

# INTERNATIONAL BUSINESS ACTIVITY AND FIRM VALUE: THE IMPACT OF OWNERSHIP AND CAPITAL STRUCTURE

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## ABSTRACT

*Theoretically, the effect of international business activity on firm value depends on ownership and capital structure. Companies may over-invest in international business activity because of agency problems or under-invest, if they are capital-rationed. This paper examines how these competing hypotheses fit a sample of 237 very large European and US companies over the period 1991-1997. The results indicate that internationalization may sometimes destroy value from a shareholder viewpoint and that financial leverage may have a negative effect on value creation by internationalization whereas the effects of ownership concentration on value gains from internationalization were found to depend on system effects. However, the magnitude of the effects is small, and the results were found to be sensitive to estimation methods.*

*Keywords: internationalization, performance, corporate governance, ownership, capital structure*

## INTRODUCTION

Theories of foreign direct investment (FDI) and the multinational enterprise (MNE) are derived from an underlying theory of the firm, which structures their causal relationships and predictions (Graham and Krugman 1995). As such their conclusions are highly sensitive to basic assumptions about corporate governance. But although corporate governance issues figure prominently in the transaction cost theory of the multinational enterprise (Caves 1982, Dunning 1981, Hennart 1991) few attempts appear to have been made to examine the link between corporate governance in the sense of investor/manager relations and the value created by international business activity (exceptions are Morck and Yeung 1992, Mishra and Gobeli 1998). However, it is now widely recognized that corporate governance structures differ across nations, industries and companies, and that corporate governance has potentially important effects on company behaviour and performance (Baums et al. 1994, Charkham 1994, Porter 1992, Prentice and Holland 1993, Prowse 1995, Roe 1994, Franks and Mayer 1990, 1995, Pedersen and Thomsen 1997, Shleifer and Vishny 1997, La Porta et al. 1997, 1998, 1999a, Vives 2000, Guggler 2001).

This paper examines one potential implication of such differences for international business activity: Does corporate governance affect whether international expansion creates (or destroys) shareholder value? According to the classical agency view (Jensen and Meckling 1976, Graham and Krugman 1995), managers in large diversified corporations are likely to over-invest, particularly in activities, which – like international business - are characterised by relatively high information asymmetries. More value will therefore be created by international expansion when company managers are subjected to tight corporate governance (concentrated ownership, financial leverage).

However, agency problems may also have the opposite implication. Within an agency theory framework, Froot and Stein (1991) observe that investors (in their case lenders) may react to information asymmetries by rationing the supply of capital to company managers and that capital rationing may lead to under-investment in international expansion in the sense that the company cannot fund all profitable international ventures. According to this view, tight governance (ownership concentration and leverage) could lead to more financial constraints and value destruction for shareholders.

The object of this paper is to test these competing hypotheses. Ownership concentration and debt/equity ratios are regarded as structural determinants of corporate governance and, therefore, used as proxy variables for corporate governance structure. In addition these variables have the advantage of being measurable and well founded theoretically and empirically (e.g. Berle and Means 1932, Jensen and Meckling 1976, Demsetz 1983, Demsetz and Lehn 1985, Morck et al. 1988, Shleifer and Vishny 1997).

## **THEORY**

How does corporate governance affect international business activity? A long-standing tradition in economics (e.g. Debreu 1959, Modigliani and Miller 1958, Coase 1960) holds that ownership and capital structure are irrelevant when transaction costs are zero, and markets are complete. With full information and zero transaction costs the natural goal for firms is to maximize profits net of opportunity costs regardless of governance structure. An (often tacit) implication in international business studies is that a positive association should exist between international business activity and profitability - at least on average. Competition may tend to drive down profits to zero or a normal level, but why else would profit-maximizing companies engage in international business if not to make money?

Market imperfections, particularly in capital markets, therefore provide a natural starting point for theorizing about corporate governance as well as about the possibility of systematically detrimental effects of international business activity. For

example, information asymmetries between investors and managers create market imperfections that give rise to agency problems (Ross 1973, Jensen and Meckling 1976). In general investors and managers will have different preferences. Investors may be unable to monitor managerial effort (hidden action/moral hazard), and they may be unable to distinguish between alternative types of managers or investment projects (adverse selection, hidden knowledge) (Arrow 1985). While information asymmetries are universal, owners and creditors of multinational corporations arguably face particularly high monitoring costs because a) they have less easy access to international compared to domestic information; b) because of restrictions in international capital and labor markets; and c) because multinational corporations may rely more on intangible assets (e.g., Burgman 1996, 557-558).

However, agency theory has ambiguous predictions with regards to the profitability of international business activity. Agency problems may imply that managers over-invest in negative net present value (NPV) projects in response to free cash flow (Jensen 1986). The implication is that investment in general and FDI in particular is a function of liquidity constraints. For example, a depreciation of the dollar may lead to an increase in foreign direct investment into the US because foreign managers can afford to undertake more FDI with a given free cash flow. Furthermore, agency problems may lead to herding if managers can push the limits of acceptable behaviour by using other companies as a benchmark. Graham and Krugman (1995, 24) refer to "A... unsettling possibility ... that the wave of FDI in the late 1980s was a symptom of a worldwide epidemic of moral hazard in financial markets." By the same argument, managerial expense preference may also lead to over-investment in other kinds of international business activity including international marketing, alliances etc.

Still, agency problems need not necessarily imply that companies over-invest. Rational owners will take suitable precautions. This is demonstrated in the capital rationing model proposed by Froot and Stein (1991), which is (to the author's knowledge) the only formal analysis of the impact of governance problems on foreign direct investment. In their model, investors (debtors) react to information problems by rationing the supply of capital to the firm. Companies may therefore be unable to fund projects with positive NPV. When the capital constraint is relaxed companies respond by investing more. For example foreign companies increase their direct investment in the US when the dollar exchange rate drops. Although originally designed to illustrate the effects of exchange-rate fluctuations on FDI, the model has more general implications for international business activity. The idea is that information costs (costly state verification) will limit the supply of debt capital to the firm, which may, therefore, be unable to undertake profitable investments. Company economic performance is a function of corporate wealth (+) and information costs (-), which determine the level of external finance. Companies with more capital have an advantage over companies with less capital (a positive wealth effect) because they can

fund more profitable investments. The higher the information costs (a proxy for information asymmetries), the less external capital will be available.

Froot and Stein (1991) comment that their model is more literally applicable to small privately owned companies which attract debt finance than to larger companies which have issued public equity. But the logic of their model can be extended to include monitoring of managers by outside shareholders. First shareholders choose how much capital to invest in the firm. Then if cash flows are less than satisfactory they can initiate some costly intervention (e.g. a takeover or restructuring). When they decide to intervene, they will include the potential costs of intervention in their decision and so will intervene only when the gains net of expected intervention costs is positive.

Both the moral hazard and the capital-rationing model are governance models in the sense that they build on information asymmetries between investors and managers. In the absence of information asymmetries, shareholders could in principle easily discipline managers to maximize profits, and investors would finance all profitable investments. Formally the behavioral assumptions differ, since managers maximize profits in the Froot/Stein model, while they pursue other managerial goals (expense preference) according to standard agency theory (the free cash-flow hypothesis). But capital rationing may also arise as a way of solving incentive problems and curbing excess investment (Jensen 1986, 1989). The important difference between the two models appears to be that firms have too much capital in the moral hazard model, but too little in the capital rationing model.

## **HYPOTHESES**

The moral hazard and capital rationing models have opposite implications for the value created by foreign direct investment and other kinds of foreign expansion. According to the moral hazard model stock prices and firm value should decrease, when managers decide to over-invest. According to the capital rationing hypothesis they should increase on the good news that managers have been able to overcome capital constraints and undertake profitable investments in foreign assets. But for a variety of reasons these hypotheses are difficult to test. The returns to internationalization are long term so they cannot be measured by accounting rates of return. Firm value is a more acceptable measure, but an enormous number of other factors affect the value of firms. Underlying variables related to competitiveness are likely to cause co-variation in firm value and internationalization. Reverse feedback is also likely: A high value of firms lowers their costs of capital, which means less capital rationing and possibly faster international expansion.

This paper follows another research strategy by testing more directly for the impact of specific governance measures on the value created by foreign expansion.

According to the moral hazard perspective ownership concentration implies more monitoring, stronger incentives to maximize profits and a higher expected rate of return on the international investment decisions made by the firm. This may be contrasted with a capital rationing hypothesis according to which there is no over-investment problem. This leads to hypothesis 1.

**Hypothesis 1. International business activity will be more profitable (create more shareholder value), the higher the level of ownership concentration.**

Morck and Yeung (1991, 1992) and Mishra and Gobeli (1998) find empirical support for this hypothesis. Morck and Yeung (1992) document that abnormal (risk-adjusted) returns to international acquisitions are higher when managers have significant ownership stakes. However, they find evidence of entrenchment (i.e. negative returns) when ownership concentration is very high. Likewise, Mishra and Gobeli (1998) find that international business activity increases market-to-book value of equity when the economic interests of managers and shareholders are aligned (when managerial compensation is correlated with the market value of the firm). In a free cash-flow moral hazard perspective, higher ownership concentration is likely to lead to more monitoring, which will make it more difficult for company managers to undertake unprofitable international expansion.

More generally, although a series of studies from different countries have found no relationship between ownership concentration and accounting profitability (e.g. Demsetz and Lehn 1985, Bergström and Rydkvist 1990, Gerson and Barr 1996, Pedersen and Thomsen 1999a), several studies on stock market data have continued to find a positive ownership concentration effect (Lloyd, Hand and Modani 1987, Zeckhouser and Pound 1990, Oswald and Jahera 1991). Some related studies (Morck, Shleifer and Vishny 1988, McConnell and Servaes 1990, Pedersen and Thomsen 2000) find non-monotonic relationships between insider (i.e. managerial) share holdings and Tobin's Q values. Mifang and Simerly (1998) find that the concentration effect is stronger in dynamic (fluctuating) environments, and to the extent that internationalization adds "dynamism" to the business, ownership concentration could have a particularly positive effect on international business activities.

With regard to control variables, Gedajlovic and Shapiro (1998) and Pedersen and Thomsen (2000) find that the effect of ownership concentration on performance varies by nation and depends on system effects. Furthermore, the significance of country, industry, and firm effects on ownership structure (Pedersen and Thomsen 1997, 1998, 1999b) raises statistical control problems, which this paper addresses by the use of firm effects combined with country and industry performance indices.

A second hypothesis may be derived concerning the relationship between capital structure and the profitability of international expansion. According to the moral

hazard perspective, debt pressure (a higher debt/equity ratio) will reduce opportunity for wasteful expenditure and induce managers to increase efficiency (and shareholder value) to avoid bankruptcy (Jensen 1986, 1989). The threat of bankruptcy may also induce large creditors to monitor their clients more carefully (Shleifer and Vishny 1997). The value created by foreign expansion should therefore be higher, the higher the debt/equity ratio. This may be contrasted with a capital rationing perspective according to which there will be no such effect or even a negative effect because fewer profitable projects can be undertaken. This leads to hypothesis 2.

**Hypothesis 2. International business activity will be more profitable (create more shareholder value), the higher the debt/equity ratio.**

While no studies have (to the author's knowledge) explicitly examined the impact of capital structure on the value created by international business activity, a related literature has studied the relationship between multinationality and capital structure as such (Lee and Kwok 1988, Burgman 1996, Chen et al. 1997) finding that multinational companies have lower debt/equity ratios than domestic companies. This result has mainly been attributed to higher agency costs of debt in multinational companies, which tend to invest heavily in immaterial assets that are less easily debt-financed. Following Gaver and Gaver (1993), Chen et al. (1997) used Q values of equity as a measure of the investment opportunity set and an indirect proxy for agency costs, which was found to have a positive impact on the debt/equity ratio. Pedersen and Thomsen (2000) find a positive effect of debt pressure on market-to-book values of equity after controlling for ownership concentration, industry, and nation effects. However, Chen et al. (1997) find that leverage co-varies with internationalization within the MNC category even after controlling for this agency cost proxy.

Another research stream has examined international differences in capital structure as well as international variations in capital structure. Contrary to previous studies (e.g. Remers et al. 1974, Sekely and Collins 1988, Aggarwal 1994), Rajan and Zingales (1995) and Wald (1999) find no significant country differences in mean leverage when controlling for accounting practices. But both studies point to firm specific effects as well as country specific variations in the determinants of capital structure. Again this underlines the importance of adequate controls for firm and country effects.

A third hypothesis may be derived from the literature on system effects. In a series of influential papers, La Porta et al. (1999a, 1999b) have argued that national legal systems differ with regard to investor protection, and that this has implications for insider ownership and market valuation. Others have emphasized the importance of complementary institutions (Roe 1991, 1994, Pedersen and Thomsen 1997). The legal systems approach advocated by La Porta et al. is that insider ownership curbs

agency problems in civil law countries that provide less investor protection through the legal system. But the high levels of insider ownership come at a price: large owners expropriate wealth from minority investors, because of managerial entrenchment, privileged access to inside information and because their large shareholdings make them more risk adverse than diversified minority investors (Morck et al. 1988). In civil law countries, the net effect of changes in ownership are therefore unclear; increasing insider ownership may imply reduced agency problems and higher market valuation, but also greater risk of expropriation of minority investors which should tend to lower market values. In contrast the effect on the value created by internationalization should be more well-defined: tighter governance (ownership concentration, leverage) should mean more attention to value creation. In contrast, if minority investors are better protected in common law countries, the positive effects of increasing insider ownership might be more pronounced - at least for equivalent initial levels. But since moral hazard problems are curbed by a higher level of legal investor protection, more performance-related pay and a series of other mechanisms, ownership and capital structure might be expected to have less of an effect on the value created by international expansion. This leads to Hypothesis 3.

**Hypothesis 3. Ownership and capital structure will have less effect on the value created by foreign expansion in common law countries where moral hazard problems are reduced by a higher level of investor protection.**

While there has (to the author's knowledge) been no prior attempts at studying the impact of the effect of governance system on international business activity, La Porta et al. (1999b) have examined the impact of investor protection on Tobin's Q-values and found that Q-values are higher in common law countries which have higher levels of legal investor protection.

A panel data approach with random firm effects is used for empirical testing. This implies some scope for supplementing prior work. Event studies (Morck and Yeung 1992, Mathur et al. 1994) have been able to isolate stock price reactions to the announcement of internationalization events like foreign direct investment, but it is clear that such events capture only certain kinds of internationalization whereas ongoing soft investments in human capital, marketing relationships, foreign markets knowledge, product adaptation etc. are left out because they are more difficult to measure. The internationalization measures used in this paper should capture the effect of at least some of these initiatives. Other studies (e.g. Chandra and Gobeli 1998) have used simple OLS regressions on market-to-book values or equivalent measures, but these studies risk controlling insufficiently for the impact of hidden variables like competence and other firm specific assets which can cause an artificial and non-causal cross sectional covariance between firm value and internationalization.

For example, firms which have significant immaterial assets are likely to have high market-to-book values and to internationalize to exploit these assets in the best possible way (Caves 1996).

### **DATA AND MEASUREMENT**

A description of the variables used is found in Table 1. The database is drawn from the Worldscope electronic database and consists of all EU and US companies which had net sales and net assets exceeding \$2 billion in 1998, and for which a complete 7 year time series was available over the 1991-1997 period. While the cut off limit of \$2 billion is to some extent arbitrary (adopted to generate an acceptable sample size), the focus on the largest companies is intended first to account for a non-trivial share of total business activity. In addition, market-based performance measures are only available for (relatively large) companies with listed shares, and ownership structure was expected vary less for small companies that are predominantly "closely held." Depending on the variables in question the database contains observations for up to 381 companies, which means  $381 \times 7 = 2667$  firm-year observations. Of these only up to 86 companies are from continental Europe, whereas the rest (295) are from the USA/UK.

Firm value is measured by the sum of the market value of equity and the book value of the total debt divided by the book value of assets. The Tobin's Q measure of equity at replacement costs was not available, so this standard approximation - the "simple Q" - is used instead. Chung and Pruitt (1994) found that the correlation between the "simple Q" measure and a measure of Q that attempts to use market values throughout is as high as 0.97. Market values should incorporate investor expectations of discounted future profits while (increases in) internationalization will realistically only be reflected in accounting returns, growth rates and other standard performance with a long and uncertain time lag. Log values are used to correct for a right-skewed distribution. Obviously, there may be other relevant performance measures if company goals are directed at company wealth (Donaldson 1984) rather than shareholder wealth maximization.

International business activity is measured as international sales divided by total sales. This measure was adopted as a baseline because it is a standard measure in the literature (e.g. Gomes and Ramaswamy 1999) and because it was generally available for European as well as US companies. This measure includes both exports and sales by foreign subsidiaries. The estimates therefore capture the wealth effects of internationalization in general, including the costs and benefits of building new markets by "soft investments" like marketing and expanding distribution outlets. Other measures were not generally available in sufficient numbers for European companies, but alternative internationalization measures - including



international/total assets, foreign sales growth and income from international operations - were also applied.

**Table 1. List of Variables**

Code	Description	Definition
DE	Debt/Equity ratio	(Long term debt + Short term debt)/Equity
INT	Internationalization (I)	Foreign sales/Total sales
INI	Internationalization (II)	International operating income/Total sales
CIVIL	Civil law country	Dummy=0 for common law countries (US, UK) =1 for 9 civil law countries. (La Porta et. al 199a) Austria, Belgium, Denmark, Finland, France, Germany, Ireland, the Netherlands, Spain, Sweden
CI	Country Q index 1990-1997	Mean Q value by country 1990, 1991,..., 1997
II	Industry Q index 1990-1997	Mean Q value by industry 1990, 1991,,,,, 1997
Q	Tobin's Q (simple measure)	Log ((Market price-year end * Common shares outstanding) + book value of total debt) / book value of total assets)

Source: The Worldscope Database (1999) and Calculations (Q, CH, CI, CIVIL).

Ownership concentration is measured by the percentage of closely held shares to total shares outstanding. Closely held shares include shares held by officers, directors and their families, shares held in trust, shares held by another corporation (except in a fiduciary duty by banks), shares held by pension/benefit plans or by individuals who hold more than 5%. This variable is similar to the insider-ownership variable used by Morck and Yeung (1992). The underlying assumption is that more concentrated ownership means more monitoring and greater incentive alignment between owners and managers (Jensen and Meckling 1976). This applies both if a large share of stock is held by outside blockholders and if it is held by owner-managers.

Debt pressure is measured by the debt/equity ratio. According to the moral hazard model a higher debt/equity ratio puts more pressure on managers to meet debt payments to avoid bankruptcy (Jensen 1986) and also induces large creditors to monitor managers more carefully (Shleifer and Vishny 1997).

System effects are controlled for by a dummy for legal system which captures institutional differences between common and civil law countries as emphasized in a series of papers by La Porta, Silanes, Shleifer and Vishny (1997, 1998, 1999a, 1999b).

Nation and industry effects are measured by Q value indices, which capture both noises from accounting bias and macroeconomic factors that affect stock market situation in individual countries. Controlling for industry effects ensures that performance is measured relative to the industry since industries may differ with regard to growth prospects, profitability and soft assets that affect Q values regardless of corporate governance. Similarly, controlling for country effects is intended to eliminate variations in Q value associated with accounting practices, interest changes and other factors affecting the country index.

## **EMPIRICAL EVIDENCE**

Tables 2 and 3 present some descriptive statistics and a correlation matrix.

The descriptive statistics are presented for all firms and for common and civil law countries respectively (table 2). Q values average 1.7 (or 0.4 in logarithmic value). They are generally higher in the common law countries (US, UK). In contrast, internationalization is typically higher in the civil law countries in continental Europe, partly because intra-European business is still counted as international. Ownership concentration (measured by the fraction of closely held shares) is also much higher in the civil law countries (in accordance with the investor protection literature).

In the correlation matrix (Table 3) internationalization (international/total sales) and firm value (Q) are shown to be positively correlated. But as mentioned previously this need not imply a causal connection. For one thing, one might expect competitive companies to have higher Q values and to be more internationally competitive as well. So this selection effect needs to be controlled for. Secondly, internationalization need not have a monotonic effect on performance, but may have a negative effect beyond a certain point (Gomes and Ramaswamy 1999). The marginal effects of internationalization could therefore very well differ from the average effect. And since Q values do not fluctuate randomly over time, but seem to possess a certain stationarity, one would also need to control for time series characteristics in assessing marginal effects. The time series cross-section analysis presented in table 4 is intended to address these problems.

**Table 2. Simple Statistics.**

Variable	Code	N	Mean	Std Dev	Minimum	Maximum
All firms						
Firm value (log)	Q	2667	0.4365	0.4102	-0.5356	2.5261
International/Total sales	Int	2667	0.3343	0.2683	0	0.9662
Closely held shares	Ch	2667	0.1651	0.2262	2.2145E-6	0.9985
Debt/Equity	De	2667	0.6396	0.6669	0	9.9355
Country q index	Ci	2667	0.5205	0.1778	-0.0305	0.8146
Industry q index	Ii	2667	0.4966	0.4003	-0.3146	2.1596
Common Law						
Firm value (log)	Q	2065	0.4905	0.4171	-0.5356	2.4821
International/Total sales	Int	2065	0.2778	0.2493	0	0.9505
Closely held shares	Ch	2065	0.0853	0.1335	2.2145E-6	0.9104
Debt/Equity	De	2065	0.6744	0.6928	0	9.9355
Country q index	Ci	2065	0.5942	0.1075	0.3994	0.8146
Industry q index	Ii	2065	0.5355	0.394	-0.3146	2.1596
Civil Law						
Firm value (log)	Q	602	0.2512	0.3230	-0.2110	2.5261
International/Total sales	Int	602	0.5280	0.2397	0	0.9662
Closely held shares	Ch	602	0.4388	0.2626	0.000097	0.9985
Debt/Equity	De	602	0.5202	0.5534	0	6.2048
Country q index	Ci	602	0.2678	0.1341	-0.0305	0.5989
Industry q index	Ii	602	0.3632	0.3901	-0.1632	2.1596

Note also that Q values are negatively correlated with ownership concentration. One could point to entrenchment effects as a possible explanation if large insider-owners tend to pursue other goals than shareholder value, or point to a liquidity premium explanation if investors prefer to invest in companies with diversified ownership and low liquidity risk. But again, there is a need to control for firm effects. Interestingly, internationalization appears to be positively correlated with concentrated ownership but this could also be an artifact given that European companies tend to have higher ownership concentration and to be more international because of country size effects.

Internationalization is negatively correlated with debt-equity ratios, which is consistent with previous studies (e.g. Lee and Kwok 1988, Burgman 1996). These studies attributed lower debt/equity ratios in multinational corporations to higher agency costs of debt, for example in the financing of intangible assets that according to internalization theory form the backbone of multinational corporations (e.g. Caves 1996). In terms of corporate governance more internationalization in companies with less leverage is consistent with both less capital rationing and less debt pressure.

**Table 3. Pearson Correlation Coefficients and Significance Levels**  
(Whole sample, N = 2667)

	q	int	ch	de	ci
Q	1.00000				
Int	0.12956 <.0001	1.00000			
Ch	-0.10364 <.0001	0.17848 <.0001	1.00000		
De	-0.24131 <.0001	-0.17192 <.0001	-0.09260 <.0001	1.00000	
Ci	0.28990 <.0001	-0.31060 <.0001	-0.54681 <.0001	0.11536 <.0001	1.00000
Ii	0.77269 <.0001	0.14137 <.0001	-0.03958 0.0410	-0.16415 <.0001	0.24869 <.0001

Finally, a weak but significant negative correlation between ownership concentration and financial leverage may reflect a trade off between tighter control through ownership concentration and financial resources obtainable by new share issues. However, as already indicated, partial cross-sections may be deceptive.

Table 4 presents a more refined statistical analysis based on pooled time series/cross section regressions using the SAS TSCS procedure.

This panel data analysis takes into consideration firm and time effects and the time series characteristics of the data (autocorrelation). A moving average model with one lag was found to fit the Q value time series slightly better than an autoregressive process.

Therefore, equations of the following type were estimated:

$$Q_{it} = \beta_k X_{itk} + a_i + b_t + \alpha_0 \varepsilon_t + \alpha_1 \varepsilon_{t-1}$$

where  $i$  denotes firm  $i$ ,  $t$  denotes time period ( $t = 1990 \dots 1997$ ).  $Q_{it}$  is Q value of firm  $i$  at time  $t$ .  $X_{itk}$  is the value of the  $k$ 'th explanatory variable for firm  $i$  at time  $t$ .  $a_i$  is the

(estimated) random effect of firm  $i$ ,  $b_t$  is the (estimated) random effect of time  $t$ ,  $\varepsilon_t$  and  $\varepsilon_{t-1}$  are error terms for this and the previous period respectively while  $\beta_1 \dots \beta_k$ ,  $\alpha_0$ , and  $\alpha_1$  are estimated parameters measuring the effect of explanatory variable  $1 \dots k$  and the error terms. In this model, the firm effect  $a_i$  should catch all firm effects on the level of the  $Q$ , including the impact of nation, industry, size category etc.

Model I estimates the effect of internationalization (measured by foreign/total sales) on firm value controlling for country and industry effects. Internationalization is found to have a significantly negative effect on firm value. This points to a potential problem with international business activity. Unlike what appears from cross-sectional studies international business activity may have a negative effect on firm value. The country and industry values indices are significant as might be expected. More surprisingly, firm size is found to have a negative effect on firm value. However, it is important to remember that level differences in value are already captured by the firms effects so that the direct internationalization effect is perhaps best interpreted as a change-in-size, i.e. a growth effect.

When included in this model ownership concentration and the debt/equity ratio were found to have no significant effect (results not reported). In other words, as might be expected in competitive markets (Demsetz 1983), there is not indication that firm value may be increased by tighter corporate governance, e.g. increasing ownership concentration or by higher gearing. But this does not preclude the possibility that tight governance may be preferable for certain kinds of activity, for example for high levels of internationalization in order to counter moral hazard problems related to high information asymmetries. This question is examined by introducing interaction effects.

Model II adds both a direct effect of ownership concentration (CHS) and an indirect interaction effect (CHS\*INT) to the explanatory variables. The direct (main) effect of ownership concentration is found to be significantly negative, but the interaction effect INT\*CH is significantly positive. In other words, the negative effect of internationalization is reduced for higher levels of ownership concentration indicating that more monitoring leads to less wasteful internationalization expenditure. This is in line with the moral hazard hypothesis (so hypothesis 1 is not rejected). For high levels of ownership concentration – when more than half of the shares are closely held - internationalization will actually have a positive effect on firm value since the positive interaction effect will then outweigh the negative main effect (i.e.  $CH * 0.1110 - 0.0549 > 0$  for  $CH > 0.5$ ).

Model III includes capital structure (DE) and interaction effects with capital structure (INT\*DE). Both turn out to be significant.

**Table 4. Effects of Internationalization on Firm Value (log)**  
(Panel analysis 1991-1997, first order moving average error process)

	Dependent variable: LOG Firm Value (Q)				
Model	I All firms (381 firms)	II All firms (381 firms)	III All firms (381 firms)	IV Common law (295 UK/US firms)	V Civil law (86 European firms)
Intercept	0.8047***	0.8191***	0.8024***	1.12333***	-1.9145***
International /Total Sales (INT)	-0.0277***	-0.0549***	-0.0459***	-0.0881***	0.0956***
Closely held shares (CH)		-0.0467***	-0.0486***	0.0476***	-0.0931***
Debt/equity ratio (DE)			0.0042***	0.0022 n. s.	-0.0036**
International/T otal sales* Closely held shares (INT*CH)		0.1110***	0.1125***	-0.5098***	0.2322***
International/T otal sales* Debt/equity ratio (INT*DE)			-0.0192***	-0.0276***	-0.0735***
Company Size (Assets US \$)	-0.0677***	-0.0684***	-0.0674***	-0.1007***	0.1207***
Country Market to book value index (CI)	0.7483***	0.7598***	0.7584***	0.8542***	0.3988***
Industry Market to book value index (II)	0.6117***	0.6105***	0.6106***	0.6515***	0.3938***
R-square	0.2686	0.2692	0.2694	0.3199	0.1918

\*, \*\*, \*\*\*= significant a 10%, 5% and 1% level of significance, n.s. = not significant

However, while the main debt-equity effect is positive indicating a positive effect

on firm value, the debt/equity\*internationalization effect is negative indicating that internationalization destroys even more value when financial gearing is high. Hypothesis 2 is therefore rejected. Further analysis (not reported) found that the interaction effect between ownership concentration and capital structure had an insignificant effect. A significantly positive effect might have indicated a complementarity between the two governance mechanisms while a negative effect would have indicated substitution.

Despite the statistical significance it is noteworthy that the economic significance of the governance variables is modest – including them increases the share of variance explained by less than half a percent. Equations IV and V replicate model III in common law and civil law countries respectively in order to test for the implications of legal system as emphasized by La Porta et al. (1998). According to this research, ownership concentration (monitoring by large owners) is a prime control mechanism in civil law countries whereas managers in common law countries are disciplined by legal investor protection. Common law countries in the sample are the USA and UK whereas civil law countries are France, Germany, Spain and seven smaller European countries. In this case, the legal systems distinction is, therefore, equivalent to familiar distinctions drawn between Anglo-American and continental European corporate governance (e.g. Pedersen and Thomsen 1997).

These results indicate that the mechanisms at work differ across systems, which implies that a mixed sample is inadequate because it confuses important qualitative differences. In the common law countries (US/UK) the interaction effect between internationalization and ownership concentration (INT\*CH) was found to have a negative effect on firm value indicating that firms with concentrated ownership do worse when they internationalize (model IV). In contrast this interaction effect was found to be positive in the continental European civil law countries (model V), while the direct effect of ownership concentration there turned out to be negative. With regard to capital structure the main debt-equity effect is insignificant in the common law countries, but negative in civil law countries. In both cases a higher debt equity ratio is associated with more value destruction by internationalization (i.e. the INT\*DE effect is negative and significant). Note also that both firm size and internationalization are rewarded by higher firm value in the civil law sample.

The existence of significant system effects is therefore supported so far as the effects of ownership structure is concerned, but the nature of the effects differs from what was hypothesized assuming a moral hazard view. Ownership concentration appears to be good for successful internationalization in Europe, but bad in the US/UK.

The results concerning capital structure seem to invite a capital rationing interpretation in both common and civil law countries, i.e. that high leverage reduces the value created by internationalization. Apparently financial leverage is not a way to

ensure successful internationalization.

While other internationalization measures than the classical “international to total sales” were not generally available for European companies, the main model (4.3) was also estimated using three alternative internationalization measures: dollar income from foreign operations, international/total assets and foreign sales growth. The results, descriptive statistics and a correlation matrix are shown in appendices A1-A3. Using these measures, the main effects of internationalization are generally found to be positive. The indirect effects of ownership concentration were mixed, since the internationalization\*closely held shares interaction effect was positive for some internationalization measures (foreign sales growth of US/UK firms), but negative for others (international/total assets). However, the interaction effects between internationalization and the debt/equity ratio were negative and significant for all internationalization measures.

## DISCUSSION

Theoretically, models of the multinational enterprise and foreign direct investment are essentially theories of the firm and as such their conclusions are highly sensitive to basic assumptions about corporate governance. In particular, a positive association between international business activity and profitability is arguably built into the established theory of the multinational enterprise. Relaxing the profit maximization assumption and paying more explicit attention to the governance structure of multinational corporations may (or may not) lead to different predictions depending on the specific assumptions about corporate governance.

The paper’s empirical findings indicate significant interaction effects between corporate governance mechanisms (ownership/capital structure) and the performance effects of international business activity. The results confirm the conclusions of the few previous studies (e.g. Morck and Yeung 1992, Mishra and Gobeli 1998) that the nature of the relationship between principal(s) and agent(s) influences the market reactions to international business activity.

But unlike previous studies these results fail to support the excess capital (standard agency) view of internationalization (exemplified by Graham and Krugman 1995). If anything the negative interaction debt/equity\*internationalization effect on firm value supports the capital rationing view (exemplified by Froot and Stein 1991). For ownership concentration the evidence is mixed, depending on the internationalization measure and system effects. For a standard measure such as international total sales, concentrated ownership was associated with larger value gains from internationalization in Western Europe, but larger losses in the US.

However, the findings are sensitive to estimation methods, for example whether



they are estimated using standard OLS regressions or panel data analysis, how performance and internationalization are measured and to system effects, for example the legal origin/nationality of the companies in question. In addition, there are even more complex issues of causation, which have not been considered in the paper. Market valuation is both an indicator of performance and a determinant of the cost of capital to the firm, which could in again influence internationalization strategies.

The magnitude of the corporate governance effect was found to be small. In terms of economic significance the corporate governance variables in this paper explain less than one percent of the variation in firm value. However, the research approach in the paper has been to attempt to isolate the consequences of a few crude, but observable governance variables. Other governance variables (including compensation systems, board structure, owner identities etc.) are likely to be important as well. And many of these variables appear to be tied to nation effects (Pedersen and Thomsen 1997, 1999b), which have been deliberately suppressed in this paper in order to avoid black box explanations. There is little doubt that the full range of governance variables may be a major factor shaping the way companies compete in the global marketplace as well as their relative performance in terms of company growth and shareholder value. Sorting out the relative importance of these effects presents a challenge for further research.

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