

## Foreign Acquisitions: When Do They Make Sense?

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### 1. Introduction

Why should a firm expand across national frontiers? The costs of operating under different tax systems, coping with different cultural traditions and dealing with multiple bureaucracies are substantial. A new view of international economics called the *internalization theory* proposes that successful multinationals possess special intangible assets such as a technological lead, a marketing advantage or perhaps superior organizational ability. Our work indicates not only that this is so, but that in the absence of such intangibles a multinational structure may well be a liability. The traditional reasons economists and business managers cite to justify foreign acquisitions (such as the ability to declare profits where the tax rate is lowest, the increased stability gained through international diversification, and the lower labor and raw material costs prevailing in some foreign countries) appear to be minor effects.

The reasoning behind the internalization theory is simple.<sup>1</sup> Intangible assets such as new technology, marketing skills or organizational ability are often worth more when applied to a larger scale of operations. For example, the same technological advantage can be used simultaneously by the firm's subsidiaries in many countries, yet the cost of developing it is only paid once. The bigger the scale of its operations, the more profits the firm gains from applying its intangible asset. This is usually not the case with a tangible physical asset such as a factory. Increasing the use of a factory beyond a certain point generally pushes costs up faster than revenues - reducing profits.

Firms possessing significant intangible assets are often unwilling to lease or sell them to foreign firms for fear of losing proprietary control. For example both Coca Cola Co. and IBM simply withdrew from India in 1977 because of government pressure to share trade secrets with local firms.<sup>2</sup> This attitude is justified because Intangible assets are usually based on an information advantage. Once such information is out of the hat, it is out for good.

Thus, direct multinational expansion is the preferred route for firms anxious to earn higher returns on intangibles while keeping their use *internal* to the firm. Since building a foreign subsidiary from scratch may be quite expensive and slow, multinational expansion is often accomplished by taking over foreign companies. Intangible assets can then be applied in many different markets, yet remain inside the firm, hence the term *internalization*.

In previous work, some of which is published elsewhere<sup>3</sup>, and which is summarized in section 2 below, we examine a large cross section of US based multinational firms to see what sort of firm has benefited from foreign expansion and what sort has not. A multinational structure appears to be valuable only to firms which spend substantial funds on research and development and/or advertising - i.e. on developing intangibles. In fact, the more a firm spends on developing intangibles, the more a given level of multinational expansion increases its performance. On the other hand, in the absence of spending on intangibles, a multinational structure does not improve performance and may retard it.

In section 3 we develop what we feel are critical managerial implications of this new view of foreign acquisitions. In section 4 we discuss public policy implications.

### 2. Evidence

We explore two broad approaches to addressing the issues raised above. The first asks, "Under what circumstances does a foreign acquisition provide immediate net benefit to the acquirer?" We present evidence that it is when the acquirer already possesses substantial intangible assets. The second approach takes a more long-term perspective, asking, "When does a large existing multinational structure serve to enhance firm value the most?" Again, the evidence suggests that it is when the firm possesses substantial intangible assets of the type to which the internalization theory is relevant.

The descriptive summary of the evidence that follows is brief and therefore quite incomplete. It is intended to provide an overview only. For a careful econometric analysis of these issues, the reader is referred to two more technical articles: Morck and Yeung (1991, 1992).

## 2.1 Estimating changes in firm value due to foreign acquisitions

The first broad approach to determining when foreign acquisitions augment firm value is to examine changes in the value of the US acquirer at the time the acquisition is announced. Do all firms experience a stock price increase when they announce they are making a foreign acquisition, or is this only the case for firms with substantial intangibles related to technology or advertising?

Borrowing data from Morck and Yeung (1992), we examine 322 foreign acquisitions by US based firms between 1979 and 1988. We focus on the firms' abnormal returns (AR) on the day upon which the foreign acquisition is announced. Abnormal return is defined as the movement in the firm's stock price relative to the movement of the entire stock market. Thus a firm making a foreign acquisition experiences a stock price gain of 2.5% on the day it announces a foreign acquisition, and if the market as a whole experiences a 2% gain the same day, the abnormal return is 0.5%.

On average, the stock price of these firms rises by a statistically significant 0.28% more than the market as a whole on the days they announce their foreign acquisition plans. Thus, traders in the stock market appear on average to feel that these transactions amount to a net gain in the value of the firm over and above the cost of the acquisition. Note that this is not the case with domestic acquisitions within the US where other studies have found nil or negative abnormal returns for the average acquirer.<sup>4</sup>

In passing, we also note that financial markets appear to respond more favorably to foreign expansions into other developed countries than into the third world. The average one day stock price reaction to US firms announcing acquisitions in other developed countries is a positive 0.31 %, while the market's reaction to news of an acquisition in the third world is a statistically insignificant 0.095% one day price drop. This indicates that the market does not anticipate big gains from exploiting cheap labor or raw materials in those countries. Apparently, investors feel that the problems connected with operating in the third world (possibly things like political instability, a poorly trained workforce, an unreliable legal system, etc.) outweigh any such advantages on average. Expansion into the third world is not good news for the firm's investors.

To see whether foreign acquisitions by firms with substantial intangible assets are preferred by shareholders, we use a linear regression framework to find a "best fit" to explain the abnormal return associated with foreign acquisitions in terms of indicators of the extent of the acquirer's intangible assets.

To measure the importance of a firm's intangible technology related assets, we use its R&D spending per dollar of tangible assets (RD/T). Tangible assets consist of property, plant and equipment plus inventory. We divide by tangible assets T because \$100,000,000 per year spent on R&D by a small firm is more likely to influence the fundamental nature of the corporation than would be the case were the same amount spent by a very large firm. The average of RD/A in our 322 firms is 2.44c per dollar of intangibles or .0244, while 39% of the firms had negligible R&D spending.

Similarly, marketing related intangibles are gauged by advertising spending per dollar of intangibles (ADV/T), which averages 2.07c per dollar and was reported as negligible by 53% of the firms.

Finally, since managers who own large blocks of stock in their company may be less likely to proceed with acquisitions that might result in a stock price drop than those who do not, we include the percent of common shares owned by officers of the corporation (STAKE). This can be thought of as reflecting an intangible asset too: namely managers who are attentive to maximizing the share value. The average of STAKE is 6.4%.

An ordinary least squares linear "best fit" explaining the abnormal return in terms of these factors is:

$$AR \cong \frac{-.0015}{(.68)} + \frac{.099}{(2.1)} \cdot \frac{RD}{T} + \frac{.0058}{(.15)} \cdot \frac{ADV}{T} + \frac{.028}{(2.2)} \cdot STAKE \quad (1)$$

R<sup>2</sup> = 3%  
n = 322 firms

(numbers in brackets are t - ratios)

The results here accord well with the predictions of the internalization theory. A firm with 5c of R&D spending per dollar of tangibles (the average is about 2.5c) announcing a typical foreign acquisition on average experiences a one day stock price jump of about one half percent (.099 x.05) more than that experienced by an otherwise identical firm with no R&D spending. This effect is statistically significant. Thus R&D related intangibles are an important factor determining the expected success of a foreign acquisition, at least in the minds of traders whose actions influence stock prices.

Similarly, the presence of advertising related intangibles is related to a higher abnormal return, but here the effect is smaller and statistically insignificant. It appears that financial market participants believe intangible assets in the form of technological advantages held by US firms can more readily be profitably applied overseas than is the case with marketing related intangibles. A greater equity stake by managers is also statistically significantly related to a higher abnormal return.

Finally, note that the share value of a firm with zero R&D spending, zero advertising spending, and zero management share ownership on average is expected to fall by .15% upon the announcement of a foreign acquisition. Thus, a foreign acquisition by such a firm appears to be viewed as an encumbrance. Although this negative effect is not statistically significant, it is certainly safe to say that market participants do not view a foreign acquisition by such a firm as an advantage.

In conclusion, the announcement of a foreign acquisition by a firm which probably possesses intangible assets is on average regarded as good news by financial market participants. A foreign acquisition by a firm, which probably lacks such assets is not. Acquisitions in developed countries are good news; those in third world countries are not.

## 2.2 Estimating the value of existing multinational operations

The second approach relies on an underlying principle of financial market efficiency: the value of a firm in financial markets (V) should on average be the sum of the value of its net tangible assets (T) and its net intangible assets (I). Market participants may sometimes be overly optimistic or pessimistic, leading to a V that is too high or too low; but we assume these effects are not systematically related to whether or not a firm is multinational, and therefore cancel out in the analysis below. Note that a firm could have intangible liabilities rendering its I negative. This would depress market value V below the breakup value of tangible assets T. Regardless, in all cases we have

$$V = T + I \tag{2}$$

Good managers should build up intangible assets and avoid encumbering the firm with intangible liabilities. The extent to which managers have succeeded at this is measured by the firm's Q ratio, defined here as

$$Q = \frac{V}{T} \tag{3}$$

or, substituting (2) into (3), as

$$Q = 1 + \frac{I}{T} \tag{4}$$

Thus, a Q above one indicates net intangible assets, while a Q below one points to net intangible liabilities.

For US based firms, rough estimates of T, V and thus Q can be constructed from publicly available data.<sup>5</sup> The market value of a firm is simply the total value of its outstanding stock and its bonds. The tangible assets number is an estimate of the current value of the firm's plant, equipment, and inventory based on initial costs and adjusted for inflation over the lifetimes of the various assets. Given these estimates of V and T, we can construct an approximate Q ratio. We do this

for 1,644 US based firms using 1978 data. The average Q ratio is .814, indicating that the average US firm had more intangible liabilities than intangible assets at that time.

We want to ask: when does a multinational structure count as intangible assets and thereby help raise Q. To gauge the intangible importance of a multinational structure, we must net out the effects on Q of other obvious intangible assets.

Of course, technical expertise and consumer goodwill are important intangibles for any firm - multinational or not. As in the previous section, we can measure the extent of a firm's technical expertise by its annual research and development spending per dollar of tangible assets (RD/T). The average R&D spending across our 1,644 firms was 2.5c per dollar of tangible assets. Similarly, the extent of consumer goodwill can again be measured roughly by a firm's annual spending on advertising per dollar of tangibles (ADV/T).<sup>6</sup> The average firm spent 2.3c per dollar of tangible assets on advertising.<sup>7</sup>

A debt to tangible assets ratio (DEBT/T) is also included to take into account the intangible effects of differences in capital structure. The average firm had 28c of debt outstanding per dollar of tangible assets.

Finally, firms may take on certain levels of intangible assets or liabilities merely by being in certain lines of business. For example, virtually any newspaper chain may have a greater level of Intangibles than even the most cleverly run steel mill. We estimate the average elevation or depression of Q ratios in each industry (call this  $\Delta Q_{IND}$ ) and take these effects into account in our main analysis.

Once the impact of all of the above factors has been considered, our objective is to understand the effect of a multinational structure on Q. We measure the extent of a firm's multinational structure by the number of foreign subsidiaries it has, SUBS.<sup>8</sup> The average of SUBS over our 1,644 firms is about four. Note however that 62% of our firms have no foreign subsidiaries at all. The average of four comes about because a small proportion of firms have extensive foreign operations. Thus, we define a firm as "multinational" if it has five or more subsidiaries abroad. If a firm has five or more foreign subsidiaries we set the variable MN to one, indicating the firm's multinational status. On the other hand, if the firm has fewer than five foreign subsidiaries, MN is zero, indicating that it is primarily a US firm. There is nothing special about using five as a cutoff; qualitatively similar results hold if other divisions are used.

An ordinary least squares regression shows that the "best fit" of a linear equation relating Q to research and development, advertising, leverage and extent of multinational structure is:

$$Q \equiv \Delta Q_{IND} + \frac{4.1}{(8.1)} \cdot \frac{RD}{t} + \frac{.61}{(1.5)} \cdot \frac{ADV}{t} + \frac{.17}{(2.5)} \cdot \frac{DEBT}{T} + \frac{.084}{(2.2)} \cdot MN \quad (5)$$

R<sup>2</sup> = 31%  
n = 1644 firms  
(numbers in brackets are t - ratios)

Equation (4) says that if a firm doubles its annual research and development spending from, say, the average (2.5c per dollar of tangibles) to 5c per dollar of tangibles, its Q ratio is expected to rise by ten percent [4.1 x (\$0.05 - \$0.025)] per dollar of tangibles if all other factors remain unchanged. Note that this is a quite substantial increase in R&D spending. The impact of R&D spending on Q is statistically significant with a 99.9% level of confidence.

Advertising spending also positively affects a firm's Q ratio; however, the effect in this case turns out to be much smaller and is statistically insignificant. Technology based intangible assets appear to have a larger and more certain impact on a firm's stock market value and hence on its Q ratio.

The leverage effect and industry effects which we include for completeness are statistically significant.

The coefficient of .084 on MN means that a firm with five or more foreign subsidiaries has, on average, a Q ratio .084 higher than an otherwise identical firm fewer than five foreign subsidiaries. Thus, on average, a multinational structure is an intangible asset above and beyond the other intangible assets a firm is likely to have.

As in section 2.1, one can distinguish between foreign operations in other developed countries and foreign operations in the third world. Morck and Yeung (1991) show that subsidiaries in other developed countries increase a firm's Q and thus

count as intangible assets. Subsidiaries in the third world do not. Again, it appears that financial market participants do not feel US firms gain significantly by operating in the third world.

We now turn to the key question: does a large multinational structure increase any firm's Q by .084, or is the effect larger for firms with high levels of other intangibles such as technology or marketing advantages? To answer this, we again use a regression analysis, but this time showing the "best fit" of a slightly different linear equation explaining Q:

$$Q \cong \Delta Q_{IND} + \frac{3.6}{(6.6)} \cdot \frac{RD}{T} + \frac{.61}{(1.3)} \cdot \frac{ADV}{T} - \frac{.17}{(2.1)} \cdot \frac{DEBT}{T} + \left[ \frac{2.3}{(2.0)} \cdot \frac{RD}{T} + \frac{.19}{(.20)} \cdot \frac{ADV}{T} - \frac{.0015}{(.03)} \right] \cdot MN \quad (6)$$

R<sup>2</sup> = 32%  
n = 1644 firms  
(numbers in brackets are t – ratios)

Whereas in (5), the effect of a multinational structure was to raise Q by an average of .084 across all firms, in (6) it is allowed to vary with R&D spending and advertising. Here, the effect of a multinational structure is estimated to be

$$\left[ 2.3 \cdot \frac{RD}{T} + .19 \cdot \frac{ADV}{T} - .0015 \right] \quad (7)$$

Thus for a firm with high R&D and advertising spending (say 5c per dollar of intangibles - roughly twice the average in both cases), the expected effect of a large multinational structure (i.e. more than five foreign subsidiaries) is [2.3 x .05 + .19 x .05 - .0015] or a .123 increase in Q ratio. The effect of R&D in (6) is statistically highly significant while that of advertising is not.

This is consistent with the evidence from abnormal returns discussed above. While this again suggests that technology based intangible assets are more likely to be applicable to the firm's operations abroad than are marketing innovations, this result must be interpreted with caution here. In other specifications (for example using a cutoff other than five subsidiaries to separate multinational from domestic firms), the advertising effect was found to be significant.

As in section 2.1, a large proportion of these firms have no significant spending on R&D or advertising. For such a firm, the effect of a multinational structure is expected to be [2.3 x 0 + .19 x 0 - .0015] or a .0015 decrease in Q ratio. This decrease is not statistically significant in (5), however in other specifications and using data from other years Morck and Yeung (1991) do find a statistically significant depression of Q. This again suggests that *in the absence of intangible assets related to R&D or advertising, a multinational structure is an intangible liability - not an asset.*

In conclusion, on average a large multinational structure adds to the value of a firm which possesses intangible assets, but does not add to the value of firms which lack such intangible assets. Foreign subsidiaries in developed countries add to firm value, while those in third world countries on average do not.

### 3. Managerial Implications

The internalization theory says that successful multinationals are firms with intangible assets such as a technological edge. A multinational structure allows the firm to apply these intangible assets to a larger scale of operation than would be possible were the firm to remain within one country, and yet keep them within the firm and thus out of the hands of potential competitors.

The evidence in section 2.1 indicates that a foreign acquisition is viewed as good news by market participants only if the acquirer possesses substantial intangible assets. That in section 2.2 indicates that an existing multinational structure increases firm value only if the firm appears to have intangible assets. This supports the internalization theory.

The key managerial implication here is that foreign expansions make sense when they increase the scale on which intangible assets can be used. Furthermore, a large multinational structure is in general valuable only so long as the firm

continues to possess significant intangible assets. This means that firms have to continue to invest in new intangibles or foreign operations may eventually become liabilities.

In the absence of valuable intangible assets, foreign acquisitions appear to be viewed by financial markets as bad news and a multinational structure appears to be seen as a liability. This has direct implications for several often cited motives for foreign expansion.

Managers proposing foreign expansion or justifying an existing multinational structure often argue that multinational firms are valuable as a way for investors to diversify their portfolios internationally. Another argument is that buying input and selling output in several countries increases a firm's flexibility and stability. Other justifications for multinational firms include their ability to play different tax jurisdictions against each other and their access to cheap labor or raw materials in less developed countries.

Were these factors of primary importance, foreign expansions should on average have led to higher stock prices regardless of the presence or absence of intangible assets. This is not so. A multinational structure should furthermore have been value increasing whether or not intangibles were present. This is also not the case.

While these factors may be of importance in some cases, they do not appear to be dominant, general considerations for the US based firms examined above. Doubtless, access to cheaper raw materials or labor is important in specific cases or industries. However, this sort of motivation does not appear to be of general importance. The same applies to tax based reasons for multinational expansion. These reasons may well be valid, but they are dominated by other factors, at least in the minds of financial market participants.<sup>9</sup> They appear to be of less general importance than the internalization view in explaining when multinational expansion makes sense.

In the analysis above, it was shown that firms with negligible intangibles on average experience stock price declines when they expand abroad. Why do these firms engage in acquisitions that reduce share prices? One possible explanation is that although the acquisitions do not serve the interests of shareholders, they may serve those of management.<sup>10</sup>

Corporate diversification is now widely thought to be of more use to managers than to shareholders who can more efficiently diversify their holdings by buying stock in a number of diverse firms. International portfolio diversification can be readily accomplished by buying stock in foreign firms directly or by purchasing American Depository Receipts for foreign shares or by buying foreign mutual funds such as the Japan fund, the Korea fund, etc. In this way the often costly difficulties of having US managers run operations in foreign environments are avoided.<sup>11</sup> Diversification of the firm does however stabilize corporate cash flow and thus reduces the likelihood of layoffs of workers or managers during periods of restraint. This is likely to be of much more importance to managers than to shareholders and may thus reduce the value of the firm in financial markets.

International expansion may add substantially to the prestige and status of corporate executives. If such non-pecuniary remuneration to top executives is balanced by lower monetary compensation, the firm's shareholders may be well served. If, however, corporate policy is bent to augment the status of top managers with no offsetting reduction in other benefits, the value of the firm in financial markets will again suffer.

Although some jurisdictions have experimented with more complex legal doctrines, there remains for the managers and directors of most large multinationals a legal responsibility to act in the interests of shareholders. In the last decade, many countries have seen a growing concern by large sophisticated institutional shareholders in about whether or not management is adequately concerned with maximizing share value. In the United States and other countries this has resulted in a greatly increased number of legal challenges to managers and directors.

In the interests of avoiding litigation, managers - especially in the US - may wish to evaluate proposals for foreign expansion within the internalization theory context. Does the firm have intangible assets which are likely to be of value in the new environment? If so, the acquisition may make sense if the price is right. The share price is likely to rise once the news is out. If the firm lacks intangibles, directors should consider what the motives for the expansion might be, and if it truly serves shareholders.

To sum up, there appears to be one clearly valid reason for international expansion: it expands the scale over which the firm's intangible assets can be applied. Moreover, a multinational structure remains valuable only if the firm maintains a stock

of valuable intangibles. Other often-claimed benefits - international portfolio diversification, access to inexpensive inputs, and tax avoidance - do not appear to be valued by investors in the general case.

#### 4. Public Policy Implications

Many national governments at various times have attempted to limit the freedom of domestic firms to transfer operations abroad or to ban or limit the operations of foreign controlled multinational firms within their territory. In light of the evidence above that multinational firms are vehicles for the international transfer of intangible assets, do such policies ever make sense?

Should foreign expansions be limited by the multinational's home government? When firms expand abroad, do they take jobs away from domestic workers to give them to foreigners? As with any economic question, categorical answers cannot be given. However, the above results suggest that expansion into low cost third world countries is not, on average, regarded as good news by investors. If the use of low cost labor were a bid draw to the third world, this would not be so. We hypothesize that the problems inherent in operating in an LDC more than cancel out such advantages in most cases.

Moreover, successful multinational expansions apparently involve applying a firm's intangible assets over a wider scale of operations - and thus reaping a greater return from them. As has been shown above, this increases the return to the firm's shareholders, most of whom are presumably part of the domestic economy. Since allowing foreign expansion increases the return on intangibles, it increases the incentives to develop them. Innovation of all sorts, including technological innovation is thus accelerated.

Of course, the evidence above also shows that there are cases of foreign expansion by firms which possess few or no valuable intangibles, and that these expansions are apparently viewed by investors as detrimental to the firm. We hypothesize that these sorts of foreign expansion occur when managers are not concentrating on their fiduciary responsibility to maximize shareholder wealth and instead follow their own perceived self-interest. Since the average foreign expansion is viewed as good news by financial markets and the average multinational does seem to gain something from being multinational, we conclude that these cases are the exception, not the rule. Still, we find evidence of enough exceptions above to merit concern. This line of argument does not, however, imply that foreign expansions should be restricted. Rather, it suggests that managers, through a variety of mechanisms such as stronger, more independent boards, should be made more attentive to shareholders' concerns.

The above arguments suggest that, at least most of the time, it probably does not make sense to bar firms from expanding out of an economy. Does it make more sense for governments to try to keep foreign firms from expanding into their economies?

In the short run the simple answer is "No!" Traditional arguments against protectionism are reinforced by our results. The intangible assets of the multinational (as well as more traditional factors such as cheaper inputs) may enable it to produce goods at a lower cost than domestic rivals. The latter may well clamor for protection from "unfair" competition. However, to provide such protection handicaps every sector of the economy that in turn must use the more expensive output of the "protected" industry. Protecting the domestic steel industry may cripple the domestic machine tools industry.

The same answer is probably true in the long run, but we must be more cautious here. The intangible assets of the multinational may, in time, rub off onto the host economy. This is especially likely if the intangibles are things like better corporate management. However, intangibles related to technology may also diffuse into other parts of the economy over time. Protectionists may argue, perhaps with some validity, that imported innovations may depress the incentive to innovate at home. We know of no study that can conclusively confirm or deny this point.

However, new work in development economics suggests that the opposite may well be true, at least for LDC's. The *demand spillover* theory of economic development (Murphy, Shleifer and Vishny, 1989) holds that an economic take-off to propel an LDC onto a high growth path comes about when rapid growth in one sector causes a surge in demand which triggers rapid growth in other sectors. This in turn causes more surges in demand, feeding back to stimulate more growth, including further growth in the first sector. This demand spillover cycle repeats as the economy is transformed.

For a “take-off” to succeed, this theory holds that “simultaneous industrialization of many sectors of the economy can be profitable for them all even when no sector can break even industrializing alone.” Many LDC’s may have only a few sectors whose firms possess sufficient organizational and technological intangibles to industrialize. We speculate that multinational firms may be an important way of filling in gaps in the local economy to allow a “take-off”.

Finally, we must add a *caveat*. One interpretation of our results might be seen as justifying a new sort of protectionism. Where a firm is engaging in international expansion that does not add to its own value, its managers’ motives for pursuing the acquisition become suspect. If the buyer is overpaying for the foreign target, the foreign sellers are benefiting. This may or may not imply benefits to the overall foreign economy. Irresponsible management of the multinational may bode ill for the future health of the foreign subsidiary. While traditional arguments for protectionism are based on a fear of foreigners who are too good, this argument calls for protection from foreigners who are not good enough.

Indeed, according to some<sup>12</sup>, the foreign investment policy of Japan from the immediate post-war period until recently consisted largely of such a strategy. Most foreign operations set up in Japan were joint ventures initiated by Japanese firms. Official preference was given to investment that was expected to produce technological spillovers. Firms possessing advanced technology were especially welcome. Competition was fostered by encouraging several joint ventures between different domestic and foreign firms in each industry. Thus, screening was done by local firms with government guidance, while competition was used to weed out non-performing foreigners.

The success of the Japanese policy is the subject of considerable debate. It has been argued<sup>13</sup> that other factors such as Japan’s high savings rate were perhaps more important to its rapid growth. Moreover, evaluating the usefulness of foreign firms’ intangibles is an extremely difficult task. Asking government to do it probably means placing too big a burden on regulators. A co-operative arrangement between a government bureaucracy and domestic firms to do such evaluations may be perceived as too open to conflict of interest. Given these considerations, many governments may prefer to maintain an open door policy; letting competition determine whose intangible assets are sufficiently valuable to justify foreign expansions.

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## Notes

1. For a more formal treatment, see Caves (1986) Chapter 1. Helpman (1984), Markusen (1984). Ethier (1986), Horstman and Markusen (1987) and others develop far reaching new perspectives on international economics based on aspects of the internalization theory.

2. See Encarnation (1989).

3. Morck and Yeung (1991, 1992).

4. See e.g. Bradley *et al.* (1988) or Jarrell *et al.* (1988).

5. There are substantial problems in obtaining reliable estimates of the value of firms' tangible, let alone intangible assets. The best data in this area of which we are aware is the National Bureau of Economic Research's Productivity Master File, compiled by Bronwyn Hall of the University of California at Berkeley and others. This database contains careful estimates of the value of tangible assets (T) as well as total market value (V) for several thousand US firms. The construction of these numbers is described in Cummins *et al.* (1982). We base our analysis on these numbers and view I as the gap between V and T.

6. These are only rough measures. For example current technical advantages may be due to research spending many years ago. Furthermore, much research does not lead to important breakthroughs.

7. See Morck, Shleifer and Vishny (1988) for an analysis of the relation between Q ratios and management stock ownership (our STAKE variable in the discussion above). Since they find a rather complex relation, we do not discuss management incentive related intangibles here for simplicity.

8. This information is from the *International Directory of Corporate Affiliations*.

9. Operating in regions with cheap raw materials may, for example, entail accepting low labor productivity, high operating costs or a high risk of expropriation, etc. We do not suggest that low cost inputs (or taxes for that matter) are of no benefit; but rather that firms taking advantage of them may face roughly balancing disadvantages.

10. See Berle and Means (1932) and the vast literature descended from it on managerial behavior in large corporations.

11. Jacquillat and Solnik (1978) present evidence that buying multinationals is a poor way for an investor to diversify his portfolio internationally.

12. See Komiya *et al.* (1988), Okimoto (1989), and OECD (1972) for details of the policy.

13. See Lipsey and Dobson (1987).