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**ENVIRONMENTAL FACTORS
AFFECTING THE INTERNATIONAL
TRANSFER PRICING DECISIONS OF
MULTINATIONAL ENTERPRISES: A
FOREIGN-CONTROLLED VERSUS
UK-CONTROLLED COMPANIES' COMPARISON**

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Abstract

A number of environmental factors influence the international transfer pricing (ITP) decision processes of multinational enterprises (MNEs). The extent to which each of these factors affect the process depends on management's perception of its relative importance. While a number of studies have examined the relative importance of the environmental factors affecting the ITP practices of homogenous groups of MNEs, these studies have not distinguished between the factors as they affect foreign-controlled firms and locally-controlled ones. This study examines the relative importance of seventeen environmental factors by foreign-controlled MNEs and UK-controlled ones. Data was collected by means of questionnaires administered on 300 UK-based companies, half of which are foreign-controlled. The results indicate similar rank ordering of the seventeen environmental factors when taken as a whole. However, when the factors were layered into three distinct classes (income-shifting, internal operations and economics-related), the two groups of firms were found to be similar in their rank ordering of income shifting related factors. Their ranking of internal operations and economics related factors was, however, dissimilar. On individual factor level, significant differences were found in the way five environmental factors are ranked by members of the two groups. The findings of the study show that the location of control of UK-based MNEs influenced rating of environmental factors. There are possible implications for designers of ITP systems, managers of MNEs and regulators of ITP practices.

Contents

List of Tables	I
1. Introduction	1
2. Related Literature	1
3. Research Methodology	7
3.1 Hypothesis	7
3.2 Sample Selection	8
3.3 Data Collection	8
3.4 Characteristics of Respondents	9
3.5 Data Analysis	11
3.5.1 Data measurement	11
3.5.2 Statistical tests	11
4. Results and Discussion	12
5. Summary and Conclusions	17
References	19

List of Tables

1.	Characteristics of Respondents	10
2.	Statistical Test of Order of Ranking of Environmental Factors by UKDCs and FCDCs	12
3.	Spearman Correlation Coefficients (r_s) Test of Ranking Order of Grouped Environmental Factors	14
4.	Mann-Whitney U Test of Differences in Importance of Environmental Factors	15

1. Introduction

International transfer pricing (ITP) is the process of attaching monetary value to products and services transferred between related companies located in different countries. This process, while providing multinational enterprises with a range of opportunities, is also subject to constraints by a number of environmental factors (Leitch and Barrett, 1992; Emmanuel and Mehafdi, 1994). The degree of emphasis placed on these factors, however, differs. While the difference in relative emphasis have been empirically explored among homogenous groups of MNEs, little is known about how foreign-controlled firms rank environmental factors in comparison to their indigenously-controlled counterparts. This survey investigates the relative importance of seventeen environmental factors as ranked by two groups of UK-based MNEs - foreign-controlled domestic companies (FCDCs) and UK-controlled domestic companies (UKDCs).

Data was collected by means of a questionnaire, which was administered on 150 UKDCs and FCDCs each. Results of statistical analysis of responses indicate high level of concord between the two groups of companies on the rank ordering of all the seventeen environmental factors put together. When the factors were layered into three distinctive classes, however, the two groups only agreed on the ranking order of income shifting related factors. They failed to agree on the ranks of internal operations and economics related factors. On individual factor level, statistically significant differences were found in the way five of the environmental factors are ranked by members of the two groups. Findings also portray location of control influences on the rating of some of the other environmental factors by respondents.

The rest of this paper is organised as follows. Related literature on the subject of the paper are reviewed next, followed by a description of the research methodology including the research hypothesis, sample selection, data collection and analysis. The results of the study are then presented and discussed. A brief summary concludes the paper.

2. Related Literature

There is little doubt that the environmental context within which ITP choices are made affect the decision processes of MNEs. Environmental factors such as regulatory controls, profit and loss relationships, competition, etc, are constraining variables to the achievement of firms'

ITP objectives (Leitch and Barrett, 1992). Empirical investigations of these factors and their effect on the ITP policies of MNEs have been carried out and reported in the literature. The earliest of these studies concentrated on identifying these factors, while later studies went further to establish the relative importance of the factors.

Shulman (1966) was probably the first to examine the problem of TP when a firm goes international. His thesis, which he justified as a necessity in consideration of the needs expressed by managers and because of the general absence of study on the subject, involved in-depth field study of eight large US manufacturing companies. These firms possessed large investments and enjoyed substantial income in foreign countries to the extent that they jointly accounted for as much as eight per cent of total overseas sales of the whole US manufacturing industry in 1964. Shulman identified the key environmental factors to include corporate income taxation, import and custom duties and tariffs, currency fluctuation, economic restrictions by host governments (e.g. on currency/profits repatriation, import number and type, expropriation, etc) foreign financial standing, competitive advantage of subsidiaries, foreign partnership, world pricing policy, public relations, etc. Although he failed to investigate the relative importance of these factors, Shulman's thesis represented a useful step in the cycle of research, analysis and theorising about a new, little-understood, but highly significant field.

Green and Duerr (1970), the first mainly questionnaire-based study of ITP documented the response of 130 MNEs to questions on their ITP practices. Their findings indicate that respondents' ITP policies are constantly under pressures from both organisational and environmental factors such as the desires of foreign-based subsidiary managers and executives, tax and customs considerations, host and home government attitude, local competition and availability of foreign exchange. They reported that taxation and customs duties, in particular, have a substantial impact on ITP decisions of firms.

Burns (1980) also investigated the effects of fourteen variables on the TP decisions of US-based MNEs. She administered questionnaires on 210 firms from which she received 62 useable responses. Using factor analysis, she isolated ten variables with the greatest influence on the intra-firm pricing decisions of the respondents. "Market conditions in the foreign country", "competition in the foreign country", and "reasonable profit for foreign affiliates", in that order, were found to be the three most influential factors in the TP decisions of firms. "Other US Federal taxes", "management of cash flows" and "floating exchange rates" were

found to have little or no influence on the process. Perhaps most importantly, Burns also found that income tax considerations do not significantly influence the TP decisions of her respondents.

Tang (1982) presented the findings of a questionnaire-based study of the environmental factors affecting the ITP decisions of UK MNEs. Of the twenty factors investigated, overall profitability, competitive position of subsidiaries and profit evaluation of subsidiaries were the three highest ranked respectively; while the volume of transfers, risk of expropriation and host government FDI requirements were the three least ranked factors. Also using factor analysis, Tang was able to summarize the twenty factors into six important factor dimensions consisting of: (1) governmental restrictions and the needs for cash flows and funds in foreign subsidiaries; (2) customs duties, antidumping and antitrust legislation; (3) inflation and currency fluctuations; (4) restrictions on royalty or management fees and the interest of local partners; (5) relationships with host countries and competitive positions of foreign subsidiaries; and (6) performance evaluation.

Yunker (1983) investigated the relationship between performance evaluation, subsidiary autonomy, environmental factors and the TP policies of US-based MNEs. With a useable response rate of 14.5 per cent (52 out of 358 *Fortune 500* corporations), she extensively applied various correlation tests to her data. She found statistically significant relationships between environmental factors and TP policy decisions. Specifically, her results revealed that overall demand for company product, government regulations, material and labour costs and the level of competition (in that order) are the most important environmental factors affecting the TP policies of US companies; and that environmental factors are positively correlated to almost all performance evaluation criteria as well as market-oriented TP methods.

Mostafa et al (1984) examined how far the TP system of a company could be predicted from twenty international and domestic determining factors. They found overall profitability to be the most important determinant of ITP. Other variables of importance include divisional autonomy, performance evaluation of divisions and market share of end products.

Al-Eryani et al (1990) examined the impact that both organisational and environmental factors have on the ITP strategies of 164 US MNEs. Their study, which was questionnaire-based, found legal constraints and firm size to be the most significant factors influencing the ITP strategies of US MNEs. Similar to the findings of Yunker (1983) and Benvignati (1985),

they also found that larger firms tend to use market-based TP methods which enable them to comply with the laws and regulations of both home and host countries.

The above-reviewed studies all investigated the environmental factors that influence ITP decisions in a uninational setting. Other studies have expanded knowledge in this area by comparing the relative importance of the factors across more than one national setting. Arpan (1972) compared the ITP systems and practices of non-US MNEs to those of US MNEs. His dual data collection methodology involved open-ended questionnaires administered on the subsidiaries of 145 non-US firms and follow-up interviews with 16 of his 60 respondents. He also interviewed partners of international accounting firms. He found, *inter alia*, that all MNEs, whether US or non-US seem to take the same (environmental) factors into account when they formulate their guidelines for TP. However, non-US firms, especially French, English and Italian place more importance on export subsidies and tax credits than US MNEs. Similar to Shulman (1966), Arpan was able to identify a number of environmental factors that are of potential importance to MNEs in their ITP decision-making process. They include the nature of competition, tax considerations, custom duties, export subsidies, inflation, exchange restrictions and devaluation, nationalisation and expropriation, etc. He however failed to carry out further analysis on the relative importance of the variables.

Kim and Miller (1979) investigated the factors influencing the ITP policies of US MNEs operating in eight developing countries by ranking eight factors in the order of importance placed on them by respondents. They found profit repatriation restrictions and exchange controls in host country to be the two most important factors affecting ITP decisions. Other factors of importance include joint venture constraints, tariffs/custom duties and income tax liability (in that order) in host country. A key finding in this study, in comparison to earlier studies such as Greene and Duerr (1970) and Arpan (1972), is the diminished importance attached to income tax by respondents.

Tang and Chan (1979) progressed research on the subject by investigating the environmental determinants of the ITP policies of US and Japanese MNEs. From an aggregate useable response rate of nineteen per cent (76 US and 50 Japanese firms), they found overall profitability to be the most important of twenty environmental factors affecting ITP decisions of both sets of MNEs. Other factors of joint importance to them are “restrictions on repatriation of profits”, “competitive position of foreign subsidiaries” and “performance evaluation of subsidiaries”. They however found that both sets of firms gave low ranking to

antitrust legislation of foreign countries”, “risks of expropriation” and “domestic government requirements on direct foreign investments”. Kendall and Spearman correlation coefficient tests revealed statistically significant level of agreement between the two sets of companies. Five variables were however pinpointed (by multiple discriminant analysis) as causing the greatest divergence in the opinion of the two groups. They were “interests of local partners”, “devaluation and revaluation of host countries currencies”, “antidumping legislation of foreign countries”, “input restrictions imposed by foreign countries”, and differentials in income tax rates and legislation among countries”.

Tang (1981) further made similar comparison of environmental factors affecting ITP policies between UK and Canadian MNEs. He found that both sets of MNEs, like their US and Japanese counterparts, ranked overall profitability as the most important factor considered in their ITP decision process. UK MNEs ranked the competitive position of their subsidiaries in foreign countries second while the same factor was ranked third by Canadian MNEs. Opinions differ significantly between the two groups with regards to the ranking of the influence of custom duty rates and legislation. While UK firms ranked it eleventh out of twenty, Canadian firms ranked it second. “Domestic government requirements on direct foreign investments”, “rates of inflation in foreign countries” and “risk of expropriation in foreign countries” all received low ratings from both sets of companies.

Johnson and Kirsch (1991) examined the factors that are important for the achievement of the ITP objectives of US-based MNEs. They surveyed 576 firms from *Business Week Global 1000* and *Fortune 500*. From the 79 useable responses received, they found that minimisation of corporate taxes was the most important ITP goal of US firms. Other important goals are increasing overall corporate profit and simplicity/ease of application. Performance evaluation of subsidiaries’ managers was the least ranked corporate objective. They were surprised to find that even firms who claim to use decentralised ITP policies ranked performance evaluation low.

Borkowski (1992) investigated the motivational criteria behind the choice of ITP methods by US-based MNEs. She found that the choices of her 79 respondents are affected not only by organisational variables such as size, conflict between parent and subsidiary, ease/cost criterion and degree of decentralisation, but also by a number of international factors such as international tax and tariffs, economic stability of parent MNEs, favourableness of the economy to parent and S. 482 regulations.

Tang (1993) administered questionnaires on all the 500 firms listed in the 1990 edition of the *Fortune 500* directory of the largest industrial corporations in the US. Analysis of the 143 responses (covering 24 industrial groups) he received revealed that overall profitability, inter-country differentials in income tax rates and regulations, and restrictions on the repatriation of profits and dividends by foreign countries (in that order) were the three most important variables considered by his respondents. US government requirements on FDI, risk of expropriation by foreign country and rates of inflation in foreign country, on the other hand, were the three least influential environmental variables. Tang's comparison of these results with his 1979 findings revealed little differences in the ranking of the top three and last three variables. For future researches, he suggested that studies should be designed and conducted to determine whether or not foreign-controlled companies are using ITP tactics to avoid or evade taxes.

Borkowski (1997a) compared, *inter alia*, the environmental factors affecting the ITP decisions of Japanese and US MNEs. She found statistically significant divergence in the ranking of a number of factors, including economic stability, number of ITP audits by tax authorities, transnational concern on TP methods (TPMs), and financial recording and disclosures. She traced some of these divergences to the differences in the TPMs used by the MNEs.

Borkowski (1997b) extended her research to compare the environmental factors affecting the ITP choices of Canadian and US MNEs. Her findings showed little differences between the emphases placed on the selected factors by the two sets of MNEs, with prior audit by tax authorities as the only statistically significant factor across both country and TPM.

The above excursion into the literature provides some insight into the degree of emphasis placed on the various environmental factors by ITP decisions-makers across a number of national jurisdictions. Of even greater value to ITP researchers, practitioners, and regulators alike is the dichotomy between the factors emphasised by foreign-controlled entities as opposed to the ones emphasised by locally-controlled ones. It has been widely suggested in the literature that there is a link between reported performances and the ITP practices of MNEs (Grubert and Mutti, 1991; Cravens and Shearon, 1996; Jacob, 1996; etc). Current empirical evidence reveal significant divergence between the performance and post-performance distributions of foreign- and locally-controlled MNEs and differences in ITP practices have often been cited as the most likely reason for such divergence (see, for

example, Wheeler, 1988; 1990; Kim and Lyn, 1990; Crain and Stitts, 1994; Munday and Peel, 1997; Oyelere and Emmanuel, 1998). While the optimum balancing of the varied influences of a number of environmental factors remain the crucial touchstone for ITP decisions, no empirical study have explored possible differences between the level of emphasis placed on these factors by these two distinct sub-groups of firms. This gap in the literature provides justification for the current study, which seeks to find out whether differences could be found between these two groups with regards to this crucial aspect of their ITP practices. The methodology employed for the research is described next.

3. Research Methodology

The main objective of this study is to establish whether there are differences between the degree of importance attached to the environmental factors affecting ITP formulation process by UKDCs and FCDCs. Methodological highlights of the study, including the statement of research hypothesis, sample selection and characteristics, data collection and analysis, are described as follows.

3.1 Hypothesis

As reviewed above, a number of studies have empirically explored the degree of importance placed on certain environmental factors of ITP, both on a unination basis and by comparison across two or more national jurisdictions. What is yet to be explored is whether there are differences in the level of emphasis placed on the factors by distinct sub-groups, such as FCDCs, on the one hand, and indigenously-controlled firms, on the other. Do these two groups of companies take similar environmental factors into consideration? What degree of emphasis do they place on each factor? Taking the view that these two groups of companies are all operating in the UK under similar economic climates, an assumption of equal rating and ranking of environmental factors is made. To verify the validity of these assumptions in relation to the objective of this study, two null hypotheses are stated as follows.

H₀1: There is *no* correlation in the aggregate rank ordering of environmental factors affecting ITP by FCDCs and UKDCs.

Alternatively,

H_{a1}: The rank ordering of the environmental factors affecting ITP by both groups of companies is cognate.

Spearman's rank-correlation coefficient (r_s) is employed to test this hypothesis.

To further investigate possible differences in the rankings of individual environmental factors, a second hypothesis is stated as:

H₀₂: There are *no* differences in the rating of individual environmental factors affecting ITP policy formulation process by FCDCs and UKDCs.

The *Mann-Whitney U* (*MW-U*) test is employed in testing this hypothesis.

3.2 Sample Selection

Sampled companies were selected from the *Times 1000* which lists the top thousand companies operating in the UK. The entire population was looked up in Dun & Bradstreet's *Who Owns Whom* to establish their ultimate parentage; that is, whether they are foreign or UK controlled¹. One hundred and fifty of the foreign-controlled firms were randomly selected to make up our sample of FCDCs. These were then carefully matched against 150 UKDCs from the same population on the bases of industrial classification and size. The sample for the study is therefore made up of 300 MNEs – 150 FCDCs and 150 UKDCs.

3.3 Data Collection

Data for this study was collected by means of a questionnaire that was designed to capture information on various aspects of the ITP practices of UK-based MNEs. The relevant section of the questionnaire listed seventeen environmental factors, which are known to influence the ITP policy formulation processes of firms. Respondents were asked to reflect how important these factors are to their own process, on a five-point Likert-like scale of *extremely important* to *unimportant*. They were also asked to identify the most critical of these seventeen factors.

¹ A 51% foreign ownership criterion was used to classify firms as foreign-controlled.

The questionnaire was piloted on 60 firms (30 FCDCs and 30 relatively-matched UKDCs). A 40 per cent effective response rate was recorded. Minor amendments were made to the pilot questionnaires before the main survey was undertaken.

The final survey instrument, consisting of a cover letter, questionnaire and reply-paid envelope, was administered on the 300 sampled companies. Their current registered addresses and names of Finance directors were obtained from the FT EXTEL and Pencom databases. It was necessary to obtain and mail the questionnaires to named officials as it is considered important for increased response rates (Collier and Wallace, 1992).

After two waves of mailing, a total of 145 (70 FCDCs and 75 UKDCs) responses were received, 102 (49 FCDCs and 53 UKDCs) of which were usable, an overall usable response rate of 34 per cent. Seventy-eight (38 FCDCs and 40 UKDCs) of the usable respondents provided full answers to the questions relating to the current study.

Non-response bias tests were conducted on the samples. Respondents were compared to non-respondents (Wallace and Mellor, 1988) on the bases of size and industrial classification. A Kolmogorov-Smirnov test indicated no significant difference between the two sets of companies.

Forty-three of the respondents to the survey declined participation. The reasons cited included time constraint (30%: 6 FCDCs and 7 UKDCs), confidentiality (26%: 9 FCDCs and 2 UKDCs) and company policy (12%: 0 FCDCs and 5 UKDCs). Future researchers in this area should construct a bridge across these obstacles if increased response rate is desired.

3.4 Characteristics of Respondents

Participating respondents are classed by capital employed in Table 1 (Panel A) below. About 36 per cent of them had capital employed ranging between *£111 - £300 million* inclusive. Fifteen of these are UK-controlled while the remaining thirteen are FCDCs. Of the 38 responding FCDCs, fourteen (about 37%) had capital employed ranging from *£46 - £110m* while three had *less than £15million*. This compares with twelve (33%) and five respectively of the 40 respondent UKDCs. Seven members of each group had capital employed ranging between *£15m - £45 million*, while the capital employed by one company each from both groups exceeded *£300 million*.

A classification of respondents by industry is presented in Panel B of Table 1. The *Engineering - General* sector produced the highest number of respondents (about 13%), followed by the *Electronics* sector (about 10%) and *Packaging, paper & printing* and *Health & household* sectors with nine per cent each. Most of the other sectors returned usable responses ranging from two to six per cents each.

Table 1
Characteristics of Respondents

Panel A: Size - respondents by capital employed						
Capital employed	UKDCs		FCDCs		All	
	No	%	No	%	No	%
Less than £15 million	5	12.5	3	7.9	8	10.3
£15m - £45 million	7	17.5	7	18.4	14	17.9
£46m - £110 million	12	30.0	14	36.8	26	33.3
£111m - £300 million	15	37.5	13	34.2	28	35.9
Greater than £300 million	1	2.5	1	2.7	2	2.6
Total	40	100.0	38	100.0	78	100.0

Panel B: Industry - respondents by Times 1000 industrial classes				
Industry	Respondents			
	UKDCs	FCDCs	All	%
Aerospace	1	1	2	2.6
Agriculture	1	0	1	1.3
Building materials & services	2	1	3	3.8
Business services	1	0	1	1.3
Chemicals	2	2	4	5.1
Contracting, construction, etc.	2	0	2	2.6
Electricals	1	1	2	2.6
Electronics	6	2	8	10.3
Engineering - general	3	7	10	12.8
Food manufacturing	0	2	2	2.6
Food wholesaling & retailing	1	1	2	2.6
Health & household	4	3	7	9.0
Media	2	0	2	2.6
Metal & metal forming	2	2	4	5.1
Miscellaneous	3	3	6	8.0
Oil, gas & nuclear fuels	1	1	2	2.6
Other industrial materials & products	1	4	5	6.4
Packaging, paper & printing	4	3	7	9.0
Transport - manufacture & distribution	1	3	4	5.1
Transport services	2	2	4	5.1
Total	40	38	78	100.0

3.5 Data Analysis

The study's aim of comparing the emphasis placed on certain environmental factors of ITP was achieved by applying the method of statistical analysis described below.

3.5.1 Data measurement

For each of the seventeen environmental factors identified for the study, a five-point Likert-like scale was attached, with respondents being asked to indicate the level of importance by ticking one of the points. Returns are coded from 5 (extremely important) to 1 (unimportant), yielding a set of ordinally-scaled data. Ordinal or ranking scales order objects, people or characteristics along a continuum with each value in the continuum representing a higher (or lower) point on the scale. As long as order is preserved when transformations are made, ordinal scale information remain unchanged. The scales are therefore said to be "unique up to a monotonic transformation" (Siegel and Castellan, 1988). The ordered data collected on environmental factors are employed to test the null hypothesis in this study.

3.5.2 Statistical tests

Fundamental to any useful statistical analysis of a research work is the choice of an appropriate statistical test (Kinnear and Gray, 1997). Because of the ordinal nature of the data collected for the study, nonparametric tests - *Spearman's rank-correlation coefficient* (r_s) and the *Mann-Whitney U* ($MW-U$) test - were employed in the hypotheses testing. *Spearman's rho* is a nonparametric test that makes use of ranks given to factors by research subjects. It is applicable to data at ordinal level and is unencumbered by the numerous assumptions needed for a parametric correlation test.² The $MW-U$ test is one of the most powerful tests for exploring two independent samples to see whether they are from the same population. It is equivalent to the parametric t test, and is useful when the restrictive assumptions of the t test need to be avoided or when observations are measured on a scale that is weaker than interval scaling (Siegel and Castellan, 1988). The test is more powerful than the median test since it uses the ranks of cases. The results of the application of the tests are presented in the next section.

² Anderson et al (1986).

4. Results and Discussion

The study set on to establish the differences in the degree of importance associated with a number of environmental factors affecting ITP by FCDCs and UKDCs. In other words, to what extent do they differ in the way they rank environmental factors on aggregate and individual bases. The r_s was employed to test the hypothesis of no differences in the ranking order of the seventeen identified environmental factors by the two groups of companies. The rankings (mean) of the factors by the groups and the results of r_s tests are presented in Table 2.

Table 2
Statistical Test of Order of Ranking of Environmental Factors by UKDCs and FCDCs

Panel A: Ranking of Environmental Factors						
Environmental Factors	UKDC (n = 40)			FCDC (n = 38)		
	Mean	Rank	SD	Mean	Rank	SD
Overall profit of the company	4.00	1	1.06	3.53	1	1.35
Performance evaluation of foreign subsidiaries	3.53	2	1.11	2.82	5	1.31
Simplicity/ease and costs of application	3.43	3	.93	3.45	2	.80
Differences in inter-country tax rates and legislation	3.30	4	.97	3.29	3	1.29
Reasonable profit for subsidiary	3.15	5	.95	3.05	4	1.04
Competitive position of subsidiaries in other countries	3.05	6	1.13	2.79	6	1.28
Upholding the autonomy of subsidiaries	3.05	6	.93	2.61	8	1.20
Maintenance of cash flows	2.93	8	.86	2.39	12	1.10
Custom duties and regulations in countries of operation	2.75	9	.93	2.50	9	1.11
Restrictions on repatriation of income	2.75	9	1.01	2.21	13	1.07
Maintaining good relations with host countries	2.72	11	.72	2.74	7	1.06
Economic/market conditions in host country	2.67	12	.73	2.21	13	1.09
Financial reporting regulations in countries of operation	2.55	13	.96	2.45	11	1.33
Currency re/devaluation in countries of operation	2.50	14	1.04	2.50	9	1.20
Joint venture/local ownership constraints	2.22	15	.95	2.16	15	1.20
Import restrictions in countries of operation	2.07	16	1.02	1.87	17	.99
Royalty restrictions	1.87	17	.97	2.00	16	1.07

Panel B: Spearman correlation coefficients r_s test of ranking order			
		UKDC ranking	FCDC ranking
Spearman's rho	Correlation Coefficient	UKDC Ranking	
		FCDC Ranking	
		1.000	.888
		.888	1.000
Sig. (2-tailed)	UKDC Ranking		.000 ^a
	FCDC Ranking	.000 ^a	
N	UKDC Ranking	17	17
	FCDC Ranking	17	17

(a) = correlation is significant at the .01 level (two-tailed).

Decision: The hypothesis of no agreement in aggregate rank ordering of environmental factors is rejected.

Based on the above results, we reject the null hypothesis which propose no concord in the rank ordering of the environmental factors influencing ITP policies by members of the two groups. There is a statistically significant level of correlation in the views of the two groups. We therefore accept the alternative hypothesis that both FCDCs and UKDCs place similar emphasis on the factors at the 99% confidence level.

This finding, which is consistent with those reported in Tang (1979; 1981) suggests that multinational enterprises, their control location notwithstanding, retain a global outlook on the factors influencing their ITP choices. Despite national differences, there is a high degree of consistency in their perception of the risk and opportunities inherent in the overall business environment with regards to their ITP decisions. These may be partially explained by the high quality of information and advice at the disposal of the management of these large corporations. Most of them are likely to be buying into similar competent sources of advice and information on ITP matters.

To investigate this position further, the factors were grouped into three distinct classes, on the basis of whether they are likely to have economic, income-shifting or internal operations implications for the respondents. *Spearman's rho* test was then separately applied to the rank ordering of the factors in each of the three groups by FCDCs and UKDCs.

Table 3
Spearman Correlation Coefficients (r_s) Test of Ranking Order of Grouped Environmental Factors

Environmental Factors by Groups	Ranking*		TEST STATISTICS	
	UKDC	FCDC	<i>rho</i>	Sig. (<i>p</i>)
Income-shifting				
Overall profit of the company	1 (1)	1 (1)		
Differences in inter-country tax rates and legislation	4 (2)	3 (2)		
Custom duties and regulations in countries of operation	9 (3)	9 (3)		
Restrictions on repatriation of income	9 (3)	13 (4)		
Import restrictions in countries of operation	16 (4)	17 (6)		
Royalty restrictions	17 (5)	16 (5)	.928	.008 ^a
Internal operations				
Performance evaluation of foreign subsidiaries	2 (1)	5 (3)		
Simplicity/ease and costs of application	3 (2)	2 (1)		
Reasonable profit for subsidiary	5 (3)	4 (2)		
Upholding the autonomy of subsidiaries	6 (4)	8 (4)	.400	.600
Economic				
Competitive position of subsidiaries in other countries	6 (1)	6 (1)		
Maintenance of cash flows	8 (2)	12 (5)		
Maintaining good relations with host countries	11 (3)	7 (2)		
Economic/market conditions in host country	12 (4)	13 (6)		
Financial reporting regulations in countries of operation	13 (5)	11 (4)		
Currency re/devaluation in countries of operation	14 (6)	9 (3)		
Joint venture/local ownership constraints	15 (7)	15 (7)	.571	.180

* = Intra-group ranks are bracketted.

(a) = correlation is significant at the .01 level (two-tailed).

The results (Table 3) provide interesting additional insight into the comparative ranking of the factors. While members of the two groups agree on the ranking of the income-shifting factors, no such accord was found in their ranking of economic and internal operations factors. It appears therefore that, more than any other factor, both FCDCs and UKDCs place congruent emphasis on income-shifting considerations. This is despite the fact that the ranks are widely dispersed - high for *overall profit* and *inter-country tax rates*; medium for *custom duties* and *income repatriation restrictions*; and high for *import* and *royalty restrictions*. This effect is distinctly separable from their statistically discordant views on economic and internal operations related factors.

This finding suggests differentials in the ranking of individual environmental factors. The second hypothesis was set up to investigate whether there are differences in the rating of

individual factors by members of the two groups. The *MW-U* test was employed to test this hypothesis. The results of the test are presented in Table 4.

Table 4
Mann-Whitney U Test of Differences in Importance of Environmental Factors

FACTORS	MEAN RANK		TEST STATISTICS			
	UKDCs *	FCDCs* *	U	W	Z	Sig. (p)
Overall profit of the company	43.13	35.68	615.00	1356.0	-1.514	.130
Simplicity/ease and costs of application	39.96	39.01	741.5	1482.5	-.199	.843
Differences in inter-country tax rates and legislation	38.50	40.55	720.0	1540.0	-.414	.679
Reasonable profit for subsidiary	40.16	38.80	733.5	1474.5	-.281	.779
Performance evaluation of foreign subsidiaries	45.44	33.25	522.5	1263.5	-2.446	.010 ^a
Competitive position of subsidiaries in other countries	41.54	37.36	678.5	1419.5	-.838	.402
Maintaining good relations with host countries	38.71	40.33	728.5	1548.5	-.343	.731
Upholding the autonomy of subsidiaries	43.60	35.18	596.0	1337.0	-1.700	.089 ^c
Custom duties and regulations in countries of operation	41.79	37.09	668.5	1409.5	-.960	.337
Currency re/devaluation in countries of operation	39.49	39.51	759.5	1579.5	-.005	.996
Maintenance of cash flows	45.04	33.67	538.5	1279.5	-2.309	.021 ^b
Financial reporting regulations in countries of operation	41.26	37.64	689.5	1430.5	-.730	.466
Economic/market conditions in host country	45.14	33.57	534.5	1275.5	-2.381	.017 ^b
Restrictions on repatriation of income	44.60	34.13	556.0	1297.0	-2.115	.034 ^b
Joint venture/local ownership constraints	40.66	38.28	713.5	1454.5	-.484	.628
Royalty restrictions	38.44	40.62	717.5	1537.5	-.451	.652
Import restrictions in countries of operation	41.83	37.05	667.0	1408.0	-.983	.326

*n = 40; **n = 38

(a) indicates that differences are significant at the 1% level; (b) at 5%; and (c) at the 10% level.

Decision: The null hypothesis *is rejected* with respect to five environmental factors. It *cannot be rejected* for twelve factors

The null hypothesis is rejected for five environmental factors. There are statistically significant differences in the ranking of these factors by members of the two groups. The difference in the ranking of *performance evaluation of foreign subsidiaries* is significant at the 1% level, while those of *maintenance of cash flows*, *economic/market conditions in host country* and *restrictions on repatriation of income* are all significant at the 5% level. Members of the two groups differ in their rankings of *upholding the autonomy of subsidiaries* at alpha = .90 level. The hypothesis of no differences cannot however be rejected for the ranking of the remaining twelve environmental factors.

UKDCs attached significantly higher degree of importance to *performance evaluation of foreign subsidiaries* and to *upholding the autonomy of subsidiaries*. This is not surprising in view of the fact that this group has a greater number of subsidiaries and must therefore recognise the importance of a system that ensures fair subsidiary performance evaluation and autonomy.

UKDCs also attached significantly higher level of importance to *the maintenance of cash flows, economic/market conditions in host country and restrictions on repatriation of income*. These results are surprising. Cash flow problems would have been considered, all things being equal, to be more of an issue for foreign-owned firms. Kim and Lyn (1990) and Munday and Peel (1997), for example, both found that foreign-owned firms have significantly lower cash and liquidity levels compared to domestically-owned firms. The current result may however be a reflection of the parental concerns of the UKDCs in the study. The significantly greater importance attached to economic/market conditions in host country and restrictions on repatriation of income by UKDCs may be explained in a similar manner.

On a general level, *overall profitability* is very important to both FCDCs and UKDCs operating in the UK. It received the highest rating among the seventeen listed environmental factors, and is considered to be the most important factor by 37 per cent of all respondents. Profitability has always remained the single most important factor in most business decisions. Tang (1981) reported that it is the most important environmental factor for MNEs operating in Britain, USA, Japan and Canada.

While there are no statistically significant differences in the importance attached to the *maintenance of good relations with host countries, currency revaluation/devaluation in countries of operation* and *differences in inter-country income tax rates and income tax legislation*, by the two groups, FCDCs appear to place greater importance on them than UKDCs. Relationships with host nations' governments have always constituted a top item on the strategic agenda of firms operating outside their home domain. In some extreme situations, their very existence/survival as a going concern depends on it. The higher rating given to *currency revaluation/devaluation in countries of operation* by FCDCs is also understandable because the value they are able to transfer overseas to their ultimate shareholders depends on fluctuations in currency values. The fact that this environmental factor did not receive a significantly higher ranking with both groups of companies may be

due to the availability of a number of sophisticated financial techniques and instruments for controlling it and ensuring relatively stable currency value over time.

In addition to returning statistically insignificant differences between the groups, a number of environmental factors consistently received low ratings. Both groups of companies do not consider “*import restrictions in countries of operation*”, “*royalty restrictions*” and “*joint venture/local ownership constraints*” to be of much importance in their ITP decisions. These factors must have lost their economic significance to the wave of liberalisation and globalisation that has swept through the world’s market for products, services and investments in recent times.

5. Summary and Conclusions

This empirical study compared the environmental factors affecting the ITP policy formulation processes of FCDCs with those of UKDCs. Tests revealed that the two groups of companies more or less agree on the level-of-importance rank ordering of seventeen environmental factors influencing their ITP decisions. When the factors were layered into three distinct groups, the two groups of companies were found to agree on the ranking of factors evoking income-shifting considerations only. There was no concord in their rank ordering of economic and internal operations grouping of the factors. Furthermore, statistically significant differences were found in their ranking of five individual environmental factors. The hypothesis of no differences in ranking was rejected for *performance evaluation of foreign subsidiaries*, *maintenance of cash flows*, *economic/market conditions in host country*, *restrictions on repatriation of income* and *upholding the autonomy of subsidiaries*. UKDCs placed greater degree of emphasis, not only on subsidiaries-related objectives, but also, rather surprisingly, on economic- and regulation-related factors.

While both sub-groups of firms rated overall profitability as the most important factor of influence on their ITP policies, their location of control, it was found, have obvious impact on the level of importance they attach to most of the factors in this study. This finding should be of great import, not only to managers and designers of ITP systems, but also to national and transnational regulators of ITP practices, including relevant tax authorities.

As is most often the case with studies of this nature, certain possible limitations need to be highlighted. First, the study compared the ITP practices of foreign-controlled firms operating in the UK with those of UK-controlled firms. The foreign-controlled firms are subsidiaries, whose activities and practices may be largely limited by the decisions taken by their parents as well as accounting and other rules and regulations in their parents' home countries. This may, to some extent limit the level of comparability of the data collected. However, these firms, insofar as they operate within the UK, are expected to meet UK regulatory requirements on the subject matter. Also, in addition to disclosure practices differentials, comparing parents with parents, or subsidiaries with subsidiaries in a study of this nature is likely to be confounded by additional nationality-specific variables such as linguistic, cultural and attitudinal tendencies, etc. Secondly, for any questionnaire-based research into the highly sensitive subject of transfer pricing, there is always a possibility that non-respondents are unwilling to divulge information which has potential negative return value. Hence, non-respondents may hold information that may substantially alter the findings of this study. This circumstance, if it exists, is outwith the researcher's control. The negative results of the non-response bias test carried out and reported in this study provides some refuge against this possible limitation.

Emerging thoughts in this area suggest that the subject of transfer pricing is so diverse in nature, that its various aspects cannot be captured through questionnaire-based studies alone. Future researchers may therefore consider additional methodological approaches. A case-based comparison of the ITP practices of the two sub-groups identified here, for example, could be a useful follow-up to this type of study. Another possible avenue for future extension is the application of the current research design to sub-groups in other national jurisdictions. The US, Australia and Japan, with their up-to-date ITP rules and sensitivity to ITP issues, could be prime locations for such replications. Finally, future researchers may consider breaking their samples of FCDCs down by country of ownership to unravel any nationalistic preferences that may exist in the level of emphasis placed on environmental factors by MNEs when formulating ITP policies.

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