



Operating characteristics, risk, and performance of born-global firms

Kimberly C. Gleason and Jeff Madura

Florida Atlantic University, Boca Raton, Florida, USA, and

Joan Wiggernhorn

Barry University, Miami Shores, Florida, USA

Abstract

Purpose – To determine what characteristics distinguish firms that conduct international business within three years of going public and six years from founding, and how these firms perform.

Design/methodology/approach – A logistic regression analysis is used to identify characteristics that distinguish firms that are international at the time they go public, versus those that are not. The paper also assesses post-IPO performance and apply multivariate analysis to determine how performance varies among these firms.

Findings – Compared to firms of similar age who do not pursue rapid internationalization, born-global firms are generally larger, more diversified, and have more venture capital backing. Their founders, board members and managers exhibit more international experience. The returns 12 and 18 months post-IPO are significantly higher for born-global firms than for a control sample of firms who do not engage in rapid internationalization. Furthermore, those born-global firms with joint ventures or acquisitions in several countries perform better than those that only export within the first six years since their inception.

Research limitations/implications – Managerial implications include having a board of directors with sound international business experience as well as using a venture capital firm to provide monitoring and oversight of operations at home and in the foreign market.

Originality/value – This paper is original in that it is the first to provide a financial markets-oriented empirical investigation of the “born-global” phenomenon using a sample of newly public American firms.

Keywords Globalization, International business, Multinational companies, United States of America

Paper type Research paper

1. Introduction

Research on multinationality indicates that internationalization is generally a slow process; both the U-Models of Johanson and Vahlne (1977) and the I-Models of Cavusgil (1980) and Reid (1981) assert that the process takes place in stages. Given the resources that internationalization requires, all of the traditional paradigms suggest that multinational strategies evolve over time.

The literature on internationalization indicates that multinational corporations (MNCs) should have unique characteristics that enable them to internalize barriers to entry: size, unique organizational competencies, institutional knowledge and learning processes, and other intangible assets that would be prohibitively costly or difficult to mimic[1]. Developing knowledge-based competencies, patents, licenses, or brand identity is normally viewed as a resource-intensive process. The traditional perspective emphasizes size, maturity, integration, and the firm’s ability to develop and cultivate



unique assets (Stopford and Wells, 1972; Glickman and Woodward, 1989; Casson, 1987; Hamel and Prahalad, 1990).

However, in contrast to the traditional gradualist approach to internationalization, there is recent evidence of firms that initiate global operations upon inception. Technological advances make it easier for firms to organize across markets, and the recent reduction of barriers allows firms to penetrate markets. The research on international business and strategy has begun an inquiry into the internationalization strategies of newly formed, small and medium sized enterprises. In their 1994 study, Oviatt and McDougall recognize the emergence of firms that go global from inception. Shrader *et al.* (2000) point out that these MNCs are unique in that they face risks related to typically small size, as well as their exposure to international business. Thus, from inception, the managers of born-global firms must play the role of (or hire) international accountants, exchange rate forecasters, geopolitical analysts, derivatives experts, global marketers, and international human resource specialists. This is a challenge for even a mature firm with extensive resources and organizational knowledge.

This study conducts an empirical investigation of the born-global phenomenon using a sample of American firms that engage in foreign direct investment, network entry modes (non-equity JV or strategic alliance), and export strategies within six years of founding and three years of going public. These born-global firms provide an ideal framework for examining the rapid internationalization strategy, because their public status subjects them to disclosure requirements that provide information regarding their foreign operations from the time they were founded.

Our results indicate that compared to other public firms of similar age that do not pursue rapid internationalization, born-global firms are generally larger, more product-market diversified, and have more venture-capital backing. Their founders, board members and top level executive managers have more international experience. We also find that the returns following their going-public transactions are significantly higher for born-global firms than for a control sample of firms that do not engage in rapid internationalization. Moreover, those born-global firms that diversify sales (without overextending managerial resources through resource intensive acquisitions) across countries exhibit the highest performance.

2. Hypotheses

2.1. *Characteristics of born-global firms*

As Oviatt and McDougall (1994) point out, born-global firms may have unique assets that enable them to utilize resources more efficiently, so that they do not require the level of maturity or scope previously assumed essential for multinationality. They argue that the four elements necessary for successful rapid internationalization include organizational formation through internalization, alternative governance structures, foreign location advantages and control over unique resources. Knight and Cavusgil (2004) find that in order to achieve foreign market success early in their evolution, born-global firms leverage innovativeness, knowledge, and capabilities. The only international new ventures that will be sustainable are those that can maintain barriers to proprietary knowledge.

Knight and Cavusgil (2004), and Rialp-Criado *et al.* (2003), find that the key for successful born-global firms is an international entrepreneurial orientation – a global vision from inception. Hence, born-global firms should be characterized by higher

levels of intangibility, efficiency, and international experience of management or board of directors than for purely domestic firms[2]. In other words, the managers of born-global firms come equipped with a special kind of worldview that they are able to lever into a competitive advantage. These ownership-specific advantages include intangible assets such as branding, specific skill competencies in research and development, organizational knowledge, and managerial processes. Born-global firms are expected to exhibit higher levels of intangibility, as well as board and corporate governance expertise.

- H1. Born-global firms have higher levels of intangibility than purely domestic firms.
- H2. Born-global firms have managers and boards of directors with higher levels of international experience.

Oviatt and McDougall (1994) recognize the emergence of entrepreneurial ventures which go global from inception. Other recent studies examine the challenges of multinationality faced by entrepreneurial ventures. Shrader *et al.* (2000) point out that these firms are unique in that they face risks because of their typically small size, as well as the process of learning to govern the new entity – the challenge of “newness” itself. Young firms in general may be particularly plagued by poor managerial decision making (Busenitz and Barney, 1997). However, born-global firms that have a stronger reliance on external monitoring may be less prone to value destructive, hubris-driven decision making. Oviatt and McDougall (1994) suggest that an alternative governance structure may enable firms to initiate global business. The finance literature identifies possible forms of governance that could improve decision making. Venture capital firms are important monitors of management (Gompers, 1995; Megginson and Weiss, 1991; Brav and Gompers, 1997) and may encourage new firms to be “micro-multinationals” (Grimes, 2004).

To prevent agency behavior, external monitors such as venture capital firms should be involved with the firm, so that the new management and board team make value maximizing decisions. Since multinational firms have greater scope for perquisite consumption (see Madura, 2000, pp. 4-5) and are more difficult to monitor than purely domestic firms, they should be characterized by higher levels of venture capital backing.

- H3. Born-global firms have a higher level of venture capital participation than purely domestic firms.

Since born-global firms experience rapid internationalization, they are susceptible to international economic conditions and exchange rate movements. Therefore, they may need more financial flexibility to cushion against potential international shocks. If they use a relatively low level of financial leverage, they can reduce the strain on cash flow and allow easier access to use debt financing in the future.

- H4. Born-global firms have a lower level of financial leverage than purely domestic firms.

2.2. Differences among types of born-global firms

The operating characteristics and performance of born-global firms may depend on the specific means by which it has become a multinational corporation. Therefore, we

attempt to determine how the born-global firms differ in terms of operating characteristics, intangibility, managerial experience, and external monitoring across organizational forms. Since these firms lack the organizational experience and coordinated managerial processes of the developed multinational, they must consider carefully the mode strategy they will use to enter new geographic markets. Miller (1992) and Shrader *et al.* (2000) argue that flexibility is an important driver of the entry mechanism chosen by management. Each manifestation of the international new venture requires a different kind of resource commitment and set of tradeoffs with respect to both risk and return.

Oviatt and McDougall (1994) attempt to categorize sustainable new ventures based on geographic scope and type of activity. They identify two kinds of international market makers: export/import start ups which focus on a relatively small set of markets (i.e. a new venture that signs supplier agreements with Canadian entities), and Multinational Traders which engage in both exports and networks in multiple countries. In addition to international market makers, there are two other types of born-global firms. Geographically focused start ups, like export/import start ups, focus geographically, but engage in a broader range of internationalization activities, including production and network arrangements. Global start ups engage in multiple activities (foreign direct investment, exporting, networks) in diverse geographic markets).

Following Oviatt and McDougall (1994), we argue that global start ups represent the most “radical manifestation” of the born-global firms. Given the broad range of markets and activities across markets, the management team must possess many different competencies: managing international human resources; monitoring diverse foreign segments including collaborative arrangements; understanding local cultures, business traditions, political risk, marketing in multiple markets; managing exposure to a portfolio of exchange rates; consolidating foreign financial statements in accordance with GAPP and the FASB regulations; and conducting or outsourcing international valuation procedures.

On the other hand, the export/import start up needs only to manage exchange rate exposure to sales and purchase contracts and have local knowledge for a focused set of markets. This task may be more daunting for the multinational trader. The geographically focused start up must also bear the cost of monitoring foreign collaborative arrangements, and handle financial statement consolidation and risk assessment and management, but in only one market. We expect that global start ups, which involve the highest level of resource commitment, are larger and better monitored through venture capitalists, and most importantly more extensive international experience of the founder, management team, and board of directors than the other organizational forms.

- H5.* Global start ups have higher international managerial and board expertise than geographically focused start-ups, multinational traders, or import-exporters.

2.3. The impact of rapid internationalization strategies on risk

Research on international diversification follows two possible approaches concerning risk. The first approach, based on portfolio analysis suggests that cash flow diversification, should lead to a decline in systematic risk, because the correlation of

returns to the domestic market declines (see, e.g. Agmon and Lessard (1977), Errunza *et al.* (1981), Fatemi (1984), Doukas and Lang (2003)). Thus, born-global firms may use rapid internationalization to diversify cash flows, and should be characterized by lower systematic risk post IPO than their purely domestic counterparts.

H6a. Systematic risk of born-global firms is lower than purely domestic firms one year post IPO.

However, a valid counterargument is that a born-global firm will be susceptible to greater risk because of its exposure to international conditions and exchange rate movements. Reeb *et al.* (1998) argue, and demonstrate empirically, that systematic risk may actually rise as a result of multinationality, because the volatility of the firm's cash flows increase to such a degree that the effect cancels out the benefit of lower correlation of cash flows. The exposure to international conditions may be especially pronounced because the born-global firms are still very young and do not have established business relationships with foreign clients or suppliers.

Additionally, the risk may be conditioned on the type of born-global firm. In particular, the more markets that a firm enters, the greater its risk; hence multinational trader (MT) firms are expected to have greater risk than the import-export (IX) firms, and the global start-up (GSU) firms more risk than the geographically focused start-ups (GFSU). Also, the more complex the entry modes, the greater the risk as well. This leads to a counter hypothesis:

H6b. Born-global firms face greater risk than their domestic counterparts and this risk increases with the number of markets and the complexity of entry modes.

2.4. Impact of rapid internationalization strategies on performance

There is a well developed body of literature regarding the performance outcomes of international diversification strategies of mature firms. Morck and Yeung (1991, 1992) find the market responds positively to foreign direct investment announcements, particularly for firms that have less intangibility, while Seth *et al.* (2000) find positive returns when expansions result in synergy gains. Hence, *H7* provides a prediction regarding performance.

H7. Born-global firms perform better than their purely domestic counterparts post IPO.

Furthermore, we anticipate that post-IPO performance should differ based on the internationalization strategy chosen. Also, performance among born-global firms may vary because of the firm-specific characteristics. Firms that have more international presence are expected to achieve higher performance. Firms that have more intangible assets are expected to perform better because they can more easily deploy such assets in international markets. As stated by Oviatt and McDougall (1994), it is the unique proprietary asset base that leads to sustainability of the new venture.

We also account for the international experience for each of these firms, since Castren (2004) suggests that the success of a born-global firm is likely to be dependent on the international experience of the individuals most responsible for the firm's success, such as the founder, the board of directors as well as upper management. Therefore, a variable for international experience is included for each of these groups.

Firms that use more networks are expected to experience higher performance, because they can establish alliances. Firms that engage in more acquisitions are expected to experience weaker performance because they may be incapable of integrating these operations with their own. The underperformance of acquirers is persistently found in the finance literature (Jensen and Ruback, 1983; Loderer and Martin, 1992; Agrawal *et al.*, 1992). Thus born-global performance may be affected by the overextension of managerial resources (Click and Harrison, 2000; Pan *et al.*, 1999; Hill *et al.*, 1990; and Woodcock *et al.*, 1994). Given that resource constraint is relevant for international new venture performance, we use size as a control variable in the analysis (see Tschoegl, 2004).

However, traditional literature asserts that successful firms should follow a slow, gradual process. If rapid internationalization is driven by agency behavior or managerial ineptitude, then we should expect these firms to have a lower level of profitability. We argue that the best performance outcomes for each of our four categories of firms will be determined by external monitoring and that the need for external monitoring will be particularly strong for global start ups. Therefore, the performance of firms backed by venture capitalists is expected to perform better because of the monitoring role of VCs.

3. Methodology

3.1. Logistic analysis to assess characteristics of born-global firms

In order to address the first five hypotheses in a multivariate framework to accompany the univariate framework, a logistic analysis is applied. The model assigns a value of 1.0 to born-global firms and a value of zero to a corresponding control sample of firms.

3.2. Risk assessment

Any investigation of the returns to particular internationalization strategies should include whether the strategy in question leads to higher risk to shareholders. Shrader *et al.* (2000) use foreign revenue exposure to measure the impact of rapid internationalization on risk. For Liesch and Knight (1999), the risk of internationalization for small and medium sized enterprises is manifested through the “hurdle rate” that managers use to discount expected cash flows arising from global activities. We provide a complementary perspective on risk, using an empirical application of portfolio theory[3]. Systematic risk, or beta, measures the covariance of an asset’s returns with that of the market. It can also be written as:

$$\beta_i = \rho_{i,m} \sigma_i / \sigma_m \quad (1)$$

where $\rho_{i,m}$ is the correlation coefficient between the return for firm i and the market; σ_i is the standard deviation of firm i ’s returns, and σ_m is the standard deviation for the markets. We also calculate unsystematic and total risk. Systematic, unsystematic, and total risk are computed calculated over one year following the firm’s IPO.

3.3. Assessment of long-term performance

Since we are interested in investigating whether born-global firms outperform a portfolio of purely domestic and export-only firms, we use a matching firm sample procedure for estimating the long-horizon average holding period abnormal returns (AHAR) for the portfolio of born-global firms[4]. Matching as closely as possible on size

and SIC code, we calculate raw returns for both sample and matching firms from the month subsequent to the announcement date for 6, 12, and 18 month holding periods. The reported AHARs are the average difference between the holding period returns for the sample and the two subgroups of comparison firms. For robustness, we also utilize an accounting performance measure (return on equity) and a market share performance measure (growth in sales).

3.4. An integrative multivariate approach to exploring born-global performance

A multivariate analysis permits the investigator to assess the impact of several factors on performance. To expand on our univariate tests, and examine disparate performance levels among born-global firms while including control variables, the following multivariate model is applied:

$$PFM = \begin{matrix} f(FAGE, & FEXP, & BEXP, & MEXP, & IEXP, & VC, & \Delta DEBT, & \Delta EMPL, & ACQS, & NETS, & TYPE_i, & INTACT_j) \\ + & + & + & + & + & + & - & + & + & + \end{matrix}$$

where:

PFM = Post IPO market value performance; measured by the change in ROE and long horizon returns over one year.

FAGE = Founder age.

FEXP = Founder international experience.

BEXP = Board international experience.

MEXP = Upper management international experience.

IEXP = At least one of founder, board, or upper management have international experience.

VC = Venture capital participation.

$\Delta DEBT$ = Change in debt over one year.

$\Delta EMPL$ = Change in number of employees, a size variable.

ACQS = Number of acquisitions within one year of IPO.

NETS = Number of networks within one year of IPO.

$TYPE_i$ = A dummy variable for each of the four types of born-globals: export/import (IX), multinational trader (MT), geographically focused start-up (GFSU), and global start-up (GSU).

$INTACT_j$ = Interaction variables.

$ACQ * IEXP$ = Number of acquisitions within one year of IPO * International experience of founder, board, or managers.

$GSU * IEXP$ = Global start up * International experience

$GSU * NET$ = Global start up * Number of networks within one year of IPO.

We incorporate the ACQ, NETS, and GSU*NET variables in order to further investigate whether overextension of managerial resources affects born global performance as previously discussed. The ΔEMPL variable is a control variable for size. Furthermore, we include interaction terms ACQ*IEXP and GS*IEXP to examine the joint impact of international experience and resource-intensity on performance.

4. Data

Our initial sample selection procedure began with the collection of all initial public offerings (IPOs) on the New York or AMEX-NASDAQ stock exchanges between 1992 and 2001 from Securities Data Corporation's Global New Issues database, from which 4,201 newly public firms are identified. These firms are screened in Securities Data Corporation's International Mergers and Acquisitions and International Joint Ventures databases to identify newly public firms that had done international acquisitions or joint ventures. We then collected data on foreign sales, number of business segments, number of geographic segments, profitability and intangibility from Compustat. The sample of 465 firms is then examined to determine exports, international assets, international joint ventures, and international acquisitions, or if there had been no foreign sales or activity within six years of founding and three years of their IPO. Stock price data from Center for Research in Security Prices (CRSP) is used to compute buy and hold returns and volatility. Organizational experience for managers and board members is collected from proxy statements; accounting information came from Compustat; information on location of acquisitions came from Securities Data Corporation's International Mergers and Acquisitions database.

Like Oviatt and McDougall (1994) and Shrader *et al.* (2000), we identify as a born-global any firm which initiates international activity within six years of founding and three years post IPO. Our born-global sample consists of 135 firms[5]. We identify as "pure exporters" firms with only foreign sales and no foreign assets, network arrangements, or foreign direct investment. Our sample consists of 71 pure exporters. We segment these into categories by whether the firm's export market is focused (export/import start-ups, or IXs) or diverse (Multinational Traders, or MTs).

Firms that have identifiable foreign assets or announce an international acquisition or collaborative arrangement are classified as either geographically focused start-ups (GFSU) or as global start ups (GSU) if activities are spread across many geographic markets. Examples of firms falling in each category, with a brief description of their foreign operations, are show below.

Examples of sample categorizations

- *Domestic.* Viropharma is a biotechnology company involved in the early stage drug development of viral diseases, such as cytomegalovirus and hepatitis C. The company commenced operations in 1994, and went public in 1996. Its operations are only in the USA (Malvern, Pennsylvania), and the company does not have any licenses or patents overseas. Because its drug development is in the pipeline stage, it does not have any foreign sales or exports. Its IPO prospectus provides biographies of its founders, directors, and top management team; none report foreign business experience.
- *Import/export.* Exult is a human resources services firm that assists its clients with identifying outsourcing opportunities, as well as providing consultancy

services in the areas of incentive compensation, payroll, and training. The company was founded in 1998 and went public in 2000. It has no foreign direct investment, but has a significant client base in the UK to whom it delivers human resource services. The company's IPO prospectus indicates that while its founder had no international experience, two of its directors had worked in the consulting business in Europe and Denmark, respectively.

- *Multinational trader.* Terayon Communications Systems is a technology firm that develops, markets, and sells CMTs, CPE, embedded multimedia terminal adapters, and digital video equipment. The company was founded in 1993 and did an IPO in 1998. In its prospectus, it reported that sales to customers outside of the USA accounted for approximately 88 percent of revenues in the year prior to its IPO, and that it anticipated that foreign sales would be a significant percentage of the Company's revenues for the foreseeable future[6]. The company has sales in the UK, Canada, Asia, Israel, South America, and Japan. The founders have international experience, and have worked for organizations in Israel and Canada.
- *Geographically focused start up.* Virage, founded in 1994, went public in 2000. The company is a provider of software products and application services enabling media firms and consumers to distribute video content over the internet. In 2000, Virage announced an equity sharing joint venture in Germany. While the founder's biography in the prospectus does not include any international experience, one vice president has substantial business experience in the UK and continental Europe, and one director is a professor of international business.
- *Global firm.* Doubleclick was founded in 1996 and did its IPO in 1998. The company is an internet marketing firm that used both networks (joint ventures and strategic alliances) and hierarchies (acquisitions) to expand into Europe and Southeast Asia. The firm has an Irish subsidiary, a branch office in Hong Kong, wholly owned subsidiaries in Germany, the UK, and Japan. The firm entered five licensing and OEM strategic alliances in The Netherlands, Hong Kong, the UK, and Japan between 1998 and 2002. The CFO at the time the company was founded had investment banking experience in continental Europe, and the vice president of international operations had business experience in South Africa.

We also utilize a control sample approach to see whether born-global firms outperform purely domestic firms of the same age and in the same industry. We obtain a matched sample for our long horizon returns using the following matching process. We identify firms which are classified as purely domestic if they have no exports, foreign assets, network arrangements, or foreign direct investment within six years of founding and three years post IPO. We then match our sample born-global firms with a firm in the same industry and approximately the same age.

- For same four-digit SIC, if same IPO date.
- If no same four-digit SIC was available, then we used two-digit SIC and same IPO date.
- If more than one match with the same IPO date was available, then the closest date founded was used.

- For some firms, the above yielded no matches. We then chose as a match a firm whose IPO date was no more than two years prior to the sample firm.

Table I provides the breakdown of our sample by industry. Our data reinforces the popular conception that born-global firms are concentrated in “high tech” industries with a high degree of intangible assets, particularly services –the so-called “new economy” firms. Technology services, including the internet companies often referred to as “.coms”, with SIC codes between 7370 and 7379, comprise 32.8 percent of our sample, while the next largest category of born-globals is technology, with 15.1 percent of the sample. The years of the IPOs are in Table II and the geographic areas of sales or assets are given in Table III.

Table IV provides information on operating characteristics of born-global firms versus their purely domestic counterparts in terms of size, profitability, and diversification at the time of their IPOs. We find that differences between domestic and both import export born-globals (IX) or the geographically focused start-ups (GFSU) are insignificant for all size variables, profitability measures (ROA and ROE), and distress and liquidity measures (Altman’s Z (Z), Cash to total assets (CHAT)). The only operating characteristics that differ between purely domestic IPO firms and IX and GFSU firms are the product market diversification (as proxied by number of business segments, BSG) and geographic diversification variables.

Whereas operational characteristics are similar for purely domestic firms and their IX and GFSU counterparts, size differences are significant between purely domestic firms and multinational traders (MT) and between purely domestic firms and global start-ups (GSU). Assets, sales, and employees are all significantly higher for both groups of born global firms than for purely domestic firms. Diversification variables are also higher for the MT and GSU firms, while the distress and liquidity variables are comparable.

5. Results

5.1. Univariate tests of operating characteristics

Table V provides the results of univariate tests for differences in means for domestic firms and the four categories of born-global firms.

H1 – that born-global firms have more intangible assets – can be tested by comparing specific proxies in Table V for born-global firms and domestic firms. The levels of intangibility, as proxied by the ratio of capital expenditures to total assets (CAPXAT), the ratio of intangible assets to total assets (INTN), the ratio of R&D expenses to total assets (XRD), and the price to book ratio (PKBK) are comparable for domestic firms and the IX, MT, and GFSU firms. For global start ups (GSU), the results for intangibility are mixed. Purely domestic firms have significantly higher levels of capital expenditures (CAPXAT) and intangibility (INTN), but GSU firms have significantly higher price to book ratios (PKBK).

Thus, the empirical evidence on *H1* appears mixed. What may be more important for the born-global firm is the ability to maintain the uniqueness of its resources as suggested by Oviatt and McDougall (1994). They suggest that networking relationships and licensing may keep knowledge from being expropriated. Thus, it may be that born-global firms are able to leverage what intangible assets they have more efficiently in their globalization efforts.

Table I.
Activities of sample firms
by industry and degree of
foreign involvement

SIC code	IX	MT	GFSUjvs	GFSUacq	GSUjvs	GSUacq	Domestic	Total	Pct (%)
Mining (10-14)	0	0	0	0	0	0	1	1	0.3
Building (15-17 24-25 32)	0	0	0	0	0	0	4	4	1.0
Food and tobacco (20-21)	0	1	0	1	0	0	1	3	0.8
Apparel (22-23)	0	0	0	0	0	0	1	1	0.3
Paper and printing (26-27)	0	0	0	1	0	0	2	3	0.8
Pharma (283)	0	0	4	0	3	0	16	23	6.0
Chem, petro, rub (28-29)	0	3	0	1	0	0	1	5	1.3
Rubber and leather (30-31)	0	1	0	0	0	0	1	2	0.5
Metals (33-34)	0	0	1	2	0	0	2	5	1.3
Machinery and equip (35-37)	1	6	3	4	1	0	5	20	5.2
Technology (some of 35,36,38,51,57,59,62,67, 73,79,87)	5	13	9	9	5	0	17	58	15.1
Manufacturing (38-39)	0	5	6	2	0	0	8	21	5.5
Transport (40-47)	0	1	0	2	0	1	3	7	1.8
Communications (48)	1	2	4	4	3	0	7	21	5.5
Utilities (49)	0	1	0	1	1	1	2	6	1.6
Wholesale and retail (50-59)	1	4	1	4	1	0	17	28	7.3
Financial (60-69)	0	0	0	2	2	0	7	11	2.9
Services (70-73,74-76,81-86)	1	1	1	4	1	1	3	12	3.1
Technology services (737s)	7	24	18	28	19	0	30	126	32.8
Entertainment (78-79)	0	0	0	0	0	0	2	2	0.5
Health care (80)	1	0	0	1	0	0	3	5	1.3
Biotechnology (87)	0	2	4	5	0	1	4	16	4.2
Not known	1	3	0	0	0	0	0	4	1.0
Total	18	67	51	71	36	4	137	384	100
Per cent	4.7	17.4	13.3	18.5	9.4	1.0	35.7	100%	

Table V provides information and statistical tests for experience proxies – founder age for general experience (FAGE), international experience of the founder (FEXP), international experience of the board (BEXP), top five executive experience (EEXP) and at least one top level executive or board member with international experience (IEXP).

Our hypothesis *H2* that born-global managers and directors have more international experience is strongly supported by the results in Table V, with the exception of the founder age variable. Founders of born-global firms are not significantly older than founders of purely domestic firms, the average age of which is about 43 years. However, whereas only 15.41 percent of purely domestic founders have international experience substantial enough to report in their prospectuses, 34.48 percent of import export founders, 31.48 percent of multinational trader founders, 43.90 percent of geographically focused start up founders, and 33.33 percent of global start up founders have international experience. All of the born global groups illustrate significantly higher levels of founder international experience relative to domestic firms.

Similarly, whereas purely domestic firms have boards where 30.15 percent have at least one board member with international experience, over half of born-global boards have directors with international experience; the difference is statistically significant for all groups of born-global firms versus purely domestic firms. The results for top five executives' international experience and for at least one founder, board member, or executive with international experience are again significantly higher. This result reinforces the findings of Knight and Cavusgil (2004), Rialp-Criado *et al.* (2003) and Bell and McNaughton (2000).

Our results suggest that at the time of their IPOs, purely domestic firms are similar to born-globals in terms of size, profitability, and intangibility, but the entire management team and directors for all forms of born globals have significantly higher international experience. Thus, at the time of the IPO, the founder and board members

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Total
0	0	0	0	1	1	2	4	6	2	16
0	0	0	0	3	6	7	19	30	4	69
4	1	2	10	25	19	12	18	26	3	120
3	0	0	0	6	7	9	11	6	0	42
7	1	2	10	35	33	30	52	68	9	247
2.83%	0.41%	0.81%	4.05%	14.17%	13.36%	12.15%	21.05%	27.53%	3.64%	100%

Table II.
Born-global distribution
by year of IPO

	North America	South America	Europe	Asia	Australia	Africa	Other	Multiple
IX	0	0	6	2	0	0	10	0
MT	12	13	52	50		11	34	66
GFSU	18	3	55	31	10	7	0	0
GSU	17	3	33	26	9	1	0	38
All	47	19	146	109	19	19	44	104
Percent	9.27	3.75	28.8	21.5	3.75	3.75	8.68	20.51

Note: Some firms made multiple entrances or expansions into a given region (i.e. may sell in multiple European countries or may have acquired two firms in a given country, so the columns do not sum to 247

Table III.
Distribution by
geographic location of
sales or assets

Table IV.
Operating characteristics
of sample firms

Variable	1 DOM	2 IX	3 MT	4 GFSU	5 GSU	1 vs 2	1 vs 3	1 vs 4	1 vs 5	2 vs 3	2 vs 4	2 vs 5	3 vs 4	3 vs 5	4 vs 5
Size															
AT	216.02	152.73	673.42	305.62	346.76	0.39	-2.51 *	-0.56	-1.09	-1.81 **	-1.18	-1.17	1.31	1.50	-0.24
STAT	92.39	83.02	653.85	134.62	375.96	0.27	-3.37 ***	-1.11	-1.99 *	-2.19 *	-1.01	-0.98	1.98 **	0.89	-0.87
EMPL	0.6043	0.5713	3.628	0.82	1.41	0.16	-2.95 ***	-0.98	-1.91 **	-1.89 **	-0.77	-2.25 *	1.72 **	1.50	-0.74
Profit															
ROA	-10.27	-5.34	-12.49	-11.51	-16.47	-1.23	0.62	0.32	1.95 **	1.36	1.34	2.25 *	-0.19	0.88	1.01
ROE	-10.55	-4.98	-7.30	-13.30	-20.42	-1.01	-0.71	0.45	2.29 *	0.41	1.32	2.50 *	0.99	2.50 *	1.20
Divers															
GS	1.00	3.48	4.26	3.27	3.63	-4.46 ***	-12.32 ***	-2.35 *	-5.72 ***	-4.12 ***	1.04	-0.70	4.54 ***	3.92 ***	-1.84 **
B	1.11	1.38	1.32	1.41	1.31	-1.92 **	-1.70 ***	-1.84 **	-1.91 **	0.26	-0.10	0.35	-0.34	3.99 ***	0.44
FSTS	0	22.15	38.61	5.81	22.21	-6.18 ***	-10.5 ***	-2.72	-6.76 ***	-2.30 *	2.64 *	-0.01	4.76 ***	0.07	-2.67 ***
Liquidity															
Z	20.24	38.99	24.76	23.64	20.69	-1.27	-0.47	-0.27	-0.57	0.94	0.77	1.52	0.11	0.76	0.37
CHAT	40.81	46.75	53.83	50.42	49.40	-0.93	-2.55	1.59	-1.91	-1.06	0.75	-0.42	0.53	0.85	0.18

Notes: * Represents a significance at 5 percent; ** represents a significance at 10 percent; *** represents a significance at 1 percent

	1	2	3	4	5	1 vs 2	1 vs 3	1 vs 4	1 vs 5	2 vs 3	2 vs 4	2 vs 5	3 vs 4	3 vs 5	4 vs 5
Variable	DOM	IX	MT	GFSU	GSU										
<i>Intangibility</i>															
CAPXAT	8.31	5.66	6.86	6.25	5.73	1.26	0.88	1.03	1.91 *	-0.74	-0.32	-0.05	0.37	1.01	0.40
INTN	10.91	6.38	4.66	12.02	6.67	1.16	2.09	-0.29	1.62 *	0.72	-1.44	-0.11	-2.35 **	-0.97	1.78 *
XRD	14.56	10.03	13.04	16.94	15.29	0.60	0.19	-0.30	-0.14	-1.16	-1.57	-1.60	-0.84	-0.51	0.33
PKBK	5.77	8.29	7.82	7.40	9.24	-1.07	-1.15	-0.66	-1.72 *	0.21	0.25	-0.28	0.16	-0.56	-0.53
<i>Experience</i>															
FAGE	43.03	42.88	41.22	41.79	42.55	0.07	1.14	0.72	0.36	0.73	0.47	0.16	-0.31	-0.84	-0.45
FEXP	15.41	34.48	31.48	43.90	33.33	-2.41***	-2.52***	-4.00***	-3.18***	0.28	-0.78	0.11	-1.24	-0.23	1.15
BEXP	30.15	51.72	59.26	53.66	58.62	-2.25***	-3.84***	-2.80***	-4.37***	-0.65	-0.16	-0.65	0.54	0.07	-0.53
EEXP	13.24	37.93	33.33	46.34	31.03	-3.25***	-3.26***	-4.84***	-3.29***	0.41	-0.69	0.68	-1.29	0.28	1.69 *
IEXP	42.67	79.31	75.93	78.05	72.41	-3.71***	-4.32***	-4.54***	-4.63***	0.35	0.12	0.73	-0.24	0.46	0.68
<i>Monitoring</i>															
VC	0.31	0.36	0.57	0.52	0.64	0.65	-1.99 **	-2.10 **	-2.56 **	-1.66 *	-1.53	-2.26 **	0.46	-1.48	-1.52
<i>Leverage</i>															
DEBT	39.23	32.40	22.57	30.05	25.53	1.40	2.06 **	0.79	1.90 *	1.38	0.15	0.84	-0.67	-0.49	0.42

Notes: * Represents a significance at 10 percent; ** represents a significance at 5 percent; *** represents a significance at 1 percent

Table V.
Intangibility, experience,
external monitoring, and
financial leverage
characteristics of sample
firms

appear to put the born-global firm on a trajectory towards multinationality by organizing the post-IPO management team and board to globalize.

Table V further supports the hypothesis that born-global firms rely more heavily on VCs than their domestic counterparts, which is consistent with *H3*. The venture capital involvement (VC) is significantly higher for MT, GFSU, and GSU firms than for purely domestic firms; only 31 percent of domestics have venture capital investment at the time of the IPO, as compared to well over 50 percent for MT, GFSU, and GSU.

Table V shows that the ratio of debt to total assets (DEBT) is significantly higher for purely domestic firms than for MT and GSU. This result supports *H4* that born-global firms maintain more financial flexibility than their domestic counterparts.

5.2. Logistic analysis of operating characteristics

We next examine our first five hypotheses in a multivariate framework. Table VI shows a logistic analysis of born-global firms taken as a group versus purely domestic firms.

Table VI indicates that born-global firms in general, at the time of their IPOs, have less intangibility than purely domestic firms. Greater international experience of management and the board is again significant as is VC participation. As before, the debt/total assets (DEBT) ratio is lower for the born-global firms. In general, firms whose board members have international experience, that are backed by VCs, and that have more financial flexibility are more likely to engage in rapid internationalization.

Alternative model specifications using the log of assets (AT) and log of sales (SLS) as size proxies and XRD (ratio of R&D expenditures to total assets) and INTAN (intangible assets to total assets) as alternative intangibility proxies provide similar results. All four models presented in Table VI are significant at the 1 percent level as illustrated by their Chi-Square statistics.

5.3. Risk attributes post-IPO

H6a and *H6b* are tested by comparing the risk of born-global firms to those of the corresponding control sample as well as the risk between types of born-global firms. The results of empirical tests on changes in total risk, systematic risk, and unsystematic risk are shown in Tables VII and VIII. Table VII shows that born-global firms have higher total, systematic, and unsystematic risk post-IPO. Both total risk and unsystematic risk are significantly higher for born-global firms than for purely domestic firms, systematic risk is not significantly higher. These results refute *H6a* and support the alternative *H6b*. The cash flow diversification benefits do not surpass the additional risks from entering new markets.

Table VIII, shows that risk differs across born-global groups post-IPO. The total risk of import export born-globals (IX) is less than that of multinational traders (MT). This result is consistent with transaction cost theory of internationalization since import-export firms have lower risk since they are operating in only one additional area. Geographically focused start ups (GFSU) and global start-ups (GSU) both realize significantly lower total, systematic, and unsystematic risk than multinational traders, but the differences between GFSU and GSU subgroups are insignificant. This suggests that the number of markets does not play as important a role once the born-global firm has developed more complex entry modes.

	Model 1	Model 2	Model 3	Model 4	Model 5
Constant	0.800 (1.29)	0.712 (1.01)	0.468 (0.48)	0.736 (1.09)	0.739 (1.34)
CAPXAT = capital expend/total assets		-2.628 (2.11)		-2.978* (2.77)	-2.951 (2.70)*
FAGE = Founder age	-0.024 (2.39)	-0.025* (2.67)*	-0.024 (2.64)	-0.026 (2.99)c	-0.028 (2.85)*
FEXP = 1 if founder has international experience	0.819 (6.40)**	0.428 (1.45)			
BEXP = 1 if board has international experience	1.079 (14.51)***	0.970 (11.27)***			
MEXP = 1if top level executive has intl experience		1.058 (8.00)***			
IEXP = 1 if at least one of the above has international experience			1.522 (29.24)***	1.525 (28.94)***	1.652 (26.25)***
VC = 1 if venture capital participation					0.015 (2.76)*
DEBT = Debt/total assets	-0.024 (6.00)**	-0.024 (5.87)**	-0.028 (8.41)**	-0.025 (6.22)**	-0.031 (6.52)**
EMPL = Number of employees	0.337 (6.74)***	0.376 (7.91)***	0.350 (7.22)***	0.334 (6.86)***	0.325 (6.86)***
ROE	-0.001 (0.03)	-0.002 (0.16)	-0.001 (0.01)	-0.001 (0.01)	-0.002 (0.14)
Z = Altman's Z	0.001 (0.82)	0.001 (0.16)	0.001 (0.01)	0.001 (0.14)	0.001 (0.10)
n	355	348	354	348	346
Exp(B)	1.425	1.425	1.425	1.425	1.425
Chi-Sq	48.025***	56.58***	51.25***	55.26***	54.17***

Notes: * Represents significance at 10 percent; ** represents significance at 5 percent; *** represents significance at 1 percent; Wald statistic is shown below the parameter estimate; Dependent variable is born-global = 1

Table VI.
Factors affecting
born-global status

	Domestic	All born-globals	T (Domestic vs born-globals)
Total risk	4.844	6.149	3.83*
Systematic risk	1.701	2.042	1.60
Unsystematic risk ^a	0.285	0.493	3.69*

Notes: ^a Systematic and unsystematic risk are multiplied by 100; * represents significance at 1 percent

Table VII.
Post IPO risk outcomes
by Domestic vs
Born-global

	(1)IX	(2)MT	(3)GFSU	(4)GSU	1 vs 2	1 vs 3	1 vs 4	2 vs 3	2 vs 4	3 vs 4
Total risk	6.328	7.749	5.541	5.759	-1.89 *	-1.24	-0.63	0.69	1.96 *	0.74
Systematic risk	1.644	3.441	2.182	1.923	-1.85 *	1.1	0.98	3.40 **	3.35 **	-0.37
Unsystematic risk	0.476	0.769	0.397	0.432	-1.88 *	0.76	0.48	2.97 **	3.13 **	-0.36

Notes: * Representss significance at 10 percent; ** represents significance at 1 percent

Table VIII.
Post IPO risk outcomes
by born-global strategy

5.4. Comparing performance among born-global strategies

We use two proxies for performance – market value performance over 6, 12, 18, and 24 months (LHR6, LHR12, LHR18, and LHR24 respectively), an accounting measure, the change in return on equity over two years post IPO ($\Delta ROE2$), and the change in sales over the two years following the IPO ($\Delta SALE2$). The results of these tests are shown in Tables IX and X.

As shown in Table IX, six-month buy and hold raw returns following the IPO are not significantly different for an equally weighted portfolio of born-global firms versus an equally weighted portfolio of purely domestic firms[7]. However, the market value performance of born-global firms clearly exceeds the performance of purely domestic firms over longer performance measurement horizons, consistent with *H7*. The 12 and 18 month buy and hold returns are significantly higher for born-global firms. At two years (24 months), returns to the born global portfolio are higher than the purely domestic portfolio, albeit, not significantly so. These results suggest that despite the costs of complexity, monitoring, and agency behavior mitigation, the born-global strategy appears to be generate higher performance, as indicated by higher long run returns to born-global firms than purely domestic firms.

We next examine the performance outcomes by born-global strategy. Our previous results indicate that external monitoring does not differ across born-global forms, nor does managerial or director experience. Hence, it is possible that we may observe lower performance by global start ups relative to firms requiring fewer organizational competencies. Table X provides excess performance measures by born global category (each firm’s raw change in performance metric – its control’s change in performance metric). In Table X, we find that import-export firms obtain the lowest performance result in terms of change in ROE, followed by global start-ups. Highest accounting performance is exhibited by multinational traders. MT firms significantly outperformed import-exporters, though differences across other groups are insignificant. Buy and hold returns show that, at 12 and 18 months, global start ups and multinational traders significantly outperform import-export and geographically focused start-up born-globals respectively. This result indicates that geographic diversification results in greater market returns. These results somewhat contradict those found by Click and Harrison (2000) who find that exporting only firms have a premium while multinationals with assets abroad suffer a discount. However, at 24 months, the excess buy and hold returns indicate that multinational traders experience the highest market value performance outcomes, consistent with the two year ROE and sales performance metrics, which are also measured over a two year time window. This is consistent with the conjecture that multinational traders require more time to deploy resources around the world, and hence,

	All domestic		All born-globals		T (domestic vs born-global)
$\Delta ROE2$	-0.46	(-0.89)	-0.48	(-0.41)	0.48
$\Delta SALE2$	0.038	(4.86)*	0.040	(7.17) *	1.35
LHR6	0.151	(1.38)	0.145	(2.15) **	0.57
LHR12	0.127	(1.03)	0.229	(2.00) **	-2.40 *
LHR 18	0.224	(1.45)	0.538	(2.45) **	-2.44 *
LHR 24	0.110	(1.45)	0.218	(2.45) **	-1.42

Table IX.
Post IPO performance by
domestic vs born-global
(buy and hold returns)

Notes: * Represents significance at 1 percent; ** represents significance at 5 percent

	(1)IX	(2)MT	(3)GFSU	(4)GSU	1 vs 2	1 vs 3	1 vs 4	2 vs 3	2 vs 4	3 vs 4
ΔROE2	-0.026 (-1.13)	0.026 (1.50)	0.035 (0.02)	-0.021 (-0.88)	-1.84 *	-0.82	-0.03	0.8	1.59	0.72
ΔSALE2	0.032 (2.08) **	0.026 (3.42) ***	0.031 (2.41) **	0.053 (5.69) ***	0.41	0.05	-1.09	-0.36	-2.25 **	1.34
LHR6	-0.123 (-0.54)	0.073 (0.35)	-0.128 (-0.69)	0.369 (2.57) **	-0.61	0.02	-1.82 *	0.69	-1.25	-2.56 **
LHR12	-0.521 (-1.58)	0.156 (0.57)	-0.274 (-1.07)	0.505 (1.95) *	-1.54	-0.61	-2.13 **	1.15	-0.89	-2.40 **
LHR18	0.364 (0.92)	0.775 (1.17)	-0.062 (-0.27)	1.12 (2.61) **	-0.44	0.98	-1.32	1.19	-0.46	-2.44 **
LHR 24	0.044 (0.21)	0.062 (1.04)	0.059 (0.54)	0.031 (1.20)	-1.28	-1.06	1.60	0.54	2.06 **	1.86 **

Notes: * Represents significance at 10 percent; ** represents significance at 5 percent; *** represents significance at 1 percent

Table X.
Post IPO control-adjusted
excess buy and hold
return performance by
born-global strategy

observe higher performance gains by 24 months. From a capital markets perspective, higher returns to shareholders of multinational traders are also consistent with the higher level of systematic risk exhibited post IPO discussed previously.

5.5. Multivariate analysis of born-global performance

We next attempt to identify firm-specific characteristics of born-global firms that contribute to their long-term performance. We use a multivariate framework to examine both changes in accounting performance (Δ ROE) and changes in buy and hold returns over 24 months (LHR24). Table XI provides the results of the multivariate analysis.

	Change in ROE2 Model 1	Change in ROE2 Model 2	LHR24 Model 1	LHR24 Model 2
Constant	-3.472 (-0.89)	1.339 (0.19)	-1.214 (-0.64)	0.644 (0.92)
FAGE = Founder age		-0.159 (-1.18)	0.002 (1.64)	0.023 (1.78) *
FEXP = 1 if founder has international experience		0.050 (0.02)		
BEXP = 1 if board has international experience		5.129 (1.90) *		
MEXP = 1 if top level executive has intl experience		-3.564 (-1.13)		
IEXP = 1 if at least one of the above has international experience	0.853 (0.28)		1.322 (1.99) **	1.331 (2.04) **
VC = 1 if venture capital participation		0.204 (1.79) *	1.272 (1.81) *	0.248 (0.87)
Δ DEBT = Change in debt			0.007 (0.59)	
Δ EMPL = Change in employees	0.148 (0.37)	0.180 (0.45)		
ACQ = Number of acquisitions	-10.448 (-2.38) **	-7.297 (-1.61) *		
NET = Number of networks	0.157 (0.19)	0.489 (0.59)		
MT = 1 if multinational trader	5.133 (1.34)	5.459 (1.36)	0.154 (0.68)	0.167 (0.46)
GFSU = 1 if geographically focused start-up	1.674 (0.18)	1.176 (0.12)	0.047 (0.65)	0.338 (0.63)
GSU = 1 if global start-up	-10.854 (-1.70) *	-8.449 (-1.26)	-3.514 (-1.47)	-0.422 (-1.74) *
ACQ * IEXP	13.556 (1.91) *	9.455 (1.30)	1.39 (1.84) *	
GSU * IEXP			0.82 (0.73)	
GSU * NET	14.825 (2.50) **	1.142 (0.12)		0.627 (0.11)
N	82	82	84	84
Rsqr	7.80	11.54	6.42	10.84

Table XI.
Factors affecting
born-global performance

Notes: * Represents significance at 10 percent; ** represents significance at 5 percent

The impact of acquisitions is negative, but when combined with experience becomes positive and significant. This is consistent with Knight and Cavusgil (2004) who emphasize that it is the international orientation of the firm that drives its success as a born-global firm. The GSUs have a negative and significant effect although when they are combined with networks, the impact is positive and significant for ΔROE . Venture capitalists have a positive and significant effect on both ΔROE as well as LHR24, supporting the hypothesis that venture capitalists provide effective monitoring for born-global firms. Also positively affecting performance is the number of networks, while the number of acquisitions negatively affects ROE and long run returns. This suggests that networks allow firms to use their intangible assets but to avoid the problems inherent with acquisitions.

Castren (2004) believes that network relationships allow the firm to control expropriation risk inherent in alliances due to the personal international relationships of the businesspeople involved. Oviatt and McDougall (1994) suggest that licensing arrangements are one way to protect intangible resources. However, all acquisitions are not wealth destroying. When acquisitions are combined with experience, they become positive forces.

6. Conclusions and directions for future research

We attempt to provide new evidence on the risk and performance implications of rapid internationalization, or born-global strategies. A complete summary of hypotheses and our results are shown in Table XII. We find that born-global firms have more internationally experienced managers and board members, are more commonly backed by venture capital firms, and use less financial leverage. While they have a higher level of risk than their domestic counterparts, they also achieve higher long horizon returns for their shareholders.

The performance of born-global firms is conditioned on specific characteristics of the firm. Contrary to previous studies, we do not find strong evidence of intangibility. We do find performance affected by managerial and board experience, as well as venture capital oversight.

Our results have implications for managers considering how and when to capitalize on the expanded opportunity set presented by improved coordination technologies and liberalization. We find that the knowledge-centered capabilities of the board of directors impacts performance of born-global firms. Furthermore, we find that regardless of managerial and board experience, organizational learning through networks positively impacts long term performance of born-global firms. However, managers should proceed with caution if utilizing resource intensive ownership modes such as acquisitions, which provide extensive integration challenges; our results suggest that overextension of managerial resources may occur.

Future research may well uncover the dynamics in communications between boards of directors, managers, and monitoring groups such as venture capital firms that lead to efficient coordination of resources and optimal decision making when it comes to globalization early in the life of the firm. Additionally, the role of intangibility may be further explored. Prior studies primarily focused on individual cases or on those firms that responded to a survey. The resultant sample may have been skewed towards firms with high levels of intangibility.

	Hypothesis	Outcome	Support
<i>H1</i>	Born-global firms have higher levels of intangibility than purely domestic firms	Purely domestic firms do not differ from geographically focused start ups or geographically focused import-export born-globals, but are significantly more intangibility oriented than multinational traders and global start ups for at least one measurement.	Not supported
<i>H2</i>	Born-global firms have managers and boards of directors with higher levels of international experience	All categories of born-globals exhibit significantly higher levels of managerial and board international experience than purely domestic firms	Strong
<i>H3</i>	Born-global firms have a higher level of venture capital participation than purely domestic firms	Born-global firms exhibit significantly higher levels of venture capital involvement	Strong
<i>H4</i>	Born-global firms have a lower level of financial leverage than purely domestic firms	Multinational traders and global start-ups have lower debt to asset ratios than purely domestic firms; import export and geographically focused start ups have comparable levels of debt	Partial
<i>H5</i>	Global start ups have higher international managerial and board expertise than geographically focused start-ups, multinational traders, or import-exporters	Differences across born-global subgroups are insignificantly different	Not supported
<i>H6a</i>	Systematic risk of born-global firms is lower than purely domestic firms	Born-globals exhibit higher total, systematic, and unsystematic risk, but systematic risk is insignificantly different than for purely domestic firms	Not supported
<i>H6b</i>	Born-global firms face greater risk than their domestic counterparts and this risk increases with the number of markets and the complexity of entry modes	Born-globals do exhibit higher risk than their domestic counterpart. Furthermore, multinational traders have the highest risk supporting the hypothesis. However, global start-ups do not have significantly higher risk than geographically focused start-ups	Partial
<i>H7</i>	Born-global firms perform better than their purely domestic counterparts post IPO	Market value measures (buy and hold returns over 12 and 18 months) indicate born-global outperform; accounting measures are statistically insignificant	Partial

Table XII.
Summary of hypotheses
and empirical results

Our results indicate that it may not be the level of intangibility but rather the ability of managers to successfully leverage these assets by strategic networking. Further study on the types of intangibility may be useful.

The performance of global start ups is better than that of the geographically focused start up firms in terms of long run stock returns. Further research may examine in more detail how the experience of managers contributes to the location decisions made by their firms.

Notes

1. Managers possess an awareness of the true organizational capabilities of their firms and, if they lack the requisite Ownership-specific advantages, would not attempt to engage in costly activities conducted firms that actually possess such advantages (such as internationalization), knowing they would fail.
2. Underpinning our conjecture is the following statement by Dunning (1995), "The 'yin' – or slippery space – of economic integration is then going hand in hand – indeed some would say giving rise to – the 'yang' – or sticky place – of a re-evaluation of national or local cultural, religious, and ethnic diversity... And as I have already suggested, the more successful MNEs are already demonstrating some of the ways in which spatially related tensions can be minimized and used to promote their global objectives."
3. Liesch and Knight (1999) cite the work of Aliber (1970) and Rugman (1979) and ask "to what use can Portfolio Theory be applied in explaining the assembly of SME internationalization ventures?"
4. Barber and Lyon (1997) using Conrad and Kaul (1993) provide evidence that using benchmarks comprised of control firms yield well-specified test statistics mitigating the biases from new listing, rebalancing and skewness.
5. The six year cutoff is consistent with Carter *et al.* (1994) as well.
6. To highlight the challenges facing firms with extensive foreign sales, we cite risk factors cited by Terayon in its prospectus: "International sales are subject to a number of risks, including changes in foreign government regulations and communications standards, export license requirements, tariffs and taxes, other trade barriers, difficulty in collecting accounts receivable, difficulty in managing foreign operations and political and economic instability. To the extent the Company's customers may be impacted by currency devaluations or general economic crises such as the economic crisis currently affecting many Asian and Latin American economies, the ability of such customers to purchase the Company's products could be materially adversely affected. There also can be no assurance that foreign markets for the Company's products will not develop more slowly than currently anticipated. Foreign countries may decide not to construct cable infrastructure, place moratoria on building cable plants or terminate or delay construction of such facilities for a variety of reasons, including environmental issues, economic downturns, the availability of favorable pricing for other communications services or the availability and cost of related equipment."
7. Table IX reports raw (i.e. not control adjusted) buy and hold returns to shareholders holding a portfolio of born global firms versus a portfolio of purely domestic firms. The test statistic provides information on whether the performance of the two portfolios differ on average. Table X reports one sample *t*-tests comparing the excess performance (i.e. paired, control adjusted) of each firm in a given born global subcategory to zero.

References

- Agmon, T. and Lessard, D.R. (1977), "Investor recognition of corporate international diversification", *The Journal of Finance*, Vol. 32 No. 4, p. 1049.
- Agrawal, A., Jaffe, J. and Mandelker, G. (1992), "The post-merger performance of acquiring firms: a re-examination of an anomaly", *Journal of Finance*, Vol. 47, pp. 1605-21.
- Aliber, R. (1970), "A theory of direct foreign investment", in Kindleberger, C.P. (Ed.), *The International Corporation*, MIT Press, Cambridge, MA.
- Barber, B.M. and Lyon, J.D. (1997), "Detecting long-run abnormal stock returns: the empirical power and specification of test statistics", *Journal of Financial Economics*, Vol. 43 No. 3, pp. 341-73.
- Bell, J. and McNaughton, R.B. (2002), "Capital structure and the pace of SME internationalisation", in Hamid, E. (Ed.), *International Entrepreneurship in Small and Medium Size Enterprises: Orientation, Environment and Strategy*, Edward Elgar, Aldershot.
- Brav, A. and Gompers, P. (1997), "Myth or reality? The long-run underperformance of initial public offerings: evidence from venture and nonventure capital-backed companies", *Journal of Finance*, Vol. 52, pp. 1791-821.
- Busenitz, L. and Barney, J. (1997), "Differences between entrepreneurs and managers in large organizations: biases and heuristics in strategic decision-making", *Journal of Business*, Vol. 12, pp. 9-30.
- Carter, N., Stearns, T., Reynolds, P. and Miller, B. (1994), "New venture strategies: theory development with an empirical base", *Strategic Management Journal*, Vol. 15, pp. 21-41.
- Casson, M. (1987), *The Firm and the Market*, Basil Blackwell, Oxford.
- Castren, P. (2004), Helsinki University of Technology, Espoo, "Theories on international growth of firms", working paper.
- Cavusgil, S. (1980), "On the internationalization process of firms", *European Research*, Vol. 8 No. 6, pp. 273-81.
- Click, R. and Harrison, P. (2000), George Washington University, Washington DC, "Does multinationality matter? Evidence of value destruction in US multinational corporations", working paper.
- Conrad, J. and Kaul, G. (1993), "Long-term market overreaction or biases in computed returns?", *Journal of Finance*, Vol. 48, pp. 39-63.
- Doukas, J. and Lang, L. (2003), "Foreign direct investment, diversification and firm performance", *Journal of International Business Studies*, Vol. 34, pp. 153-72.
- Dunning, J. (1995), "Reappraising the eclectic paradigm in an age of alliance capitalism", *Journal of International Business Studies*, Vol. 26, pp. 461-91.
- Errunza, V.R., Senbet, L.W. and Logue, D.E. (1981), "The effects of international operations on the market value of the firm: theory and evidence/discussion", *The Journal of Finance*, Vol. 36 No. 2, pp. 401-20.
- Fatemi, A.M. (1984), "Shareholder benefits from corporate international diversification", *The Journal of Finance*, Vol. 39 No. 5, pp. 1325-45.
- Glickman, B. and Woodward, L. (1989), *The New Competitors: How Foreign Investors are Changing the US Economy*, John Wiley, New York, NY.
- Gompers, P. (1995), "Optimal investment, monitoring, and staging of venture capital", *Journal of Finance*, Vol. 50, pp. 1461-89.

-
- Grimes, A. (2004), "Venture firms seek start-ups that outsource", *Wall Street Journal*, April 2, p. B1.
- Hamel, G. and Prahalad, C. (1990), "The core competence of the firm", *Harvard Business Review*, Vol. 68 No. 3, pp. 79-91.
- Hill, C., Hwang, P. and Kim, W. (1990), "An eclectic theory of the choice of international entry mode", *Strategic Management Journal*, Vol. 11, pp. 117-28.
- Jensen, M. and Ruback, R. (1983), "The market for corporate control", *Journal of Financial Economics*, Vol. 11, pp. 5-50.
- Johanson, J. and Vahlne, J. (1977), "The internationalization process of the firm: a model of knowledge development and increasing foreign commitments", *Journal of International Business Studies*, Vol. 8 No. 1, pp. 23-32.
- Knight, G. and Cavusgil, S. (2004), "Innovation, organizational capabilities, and the born-global firm", *Journal of International Business Studies*, Vol. 35, pp. 124-41.
- Liesch, P. and Knight, G. (1999), "Information internalization and hurdle rates in small and medium enterprise internationalization", *Journal of International Business Studies*, Vol. 30 No. 1, pp. 383-94.
- Loderer, C. and Martin, K. (1992), "Postacquisition performance of acquiring firms", *Financial Management*, Vol. 21, pp. 69-79.
- Madura, J. (2000), *International Financial Management*, South-Western, Cincinnati, OH.
- Meggison, W. and Weiss, K. (1991), "Venture capitalist certification in initial public offerings", *Journal of Finance*, Vol. 46, pp. 879-903.
- Miller, K. (1992), "A framework for integrated risk management in international business", *Journal of International Business Studies*, Vol. 23, pp. 311-31.
- Morck, R. and Yeung, B. (1991), "Why investors value multinationality", *Journal of Business*, Vol. 64 No. 2, pp. 165-87.
- Morck, R. and Yeung, B. (1992), "Internationalization: an event study test", *Journal of International Economics*, Vol. 33 No. 1, pp. 41-56.
- Oviatt, B. and McDougall, P. (1994), "Toward a theory of international new ventures", *Journal of International Business Studies*, Vol. 25 No. 1, pp. 45-64.
- Pan, Y., Li, S. and Tse, D. (1999), "The impact of order and mode of market entry on profitability and market share", *Journal of International Business Studies*, Vol. 30 No. 1, pp. 81-103.
- Reeb, D., Kwok, C. and Black, H. (1998), "Systematic risk of the multinational corporation", *Journal of International Business Studies*, Vol. 29 No. 2, pp. 263-79.
- Reid, S. (1981), "The decision-maker and export entry and expansion", *Journal of International Business Studies*, Vol. 12 No. 2, pp. 101-12.
- Rialp-Criado, A., Rialp-Criado, J., Urbano, D. and Villant, Y. (2003), "Determinants of the born-global phenomenon: a multiple case study research", working paper, Campus Universitat Autònoma de Barcelona, Barcelona.
- Rugman, A. (1979), *International Diversification and the Multinational Enterprise*, D.C. Heath, Lexington, MA.
- Seth, A., Song, K. and Pettit, R. (2000), "Synergy, managerialism or hubris? An empirical examination of motives for foreign acquisitions of US firms", *Journal of International Business Studies*, Vol. 31 No. 3, pp. 387-406.
- Shrader, R., Oviatt, B. and McDougall, P. (2000), "How new ventures exploit trade-offs among international risk factors: lessons for the accelerated internationalization of the 21st century", *Academy of Management Journal*, Vol. 43 No. 6, pp. 1227-47.

Stopford, J. and Wells, L. (1972), *Managing the Multinational Enterprise. Organization of the Firm and Ownership of the Subsidiaries*, Basic Books, New York, NY.

Tschoegl, A. (2004), "Who owns the major US subsidiaries of foreign banks? A note", *Journal of International Financial Markets, Institutions & Money*, Vol. 14 No. 3, pp. 255-66.

Woodcock, C., Beamish, P. and Makino, S. (1994), "Ownership-based entry mode strategies and international performance", *Journal of International Business Studies*, Vol. 28 No. 2, pp. 267-84.

Corresponding author

Kimberly C. Gleason can be contacted at: kgleason@fau.edu