better theory); in extreme cases it will be discarded, to be replaced by a superior alternative (Lipsey, R.G., 1989, p25)).* And the same principles govern the testing of hypotheses *(Cerrudo, K.,2006, p1).* All but one of those that have fallen short of the cut-off value have been dropped and the remainder modified as necessary to take account of the findings. This process helps to reflect the specific conditions that apply in knitted apparel exports.   For convenience of comparison, we begin by repeating here the research hypotheses formulated in Chapter One:

H : Exporting firm size is positively related to export performance;
H1: Managements' outlook, manifested as export commitment, positive attitudes and
    perceptions is positively related to export performance
H2: A good export organisation is positively related to export performance;
H3: Export planning is positively related to export performance;
H4: The use of international marketing research information is positively related to
     export performance;
H5. Formal export market selection methods are positively related to export
    performance;
H6: Product adaptation is positively related to export performance;
H7: Export performance is positively related to the number of markets served;
H8   Promotional intensity is positively related to export performance;
H9   How price is determined is not related to export performance
H10:The type of export channel used is not related to export performance;

5. 8. 1.   Though based on a substantial review of empirical studies and other

research data, these hypotheses when tested by bivariate correlation have been shown

not to be a fully accurate reflection of the export dynamics of the United Kingdom

knitted apparel industry. Therefore, at the end of this first phase of testing, they are

modified as below. (It was not thought necessary to test further export organisation.).

5. 8. 2. In the UK knitted apparel sector, export performance is positively related to:
– Managements' export commitment, positive attitudes and perceptions;

– Export planning and special staff skills;

– The use of international marketing research information;

– A mix combining formal and informal market selection methods;

– An increasing number of markets and regions served;

– A pricing approach which employs (a) both cost plus and market-based methods; and,
   (b) uses more than one type of sales term (e.g FOB);

– The use of two or more types of sales channel, and Commission Agents in particular;

– Promotional intensity via trade missions, visits to trade fairs/exhibitions, number of
annual face to face meetings and number of man-days abroad each year. These modified
hypotheses will be used to guide the final data analyses in Chapter 6.

<u>5. 9. CONCLUSION AND PRELUDE TO THE NEXT STAGE</u>

5. 9. 1. Although the foregoing bivariate correlation analysis has provided a useful initial test of our hypotheses, and has shown, inter alia, which of our independent variables are strongly related, weakly related or entirely unrelated to export performance, it also faces two particular difficulties. Both of these stem from the nature of the bivariate process itself.

5. 9. 1. 1. The first is two-sided; when we use Pearson correlations in hypothesis-testing mode we run the risk of making one or other of two errors. Type 1 error is the probability that, solely through chance, we shall reject –or fail to accept- the null hypothesis when it is true; Type 2 error consists in the probability of failing to reject the null when it is false. In the first case we risk wrongly concluding that there is a statistically significant difference between, say, two means when there is not; the risk in the second case is exactly the reverse-failing to reject the null when it is false (i.e. when there is just such a significant difference between the two means. *(Hair, J.F.,et al, 2000, P154, P155).*

5. 9. 1. 2. Causes vary by error type. Small sample size is often the main cause of Type 2 error (Statistics Glossary, Glasgow University). While Type1, often seen as the more serious of the two, can result from violation of assumptions, the main cause is related chiefly to the number of correlational computations and the *alpha* level. For example, with alpha set at its typical value of 0.05 and multiple correlational computations conducted, we could expect Type 1 error to turn up, by chance, in 5 per cent of results.

5.9.1.3   The first of the two main methods that are used in the effort to limit Type 1 error is the traditional Bonferroni procedure. Under this the risk of error is minimised by dividing the chosen alpha value (e.g 0.05) by the number of correlations computed. If the latter is 10, the new alpha would be 0.005 and no correlational coefficient would be declared significant unless its *p*-value fell below this level**.** *(Green, S.B., et al, 2000, p204, 238).* The second, somewhat less demanding rule is that the highest correlation should be tested at 0.05/C, the next highest at 0.05/C-1 and so on for the rest.

5. 9. 2. Because even this second rule is very stringent when testing many coefficients, with smallish samples and given the relatively low level of correlations in social sciences, such conservative tests will incur a high risk of causing a Type 2 error. Therefore we did not attempt to make any such Bonferroni adjustments but followed the usual researcher practice of calculating all correlations at the standard 0.05 level; this in the recognition that the significance shown by one in twenty of the correlations may have been spurious. (See NCSU, PA765, P9: D/L 28/7/05).

http://www2.chass.ncsu.edu/garson/pa765/correl.htm

5. 9. 3. We turn now to the second difficulty that arises from the nature of the bivariate process. As we have seen, the Pearson bivariate correlations have shown, inter alia, the strength and direction of independent variables' relationship with the dependent variable. But in doing so they have implicitly assumed that each of the independent variables considered is independent of the others (i.e.that there are no correlations between them) and that is often not the case. And, as scholars advise, to the extent that such correlations do exist any specific independent variable will account for less of the variance in the dependent variable(s) than it appears to do. In such situations, to take

account of correlations between all variables, it will be essential to use a multivariate method that analyses all variables simultaneously *(Diamantopoulos, A. et al, 1997, p209 et seq).* But this is no mere remedy. As Gatty points out *(Hair et al, 1992, p3),* if a problem is not treated as a multivariate one, it is treated superficially**.**

5. 9. 4. Chapter 6 is entirely concerned with the selection, use and results obtained from the multivariate analysis of our survey data.