

**Emerging market multinationals :
an analysis of performance and risk characteristics**

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Abstract

This study explores the risk and performance characteristics of emerging market multinationals (EMNCs). We use a sample composed of 79 EMNCs from 15 countries located in Africa, Asia, Eastern Europe-Russia, and Latin America. Our risk and performance analyses are based on monthly share price returns collected over 1996-2003 period and annual accounting data. We find that EMNCs on average perform better than their respective country market indices, a widely used EM benchmark, S&P500 and, global market index (MSCI-World) during the period of analysis. Our sample firms on average earn 13.21% return on assets, 8.97% return on equity, and 11.96% return on invested capital. We also find that EMNC returns are highly volatile, and despite some level of diversification achieved by EMNCs, their returns remain highly sensitive to local market shocks. The cross-sectional analysis of the determinants of the performance of the EMNCs reveals that leverage and systematic risk are the most important factors, followed by size. Our analysis indicates that performance is not affected by the degree of internationalization and EMNC investments in developed markets have a positive impact on the value. Finally, our results indicate that EMNCs in less risky emerging markets enjoy higher firm value.

1. Introduction

Frequently portrayed symbols of the remarkable pace of change and progress in emerging market economies are the stabilization of the macroeconomic landscape and development of market institutions.¹ It is plausible to argue that a far less noticed but potentially more significant improvement is the transformation of corporations in these markets. Under the internal and external pressures owed to the massive restructuring of their environment, a group of emerging market firms turned from predominantly inward orientation to increasingly outward looking postures. These rather drastic strategic shifts are either motivated to take advantage of regional or global business opportunities or to respond to increasing competition from new domestic entrants and/or from foreign companies. Consequently, emergence of a group of world class multinational companies from these countries, who made their marks in international commerce by competing successfully in global markets, challenges the notion that only advanced economies routinely produce such companies. These new players-referred to as Emerging Market Multinational Companies (EMNCs)²-with regional and global focus are becoming a significant mechanism for the transfer of capital, technology, management and other assets within and between developing and developed countries, and creating new engines of growth in emerging markets.

Despite their growing regional and global importance, our knowledge of various characteristics of these firms is limited. Deeply entrenched perceptions that emerging market companies are plagued by their unstable environment, lack the resources, capabilities, and sophistication to compete against industrialized country giants neglect the EMNCs as infant economic endeavors. Associated sentiment automatically and without much question is projected to the performance of the group and the popular opinion discounts EMNCs value due to their regional character, size, high leverage, and systematic risk.

Such oversimplification is unjustified. Actually these companies on the average outperform many widely used performance benchmarks. Some of these companies, such as Ranbaxy of India, Cemex of Mexico, and South African Breweries of South Africa, have successfully built enduring and profitable international businesses from their emerging market home bases. Dismissing them as poor copies of their counterparts in advance

economies is a short sighted view. We argue that the strategic paths taken by the EMNCs in response to their changing environment create rather complex organizational structures with possibly distinct performance patterns and risk exposures, which may not necessarily be similar to their more domestically oriented peers or industrialized country MNCs. Therefore, analyzing the risk and performance characteristics of EMNCs as a distinct group is an overdue task with a number of merits. Also, in view of their overall surprising viability, what makes successful EMNCs exceed the typical standards is a valid question. Accordingly, we explore the role of firm specific characteristics such as scale, use of leverage, access to capital and exposure to economic shocks on the EMNC performance. Additionally, we investigate the role of industry characteristics and home market conditions on the performance. Finally, we consider the impact of target market geographies on the EMNC performance.

We contend that the analysis of risk-performance characteristics of EMNCs and determinants of EMNC performance may provide valuable insights to individual and institutional investors who are in search for more refined and complex investments strategies in emerging markets as well as business analysts.

Our study is organized in the following order. In section two, we expand on the EMNC phenomena and briefly review the extant literature on EMNCs. In section three, we discuss our data and methodology. In section four, we present our descriptive and empirical findings. Finally, we conclude with remarks in section five.

Emerging Markets and Emerging Market Multinationals (EMNCs)

Despite its widespread use, there is no commonly accepted definition of an emerging market. However, there are three underlying characteristics that are consistently relevant to the designated countries. The first one is the absolute level of economic development usually indicated by the average GDP per capita, the second one is the relative pace of economic development that is indicated by the GDP growth rate, and the third one is the extent of free market system (Arnold and Quelch, 1998).

Most of the countries designated as “emerging markets” fall into the lower and upper middle income categories.³ Although on average they experience higher annual growth rates than industrialized economies, we should note that growth rates exhibit a significant cross-

sectional and longitudinal variation. Unsurprisingly, higher rates of growth imply massive changes in sectoral balances in a short span of time, and significant business opportunities that can be translated into higher profits and rates of return for investors.⁴

The third characteristic is the most critical but less easily defined criterion for the designation. All countries in the list suffer from varying degrees of institutional flaws that lead to high transaction costs (higher cost of capital, limited labor mobility and increased cost of trading), which undermine the effectiveness of the market mechanisms and render these economies inefficient.⁵ Additionally, an underdeveloped legal infrastructure leading to rampant property right violations, lack of adherence to laws, and discretionary and unfair enforcement of laws further increase the transaction costs and undermine sound commercial development. Across the emerging markets these institutional voids pose significant challenges for the governments. A differentiating characteristic of the emerging markets is the implementation of reforms addressing these gaps towards building a functioning market economy. However, it is important to note that there is a great deal of variation in the extent and effectiveness of these efforts. While some countries are at fairly advanced stages of this process such as Taiwan, Hong Kong, and Portugal, others are either cautiously pursuing reform as China or at the very initial stages as Vietnam.

EMNCs operate in a multifaceted environment offering a complex mix of opportunities and shortcomings as described above. Because of their home country characteristics, EMNCs are exposed to additional risks including accelerated inflation, wild exchange rate fluctuations, adverse repatriation laws and fiscal measures and macroeconomic and political distress.⁶ But their home markets also offer higher growth rates, which create opportunities for rapid and profitable value adding expansions to the extent that they can overcome the hurdles resulting from institutional voids. In a meticulous analysis, Bartlett and Ghoshal (2000) identified considerable variations in strategic, organizational, and managerial orientations adopted by EMNCs. They found that successful EMNCs develop internal markets for labor, capital, and technology compensating for the environmental shortcomings and use foreign ventures to build their capabilities to compete in more profitable segments of their industry. On the lower end of the spectrum they find EMNCs who enter the global markets in the low value added segment of the market and stay there. Obviously, this group

of EMNCs is far more vulnerable to internal and external shocks and has limited profitability and value creation capacity.

Arguments developed in the early literature on EMNCs (Wells, 1977, 1981, and 1983) suggest that the competencies of these companies center on the development of small scale, labor intensive, and flexible processes and products, which are appropriate to the emerging and less developed markets, and their ability to substitute locally available inputs. Accordingly, EMNCs are particularly motivated to invest in other emerging markets when increasing domestic labor costs undermine their price competitiveness in home markets. Those that have superior capabilities in labor intensive production relative to firms in the peer emerging markets maintain their advantages by expanding into lower labor cost environments. These distinct characteristics have also been observed in EMNCs originating from South East Asia (Lecraw, 1977; Kumar and Maxwell, 1981; Ting and Chi, 1981). Despite notable differences identified in types and degree of firm specific assets and skills of South Asian EMNCs, the main characteristics listed above have been broadly pertinent to this group as well (Lall, 1983; Makino et al., 2002). Grosse (2003) claims that EMNCs' ability to deal with other emerging market governments offers a unique advantage for these companies to tap markets perceived as too risky or neglected by developed country MNCs. The case in point is the successful expansion of Chilean firms operating in regulated industries such as electric utilities, airline, and banking industries to Argentina, Peru, Brazil, and other Latin American countries. These explanations are relevant primarily to emerging market firms investing in peer emerging markets or much less developed countries than their home countries to leverage their physical and intangible assets.

More recent literature have emphasized that a growing number of EMNCs invest in foreign countries not only to exploit but also to enhance their firm-specific advantages or acquire necessary strategic assets in a host country.⁷ The EMNCs are motivated to invest in developed countries (DCs) when they lacked some technology or know-how that is necessary to compete in domestic, regional, and developed country markets. Those that have the capability to absorb the relevant technology invest in developed markets where these technologies are available. Lecraw (1993) suggested that EM firms seeking strategic assets primarily acquire management technology, and marketing expertise, to enhance their rather traditional competitive advantages such as access to low-wage labor and low cost physical

inputs. Kumar (1998) presents evidence that EMNCs gain access to established brand names, novel product technologies, and extensive networks of distributors, typically via aggressive acquisitions of developed country firms in the host countries.

International expansion patterns revealed in the literature suggest that EMNCs tend to invest in neighboring countries to leverage their assets and invest in developed industrialized countries to enhance their existing capabilities or acquire new ones. Intra-regional investment is a key part of the expansion strategies for these corporations. South African EMNCs for example have 36% of their investments within the African continent (Broaden, 2003). Similarly, Asian and Latin American EMNCs both have over 43% of investments within their respective regions. In particular, firms such as Acer (Taiwan), LG Electronics (S. Korea) and YPF (Argentina) have over 20 foreign subsidiaries in their respective regions. Broaden (2003) indicates that over one-third of the investments of the EMNCs are in the developed economies, primarily the Triad represented by North America (primarily the USA), Europe, and Japan.

With some qualified exceptions EMNCs originate from inherently unstable economic and political environments. Their home turf also often lack sophisticated financial markets. Additionally limited savings in the local economy further places constraints on their reach to capital. Limited availability of external capital and narrow range of financial instruments clustered on the short term end of maturity structure may handicap the EMNCs' efforts to build and expand their operations. These constraints imposed on EMNCs can be overcome to some extent by internal capital allocation. This is more likely to be the case for diversified conglomerates. Assuming that EMNCs maintain dominant domestic market positions and maintain high levels of profitability across the business segments, they have the capability to cross-subsidize and position critical components of their business network for growth. However, these efforts are likely to be hampered by macroeconomic gyrations experienced in home market followed by demand and supply shocks, as well as deep financial crises. Another way out for EMNCs to overcome the limitations of the domestic markets is access to international capital markets. EMNCs with strong domestic and regional business networks can access to different segments of the international debt markets, issue equity through depository receipts or cross-listings, and use subsidiaries to take advantage of subsidiary's national financial markets.⁸ We argue that easy access to international capital markets

broadens strategic choices available to EMNCs and enhance performance. Additionally, since the access to international capital markets such as through ADR issues, require commitment to increased levels of disclosure, we expect a reduction in potential informational asymmetries between the EMNC management and its shareholders or among buyers and sellers of the EMNC shares.⁹ The voluntary disclosure reduces the risk borne by the EMNC investors and creditors. As a result, EM firms committed to disclosure reduce their external cost of capital, and capitalize on the growth prospects in their respective market.

We explore our sample data to identify EMNC's risk and performance characteristics and to evaluate the validity of the claims reviewed above.

Data

The sample used in the study was compiled from multiple sources. Our primary company selection tool is the Top-50 Emerging Market Transnational list published in the annual World Investment Report by UNCTAD. All the lists of Emerging Market MNCs published since 1996 was used to compile the EMNC list. If a company appeared in the list at least once, it was included in the sample. Additionally, we also used Top 25 Transitional Multinationals list published in the World Investment Report. The combination of these sources created a sample of 110 companies with certified multinationality. Once the company rosters were created, data for analysis were retrieved from DataStream and Thomson Research databases. Our database screening of the roster companies revealed that some companies either did not have relevant data or consistent time series in the databases. This has reduced our total sample of companies to 79. Our final roster included 79 companies from 15 countries located in four regions of the world (Africa, Asia, Eastern Europe-Russia, and Latin America). The large number of the companies from Asia and Latin America provided us with reasonable diversity to draw meaningful conclusions. As expected, two-thirds of the companies come from middle income emerging market countries. A relatively diverse set of 34 industries ranging from high value added manufacturing to natural resources are represented in the sample.¹⁰ Risk and performance analyses are based on monthly share price returns collected over 1996-2003 periods and annual accounting data. The choice of period was driven by the desire to optimize the sample size.

Methodology

We use a range of indicators to analyze performance and risk characteristics of EMNCs. A list of the variables and proxies used in this study is provided in Table 4 (see Appendix 2). The first set of performance indicators are the monthly raw returns, which are calculated from monthly return indices. These monthly raw returns are used to calculate annual holding period returns for each year. We use annual HPRs as an alternative performance proxy. In addition to raw monthly returns and annual HPRs, we calculate excess returns over certain benchmark indices. The excess returns are calibrated returns with respect to several benchmarks including MSCI-Local Market Index, MSCI-Emerging Market Index, MSCI-World Market Index and S&P500. These calibrations allow the benchmarking of the sample firm performances with respect to home market peers, a larger group of emerging market firms, global market portfolio, and the US market. These calibrations are particularly interesting and valuable from global portfolio manager's perspectives to evaluate the relative performance of the sample firms. In order to identify regional, sectoral, and country related patterns, we tabulate return data by region, country and industry. We also test the cross-sectional risk and performance differences across regional and industry classifications by using ANOVA.

In addition to the returns calculated from share price data, we use several performance proxies based on accounting data. These performance proxies are Return on Assets (ROA), Return on Equity (ROE), and Return on Capital Employed (ROCE). All return indicators are based on the earnings before interest taxes and depreciation (EBITD) due to its neutrality to depreciation methods, leverage and tax treatment. While all three indicators measure management's operating efficiency, they represent returns on different sources of capital.

Finally, we use Tobin's-Q which is an important and widely accepted measure of corporate performance. Tobin's-Q is defined as the ratio of market value of the firm to the replacement cost of its assets. We used Chung-Pruitt (1994) approximation to calculate the Q ratio:

$$Tobin's - Q_t = \frac{MVE_t + PS + DEBT}{TotalAssets_t}$$

where MVE is the product of a firm's share price and the number of outstanding common shares, PS is the liquidating value of the firm's outstanding preferred stock, DEBT is the value of the firm's short term liabilities net of its short term assets, plus the book value of the firm's long term debt, and TA is the book value of the total assets of the firm. This indicator is employed to explain a number of diverse corporate phenomena such as cross-sectional differences in investment and diversification decisions, the relationship between managerial equity ownership and firm value. We are particularly interested in using Tobin's-Q to gain comparative insights on the effectiveness of the multinational structure which may be associated with overinvestment or investments in low benefit or value destroying projects as reported in recent literature (e.g., Click and Harrison, 2000).

We use a range of firm specific risk measures to analyze the risks associated with EMNCs. First set of risk indicators are based on raw monthly returns. We simply calculate monthly return volatilities and compare them with benchmark volatilities. We report these comparative risk indicators as volatility multiples. These multiples provide us with comparative perspectives about the relative riskiness of the EMNCs. We also calculate and report annualized holding period return volatilities. Alternatively, we calculate systematic risk indicators, namely company betas, based on alternative market portfolios including local market, emerging markets, global market and S&P500. These alternative benchmarks are relevant under varying assumptions of market segmentation and integration. While under the market segmentation assumption, the relevant benchmark is the local market portfolio, under the integrated global markets assumption, the relevant benchmark is the global market portfolio. Finally, we used the S&P500, to measure the perceived systematic risk from US bound investors' perspective. We used 60-month running regressions to estimate betas.

In order to explore the determinants of performance and risk we use several alternative specifications. Our general model suggests that performance is determined by a combination of firm, industry and country specific factors. At the firm level, we are particularly interested in the impact of degree of multinationality or internationalization on the firm performance in the context of EMNCs. Some recent empirical studies focusing on US multinationals raise doubt about the value of certain forms of international diversification and establish a linkage between multinationality and value destruction (Click and Harrison, 2000; Denis, Denis, and Yost, 2002). Several measures have been used in the empirical

literature to capture the multinational involvement of a firm but foreign to total sales (FSTS) ratio is the most widely used and accepted measure of the extent of internationalization.¹¹ Sullivan (1994) shows that the ratio of foreign sales to total sales is an unambiguous measure of international involvement of a firm. In order to capture the degree of international experience and the involvement of the EMNCs we used this ratio.

For a group of companies in the sample we were able to identify the subsidiary locations. We classified these into developed and developing country groups and we compiled an upstream downstream dummy. If an EMNC has subsidiaries in developed countries, the dummy variable takes the value of 1, and 0 otherwise. Recent literature reviewed above suggests that EMNC investments in developed countries generally geared towards acquisition of strategic assets and have the potential to enhance competitive advantage of the EMNCs at home and foreign markets. Also, Kwok and Reeb (2000) suggest that MNC diversification to downstream (emerging economies) markets is associated with higher risks. Hence, this variable allows us to determine the impact of upstream diversification or strategic asset seeking expansion on the firm performance. A priori, we expect a positive association between geographic expansion into more stable developed markets and the firm performance.

The relationship between firm performance and risk is well established. We use local and global beta, and annualized return volatility as alternative risk indicators to explore their impact on the firm performance.

We used ADR issues by EMNCs as a proxy for ease of access to international capital. We interpret EMNCs capability to issue ADRs as a signal of commitment to voluntary disclosure and an informational asymmetry reducing factor which opens up opportunities to raise equity and debt capital. Reductions in informational asymmetry also reduce the perceived risk borne by the investors and decrease the cost of capital for the firm. A lower required rate of return demanded by the investors leads to higher valuations. A dummy variable was used to capture the impact of this factor on the performance. We used two different ADR dummies. The first ADR dummy is coded 1 if EMNC has an outstanding ADR issue regardless of the level of ADR in the current year or years prior, 0 otherwise. The second ADR dummy takes the value 1 only if the company has an outstanding Level-III ADR, 0 otherwise.¹²

The empirical evidence on the impact of product/segment diversification on firm performance and value in developed markets suggests that diversified firm performance is inferior to single industry focused firm performance. However, the impact of diversification on firm performance is not well established in emerging markets, and it is argued that internal capital and labor markets within diversified conglomerates may compensate for the endemic weak institutional infrastructure in emerging markets (Khanna and Palepu, 1997). In order to capture the impact of company's utilization of internal labor and capital markets we use a structure dummy, which differentiate diversified versus single industry firms.¹³

In order to capture the impact of the industry the company operates we used industry dummies. It is conceivable to think that companies operating in traditional industries would exhibit different risk and performance patterns than the companies operating in high tech industries.

It is almost axiomatic that economic and political stability is a significant determinant of firm performance in emerging markets. In order to capture this country level effect, we use Euromoney Country Risk Indicator (ECRI) as a proxy for economic and political stability.¹⁴ Additionally we use a region dummy in order to explore possible linkages between performance and geographic location. Although our initial analysis did not reveal any regional patterns, we have the opportunity to verify ANOVA results in our multivariate analysis.

Finally, we use two control variables: Size and Leverage. It is established in theory that MNCs, by internalizing market imperfections, are able to extract above market returns on their specific assets which, in efficient financial markets, are capitalized into a higher value of the firm. The specific source of these gains to firm value from growing geographically comes from expanding firm-specific assets and potential economies of scale for the use of these assets. Economies of scale of specific assets such as marketing and research and development suggest that their value to the firm increase with the size of the firm's activities that use these specific assets. We control for leverage as a proxy for any financing benefits of being a multinational.

BASIC MODEL

$$\begin{aligned} \text{PERFORMANCE} = & \alpha + \beta_1(\text{LASALES}) + \beta_2(\text{LEVERAGE}) \\ & + \beta_3(\text{FSTS}) + \beta_4(\text{FRISK}) + \beta_5(\text{CRISK}) + \beta_6(\text{UPSTREAM}) \\ & + \beta_7(\text{REGION}) + \beta_8(\text{INDUSTRY}) \end{aligned}$$

The impact of company, industry, and country level variables on the performance was estimated by using pooled time series regression method.¹⁵ Consequently, ROA, Tobin's-Q and HPR were used as performance indicators and as independent variables in the regression equation. Dummy variables were included to separate the industry and regional effects. It is possible that the size and leverage of the firm can impact the performance of the firm and it is therefore necessary to control for these effects. Total Assets and Total Sales were added to control for the firm size and the debt to total assets ratio was employed to control for the leverage effect. The degree of internationalization of the firm could also impact the performance, consequently the ratio of foreign assets to total assets and foreign sales to total sales were added to the model to control for this effect.

Empirical results sample characteristics

Despite the fact that our sample firms represent larger EMNCs, there is a considerable variation in sales, asset values, and market capitalizations. Table 1 (see Appendix 2) shows the overall sample characteristics of the data used. The country and industry breakdown sample characteristics are provided in Tables 2 and 3 (see Appendix 2). The total sales among the sample firms range between \$26 billion and \$50 million, with a mean of \$3 billion. Similarly, the asset size of the sample firms fall between \$34 billion and \$93 million with a mean value of \$5 billion. Although the mean market capitalization is a moderate \$3 billion, the sample included firms as large as \$36bn and as small as \$34 million. While the sample firms have an average leverage of 29 percent, mean ROA, ROE, and ROCE are 13.21 percent, 8.97 percent and 11.36 percent, respectively. Sample mean of Tobin's-Q is 0.92. The foreign sales to total sales ratio ranged between 97 percent and 1 percent with a sample mean of 38 percent. Similarly, mean foreign assets to total assets ratio is 31 percent with a maximum of 97 percent and a minimum of 3 percent. The largest firms in the sample measured by sales and asset size come from diversified industries. In contrast, smallest firms by the same category come from basic industries. Firms in diversified industries also have the highest market value. While highest ROA, ROCE, and ROE are observed in non-cyclical consumer goods, the lowest ROA is observed in diversified industries.

Performance and risk

The average monthly returns of 79 emerging market multinationals from 15 countries and 9 distinct industries were analyzed in this study. The average monthly returns ranged from –3.55 percent to 5.84 percent, indicating a large cross-sectional variation. While the annualized equivalent of highest average monthly return turned out to be 70.14 percent, annualized equivalent of the lowest average monthly return is –42.62 percent. Highest monthly volatility in the sample is 31.90 percent or 110.52 percent in annualized terms. The lowest monthly volatility proved to be only 5.44 percent or 18.83 percent in annualized terms. Sample average of monthly returns for emerging market multinationals is 0.85 percent (annualized 10.24 percent). Average monthly Volatility of the sample is 15.85 percent (or 54.9 percent).

A brief analysis of regional averages suggests that multinationals from Eastern Europe yield highest monthly returns (see Table 5 in Appendix 2). This was followed by Asia and Latin America. African MNCs represented by only South Africa on average yield lowest returns. The East European MNCs also proved to be most volatile. This is consistent with the high returns provided by the same group of MNCs and is a confirmation of the high reward-high risk trade-off. Second largest volatility was observed in the Asian cluster.

A parallel analysis conducted across the countries indicates that average returns are high for Korean and Colombian MNCs. Highest volatilities are observed in the Korean cluster.

An analysis of monthly return averages by industry reveals that Cyclical Consumer goods, Resources, Information Technology industries generated the highest average monthly returns. In contrast, lowest monthly returns were generated by Utilities, Non-Cyclical Service, and Cyclical Service (see Table 6 in Appendix 2). Volatility varied significantly across industries. Industry segments such as Cyclical Consumer goods, Information Technology and Diversified Industries displayed higher volatility as compared to other industries (see Table 6).

Although average monthly returns are instructive indicators of performance, they offer limited analytical insights regarding the relative performance of the companies in the sample. In order to gain further insight about the performance of the sample firms, several benchmarks were used. First benchmark employed to explore the relative performance of

sample firms is their respective home market index, which represents the collective performance of the home market firms. Morgan Stanley Capital International (MSCI) local index was used for this purpose. The second benchmarks, S&P500, were used to measure the relative performance of the sample firms with respect to the US market which is a primary concern for individual and institutional investors. Finally, we used MSCI-World index to gauge the performance of the sample firms against global market performance. The calibration of returns against this benchmark provides valuable insights for global investors. Overall, emerging market multinationals in the sample earned average 0.57 percent monthly excess return over their home market returns. This translates into approximately 6.84 percent annualized premium. The excess returns over the S&P500 and MSCI World Index were more moderate at 0.176 percent (or 2.11 percent annualized premium) and 0.567 percent (annualized 6.80 percent premium) respectively. These results suggest that on average EMNCs performed considerably better than their home market, US and global benchmarks.

A closer look at the regional patterns indicate that while on average Asian EMNCs earn the highest monthly premiums over their local market benchmark (0.95 percent), Eastern European firms earn the highest premiums over the US and global market benchmarks (see Table 4). The average monthly excess returns earned by Korean EMNCs exceed all other countries in all three benchmarks. In 73 percent of the cases, average monthly country returns exceeded local market benchmark. The same ratios are 53 percent and 87 percent for the US and global benchmarks respectively (see Table 5).

Analysis of average excess returns by industry suggests that highest premiums over the local market index were earned in Cyclical Consumer goods, Resources and Information Technology. While in 89 percent of the industries, sample firms generated higher returns than the local benchmark, the corresponding figure for the US and global benchmarks was more 44 and 89 percent (see Table 6). Overall, these patterns suggest that emerging market multinationals consistently perform better than the selected benchmarks.

As in the case of monthly returns, to gain comparative insight into the volatility of the sample firms a range of comparative metrics were calculated. In order to maintain consistency with the performance measures, three indicators were calculated. These are relative volatility of the sample firms to three benchmarks used in the study, namely volatility of the local market benchmark, US market benchmark and global benchmark. In

each case we calculated the ratio of sample firm volatility to the volatility of the selected benchmark. Since these ratios are commonly called “volatility multiples” in finance literature, the same term was used in this study to refer to these ratios.

An overall analysis of these ratios suggests that emerging market multinationals are significantly riskier than the market benchmarks. The average sample firm volatility is 1.47 times the local market benchmark. The corresponding figures for the US market and the global market benchmarks are 3.19 and 3 times, respectively. In order to identify possible patterns in the sample, we analyzed the volatility multiples by region, country, and industry. Our regional analysis indicates that African firms have the highest multiple with respect to the local market followed by Asian firms. On the other hand, East European firms have the highest volatility multiple with respect to the US market. Finally, Asian firms have the highest volatility multiple with respect to global market benchmark (see Table 7 in Appendix 2).

Review of multiples by the country reveals that South Korea has the highest average multiple with respect to the local, US and global market benchmarks (see Table 5). A glance at the industry volatility multiples suggest that Cyclical Consumer goods has the highest volatility multiple followed by Information Technology sector. On the other hand, household appliances have the highest multiples with respect to US and global benchmarks (see Table 6).

Firm beta is a widely used risk metric in finance literature. Firm beta essentially measures sensitivity of firm returns to market shocks, and therefore is used as a measure of vulnerability of the firm to market movements. In Asset pricing models such as CAPM, beta is defined as a measure of undiversifiable systematic risk that deserves compensation. In the context of this study, beta was used both as a broad indicator of firm returns’ sensitivity to selected market benchmarks and as a measure systematic risk.

The following section addresses the analysis of the firm betas in general sample, by region, country, and industry. Overall results indicate that sample firms have an average local market beta of 1.035 when the local market index was used as the market portfolio proxy. In other words, for every 1 percent movement in the market index, on average sample firm returns respond with a change of 1.035 percent. Since the cross-sectional variation in calculated betas is significant we should be cautious in carrying this generalization further.

While the maximum local market beta observed in the sample is 1.74, in the other extreme smallest beta is 0.31. An interesting result is the higher US market and global market betas observed in the sample on average. For 33 percent of the firms, sensitivity to US market shocks is higher than the sensitivity to local market shocks. Similarly, 67 percent of the firms are more sensitive to global market shocks than the local market shocks. This result suggests the level of integration achieved by the emerging market multinational firms. On the other hand, it also suggests that global diversification of these firms both in terms of their cash flows and investor base did not help to reduce their perceived risk. On the contrary, in most cases we have higher risks associated with these firms as a result of internationalization of their operations.

A further look at the betas by region, country, and industry reveal the following results. While Asia has the highest average local, US and global market betas, Latin America has the largest emerging market beta. Interestingly, Latin American average US and global betas are lower than the corresponding Asian betas. Companies located in Colombia, India, and Hungary have on average significantly lower sensitivity to US market shocks. This can probably be attributed to capital controls in place in Chile and Malaysia, and segmented nature of Indian market. A review of industry patterns indicates that US and global market sensitivities are remarkably higher in Cyclical Consumer goods and diversified industries. In contrast, some locally bounded service industries such as utilities have significantly lower exposure to US and global market shocks.

Cross-sectional analysis of determinants of EMNC performance

Our multivariate pooled time series regressions suggest that firm size, degree of leverage, systematic risk, industry focus, and presence in industrialized country markets significantly affect the EMNC performance (see Table 8 in Appendix 2). Our findings indicate that size is an important determinant of performance as measured by return on assets and it affects the performance positively. This is consistent with the empirical evidence associated with developed market MNCs, as larger MNC networks can exploit market imperfections more effectively by leveraging their specific assets and capabilities and gaining economies of scale. The results lead us to conclude that despite their distinct

characteristics, size also matters for EMNCs and provide them with the opportunity to leverage their assets and take advantage of economies of scale.

Our cross-sectional analysis indicates that leverage affects the EMNC performance adversely. In other words, higher leverage is associated with lower ROA. While the extent of leverage does signify EMNCs' capability to tap external fund sources effectively, it also means increased exposure to domestic and international market shocks. This finding is consistent with the fact that EMNCs originate from moderate to high risk economic environments, and their home markets are subject to frequent financial and economic shocks. It is also important to note that this aspect of leverage may be particularly pronounced because our sample period 1996-2002 includes a number of crises experienced in emerging markets, such as Asian crisis of 1997 and Argentinean crisis of 2001-2002. Even if an emerging market country may not be hit directly, contagion may cause sudden disruption in access to capital through financial sector troubles and interest rate hikes, which create liquidity problems and contraction in real sectors. Highly leveraged firms caught off guard are most likely to experience declining revenues, increasing debt service costs and significantly higher rollover rates which eventually undermine the bottom-line.

Another important determinant of the performance is the systematic risk of the firm. Regression results indicate that higher systematic risks are associated with poor performance. Our sample average of local betas is 1.04. Country and Industry averages are also not very far from 1 (see Tables 5 and 6).¹⁶ Our data analysis reveals that EMNCs are vulnerable to local market shocks, and higher sensitivities to the market shocks lead to lower performance measured in term of return on assets (ROA). Similarly, higher systematic risks are associated with lower firm valuations, which is consistent with higher expected risk premiums.

Our regression results suggest that although degree of internationalization as measured by foreign sales to total sales ratio has a negative association with performance, it is not statistically significant. The sign of the degree of internationalization or multinationality is consistent with the recent empirical evidence which suggests a multinationality discount on the firm value. However, we cannot verify the significance of this factor. Use of alternative proxies such as foreign assets to total assets ratio and UNCTAD's Transnationality Index did not change the results qualitatively. In all cases coefficient sign was negative, but insignificant at 1, 5 and 10% significance levels.

Our alternative models produce conflicting results regarding the EMNC performance and home country risk relationship. The country risk indicator we used in our analysis is a composite of nine factors that reflect home country conditions and international perception of home country conditions. Since lower country risk score implies higher political instability, poor economic performance, deteriorating domestic and international debt indicators, poor credit ratings, limited access to money and capital markets and high discount rates, it is expected to be associated with poor firm performance. However, a unit increase in the country risk indicator implies 5.5 percent decline in the ROA. Although the impact seems to be pronounced in the first model where we use ROA as performance indicator, the coefficient of the country risk indicator is statistically insignificantly different from zero. Interestingly, the model-2 where we use Tobin's-Q as the proxy for firm value produces the correct sign in the coefficient, as it is positive and statistically significant. Although intuitively country risk should be a significant factor in explaining firm performance, and the direction of this association is expected to be positive, our regression results provide mixed evidence depending on our choice of performance indicator.

Our investigation of industry effects on EMNC performance revealed that diversified industry EMNCs earn lower return on assets. Our model suggests that diversified firms' ROA is on average 2.12 percent lower than single industry firms.¹⁷ On the other hand, diversified firms proved to have higher Tobin's-Q as compared to single industry firms. This finding is consistent with the recent empirical evidence and the arguments that internal capital and labor markets within diversified firms compensate weak institutional infrastructure in emerging markets as suggested by Khanna and Palepu (1999).

Finally, our regression results indicate that while the presence in the developed country markets have a negative impact on the ROA earned by EMNCs, it has an unambiguous positive impact on the firm value as measured by Tobin's-Q. This discrepancy can be explained by the high costs associated with expansion into the developed country markets which are incurred in the short run. While such costs are reflected on ROA through the reported earnings, rewards accrue in the longer run and may be reflected on the market value of the firm.

Concluding remarks

EMNCs on average perform better than their respective country market indices, a widely used benchmark to measure emerging market returns, S&P500 and, global market index (MSCI-World) during the period of analysis. We observe considerable cross-sectional variation in firm performances. A closer look at the firm performances with respect to selected benchmarks suggest that 65 percent of the sample firms perform better than their local markets. While a slightly smaller group (62 percent) outperforms the global market index, only 48 percent of the EMNCs in our sample earn higher returns than S&P500. South Korean firms in particular and Asian firms in general perform better than their counterparts in other countries and regions with respect to their local market indices. In contrast, while Eastern European EMNCs fail to outperform their local market index, they outperform S&P500 and Global Market indices by a larger margin than their counterparts in other countries. Although EMNCs operating in cyclical goods industries generate higher excess returns adjusted for all benchmarks, we cannot verify that the differences are statistically significant.

In addition to the performance measures based on monthly returns, we also looked at several performance indicators based on accounting data. Our sample firms on average earn 13.21 percent return on assets, 8.97 percent return on equity and 11.36 percent return on invested capital. The Argentinean and Brazilian EMNCs earn highest return on assets. An analysis of the industry cross-sections reveals that EMNCs operating in non-cyclical services and resource industries earn highest return on assets. Due to significant variation in our sample, cross-sectional differences in EMNC performances are not statistically significant.

Monthly return volatilities of EMNCs reveal the extent of risks associated with these companies. On average our sample company volatilities are 1.47 times their local market index volatility. The extent of risks associated with EMNCs become clearer, when we compare their average volatilities with the volatilities of S&P500 and Global Market index, which are 3.19 times and 3.02 times, respectively. On average EMNCs are also highly sensitive to local and global market shocks as revealed by local market and global market betas. EMNCs' sensitivity to global market shocks is an indication of their growing participation in global goods and capital markets.

The cross-sectional analysis of the determinants of the performance of the EMNCs reveals that leverage and systematic risk are the most important factors, followed by size. While larger EMNCs earn higher returns, increasing use of debt seems to have a negative impact on performance. Our analysis indicates that performance is not affected by the degree of internationalization. We find that investments in developed markets have a positive impact on the value of EMNCs. Finally, our results indicate that EMNCs in less risky emerging markets enjoy higher firm value.

In this study we attempted to explore some preliminary patterns in EMNC performance and risk. Due to the limited sample size, and particularly small number of observations in country and industry cross sections, our results should be interpreted cautiously.

Notes

1. The initial use of the phrase “Emerging Market” is attributed to International Finance Corporation which began using the phrase to describe nine newly developing stock markets. This small list later was expanded to 25 countries based on informal criterion of 30 to 50 listed companies with a combined market capitalization of \$1bn or more and annual trading volume of \$100m (Beim and Calomiris, 2003). The phrase caught on in the 1990s and is now widely used to describe a large group of developing countries. DataStream International list of Emerging Markets consists of 9 Latin American, 16 European and Middle Eastern, 13 Asian, and 8 African countries.

2. UNCTAD uses the term Emerging Market Transnational and the term we use is technically identical to UNCTAD definition. UNCTAD tracks and publishes information on top 50 Emerging Market Transnational and Top 25 Transition Economy Transnational since 1996 and 2000, respectively.

3. The lower-upper middle income range is between \$765 and \$9,385 and there are 95 countries in this group according to World Bank classification. The exceptions such as Hong Kong, Singapore, South Korea, and Taiwan which technically fall into the high income economies and countries such as Vietnam, India, China, and Zimbabwe which fall into the low income category.

4. Although the pace of growth is an important criterion for emerging market designation, many countries included in the list fail to fulfill this criteria at least on a regular basis and exhibit high but erratic growth rates.

5. In a survey conducted on ASEAN countries, investors expressed frustration over the way certain policies were implemented. For instance, an executive at a consumer goods company, making a common complaint explained that ASEAN's tariffs rate were determined more by the whim of customs officials than by government policy, (Schwartz and Villinger, 2004).

6. Cases in point are high profile setbacks evidenced in Mexico, South East Asia, Russia, Brazil, Turkey, and Argentina and structural difficulties in managing operations in China.

7. See for example FDI literature addressing primarily developed country MNCs' expansion motivations (Almeida, 1996; Chang, 1995; Dunning, 1993, 1995; Frost, 2001; Shan and Song, 1997; Teece, 1992).

8. However, these options are also to a large extent constrained by the EMNCs home market conditions and risks associated with the home market. For instance, macroeconomic and/or financial shocks felt at home may immediately limit EMNCs access to international capital markets, depress its valuation through declining share prices in foreign listed markets, and trigger covenants embedded in debt instruments and loan arrangements.

9. Voluntary disclosure also increases liquidity of firm's stock by attracting larger group investors, who are more confident that the stock transactions occur at fair prices. Voluntary disclosure can also lower the cost of information acquisition for analysts, and hence, increase the supply of information about the company, reinforcing further reductions in informational asymmetry.

10. Our original industry classifications were based on level-6 classifications by DataStream International. In our analysis of industry patterns we reduced the industry classifications to level-3 (roughly corresponds to two-digit SIC codes) to allow sufficient sample size in each subcategory.

11. Alternatively, we also used Foreign Assets/Total Assets ratio and Transnationality Index to test the robustness of the measure. All three measures lacked explanatory power in our pooled times series regressions.

12. Level III ADRs are exchange listed and allows capital raising public issues in US market.

13. We are aware of the fact that this proxy has flaws and it may not appropriately capture company's ability to compensate the institutional void in its environment.

14. ECRI is a relatively sophisticated indicator composed of nine sub-factors: Political Risk (weight 25%), Economic Performance (weight 25%), Debt Indicators (weight 10%), Debt in Default or Rescheduled (weight 10%), Credit Ratings (weight 10%), Access to Bank Finance (weight 5%), Access to Short-Term Finance (weight 5%), Access to Capital Markets (weight 5%), and Discount on Forfeiting (weight 5%).

15. See the Appendix for a detailed discussion of the estimation technique.

16. The sample average local betas around 1 is plausible since in most cases EMNCs make up a large portion of the local market capitalization and trading volume and invariably they are a significant component of the market index.

17. We also checked the impact of belonging to a specific industry such as high tech manufacturing, utilities and resource industries on the performance; however, performance differences proved to be statistically insignificant. These results were not reported in our regression tables.

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APPENDIX 1

ESTIMATION TECHNIQUE: POOLED TIME SERIES REGRESSION

The coefficients in each specification were estimated by using Pooled Time Series Regressions. Pooled time series regression allows us to estimate equations of the form:

$$y_{it} = \alpha_i + \beta_i' x_{it} + \varepsilon_{it}$$

Where y_{it} is the dependent variable, and x_{it} and β_i are k -vectors of non-constant regressors and parameters for $i = 1, 2, \dots, N$ cross-sectional units. Each cross-section unit is observed for dated periods $t = 1, 2, \dots, T$.

The data can be viewed as a set of cross-section specific regressions so that there are N cross-sectional equations:

$$y_i = \alpha_i + x_i' \beta_i + \varepsilon_i$$

each with observations, stacked on top of one another. The stacked representation are presented as follows:

$$Y = \alpha + X\beta + \varepsilon$$

Where, α , β and X are set up to include any restrictions on the parameters between cross-sectional units. The residual covariance matrix for this set of equations is given by:

$$\Omega = E(\varepsilon\varepsilon') = E \begin{pmatrix} \varepsilon_1 \varepsilon_1' & \varepsilon_2 \varepsilon_1' & \dots & \varepsilon_N \varepsilon_1' \\ \varepsilon_{21} \varepsilon_1' & \varepsilon_{22} \varepsilon_2' & \dots & \\ \vdots & \dots & \dots & \\ \varepsilon_N \varepsilon_1' & \dots & \dots & \varepsilon_N \varepsilon_N' \end{pmatrix}$$

The pool specification is treated as a system of equations and the model is estimated by using system OLS. This specification is appropriate when the residuals are contemporaneously uncorrelated, and time-period and cross-section homoskedastic:

$$\Omega = \sigma^2 I_N \otimes I_T$$

The coefficients and their covariances are estimated using the usual OLS techniques applied to the stacked model.

APPENDIX 1 (continued)

CROSS-SECTION WEIGHTING

We use cross-section weighted regression to account for cross-sectional heteroskedastic and contemporaneously uncorrelated residuals:

$$\Omega = E(\varepsilon\varepsilon') = E \begin{pmatrix} \sigma_1^2 I_{T_1} & 0 & \dots & 0 \\ \cdot & \sigma_2^2 I_{T_2} & \dots & \cdot \\ \cdot & \cdot & \dots & \cdot \\ \cdot & \cdot & \dots & \sigma_N^2 I_{T_N} \end{pmatrix}$$

The FGLS (Feasible Generalized Least Square) with $\hat{\sigma}_i^2$ estimated from a first-stage pooled OLS regression. The estimated variances are computed as:

$$\hat{\sigma}_i^2 = \sum_{t=1}^{T_i} (y_{it} - \hat{y}_{it})^2 / T_i$$

Where \hat{y}_{it} the OLS are fitted values. The estimated coefficient values and covariance matrix are given by the standard GLS estimator.

APPENDIX 2

TABLE 1. Overall Sample Profile (Thousands USD and Percent)

Table 1 reports the mean, maximum, and minimum values of the various financial indicators of emerging market multinational firms. Total Sales is calculated as the sum of gross sales and other operating revenues less discounts, returns and allowances in thousands of dollars. Total Assets is the sum of tangible fixed assets, intangible assets, investments, other assets, total stocks and work in progress, total debtors and equivalent, and cash and cash equivalents of the firm in thousands of dollars. Total Debt is the total of all interest bearing and capitalised lease obligations also reported in thousands of dollars. Market Value is computed as the number of shares multiplied by the average stock price of the firm in thousands of dollars. Return on Assets (ROA) is calculated as a ratio of the EBITDA and total assets and is reported as a percentage. Return on Equity (ROE) is the ration of “earned for ordinary” and “equity capital and reserves” and is also stated as a percentage. Return on Capital Employed (ROCE) is calculated as the EBIT divided by the sum of total capital employed and short-term borrowing. Tobin's-Q is computed as the market value of outstanding shares plus the liquidation value of preferred stock plus the short term liability net of its short term assets plus the long term debt divided by total assets of the firm. Foreign Sales to Total Sales (FSTS) is the percentage of foreign sales of the firm divided by total sales. Foreign Assets to Total Assets (FATA) is the percentage of foreign assets of the firm divided by its total asset.

	N	Mean	Std. Deviation	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
TOTAL SALES	77	\$3,055,480.37	\$4,953,917.73	3.63	0.274	13.05	0.54
TOTAL ASSETS	79	\$5,163,197.12	\$6,824,874.53	2.75	0.271	8.27	0.54
TOTAL DEBT	79	\$1,507,356.81	\$2,105,642.70	2.86	0.271	8.95	0.54
MARKET VALUE	79	\$3,554,520.00	\$5,866,320.00	3.50	0.271	15.20	0.54
ROA	79	13.21	6.06	0.55	0.271	0.06	0.54
ROE	79	8.97	13.15	-1.20	0.271	4.07	0.54
ROCE	79	11.36	7.50	1.33	0.271	2.71	0.54
TOBIN'S-Q	77	0.92	0.19	3.31	0.274	13.79	0.54
FSTS	58	0.38	0.25	0.65	0.314	-0.11	0.62
FATA	58	0.31	0.23	1.30	0.314	1.34	0.62

TABLE 2. Sample Profile by Country

Table 2 reports the mean, maximum, and minimum values of the various financial indicators of emerging market multinational firms sorted by each country. Total Sales is calculated as the sum of gross sales and other operating revenues less discounts, returns and allowances in thousands of dollars. Total Assets is the sum of tangible fixed assets, intangible assets, investments, other assets, total stocks and work in progress, total debtors and equivalent, and cash and cash equivalents of the firm in thousands of dollars. Total Debt is the total of all interest bearing and capitalised lease obligations also reported in thousands of dollars. Market Value is computed as the number of shares multiplied by the average stock price of the firm in millions of dollars. Return on Assets (ROA) is calculated as a ratio of the EBITDA and total assets and is reported as a percentage. Return on Equity (ROE) is the ratio of "earned for ordinary" and "equity capital and reserves" and is also stated as a percentage. Return on Capital Employed (ROCE) is calculated as the EBIT divided by the sum of total capital employed and short-term borrowing. Tobin's-Q is computed as the market value of outstanding shares plus the liquidation value of preferred stock plus the short term liability net of its short term assets plus the long term debt divided by total assets of the firm. Foreign Sales to Total Sales (FSTS) is the percentage of foreign sales of the firm divided by total sales. Foreign Assets to Total Assets (FATA) is the percentage of foreign assets of the firm divided by its total asset.

Country		TS	TA	TD	MV	ROA	ROE	ROCE	TQ	FSTS	FATA
Argentina	Mean	\$3,029,044	\$6,239,014	\$1,830,477	\$5,081	16.54	9.70	8.78	1.00	0.21	0.23
	Max	\$6,570,604	\$12,706,889	\$3,169,734	\$10,130	20.27	12.20	10.79	1.00	0.21	0.23
	Min	\$1,033,501	\$1,352,078	\$543,647	\$1,009	13.37	5.74	5.14	1.00	0.21	0.23
	N	3	3	3	3	3	3	3	3	1	1
Brazil	Mean	\$5,923,402	\$7,825,403	\$2,472,105	\$3,407	16.27	12.30	14.20	0.98	0.24	0.28
	Max	\$22,294,637	\$31,238,352	\$9,269,116	\$12,438	26.86	36.40	35.31	1.00	0.40	0.46
	Min	\$488,895	\$473,051	\$244,374	\$34	6.55	-25.26	1.16	0.80	0.07	0.09
	N	10	10	10	10	10	10	10	10	6	6
Chile	Mean	\$1,355,662	\$3,314,961	\$1,096,926	\$1,596	12.69	11.89	12.54	0.74	0.14	0.13
	Max	\$3,452,952	\$14,834,404	\$6,145,820	\$4,627	30.60	43.91	40.39	0.93	0.23	0.15
	Min	\$183,448	\$219,494	\$6,661	\$314	6.06	-6.91	3.02	0.63	0.09	0.11
	N	9	9	9	9	9	9	9	9	3	3
Colombia	Mean	\$1,510,481	\$4,015,273	\$688,480	\$1,322	10.80	7.77	13.28	0.13	0.24	0.07
	Max	\$1,510,481	\$4,015,273	\$688,480	\$1,322	10.80	7.77	13.28	0.13	0.24	0.07
	Min	\$1,510,481	\$4,015,273	\$688,480	\$1,322	10.80	7.77	13.28	0.13	0.24	0.07
	N	1	1	1	1	1	1	1	1	1	1
Hong Kong	Mean	\$2,343,261	\$9,685,752	\$2,633,761	\$7,997	10.25	11.08	9.75	1.00	0.47	0.34
	Max	\$5,698,419	\$34,796,692	\$11,147,700	\$36,356	20.10	22.68	20.09	1.00	0.97	0.91

	Min	\$351,776	\$498,702	\$26,612	\$298	4.52	4.20	4.66	0.99	0.02	0.07
	N	10	10	10	10	10	10	10	10	9	10
Hungary	Mean	\$1,293,431	\$1,177,111	\$306,923	\$741	13.32	6.44	8.48	0.85	0.25	0.15
	Max	\$3,222,391	\$2,892,533	\$760,349	\$1,805	14.06	7.79	11.32	0.88	0.39	0.28
	Min	\$50,669	\$93,699	\$26,788	\$60	12.27	5.38	5.00	0.83	0.11	0.03
	N	3	3	3	3	3	3	3	3	3	3
India	Mean	\$2,076,135	\$5,308,358	\$1,866,594	\$4,547	13.85	15.46	13.12	0.98	0.05	0.15
	Max	\$2,076,135	\$5,308,358	\$1,866,594	\$4,547	13.85	15.46	13.12	0.98	0.05	0.15
	Min	\$2,076,135	\$5,308,358	\$1,866,594	\$4,547	13.85	15.46	13.12	0.98	0.05	0.15
	N	1	1	1	1	1	1	1	1	1	1
Malaysia	Mean	\$1,443,856	\$3,061,697	\$1,037,708	\$3,024	11.45	2.94	10.59	1.00	0.37	0.27
	Max	\$2,857,064	\$6,737,510	\$1,858,686	\$11,017	17.30	19.22	19.61	1.00	0.69	0.50
	Min	\$408,795	\$615,708	\$60,212	\$300	3.74	-43.86	2.56	1.00	0.04	0.09
	N	8	8	8	8	8	8	8	8	7	7
Mexico	Mean	\$2,029,820	\$3,187,463	\$1,008,806	\$857	15.12	6.84	9.87	1.00	0.48	0.37
	Max	\$4,190,905	\$11,236,813	\$3,392,887	\$2,028	26.08	19.72	22.75	1.00	0.59	0.56
	Min	\$591,649	\$526,054	\$41,966	\$282	3.71	-11.64	-0.82	1.00	0.20	0.14
	N	10	10	10	10	10	10	10	8	4	4
Philippines	Mean	\$2,281,101	\$3,336,435	\$1,114,618	\$2,193	13.86	14.45	12.61	0.99	0.13	0.38
	Max	\$2,281,101	\$3,336,435	\$1,114,618	\$2,193	13.86	14.45	12.61	0.99	0.13	0.38
	Min	\$2,281,101	\$3,336,435	\$1,114,618	\$2,193	13.86	14.45	12.61	0.99	0.13	0.38
	N	1	1	1	1	1	1	1	1	1	1
Poland	Mean	\$770,072	\$1,123,067	\$251,026	\$547	13.47	-6.66	14.96	1.00	0.31	0.07
	Max	\$1,211,480	\$1,638,197	\$606,597	\$936	19.29	-10.10	26.68	1.00	0.40	0.12
	Min	\$338,384	\$198,998	\$10,960	\$95	4.69	-30.93	4.99	1.00	0.22	0.03
	N	\$3	\$3	\$3	\$3	3	3	3	3	2	2
Singapore	Mean	\$1,815,322	\$4,778,907	\$783,026	\$4,884	12.98	9.40	11.39	1.00	0.57	0.51
	Max	\$4,812,520	\$14,854,548	\$2,284,504	\$28,014	25.03	26.52	26.98	1.00	0.97	0.97

TABLE 2 (continued)

Country		TS	TA	TD	MV	ROA	ROE	ROCE	TQ	FSTS	FATA
S. Africa	Min	\$457,423	\$719,428	\$104,251	\$200	2.77	-14.14	3.91	1.00	0.01	0.11
	N	\$9	\$9	\$9	\$9	9	9	9	9	9	9
	Mean	\$3,129,897	\$2,779,759	\$880,564	\$1,347	11.24	12.38	11.01	1.00	0.47	0.54
	Max	\$3,261,151	\$4,851,550	\$1,903,574	\$1,698	13.23	16.51	12.88	1.00	0.73	0.72
S. Korea	Min	\$2,900,779	\$1,162,069	\$162,597	\$740	9.85	8.66	7.39	1.00	0.25	0.45
	N	3	3	3	3	3	3	3	3	3	3
	Average	\$14,876,405	\$11,026,244	\$3,912,645	\$6,097	14.39	10.21	10.43	0.51	0.33	0.21
	Max	\$26,818,363	\$18,790,542	\$6,288,027	\$16,293	23.81	18.70	17.36	0.63	0.46	0.31
Taiwan	Min	\$3,414,442	\$4,529,625	\$2,322,474	\$856	3.56	2.31	3.74	0.37	0.19	0.10
	N	4	4	4	4	4	4	4	4	4	4
	Average	\$1,715,825	\$3,211,530	\$896,499	\$5,021	11.26	11.79	12.28	0.98	0.37	0.24
	Max	\$3,286,484	\$4,690,276	\$1,441,601	\$11,633	18.01	15.71	20.34	0.99	0.50	0.34
Overall	Min	\$705,761	\$279,378	\$45,375	\$390	8.12	5.67	3.86	0.96	0.15	0.11
	N	4	4	4	4	4	4	4	4	4	3
	Average	\$3,055,480	\$5,163,197	\$1,507,357	\$3,555	13.21	8.97	11.36	0.92	0.38	0.31
	Max	\$26,818,363	\$34,796,692	\$11,147,700	\$36,356	30.60	43.91	40.39	1.00	0.97	0.97
Overall	Min	\$50,669	\$93,699	\$6,661	\$34	2.77	-43.86	-0.82	-0.13	0.01	0.03
	N	77	79	79	79	79	79	79	77	58	58

TABLE 4. Summary of the Variables and Proxies

Operating Return on Assets (ROA) is defined as the company's operating earnings before interest and taxes as percentage of total assets. Tobin's-Q is computed as market value of outstanding shares plus liquidation value of preferred stock plus net current assets plus long term debt divided by total assets of the bidder. HPR is the holding period return. Firm size is proxied by the logarithm of total sales. Leverage is the total debt to total assets ratio. Foreign to Total Assets (FATA) is the percentage of foreign assets of the firm divided by total assets. Foreign to Total Sales (FSTS) is the percentage of foreign sales of the firm divided by net sales. Betas are calculated with respect to selected benchmarks, namely local index, emerging market index, US index, and the world index. The proxy for the firm risk is the systematic risk. Country Risk proxy is the Euromoney Country Risk Indicator. FX VOL is the Foreign Exchange Risk indicator. ADR dummy-1 is coded 1 if EMNC has an outstanding ADR issue regardless of the level of ADR in the current year or years prior, 0 otherwise. ADR dummy-2 takes the value 1 only if the company has an outstanding Level-III ADR, 0 otherwise. Upstream dummy is coded, if an EMNC has subsidiaries in developed countries, the dummy variable takes the value of 1, and 0 otherwise. Downstream dummy is coded, if an EMNC has subsidiaries in developing countries, the dummy variable takes the value of 1, and 0 otherwise. DIV_Dummy is coded, if an EMNC is a diversified industry firm, the dummy variable takes the value of 1, and 0 otherwise. Industry Dummy indicates the type of the industry and Region Dummy indicates region from which EMNC originates.

VARIABLES		PROXIES			
Performance	ROA	Tobin's-Q	HPR		
Control	Total Sales	Total Assets	Leverage		
Degree of Internationalization	FATA	FSTS			
Company-Risk (FRISK)	LBETA	EMBETA	GBETA	USBETA	TOTAL RISK
Country-Risk (CRISK)	CR				
FX-Risk	FXVOL				
Access to International Capital Markets	ADR-Dummy-1	ADR-Dummy-2			
Expansion Geography	UPSTREAM	DOWNSTREAM			
Structure-Dummy	DIV_DUMMY				
Industry Dummy	IND_XX				
Region Dummy	ASIA	EE	LA		

TABLE 5. Risk and Return Characteristics of Sample Firms by Country

Monthly returns and volatilities are the averages for the EMNCs from the corresponding country. Excess returns for individual firms are calculated by subtracting monthly returns from the corresponding local index, S&P500 and the world indices. The values in the table are the averages for the EMNCs from the respective countries. Volatility multiples are the ratio of company volatilities to selected benchmark volatilities. The values in the table represent the averages for the respective country. Betas are calculated with respect to selected benchmarks, namely local index, emerging market index, US index, and the world index. ANOVA tests indicate that group differences across countries are significant for monthly returns, volatility, volatility multiples, and emerging market beta at the 5% significance level.

Countries	# of Firms	Monthly Return	Monthly Volatility	Annualized Return	Annualized Volatility	Local Monthly Excess Return	US Monthly Excess Return	Global Monthly Excess Return	Local Volatility Multiple	US Volatility Multiple	Global Volatility Multiple	CV	Local Beta	EM Beta	US Beta	Global Beta
Argentina	3	0.56%	14.69%	6.75%	50.89%	0.73%	-0.11%	0.28%	1.20	2.96	2.80	-69.08	1.00	0.12	1.02	1.32
Brazil	10	1.63%	17.46%	19.51%	60.47%	0.89%	0.95%	1.34%	1.38	3.51	3.32	7.44	0.83	0.53	0.64	0.95
Chile	9	-0.11%	13.54%	-1.29%	46.89%	0.24%	-0.78%	-0.39%	1.28	2.72	2.58	0.52	1.20	0.43	0.81	0.98
Colombia	1	2.64%	15.78%	31.63%	54.67%	2.25%	1.96%	2.35%	1.50	3.18	3.00	5.99	1.31	0.36	0.20	0.51
Hong Kong	10	0.82%	13.65%	9.87%	47.28%	0.54%	0.14%	0.54%	1.50	2.75	2.60	37.56	1.07	-0.08	1.31	1.38
Hungary	3	1.53%	16.03%	18.37%	55.52%	-0.67%	0.85%	1.24%	1.38	3.23	3.05	-40.20	1.07	0.15	0.17	0.68
India	1	1.71%	11.76%	20.52%	40.72%	1.19%	1.03%	1.42%	1.29	2.37	2.24	6.87	1.06	0.27	-0.26	0.00
Malaysia	8	-0.10%	16.15%	-1.20%	55.95%	-0.15%	-0.78%	-0.39%	1.27	3.25	3.07	-66.14	1.01	0.30	0.89	1.26
Mexico	10	0.68%	14.92%	8.18%	51.67%	-0.47%	0.00%	0.39%	1.59	3.00	2.84	47.41		0.07	0.93	1.22
Philippines	1	0.38%	9.37%	4.53%	32.46%	1.94%	-0.30%	0.09%	0.86	1.89	1.78	24.82	0.57	-0.24	0.52	0.63
Poland	3	0.60%	17.65%	7.19%	61.15%	-0.11%	-0.08%	0.31%	1.56	3.55	3.36	-181.33	0.88	0.27	1.11	1.38
Singapore	9	0.58%	14.61%	7.02%	50.61%	1.49%	-0.09%	0.30%	1.63	2.94	2.78	-1.25	1.08	0.02	1.06	1.35
South Africa	3	0.51%	15.06%	6.17%	52.18%	0.47%	-0.16%	0.23%	1.75	3.03	2.87	50.06	1.01	0.17	0.59	0.97
South Korea	4	3.19%	28.56%	38.32%	98.93%	2.38%	2.52%	2.91%	1.83	5.75	5.44	9.92	1.13	0.86	1.13	1.72
Taiwan	4	1.37%	16.99%	16.45%	58.86%	1.24%	0.69%	1.08%	1.67	3.42	3.23	-0.23	1.11	0.55	0.86	1.32
Average	79	0.85%	15.85%	10.24%	54.91%	0.57%	0.18%	0.57%	1.47	3.19	3.02	-3.25	1.04	0.25	0.88	1.18

TABLE 6. Risk and Return Characteristics of Sample Firms by Industry

Monthly returns and volatilities are the averages for the EMNCs from the corresponding industry. Excess returns for individual firms are calculated by subtracting monthly returns from the corresponding local index, S&P500 and the world indices. The values in the table are the averages for the EMNCs from the respective industries. Volatility multiples are the ratio of company volatilities to selected benchmark volatilities. The values in the table represent the averages for the respective industry. Betas are calculated with respect to selected benchmarks, namely local index, emerging market index, US index, and the world index. ANOVA tests indicate that group differences across industries are significant for volatility, volatility multiples, and all four betas at the 5% significance level.

Industry	# Firms	Monthly Return	Monthly Volatility	Annualized Return	Annualized Volatility	Local Monthly Excess Return	US Monthly Excess Return	Global Monthly Excess Return	Local Volatility Multiple	US Volatility Multiple	Global Volatility Multiple	CV	Local Beta	EM Beta	US Beta	Global Beta
Info tech	3	1.33%	18.42%	15.92%	63.82%	1.20%	0.65%	1.04%	1.81	3.71	3.51	-3.12	1.23	0.69	0.98	1.46
Basic	18	1.10%	16.74%	13.17%	57.98%	0.57%	0.42%	0.81%	1.49	3.37	3.19	4.09	1.06	0.36	0.81	1.14
Non-Cyc. Con goods	14	0.67%	13.14%	8.04%	45.52%	0.59%	-0.01%	0.38%	1.31	2.65	2.50	16.38	0.86	0.09	0.56	0.82
Diversified	14	0.61%	17.79%	7.26%	61.61%	0.44%	-0.07%	0.32%	1.66	3.58	3.39	-47.16	1.26	0.27	1.26	1.61
Cyclical services	12	0.57%	16.15%	6.89%	55.95%	0.34%	-0.10%	0.29%	1.60	3.25	3.07	-1.64	0.91	0.39	0.87	1.11
Resources	7	1.44%	14.77%	17.29%	51.16%	1.00%	0.76%	1.15%	1.21	2.97	2.81	-23.39	1.10	0.22	0.74	1.21
Utilities	4	0.02%	8.72%	0.24%	30.22%	-0.05%	-0.66%	-0.27%	0.82	1.76	1.66	15.82	0.67	-0.14	0.60	0.67
Non-cyc services	3	0.49%	13.81%	5.91%	47.85%	0.53%	-0.18%	0.21%	1.20	2.78	2.63	66.46	0.79	0.20	0.91	1.02
Cyclical con. goods	4	2.09%	23.09%	25.12%	79.97%	1.35%	1.42%	1.81%	2.01	4.65	4.39	3.40	1.21	0.15	1.48	1.67
Average	79	0.85%	15.85%	10.24%	54.91%	0.57%	0.18%	0.57%	1.47	3.19	3.02	-3.25	1.04	0.25	0.88	1.18

TABLE 7. Risk and Return Characteristics of Sample Firms by Region

Monthly returns and volatilities are the averages for the EMNCs from the corresponding region. Excess returns for individual firms are calculated by subtracting monthly returns from the corresponding local index, S&P500 and the world indices. The values in the table are the averages for the EMNCs from the respective regions. Volatility multiples are the ratio of company volatilities to selected benchmark volatilities. The values in the table represent the averages for the respective region. Betas are calculated with respect to selected benchmarks, namely local index, emerging market index, US index, and the world index. ANOVA tests indicate that group differences across the regions are statistically not significant.

Countries	# Firms	Monthly Return	Monthly Volatility	Annualized Return	Annualized Volatility	Local Monthly Excess Return	US Monthly Excess Return	Global Monthly Excess Return	Local Volatility Multiple	US Volatility Multiple	Global Volatility Multiple	CV	Local Beta	EM Beta	US Beta	Global Beta
Africa	3	0.51%	15.06%	6.17%	52.18%	0.47%	-0.16%	0.23%	1.75	3.03	2.87	50.06	1.01	0.17	0.59	0.97
Asia	37	0.89%	16.23%	10.71%	56.22%	0.95%	0.22%	0.61%	1.51	3.27	3.09	-2.55	1.06	0.20	1.03	1.32
Eastern Europe	6	1.07%	16.84%	12.78%	58.33%	-0.39%	0.39%	0.78%	1.47	3.39	3.21	-110.7	0.98	0.21	0.64	1.03
Latin America	33	0.80%	15.32%	9.61%	53.06%	0.33%	0.12%	0.51%	1.40	3.08	2.92	10.66	1.02	0.32	0.79	1.06
Average	79	0.85%	15.85%	10.24%	54.91%	0.57%	0.18%	0.57%	1.47	3.19	3.02	-3.25	1.04	0.25	0.88	1.18

TABLE 8. Multivariate Analysis-Pooled Times Series Regressions

$$\text{PERFORMANCE} = \alpha + \beta_1(\text{LSALES}) + \beta_2(\text{LEVERAGE}) + \beta_3(\text{FSTS}) + \beta_4(\text{FRISK}) + \beta_5(\text{CRISK}) + \beta_6(\text{ADR3}) + \beta_7(\text{UPSTR}) + \beta_8(\text{REGION}) + \beta_9(\text{INDUSTRY})$$

We used two alternative measures of performance. In model-1 we used ROA, in model-2 we employed Tobin's-Q. Operating Return on Assets (ROA) defined as company's operating earnings before interest and taxes as percentage of total assets. Tobin's-Q is computed as market value of outstanding shares plus liquidation value of preferred stock plus net current assets plus long term debt divided by total assets of the bidder. Foreign to Total Sales (FSTS) is the percentage of foreign sales of the firm divided by net sales. Firm size is proxied by the logarithm of total sales. Leverage is the total debt to total assets ratio. The proxy for the firm risk is the systematic risk. Country Risk proxy is the Euromoney Country Risk Indicator. T-values are reported in parentheses. Note that ***, **, and * denote statistical significance at 1%, 5%, 10% levels, respectively.

Dependent Variable	Model-1		Model-2	
	ROA		Tobin's-Q	
Independent Variables	Coefficient	t-stat	Coefficient	t-stat
Performance				
Constant	0.052	0.01	1.35	5.28
Log (Sales) (LSALES)	1.886	5.11***	-0.04	-2.82***
Leverage (LEV)	-18.688	-7.06***	0.30	2.76***
Firm Risk (FRISK)	-4.758	-4.02***	-0.23	-4.41***
Degree of Internationalization (FSTS)	-0.047	-0.03	0.04	0.58
Country Risk (CRISK)	-0.055	-1.61	-0.0039	2.81***
Access to Int'l Capital (ADR3)	0.035	2.55**	0.041	1.192
Upstream/Downstream Dummy (UPSTR)	-1.849	-1.93*	0.05	1.23
Industry Dummy (INDUSTRY)	-2.120	-1.99**	0.04	0.96
Region Dummy (REGION)	-0.144	-0.14	0.01	0.26
R-squared	0.33		0.17	
Adjusted R-squared	0.31		0.14	
F-statistic	17.16		5.92	
Prob (F-statistic)	0.0000		0.0000	