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Resource Flows and Organisational Control:  
The Case of Foreign-Owned Subsidiaries in Australia

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## **ABSTRACT**

This study has examined the relationship between resource flows and the degree of HQs control over the subsidiary. Using the data collected from foreign-owned subsidiaries in Australia, we have found that the greater the resource inflows from the MNE into the subsidiary, the greater the level of cultural control at a statistically significant level. However, no significant relationship has been found for output control. Furthermore, no moderating effect of resource outflows from the subsidiary was found for cultural and output control. The limited statistical support found in our study appears to indicate that agency theory may not be sufficient for explaining HQs control in MNEs, thus calling for a need to incorporate additional theory to explain a very sophisticated phenomenon, i.e. organisational control.

## INTRODUCTION

Since the late 1970s, headquarters (HQs)-subsidiary relationship has been extensively examined in international business. The high levels of research or scholarly attention to the HQs-subsubsidiary relationship are largely due to its centrality to the understanding of the internal workings of multinational enterprises (MNEs) (Birkinshaw and Hood 1998; Johnston and Menguc, 2007). The importance of a subsidiary within the MNE still largely lies in its relationship with its HQs. Among the various aspects of the relationship studied, HQs' control over foreign subsidiaries has been widely explored in the literature (e.g. Brandt and Hulbert, 1976; Welge, 1981; Chang and Taylor, 1999; Chung et al., 2000, 2006; O'Donnell, 2000).

The examination of HQs control is mainly predicated on the premise that the HQs and the subsidiary are in an agency relationship. Since its development in the 1960s, 'classical' agency theory has been extended to MNEs to model the relationship between HQs and subsidiaries (Eisenhardt, 1999) in which subsidiaries as agents are expected to work for the benefit of their principals, i.e. the HQs. However, the agency relationship leads to costs ('agency costs') due to the inherent human nature of bounded rationality and opportunism (Williamson, 1975, 1985; Jensen and Meckling, 1976). Principals will thus generally attempt to control their agents (Chang and Taylor, 1999) to minimise agency costs.

Various control mechanisms have been used by MNEs, which include: cultural, behavioural, output control (e.g. Ouchi and Maguire, 1975; Ouchi, 1981; Egelhoff, 1984; Eisenhardt, 1989) and financial, bureaucratic and strategic control (e.g. Gupta, 1987; Hoskisson and Hitt, 1988). The type and amount of control differ across subsidiaries given each subsidiary's particular characteristics, coupled with the external environment it operates in. In particular, a subsidiary's control over, and possession of, critical resources within the MNE network is considered to influence HQs control.

This study aims to examine the relationship between resource flows and the degree of control exercised by the HQs over its subsidiaries, using data collected from 67 Australian subsidiaries of foreign MNEs originating from three major economies i.e. the US, Japan and Germany. We also seek to identify a moderating effect of resource

outflows from the subsidiary to the MNE on the resource inflow-HQ control relationship.

By studying a relatively under-researched host country, i.e. Australia, the study makes important contributions to the literature. First, it provides empirical evidence to the relevance of agency theory to the explanation of parent company control. By examining a unique economic and cultural host environment, the study enriches the existing body of knowledge. In addition, using resource flows within the MNE, it helps identify power dynamics among internal sub-units, especially the subsidiary's power to withstand HQs control relative to its resource dependence on the MNE and vice versa. Furthermore, it shows a shift away from a dyadic relationship in resource flows to a network perspective by including resource flows with the rest of the MNE, i.e. HQs and peer subsidiaries. Finally, this study takes an integrated look at control issues related to three major sources of transactional interdependence which subsidiaries face: knowledge, product and capital interdependencies.

The remainder of this paper is structured as follows. First, we provide a critical review of the literature on parent control in the context of MNEs, from which a set of testable hypotheses are developed. The paper then discusses the research methodology used to collect data for testing the proposed hypotheses. The test results are discussed in the following section, with a summary, limitations and suggestions for further research in the conclusions.

## **ORGANISATIONAL CONTROL IN MULTINATIONAL ENTERPRISES**

Various facets of HQs-subsidary relationship have been examined by researchers, one of which is control and coordination (e.g. Brandt and Hulbert, 1976; Welge, 1981; Chang and Taylor, 1999; Chung et al., 2000, 2006; O'Donnell, 2000). Empirical results regarding parent control in MNEs have been mixed in the literature. These inconclusive results on parent control seem to support the concept of a differentiated network (Birkinshaw and Hood, 1998). According to Ghoshal and Nohria's (1989) differentiated network, a subsidiary and its role within the MNE, in particular determines the nature of parent control (i.e. degree and type) over the subsidiary. This network perspective stresses the critical role of a subsidiary in generating competitive advantage for the entire MNE (Enright, 2000; Edwards et al., 2002).

With increasing resource interdependence among inter-organisational units, an MNE needs to effectively coordinate and control its subsidiary operations to ensure that its internal resources be optimally allocated and utilised. This is particularly so because the subsidiary's relationship with the HQs is not always cooperative but often conflicting (Johnston and Menguc, 2007). The subsidiary may not necessarily act for the benefit of its HQs and may even engage in its own empire building at the expense of its parent HQs.

The conflicting relationship between the HQs and the subsidiary has been explained by agency theory in the literature. Developed in the 1960s to model the relationship between the principal and the agent, agency theory postulates that costs ('agency costs') are likely to be incurred in an agency relationship because of opportunism, bounded rationality and risk aversion (Jensen and Meckling, 1976; Fama, 1980). The agent enjoying information advantage may act opportunistically to maximise his/her utility to the detriment of the principal (Davis et al., 1997). Different preferences for the outcomes between the principal and the agent are thus the main cause of agency costs.

This classical agency theory has been subsequently extended to explain HQs-subsidiary relations within a more complex multinational context. According to the 'extended' agency theory, an agency relationship arises between the HQs and the subsidiary because of the investment of funds and resources by the HQs in the subsidiary (Chang and Taylor, 1999: 545), with the HQs acting as principal and the subsidiary as agent (O'Donnell, 2000). However, the relationship often leads to costs because the subsidiary may not work for the benefit of its parent HQs. For example, a subsidiary may not invest in a project that does not result in a positive outcome for the subsidiary even though the project may contribute to superior performance for the entire MNE.

As noted earlier, the agency relationship has gained particular significance in MNEs with increasing resource interdependencies among subunits within an MNE. The parent company and its subsidiaries are increasingly interdependent on each other for resources essential for overall organisational effectiveness (Lawrence and Lorsch, 1967; Baliga and Jaeger, 1984; Rosenzweig and Nohria, 1994). In particular, with the

development of subsidiary capabilities (Rugman and Verbeke, 2001), the parent company's growing dependence on foreign subsidiaries for critical resources has been an important feature in MNEs. It is thus increasingly important that MNEs control the activities or behaviours of their subsidiaries to align them with the MNE's overall objectives. The decision by an MNE to utilise a particular type of control and degree of control in order to reduce agency costs is related to the characteristics of the relationship (Chang and Taylor, 1999: 546). The ability of the MNE to exercise control over the subsidiary largely depends on power relationships generated by its possession of, and control over, critical resources. The power the MNE enjoys over the subsidiary is also determined by the subsidiary's relative importance within the MNE, i.e. the subsidiary's control over critical resources, value-creating activities and size (Martinez and Ricks, 1989; Boyacigiller 1990). The extent and type of control is differentiated in a manner that reflects the MNE's relative power in its relationship with the subsidiary and vice versa.

In a multinational context where the distance between home and host countries is greater, behavioural control is often less effective (Chang and Taylor, 1999). Output control and cultural control (i.e. staffing control) are thus considered the two most commonly used types of control in MNEs. MNEs depend on output control (Ouchi and Maguire, 1975; Ouchi, 1977) through performance reporting systems (Egelhoff, 1984) in which the subsidiary's performance and outputs are monitored and assessed by the HQs against target. In addition, parent company expatriates as 'carriers' of national culture are more likely to not only hold goals and values similar to those of the parent company, but also instill in subsidiary managers and employees the parent company's organisational culture through socialisation (Edstrom and Galbraith, 1977). Due to this potential socialisation, staffing control is viewed as a form of cultural control through which the interests of subsidiary managers are more likely to be aligned with those of the parent company and the entire MNE. Traditionally, MNEs send parent company expatriates abroad to ensure that the policies and procedures of the parent company are carried out faithfully in foreign operations (Selmer and Lee, 1994; Kim and Gray, 2005).

Subsidiaries are more or less dependent on the parent for various types of resources such as knowledge, product, and capital (Gupta and Govindarajan, 1991; Rosenzweig and Nohria, 1994). Subsidiaries that are more reliant on the parent for these resources, technical and managerial know-how in particular, are expected to be more heavily controlled or influenced by the parent. When high levels of resources are transferred to and invested in the subsidiary, the parent is more likely to exert heavy control over the operations of the subsidiary for better management and utilisation of resources. The following hypotheses are thus proposed.

*H1: The level of cultural control is positively associated with the degree of resource inflows from the MNE to the subsidiary.*

*H2: The level of output control is positively associated with the degree of resource inflows from the MNE to the subsidiary.*

An organisation enters into a dependency relationship with other actors to provide resources critical for its functioning and survival because no organisation is self-sufficient or self-sustaining (Pfeffer and Salancik, 1978). In a multinational context, a subsidiary's ability to exercise control over any of these critical resources provides the subsidiary with an important source of power in its relationships with the HQs and peer subsidiaries. As a result, the extent of resource outflows from the subsidiary to the MNE is also expected to affect parent control, as proposed in the hypotheses below.

*H3: The level of resource outflows from the subsidiary to the MNE moderates the resource inflows-HQs cultural control relationship.*

*H4: The level of resource outflows from the subsidiary to the MNE moderates the resource inflows-HQs output control.*

## **RESEARCH METHODOLOGY**

A cross-sectional survey method was used in this study to examine the hypothesised relationships proposed in an earlier section. The survey method helps further our

understanding of resource flows and level of control practised by foreign MNEs of three nationalities in their Australian subsidiaries. While an in-depth examination of very complicated phenomena of resource interdependence and control is sacrificed, the method is able to ‘...describe the overall picture of a phenomenon, a situational problem, an attitude or an issue, by asking a cross-section of a population at one specified moment in time’ (Jesson, 2001: 398).

### **Sample Selection and Data Collection**

The sample consists of foreign-owned subsidiaries operating in Australia. In this study, the subsidiary is defined as a venture over which the MNE exercises control through majority equity ownership and/or management control (e.g. board composition, decision making). The three nationalities of the US, Germany and Japan were chosen for the following reasons. First of all, MNEs from the three countries represent major economic contributions to Australia, as reflected in their value-added activities. Out of the foreign contribution to the Australian economy, US-owned businesses accounted for the largest contribution to industry value-added, followed by companies from the UK, Japan, and Germany (ABS, 2001). Second, the three distinct cultures (see Hofstede, 1980 for details) are able to demonstrate the impact of country of origin on the type and level of parent control over Australian subsidiaries. Last, the technological and managerial advancement of the parent countries are considered to epitomise knowledge economies. From existing databases (e.g. AMCHAM: USA-Australia Trade Directory, 2006; German Subsidiary Companies in Australia, 2005; Japanese Chamber of Commerce, 2006), we randomly selected a survey sample of subsidiaries that satisfy the definition adopted in our study. A total of 413 subsidiaries, i.e. 141 US, 119 Japanese and 153 German subsidiaries were thus included in our survey sample.

While recognising the relative benefits and costs of different survey methods, e.g. postal vs. email (Raziano et al., 2001), a mail survey method was adopted in this study for various reasons, such as availability of contact details, time, security, response rates (Schaefer and Dillman, 1998). A copy of the survey questionnaire was mailed out to the managing director of each subsidiary. In addition, the attached cover letter specified that the respondent needed to be a member of senior management involved in strategic decision making and routine communication with



his/her parent company. Follow-up calls were made within two weeks of the first mail-out as a reminder to increase response rates (Kanuk and Berenson, 1975; Furse, Stewart, and Rados, 1981). The shorter time period between initial mailing and follow-up calling was to ensure that the questionnaire reaches the recipient, and that the recipient does not discard it, which is in line with that used in prior studies (e.g. Summerhill and Taylor, 1992).

Out of the total of 413 firms contacted, 46 firms were found to be undeliverable mainly due to address changes. We obtained a total of 92 responses, out of which 21 were rejection letters and four lacking significant amount of information. The deletion of these 25 responses resulted in a final response sample of 67 subsidiaries with a response rate of 18.3 percent. The majority of these 67 respondents were also found to hold senior managerial positions at the time of the survey and are thus considered to be appropriately positioned to answer the survey questions. The distribution of the response sample by parent nationality is presented below in Table 1.

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According to Table 1, the sample is represented by 28 US firms, followed by 25 German and 14 Japanese-owned subsidiaries. US firms account for 41.8 per cent of the sample with German and Japanese firms accounting for 37.3 per cent and 20.9 per cent, respectively.

The final response rate, albeit low, is comparable to that of other single-country mail surveys found in the literature (e.g. Gul, 1991; Brush and Greer, 1992; Clarke and Mia, 1995). The rate is quite acceptable given that the increasingly common use of mail surveys added with the ‘...intensification of the pace of business...’ has reduced the willingness of potential participants to respond (Harzing and Noorderhaven, 2006: 171).

## **Measurement of Variables**

This section addresses the operationalisation of the variables used to test the proposed hypotheses.

***Dependent variable: organisational control***

Similar to Egelhoff (1984), the dependent variable in our study consists of cultural control and output control. Cultural control was measured by the proportion of parent nationals in key management positions. This is an improvement on Chung et al. (2000) where the number of parent country nationals was used, as our measure controls for the effect of subsidiary size.

In respect of output control, a total of eight (8) control items were used to produce financial and non-financial output control. Similar to Egelhoff (1988) and Chung et al. (2000), the frequencies were measured on a five-point scale with 5 indicating 'weekly', 4 'monthly', 3 'quarterly', 2 'annually', and 1 'none'. Reliability tests were conducted and the Cronbach alphas obtained for each of the two types were 0.83 and 0.57. While the latter does not satisfy the alpha coefficient recommended by Nunnally (1978), it is still acceptable for a broad construct for which the coefficients between 0.35 and 0.55 are acceptable (Van de Ven and Ferry, 1980). The non-financial control items included in our study are a broad construct comprising quality control, employee turnover, and market share. The average of the items in each type of output control is used: financial and non-financial.

***Independent variables: resource flows***

Two aspects of resource flows among organisational sub-units in MNEs are considered: the extent and the directionality of resource flows (e.g. Gupta and Govindarajan, 1991, 1994). Shifting away from the traditional focus on the one-way transfer from the parent company to the subsidiaries, this study adopts a network perspective by measuring resource flows from/to the focal subsidiary to/from the parent company/peer subsidiaries.

Similar to Gupta and Govindarajan (1994), our study includes three different types of resources consisting of six (6) items, i.e. product, capital, and knowledge. Capital resources are proxied by financial and operating capital, while knowledge resources

include three items, i.e. managerial skills, technical skills and proprietary knowledge. In contrast, product flows are measured by one item. Each of these resource flows was measured on a five-point scale. Respondents were asked to specify the degree of overall resource flows and knowledge flows from/to the focal subsidiary, with 1 denoting 'very little' and 5 'very high'. Overall inflows and outflows (the entire MNE to/from focal subsidiary) were obtained by averaging the six items and included in multiple regression models.

### ***Control variables***

Based on the review of prior literature, Chung et al. (2000: 648) concludes that a subsidiary's context has an association with the design of management control. Aspects of the 'context' include: parent nationality (Egelhoff, 1984), subsidiary size (Baliga and Jaeger, 1984; Snell, 1992; Rosenzweig and Nohria, 1994), subsidiary age, and decentralisation of decision making (Chang and Taylor, 1999).

Control variables included in our study are: subsidiary size, subsidiary age, parent nationality, and decentralisation of decision making. Subsidiary size was measured by the number of employees at the subsidiary. As the variable is not normally distributed, the variable was transformed using natural log to satisfy the normality assumption underlying multiple regression. Likewise, subsidiary age was measured by the number of years of subsidiary operation and log-transformed. Parent nationality contains three parent countries- the US, Japan and Germany that are culturally different. Given the same host country (Australia), we did not include national cultural distance in our study. Decentralisation of decision making was measured by averaging nine (9) items ranging from product/service development to rules and regulations of operation, for which the respondents were asked to indicate the level of decentralisation, with 1 denoting 'very little' and 5 'very highly'. While an MNE's ownership stake in a subsidiary has also been found to impact HQs' control (Chang and Taylor, 1999), this variable is largely controlled for in our study as all the sample firms except four are wholly owned subsidiaries.

## **RESULTS AND DISCUSSION**

Based on the Global Industry Classification Standard (GICS), the largest number of firms has been found in industrials and consumer discretionary with 18 firms each, followed by 17 firms in information technology. According to Table 2, about 41 per cent of the response sample has fewer than 50 employees, with firms having 500 or more employees accounting for only 13.4 per cent of the sample. In respect of subsidiary age, approximately 82 per cent of the response firms have been in operation between 5 and 49 years.

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A correlation analysis (Table 3) was conducted to gain a preliminary understanding of the relationship between organisational control and the independent/control variables, and to detect any multicollinearity among the variables used in multiple regression.

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As shown in Table 3, the correlation analysis shows a statistically significant relationship of resource inflows with cultural control. No particularly strong correlation has been detected among the independent/control variables included in the same regression models, thus posing no multicollinearity problem.

Univariate analysis (i.e. ANOVA tests) reveals that Japanese MNEs exert more control, both cultural and output, over their Australian subsidiaries than their US and German counterparts. However, statistically significant relationships are only found for cultural control. Japanese MNEs are found to transfer their parent company expatriates to Australian subsidiaries significantly more than MNEs from the US or Germany. The heavy use of parent expatriates by Japanese MNEs is documented in the literature. For example, Tung (1984) reported the more extensive use of parent country nationals in Japanese MNEs than in American MNEs, which is similarly supported in Kobayashi (1990) and Chung et al. (2006). The results can be also

explained by greater need for control given greater cultural distance. Being more culturally distant to Australia (Hofstede, 1980), Japanese MNEs heavily depend on parent expatriates to ensure the behaviours and activities be aligned with the goals and values of the entire MNE. However, no significant relationships have been found for output control, both financial and non-financial, although Japanese firms still exercise more output control than US and German firms, except in non-financial control in which German firms exercises slightly more control than their counterparts.

Results from multiple regression are presented in Tables 4 and 5, with Table 4 on cultural control and Table 5 on output control. The regression models in Table 4 (Models 1-2) show significant explanatory power with the F-scores ranging from 5.041 to 5.843 with significance levels of  $p < 0.01$ . The table also shows that the greater the level of resource inflows from the MNE to the subsidiary, the greater the level of cultural control over the subsidiary, thus supporting Hypothesis 1 (H1). In contrast, no significant effect was found for output control (Models 3-5 in Table 5), failing to support Hypothesis 2 (H2).

Hypotheses 3 and 4 (H3, H4) examined the moderating effects of resource outflows on the resource inflow-degree of control relationship. As shown in Tables 4 and 5, no moderating effect was found, thus failing to support the hypotheses. Despite no significant moderating effects, however, the opposite sign of the multiplicative term for cultural control indicates that the subsidiary with its contribution of critical resources to the MNE appears to have power to withstand parent control.

In addition, two control variables were found to produce a consistently significant relationship to cultural and output control. They include: subsidiary size and parent nationality. Specifically, subsidiary size is negatively associated with the level of cultural and output control at statistically significant levels. As the subsidiary's size increases, the level of control exercised by the parent HQs is reduced. As indicated in the univariate analysis earlier, another notable finding is that Japanese firms tend to transfer parent expatriates significantly more than their US and German counterparts. Given greater cultural distance between Japan and Australia (Hofstede, 1980), Japanese MNEs appear to send their parent expatriates to ensure that parent goals and value systems be maintained and upheld at their subsidiaries.

As discussed above, the support for Hypothesis 1 only seems to indicate that reliance on agency theory may be ‘undesirable’ due to its disregard for ‘organisational complexities’ (Davis et al., 1997: 20). The results of this study provide valuable practical implications. First, control may not be effective or even ‘counterproductive because subsidiaries choose to act cooperatively or opportunistically depending on their perceptions of the situation and their psychological attributes’ (Davis et al, 1997: 42), calling for a need to incorporate additional theory such as stewardship theory. Davis et al. (1997) suggest that researchers identify a situation(s) in which subsidiaries tend to act like agents or stewards. Another important finding is the strong relevance of parent nationality in the face of increasing integration of national cultures arising from growing globalisation. Its significant effect demonstrates the relevance of national culture to strategic decisions like parent control despite increasing pressures for convergence in management practices facing MNEs (Chung et al., 2006).

## **CONCLUSIONS**

Based on the data collected from selected foreign subsidiaries operating in Australia, we have found a significant relationship between resource inflows and parent cultural control over the subsidiary. However, no significant relationship was found for output control, thus demonstrating the significance of cultural control (staffing control) in managing overseas subsidiaries in increasingly interdependent MNE networks. Parent country nationals can be used to not only monitor and evaluate the behaviour of subsidiary employees but also instill in them the values and goals of the MNE. While not significant, the decrease in parent cultural control with the increase in resource outflows from the subsidiary warrants further research attention in different empirical contexts with larger sample sizes. Overall, the partial support for the relationship between resource flows and organisational control shows that organisational control is influenced by a range of other internal and external factors. Furthermore, agency theory may not sufficiently explain HQs-subsidiary relations, calling for a need to incorporate other potentially important theories such as stewardship theory. However, it is to be noted that the small sample size may have contributed to the absence of statistically significant findings in our study. Notwithstanding the limited empirical

support, the findings of this study have contributed to the literature by incorporating resource-related power dynamics within the MNE network and also including a relatively under-researched unique economic and cultural host environment, Australia.

Despite rigorous attempts to minimise threats to the validity of this study, however, practical limitations inevitably exist. First, the study solely depends on the perceptions of foreign owned subsidiary units operating in Australia and fails to include parent company perspectives. However, there is still value in examining the perceptions of subsidiary managers, especially given the seniority of the survey respondents. Second, the use of a cross-sectional survey method is limited in exploring the depth to which resource flows and control can be examined within an organisation. A qualitative case study approach would have provided a stronger context for observing the operational activities of a subsidiary. When choosing between survey and case study approaches, there exists a compromise between depth and generalisability. Given the stated research objectives, a quantitative cross-sectional approach is more appropriate for providing a broader picture of resource flows and organisational control. Third, the empirical component of this paper is based on a relatively small sample size (N=67). Given a larger sample from which to conduct descriptive and explanatory analysis the results would most likely have been more applicable to the general population of foreign subsidiaries. Finally, limitations also exist in the measurement of the independent and dependent variables. Resource flows and organisational control mechanisms are highly complex activities which can be appropriately measured by a multitude of factors. The survey questions to measure these constructs are somewhat simplistic, so it is suggested that future studies adopt more sophisticated measures of these multifaceted phenomena.

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Table 1            Distribution of Response Sample by Parent Nationality

Parent nationality	Number	Percentage
US	28	41.8%
Germany	25	37.3%
Japan	14	20.9%
Total	67	100%

Table 2            Distribution of Response Sample by Subsidiary Size and Age

Employee number	No. (Percentage)	Age	No. (Percentage)
< 50	27 (40.7%)	< 5 years	5 (7.5%)
50-99	11 (16.4%)	5-19 years	28 (41.8%)
100-499	19 (28.8%)	20-49 years	27 (40.3%)
500 or over	9 (13.4%)	50 years or over	7 (10.4%)
Total	66^	Total	67

^: one missing

Table 3 Pairwise Pearson Correlation Among Variables

Variables	1	2	3	4	5	6	7	8	9
1. Cultural control	1.000								
2. Output control	-0.015	1.000							
3. Financial control	-0.008	0.889***	1.000						
4. Non-financial control	-0.018	0.746***	0.383**	1.000					
5. AVGINF	0.298*	-0.102	-0.042	-0.183	1.000				
6. AVGOUTF	-0.077	-0.159	-0.138	-0.127	0.213	1.000			
7. Size	-0.160	-0.060	-0.146	0.056	0.068	0.206	1.000		
8. Age	-0.132	0.030	-0.075	0.134	0.011	0.045	0.599***	1.000	
9. DECENT	-0.169	0.010	-0.008	0.011	0.015	0.017	0.000	-0.134	1.000

\*\*\* significant at  $p < 0.001$ ; \*\* significant at  $p < 0.01$ ; \* significant at  $p < 0.05$ ; ^significant at  $p \leq 0.10$  (two-tailed); N= 67  
AVGINF= average inflow from the MNE to the subsidiary; AVGOUTF= average outflow from the subsidiary to the MNE  
Size= number of subsidiary employees  
Age= years of subsidiary operation  
DECENT= degree of decentralisation in decision making

Table 4 Results of Multiple Regression: Cultural Control

Variables	Model 1	Model 2
AVGINF	0.183 (0.067)^	0.247 (0.051)^
AVGINF*AVGOUTF		-0.112 (0.227)
US	0.011 (0.466)	0.012 (0.464)
Japan	0.494 (0.000)**	0.506 (0.000)**
Germany		
Subsidiary age	-0.017 (0.455)	-0.032 (0.414)
Subsidiary size	-0.355 (0.012)*	-0.332 (0.019)*
Decentralisation	-0.036 (0.388)	-0.042 (0.372)
Constant	0.187 (0.172)	0.184 (0.173)
F-statistic	5.843**	5.041**
R-squared	0.449	0.457

\*\* p<= 0.01; \* p<= 0.05; ^ p<= 0.10 (one-tailed)

Standardised coefficients with p-values in parentheses; Constant (unstandardised coefficients with standard errors in parentheses)

AVGINF= average inflow from the MNE to the subsidiary; AVGOUTF= average outflow from the subsidiary to the MNE

Table 5 Results of Multiple Regression: Output Control

Variables	Model 3	Model 4	Model 5
AVGINF	-0.023 (0.452)	0.018 (0.462)	-0.135 (0.237)
AVGINF*AVGOUTF	-0.159 (0.200)	0.130 (0.246)	-0.092 (0.313)
US	-0.029 (0.429)	-0.033 (0.419)	
Japan	0.032 (0.425)	0.001 (0.498)	0.108 (0.266)
Germany			-0.038 (0.409)
Subsidiary age	0.201 (0.143)	0.008 (0.484)	0.404 (0.017)*
Subsidiary size	-0.328 (0.051)^	-0.307 (0.063)^	-0.323 (0.05)*
Decentralisation	0.270 (0.050)*	0.215 (0.094)^	0.208 (0.095)^
Constant	2.986 (0.459)**	3.064 (0.509)**	3.133 (0.712)**
F-statistic	0.938	0.875	1.212
R-squared	0.135	0.127	0.175

\*\* p<= 0.01; \* p<= 0.05; ^ p<= 0.10 (one-tailed)

Standardised coefficients with p-values in parentheses; Constant (unstandardised coefficients with standard errors in parentheses)

Model 3: total output control; Model 4: financial output control; Model 5: non-financial output control

AVGINF= average inflow from the MNE to the subsidiary; AVGOUTF= average outflow from the subsidiary to the MNE