Is corporate diversification a viable strategy in falling or rising economies? The case of Chinese and Russian firms

Ivashkovskaya I.V.

Professor, Head of Academic Department of Finance, Head of Corporate Finance Research Centre, National research university - Higher School of Economics

Russian Federation, Moscow, Myasnitskaya 20, ivashkovskaya@yandex.ru,

+7-903-729-45-08

Skvortsova I.V.

Research fellow, Corporate Finance Research Centre,

National research university - Higher School of Economics

Russian Federation, Moscow, Myasnitskaya 20, irina.v.skvortsova@gmail.com,

+7-916-394-49-19

Abstract

We analyze the effects of product diversification in emerging economies depending on the national economy dynamics. In contrast to prior research, we concentrate on the risk effect of diversification measuring performance by residual income spread. For a sample of 145 Chinese and Russian firms for the period of 2010-2014, we identify that the effect of corporate diversification on firm performance is the reverse of the dynamics of the institutional environment: if the national economy is falling product diversification creates value while the potential of diversification strategy is limited is the national economy is growing.

Key words: corporate diversification, value creation, emerging capital markets, falling and rising economies.

Is corporate diversification a viable strategy in falling or rising economies? The case of Chinese and Russian firms

1. Introduction

Despite the controversial impact of corporate diversification strategy over corporate performance, it remains the key competitive challenge to the business opportunities and threats in advanced and emerging economies.

The papers underlie the benefits of diversification in emerging economies as compared to developed ones. The scholars show that it is easier for firms in emerging markets to create value via diversification (Khanna, Palepu, 1997; Fauver et al., 2003; Benito-Osorio et al., 2012; Caudillo et al., 2015). These findings may be explained by the institution-based theory which assumes that the institutional environment of different countries can influence the effects of diversification on company value (North, 1990; Khanna, Palepu, 1997; Peng, 2003; Peng and Delios, 2006). In emerging countries with weaker institutions diversified companies might take some of their functions and thereby create benefits and higher returns. These economic benefits are expected to be greater than diversification costs, based on high-level information asymmetry and agency costs that are inherent in emerging economies, and thereby promote the attractiveness of diversification strategy (Fauver et al., 2003; Kuppuswamy et al., 2012; Benito-Osorio et al., 2012).

The value and benefits of corporate diversification will vary across different emerging nations due to the differing institutional environments within which diversification takes place (Chang and Hong, 2002; Fauver et al., 2003; Chakrabarti et al., 2007).

The empirical evidence tends to be mixed and inconclusive, which highlights the importance of examination of how product diversification affects firm performance in various emerging institutional environments and market contexts. Very little is known about the effect of corporate diversification strategy on firm performance in emerging markets depending on different types of national economy dynamics. If the national economy is rising a firm has a variety of growth strategies to choose while in the declining economic conditions the coinsurance effect and the opportunity to lend money within the conglomerate increase the positive effects of diversification.

Based on the context of the specific institutional environments of emerging economies, we shed additional light on diversification-performance by reexamination of the impact of

product diversification over firm performance on a sample of companies from Russia and China, assuming that benefits of diversification differ depending on the state of the national economy.

Our empirical model is based on a new performance measure to account for investment risks, namely residual income spread. On the sample of 145 companies from China and Russia we identify that the effect of product diversification on firm performance is the reverse of the dynamics of the institutional environment: if the national economy is falling product diversification creates value while the potential of diversification strategy is limited is the national economy is growing.

The remainder of the paper is organized as follows. The second section develops the framework for the paper. We discuss theoretical background for the differences in diversification-performance patterns in emerging capital markets for various institutional environment dynamics and formulate research hypotheses. The third section describes the sample selection procedure and the variables. The results are presented in the fourth section, while the fifth section provides the discussion of the results, conclusions and contributions of the study. Limitations and areas for further research are also addressed.

2. Effect of corporate diversification on firm performance

2.1. Product diversification and firm performance in emerging capital markets

In the current research we focus on product diversification, or distribution of firm activities across a number of distinct businesses (industries or product markets) (Rumelt, 1974; Pitts and Hopkins, 1982; Palepu, 1985; Pils, 2009). There are three main theoretical streams that can be used to explain diversification – performance relationship in emerging capital markets: institution-based, resource-based and financial perspectives.

The institutional-based perspective assumes that institutional environments significantly influence product diversification performance. Within insufficient development of capital, product and labor markets, as well as the legal environment diversified firms may provide a superior ability to raise capital, to allocate this capital among divisions more efficiently that external market does, to diversify investor's portfolio, guarantee the fulfillment of contracts, and effectively train managers (Khanna and Palepu, 1997). Product diversification may

generate internal capital market that can improve efficiency and lower volatility of cash flows and risk exposure providing "co-insurance effects" especially in case of unrelated diversification (Shleifer and Vishny, 1992; Kuppuswamy and Villalonga, 2010; Hann et al., 2013). Thus, product diversification strategy may lower cost of capital and at the same time give wider access to capital itself.

From a resource-based theory perspective, diversification in emerging economies would have positive effects on firm value if it were based on generic resources rather than specific ones. According to Guillen (2000), the main motive for companies to create business groups in emerging markets is the ability "to acquire and maintain the capability of combining foreign and domestic resources to repeatedly enter new industries». The ability to enter new industries and create business groups require certain skills, such as obtaining licenses, securing technology and managerial know-how, that are generic and do not depend on industry characteristics (Guillen, 2000; Purkayastha et al., 2012). Firm performance is also significantly influenced by the availability of political and bureaucratic networking and contacts and support from the home country government (Amsden and Hikino, 1994; Kock and Guileen, 2001).

From the financial perspective, it is recognized that the agency problem between managers and owners and majority and minority shareholders may become stronger than in developed economies (Chung, 2004; Purkayastha et al., 2012). Thus, for emerging markets weak governance mechanism promote the rise of discretionary managerial behavior.

Testing whether the observed benefits of diversification actually lead to value creation in emerging markets, researchers mostly indicate that diversification is a value-enhancing strategy. In emerging economies with a low level of institutional development high levels of diversification can be seen as an instrument to offset market imperfections (Yiu et al., 2005; Benito-Osorio et al., 2012). If an emerging market firm manages to internalize these institutions, the firm can diversify across industries and be profitable (Purkayastha et al., 2011; Purkayastha, 2013). As soon as the institutional environment develops and becomes stronger, the advantages of high levels of product diversification tend to disappear, therefore moderate or low levels of diversification are beneficial (Lee et al., 2008).

The resource-based perspective assumes that a diversified company will exploit its "core factors" in technical and managerial skills (Palepu, 1985) as well as bureaucratic connections (Jara-Bertin et al., 2015) across various business lines and industries to derive economies of scale and allocate resources efficiently. To capture possible synergy effects, a

diversified firm needs to have a high level of coordination among different businesses. Such coordination will be impossible or extremely inefficient beyond a certain threshold (Purkayastha, 2013). Beyond a certain threshold the coordination costs outweigh diversification benefits and performance may decrease.

The existing empirical results for emerging markets tend to significantly vary. Positive patterns are documented by L. Fauver with the coauthors (Fauver et al., 2004) who identified an absence of a diversification discount and in some particular cases even a diversification premium in emerging economies where capital market institutions are less developed and are segmented from global capital markets. Positive effects of corporate diversification are also confirmed by X. Li and K. Rwegasira (Li and Rwegasira, 2008) for Chinese companies. The authors also reveal that when managers apply diversification strategy according to their own interest, it does not destroy shareholder value. According to the recent study by McKinsey (Caudillo et al., 2015), based on a sample of more than 4500 companies from developed and emerging economies during 2002-2012, highly diversified firms in emerging capital markets generate highest excess returns (3.6%) than focused firms (0%) and pure players (-2.8%). However, in developed economies, there is almost no difference in excess total return to shareholders for diversified and pure players. The authors explain the positive diversification performance pattern by the ability to reinvest retained earnings in new businesses, to easily interact with governmental and regulatory officials, to attract talents and to attract capital (Caudillo et al., 2015).

2.2. Diversification and firm performance in emerging markets in various national economy dynamics

Various emerging markets are likely to have differences in the level of their institutional development, government and investment policies that stipulates differences in the effect of product diversification on firm performance depending on the emerging economy where a company operates (Guillen, 2000; Khanna and Palepu, 2000; Lee et al, 2008; Benito-Osorio et al., 2012, etc.). This theoretical argument allows to assume that the institutionally higher a home country environment is the less beneficial diversification should be (Kock and Guillen, 2001; Peng and Delios, 2006; Lee et al., 2008).

Thus, L. Fauver with the co-authors (Fauver et al., 2003) using a database of more than 8000 companies from 35 countries find that the value of corporate diversification is

related to capital market development and identify a negative relationship between the value of diversification and capital market maturity.

Chakrabarti with the coauthors (Chakrabarti et al., 2007) studies 3117 firms from Indonesia, Japan, Malaysia, Singapore, South Korea and Thailand for the period of 1988-2003 and proves that for the overall sample diversification has a negative performance effect. However, Indonesian firms benefit from increase in diversification level while Japanese and South Korean conglomerates demonstrate a negative relationship between the level of diversification and firm performance.

K. Lee and his coauthors (Lee et al., 2008) extends the institution-based theory by examining the instability of the diversification premium in South Korea during 1984-1996. The authors argue that with development of the institutional environment, a diversification premium in emerging capital markets turns into a diversification discount. Analyzing French civil law countries, R. Hoskisson and the coauthors (Hoskisson et al., 2004) also find that development of the country's institutional development is negatively associated with effects of the diversification strategy.

The latest research on diversification discounts focused on the 2007-2009 financial crisis and the period after the crisis has brought new results on positive diversification-performance outcomes in developed economies. Within the crisis the diversification discount of American conglomerates had significantly decreased (Kuppuswamy, Villalonga, 2010). The authors explain this improvement, first, by stronger coinsurance effect in the turbulent environment and, second, by "smarter-money effect" as a result of sharp decrease of lending opportunities in external capital markets. K. Rudolph and B. Schwetzler (Rudolph, Schwetzler, 2013) also demonstrate that during 2008-2009 conglomerates have become more efficient in developed capital markets. K. Rudolph and B. Schwetzler (Rudolph, Schwetzler, 2013) also demonstrate that during 2008-2009 conglomerates have become more efficient in developed capital markets.

Given various economic conditions in Russia and China in the post-crisis period and taking into account the prevailing opinion of the majority of researchers that diversification strategy should be more efficient in emerging economies, we hypothesize:

Hypothesis 1. If the economy is going down the effect of diversification on firm performance should be positive.

Hypothesis 2. If the economy is not going down the effect of diversification on firm performance should be negative.

2.3. *Product diversification -performance measurement*

The previous research has focused on three key ways to measure product diversification-performance linkage: accounting-based performance, market-based performance, and growth-based performance. Accounting-based measures of strategic performance include different ratios: return on assets, return on equity, return on investment, return on sales, cash flow-to-sales and cash flow-to-assets. Market-based performance measures are presented by Tobin Q, market-to-book ratios, the Sharpe ratio, the Treynor index, Jensen's alpha and stock returns. This type of measures are related to the investor's expectations and are popular in the research on performance. Growth-based measures of performance include revenues growth, market share growth, asset growth, as well as earnings per share growth (see for example Bausch and Pils, 2009).

Unlike prior research, we concentrate on the risk effect of diversification when measuring performance. We apply a framework that adopts and combines strategic management and finance logics. Following strategic management research, we seek to use the measure of performance that depicts the outcomes attributable to the interaction of all value creation activities at the corporate level, in contrast to the operational performance, which reflects only predetermined separate processes and is mostly focused on the business unit level. Therefore, the firm must draw on corporate (or parent) advantage to add value (Bausch, Pils, 2009). From the finance perspective, the multi-businesses firm has to operate within risk-reward logic to create return sufficient to reward for investment risk and get the increase in the firm's market value. To account for investment risks, we introduce the alternative measure of firm performance, namely *residual income spread*. As shown below, the residual income (RI) follows economic profit concept because it accounts for the return on capital employed derived from financial reports (ROCE) and the capital charge which is a product of overall opportunity cost of capital for the firm and its capital employed:

$$\mathrm{RI_{it}} = (\mathrm{ROCE_{it}} - \mathrm{WACC_{it}}) \times \mathrm{CE_{it}}, \quad (1)$$

where:

RI_{it} – residual income of the firm *i* for the year *t*;

$\mathrm{ROCE_{it}}$ – return on capital employed of the firm *i* for the year *t*;

$\mathrm{WACC_{it}}$ – weighted average cost of capital of the firm *i* for the year *t*;

CE_{it} – capital employed of the firm *i* for the year *t*.

When ROCE is higher than overall cost of capital, the positive spread on capital employed (ROCE-WACC) means that a firm earned a profit well above the required rate of return for its risk. Thus, positive economic spread indicates an increase in the fundamental value of the firm, or value creation within the year. A negative spread captures a decrease in the fundamental value of a firm. This measure is better fitted to the goal of capturing the risk effect of diversification strategy than the accounting – based metrics from financial reports. The economic spread is a measure of strategic performance that integrates both - operational and financial risk-adjusted effects within annual horizon and, therefore, can be treated as fundamental value based strategic performance.

3. Data and methodology

3.1. The sample

To test the effect of corporate diversification on firm performance against various types of national economy dynamics we include in the research sample 74 Chinese and 71 Russian public companies totaling 363 and 336 firm-year observations consequently.

Data is extracted from S&P Capital IQ (annual financial data including revenues segment breakdown), Bloomberg (cost of equity and Tobin Q), Economist Intelligence Unit (macroeconomic data).

To be included into the sample, a company should meet the following formal criteria: 1) it should be publicly traded, 2) it should operate and have financial statements according to IFRS or US GAAP during the overall observation period; 3) it should have information available on SIC-codes. The firms from the financial sector with the primary SIC-code in the range from 6000 to 6999 have been excluded. Companies with revenues equal to 0 during more than one year of the observation period have also been excluded from the final sample, as well as companies which do not have a revenue segment breakdown.

The observation period is limited to 2010-2014 as the most appropriate period to compare the diversification-performance linkage in the growing versus falling emerging economy. After the financial crisis the Chinese economy is still growing although slowed down: the compound annual growth rate of the Chinese economy is 8,05% during the observation period. On the contrary during the same period the Russian economy is falling: if

in 2010 the economy increased by 4,5% versus 2009, in 2014 this growth was only 0,6% compared to 2013. The compound annual growth rate of the Russian economy during 2010-2014 is 0,01% that makes it the best proxy of the falling market in terms of the purposes of the analysis.

Following Berger and Ofek (1995), Campa and Kedia (2002), we do include in the analysis both diversified and focused firms. As a result the sample of Chinese firms includes 53 diversified companies and 21 focused company while the sample of Russian companies comprises 55 diversified and 16 focused firms.

3.2. The econometric methodology and variables

3.2.1. Strategic performance

Fundamental value based strategic performance

To estimate fundamental value-based strategic performance, and in contrast to prior research, we use an economic profit concept and the measure of residual income. To escape inconsistencies in calculating cost of debt for the firms which do not have corporate bonds outstanding, we adjust residual income metric to the "equity residual income" (available for equity holders). Finally, our dependent variable is equity residual income spread or equity spread:

$$\text{Equity Spread} = (\text{Return on equity} - \text{Cost of equity})$$

Market value based strategic performance

After L. Lang and R. Stulz (Lang, Stulz, 1994), K. Lins and H. Servaes (Lins, Servaes, 1999) and later papers (Aggarwal, Samwick, 2003; Chen, Tan, 2012), we use Tobin Q to assess expectations-based strategic performance.

3.2.2. Diversification measure

After K. Hill et al. (Hill et al., 1992) and M. Geringer et al. (Geringer et al., 2000), we assess the level of total product diversification with the Total entropy index. We test for robustness of our empirical results using the Herfindhal-Hirschman index as an alternative measure of total corporate diversification.

Based on the previous empirical studies (Lang, Stulz, 1994; Berger, Ofek, 1995; Denis et al., 1997, etc.), including studies of companies from emerging capital markets (Claessens et

al., 1999; 2000; Lins, Servaes, 2002, etc.), when estimating diversification level, we use data on business segments, as it is disclosed by companies themselves in their financial statements. The Total entropy index and the Herfindhal-Hirschman index are calculated based on segment revenues at the level of 4 digits of SIC-codes without intracorporate sales. Following Tsai and co-authors (Tsai et al., 2011), we consider a company to be diversified when it has more than one segment disclosed in its revenues and therefore, the Total entropy index and the Herfindhal-Hirschman index are higher than 0.

3.2.3. Control variables

In order to isolate interaction between diversification and firm performance, we introduce three groups of control variables based on the analysis of the previous empirical literature. The first group of variables describes activities of the company itself: company size (Mansi, 2002; Chang, Wang, 2007; Andrés et al., 2013), level of investment (Berger, Ofek, 1995; Andrés et al., 2013), capital structure (Park et al., 2013, Andrés et al., 2013), intangibility to capture unique characters of the firm (Cohen, Klepper, 1992; Brahim, Arab, 2011), profitability (Berger, Ofek, 1995; Campa, Kedia, 2002; Santalo, Beccera, 2008). The description is given in Table 1. The second group of control variables captures the type of diversification: related or unrelated diversification. The rationale behind this is to take into account that the current type of diversification may influence future diversification decisions (Chatterjee, Wernerfelt, 1991).

Besides, we include into the analysis year dummy variables (Berger, Ofek, 1995; Bae, 2011, etc.) in order to control for the factors of the external environment which could exert influence on the operations of the firm but which are beyond the influence of the company itself.

Table 1. Description of control variables

Variable	Method of calculation	Expected sign between the variable and firm performance
Firm size	Natural logarithm of total assets	Positive sign
Level of investment	Capital expenditures/Total sales	Negative sign
Financial leverage	Total debt/Book value of total assets	Negative sign
Intangibility	Intangible assets/Total assets	Positive sign
Profitability	EBIT/Sales	Positive sign

Following R. Rumelt (Rumelt, 1982), M. Hitt and co-authors, (Hitt et al., 1997), we determine the type of diversification (related vs unrelated) by SIC-codes. If business segments

belong to various industries within 4 digit SIC-codes within the same industry group within a 2 digit SIC-code, these business segments are considered to be related. If business segments belong to various industries within 4 digit SIC-codes within different industry groups within a 2 digit SIC-code, these business segments are considered to be unrelated.

3.2.4. Method

To empirically test the relationship between corporate diversification and firm strategic performance we estimate the following basic model given the assumption of fixed effects for the subsample of Chinese and Russian firms:

$$\text{Strategic performance}_{it} = \alpha 1 + \alpha 2\,(\text{Diversification}_{it}) + \alpha 4\, Z_{it} + \varepsilon_{it}\,, \qquad (1)$$

where:

$\text{Diversification}_{it}$ – level of product diversification;

Z_{it} – vector of control variables (Company size_{it}, $\text{Level of investment}_{it}$, $\text{Intangibility}_{it}$, Leverage_{it}, $\text{Profitability}_{it}$, Diversification type dummies_{it}[1], Year dummies);

ε_{it} – error term.

If we assume that firms decide to diversify as an adjustment to changes in the external environment (Villalonga, 2004, Andres et al, 2014; Bertin et al., 2015) we need to take into account the endogenous self-selection. To correct for any potential bias in the estimated results we follow the two-step Heckman method (Heckman, 1979). In the first stage, we estimate the maximum-likelihood probit selection equation (2) to assess the firm's propensity to diversify and calculate lambda (λ_i) (the Mills inverse ratio). In the second stage, lambda is included as an additional explanatory variable in our basic equation (1). The statistical significance of λ_i specifies the presence of selectivity for the companies of the sample.

Following Campa and Kedia (2002) and to be in line with the previous research our selection equation is as follows:

$$\text{Diversification}_{it} = \beta 1 + \beta 2\,\text{Company size}_{it} + \beta 3\,\text{Level of investment}_{it} + \beta 4\,\text{Profitability}_{it} + \beta 5\,\text{PNDIV}_{it} + \beta 6\,\text{GDP growth rate}_{it} + \eta_{it}, \qquad (2)$$

$$\text{Diversification}_{it} \begin{cases} 1 \text{ if Diversification}*_{it} > 0 \\ 0 \text{ if Diversification}*_{it} < 0 \end{cases}$$

where

[1] $\text{Diversification type dummies}_{it}$ are dummies for related and unrelated diversification.

Diversification*$_{it}$ – an unobserved latent variable observed as Diversification$_{it}$ = 1 if Diversification*$_{it}$>0 (diversified firms) and Diversification$_{it}$ = 0 if Diversification*$_{it}$<0 (focused firms);

η_{it} – an error term.

The independent variables that could potentially influence the decision of the company to diversify can be grouped into three categories (see, for example, Campa and Kedia, 2002; Andres et al., 2014; Jara-Bertin et al., 2015):

1) at firm level – firm size, level of investment, profitability;

2) at industry level – industry attractiveness approximated by the percentage of companies from the primary industry that are diversified (PNDIV$_{it}$);

3) at the country level – national economy attractiveness approximated by real growth rates of GDP calculated as the GDP annual growth rates at constant basic prices of 2005 (in US dollars) (GDP growth rate$_{it}$).

3.3. Descriptive statistics and correlation analysis

On the average Chinese companies are more diversified that Russian firms (the Total Entropy index is 0,964 for Chinese companies versus 0,727 for Russian companies) which is completely in line with the results of the previous research (see, for example, Fan et al., 2008)[2]. Investors tend to react more positively to the decision of the company to diversify in China than in Russia (the mean value of Tobin Q as the proxy of the market value based strategic performance is equal to 1,393 for the overall sample and 1,376 for only diversified Chinese firms, the mean Tobin Q of the Russian firms is 1,184 for the full sample and 1,104 for the sample of only diversified companies).

It's worthwhile mentioning that Russian companies demonstrate positive fundamental value in the post-crisis period against the falling economy with the average equity spread at the level of 3,076 for the full sample, 2,544 for diversified players and 4,905 for focused firms. The annual changes in fundamental value of Chinese focused companies tend to be negative during the observation period (-0,989%) although conglomerates manage to perform much better with the average equity spread of 1,544%.

The same conclusions are supported by the comparison of profitability which tends to

[2] The descriptive statistics and the correlation matrix are reported in Appendix in Tables 1-4.

be much lower for Chinese companies (0,071 for China compared to 0,138 for Russia).

Chinese companies are smaller than Russian firms although Russian companies more actively attract debt to finance growth: on the average the leverage of Chinese firms is 0,185 versus 0,325 for the sample of Russian companies).

The share of capital expenditures in revenues is likely to be higher for Russian firms (0,128 for the full sample for Russian firms, 0,093 for the full sample for Chinese firms; 0,131 for the subsample of only diversified Russian companies, 0,088 for the subsample of only diversified Chinese firms).

The share of intangible assets in the overall assets of the company tends to be higher for Chinese conglomerates (0,053 for Chinese conglomerates versus 0,030 for Russian diversified firms).

The correlation matrices (Tables 3 and 4 in the Appendix) indicate that there will be no problems with multicollinearity due to low correlations among variables (Gujarati, 1995). As shown in the Table 5, most of the control variables are significantly correlated with performance measures, suggesting that they explain firm performance and thus should be included in the empirical model. According to correlation analysis, the negative correlation between diversification measures and performance measure assumes that the higher the level of diversification the lower firm performance is.

4. Results

4.1. Heckman first stage: firm propensity to diversify

Table 2 summarizes the results of the probit estimation of the selection equation (2) which assesses the firm's propensity to diversify. We can conclude that firm and industry characteristics are the key factors that matter to diversification decisions.

Table 2. Probit estimation (First stage of the Heckman estimation) [Equation 2]

Parameter	China	Russia
Intercept	**-12.151*** [-3.01]** [3]	**-23.232*** [-3.78]**
Firm-level factors		
Company size	**-0.740*** [-4.40]**	**1.823** [2.49]**
Level of investment	**4.264* [1.68]**	-2.219 [-0.51]

[3] The t-statistics is reported between parentheses below each parameter estimate. Coefficients that are significantly different from zero at the 1%, 5%, 10% and 15% are indicated with ***, ** and * respectively.

Parameter	China	Russia
Profitability	-0.992 [-0.55]	-3.564 [-0.70]
Industry-level factors		
PNDIV	**16.335*** [3.61]**	**22.647*** [7.22]**
Country-level factors		
Real growth of GDP	10.115 [0.58]	16.511 [0.72]
No. obs.	296	240
Log likelihood	-59.90	-37.314
Wald chi^2 (5)	28.46	55.78

Among the firm-level factors only the company size is statistically significant for both Russian and Chinese companies. Large companies in Russia are more likely to increase the number of product lines while in China the smaller the firms the more likely they take the decision to diversify. The finding corresponds with the results obtained in the previous research that Chinese firms due to their relatively small size are ready to "exploit economies of scale through expansion" (Jiang, Zhihui, 2005).

The level of investment is statistically significant for Chinese firms suggesting that the more companies invest in their development the more they are liable to diversify. The profitability variable tends to be statistically insignificant for both specifications.

As far as industry-level factors are concerned, our results are in line with Campa and Kedia (2002), Santalo and Becerra (2008) and suggest that the more companies are diversified in the core industry the more firms tend to diversify.

Similarly in line with Campa and Kedia (2002), macroeconomic country-level factors do not have any statistical significance on the corporate propensity to diversify for both Russian and Chinese companies. This finding demonstrates that high levels of corporate diversification in China could not be found in rich business opportunities that the external environment offers (Fan et al., 2008) and that high growth rates of the Chinese economy do not stand for corporate decisions to diversify.

4.2. The effect of diversification on firm performance

Table 3 reports the empirical results of the Heckman second-stage estimation to test diversification- performance relationship.

Following Palich et al. (2000) and those researchers who convert measures of type of

diversification (single-business, related and unrelated diversification) into level of diversification (low, moderate and high) (see, for example, Hoskisson et al. (1993), Denis et al. (1997) within the current paper we do not distinguish between the level and type of diversification although we recognize that they are conceptually distinct. Thus, for the purposes of the research we suppose that single-business, related and unrelated diversification are equivalent to low, moderate and high levels of diversification.

As the number of business segments increases the market tends to negatively react in China which can be seen in a negative coefficient of the product diversification variable. in other words, the market negatively reacts if Chinese companies turn to unrelated diversification. As far as Russian firms are concerned, the diversification variable is not statistically significant.

The fundamental value of Chinese firms is also likely to decrease if firms diversify their product portfolio. On the contrary, the fundamental value of Russian firms increases with the increase of the level of diversification. This means, that if Russian conglomerates move from related to unrelated diversification their fundamental value increases which is supported by a positive sign of the coefficient of the diversification variable in Column 4. This finding is in line with the previous empirical findings (Bae et al., 2011) and confirms the theoretical assumptions that corporate diversification can be beneficial in emerging capital markets (Purkayastha et al., 2012).

Table 3. Regression results (Heckman two-step estimator)[4] [Equation 1]

	Market value based performance		*Fundamental value based performance*	
	(1)	(2)	(3)	(4)
Variable	China	Russia	China	Russia
Corporate diversification	**-0.311** [-1.79]**	-0.020 [-0.17]	**-1.625 [-1.26][5]**	**3.923**[1.81]**
Company size	**-0.596**** [-4.22]**	**-0.477**** [-3.62]**	-1.310 [-1.23]	**9.955**** [4.86]**
Level of investment	**-1.247**** [-3.12]**	0.335 [0.6]	**-6.152*** [-2.28]**	-11.657 [-1.09]
Financial leverage	**-2.340**** [-3.29]**	-0.001 [-0.01]	-3.424 [-0.69]	**-35.371**** [-5.67]**
Profitability	**0.575** [1.79]**	1.909 [1.05]	**56.374**** [15.51]**	**-34.389*** [-2.03]**
Intangibility	-0.399 [-0.23]	**2.132**** [4.60]**	**-20.337** [-1.75]**	**96.069**** [9.41]**
Related	-0.097 [-0.24]	**-2.671**** [-2.64]**	2.732 [0.99]	**39.271* [1.51]**

[4] The t-statistics is reported between parentheses below each parameter estimate. Coefficients that are significantly different from zero at the 1%, 5%, 10% and 15% are indicated with ****, ***, ** and * respectively.
[5] Statistically significant at the 20% level.

	Market value based performance		*Fundamental value based performance*	
	(1)	(2)	(3)	(4)
Variable	China	Russia	China	Russia
diversification				
Unrelated diversification	-0.408 [-1.28]	0.055 [0.36]	2.327 [0.88]	**-6.197* [-1.73]**
Inverse Mills Ratio (λ)	-0.126 [-0.05]	**-0.301**** **[-2.63]**	17.761 [0.90]	**4.195 [1.41]**[6]
Year	controlled	controlled	controlled	controlled
Intercept	6.385**** **[6.00]**	**6.038**** **[4.82]**	6.704 [0.78]	**-94.138**** **[-4.22]**
No. obs.	286	224	280	217
R^2 within	0.2041	0.4916	0.5719	0.5529

An increase of firm size decreases value creation potential of both Chinese and Russian firms when we measure performance with Tobin Q which might be explained by the fact that in the current environment greater competitiveness through increasing firm size is no longer beneficial. Contemporary markets require development of new technological solutions rather than achievement of favorable terms with counterparts in case of market power. The relationship between firm size and performance measured through equity spread is positive for Russian firms that reports that in the post-crisis period in the falling Russian economy larger firms manage to perform better.

In the period of 2010-2014 Chinese firms with less capital scales perform better. While compared to developed capital markets diversified firms from emerging capital markets often invest in low efficient projects primarily due to low level of corporate governance mechanisms, significant share of government in the equity, as well as concentration of ownership in the hands of one majority shareholder which is often the government (Claessens et al., 1999). The coefficients of the CAPEX/Sales variable turns to be statistically insignificant for Russian companies.

On average, increased debt is negatively perceived by investors in China and decreases the value of Russian companies.

An increase of intangible assets decreases the fundamental value of Chinese companies. One of the potential reasons for this negative relation might be that these intangibles are acquired rather than developed by Chinese companies themselves (Abrami et al., 2014). An increase of intangible assets increases the fundamental value of Russian firms, as well as is

[6] Statistically significant at the 16% level.

positively perceived by the Russian market. This finding corresponds with the results of the previous research that recognized that intangible assets could provide companies with competitive advantages and stimulate growth and shareholder value (Lev, 2001).

5. Conclusions

Building on the assumption that the effects of corporate diversification strategy differ depending on the economic conditions of the country where a firm operates we find evidence that in the falling economy (within the research proxied by Russian firms) increase of the number of segments increases strategic performance. This finding supports the idea that due to the absence of unique advantages of a focusing strategy (Wells, 1986; Amsden, 1998) firms in emerging markets turn to diversification in search of instruments to overcome imperfections of the external business environment. Internalization of these instruments allows to reduce costs on diversification, which increases value potential growth.

On the contrary if the economy is not falling (proxied by Chinese firms) increase of the number of business segments decreases strategic performance.

We identify that Chinese firms should diversify in related industries while strategic performance of Russian firms increases if they tend to diversify in unrelated industries. This tendency may be connected with the absence of unique competencies to be engaged in related lines of business in Russia (Chandler, 1990).

We extend the empirical research by including in the analysis a new measure of firm performance to account for investment risks. We measure firm performance as the interaction of all value creation activities at the corporate level.

The empirical findings of this research provide several practical implications for owners, managers and investors. Owners and managers need to bear to in mind that diversification is likely to create value in falling emerging capital markets, although the value creation potential of corporate diversification decreases if the national economy is not falling.

The limitations of the current research concern the following. First, the conclusions that we formulate relate to the overall sample and cannot be applied to a certain Chinese or Russian company. Second, our assumptions regarding emerging capital markets cover Russia and China and do not show the specificities of all the emerging markets.

To deepen the research, it could be valuable to look at the industrial specificities of the

effects of product diversification and also to compare the obtained results with the effects of diversification strategy before the financial crisis.

Appendix.

Table 1. Descriptive statistics. China.

Variable	Full sample					Only diversified					Only focused				
	Obs.	Mean	St.D.	Min	Max	Obs.	Mean	St.D.	Min	Max	Obs.	Mean	St.D.	Min	Max
Market value based performance	363	*1.393*	1.181	0.500	14.259	262	*1.376*	1.172	0.500	14.259	101	1.437	1.207	0.511	9.609
Fundamental value based performance	287	*0.855*	9.149	-45.142	21.394	209	*1.544*	7.710	-27.733	21.394	78	-0.989	12.067	-45.142	20.172
Diversification	306	*0.525*	0.473	0	1.933	221	*0.727*	0.404	0	1.933	85	0	0	0	0
Company size	306	*6.858*	2.521	1.102	12.868	221	*7.224*	2.510	1.404	12.868	85	5.906	2.304	1.102	11.413
Level of investment	302	*0.093*	0.126	0	1.011	218	*0.088*	0.119	0	1.011	84	0.105	0.143	0.001	1
Intangibility	306	*0.053*	0.110	0	0.820	221	*0.053*	0.102	0	0.791	85	0.054	0.130	0	0.820
Leverage	302	*0.185*	0.177	0	1.068	218	*0.205*	0.185	0	1.068	84	0.136	0.146	0	0.533
Profitability	299	*0.071*	0.174	-0.954	0.536	217	*0.076*	0.143	-0.954	0.536	82	0.057	0.237	-0.914	0.498

Table 2. Descriptive statistics. Russia.

Variable	Full sample					Only diversified					Only focused				
	Obs.	Mean	St.D.	Min	Max	Obs.	Mean	St.D.	Min	Max	Obs.	Mean	St.D.	Min	Max
Market value based performance	336	*1.184*	0.622	0.409	4.226	263	*1.104*	0.526	0.409	4.226	73	*1.470*	0.829	0.469	3.763
Fundamental value based performance	222	*3.076*	13.020	-73.207	37.472	172	*2.544*	10.559	-25.958	31.966	50	*4.905*	19.264	-73.207	37.472
Diversification	244	*0.754*	0.668	0	2.470	191	*0.964*	0.606	0	2.470	53	*0*	0	0	0
Company size	244	*8.240*	1.626	2.573	12.887	192	*8.473*	1.605	4.159	12.887	52	*7.380*	1.412	2.573	9.809
Level of investment	243	*0.128*	0.123	0.004	1.099	191	*0.131*	0.129	0.004	1.099	52	*0.120*	0.095	0.014	0.416
Intangibility	244	*0.274*	0.058	0	0.431	192	*0.030*	0.064	0	0.431	52	*0.016*	0.026	0	0.136
Leverage	240	*0.325*	0.194	0	1.242	188	*0.335*	0.204	0	1.242	52	*0.286*	0.147	0	0.647
Profitability	241	*0.138*	0.115	-0.133	0.535	190	*0.142*	0.115	-0.082	0.535	51	*0.120*	0.113	-0.133	0.452

Table 3. Correlation matrix. China.

Variable	Market value based performance	Fundamental value based performance	Diversification	Company size	Level of investment	Intangibility	Leverage	Profitability
Market value based performance	1.0000							
Fundamental value based performance	0.3397	1.0000						
Diversification	-0.1557	-0.0068	1.0000					
Company size	-0.1556	0.2146	0.2988	1.0000				
Level of investment	0.0727	0.0020	-0.0925	0.1293	1.0000			
Intangibility	-0.0272	0.0263	-0.1535	0.0377	0.2973	1.0000		
Leverage	-0.2181	-0.2210	0.0912	0.2708	0.2116	0.1463	1.0000	
Profitability	0.2105	0.5688	-0.0800	0.1670	0.3778	0.4580	0.0393	1.0000

Table 4. Correlation matrix. Russia.

Variable	Market value based performance	Fundamental value based performance	Diversification	Company size	Level of investment	Intangibility	Leverage	Profitability
Market value based performance	1.0000							
Fundamental value based performance	0.4232	1.0000						
Diversification	-0.2854	-0.2821	1.0000					
Company size	-0.0645	0.0795	0.1733	1.0000				
Level of investment	-0.0927	-0.1816	0.1266	0.3181	1.0000			
Intangibility	0.1034	0.1385	-0.0772	0.0489	-0.0585	1.0000		
Leverage	0.0646	-0.0720	0.0679	-0.0345	-0.0584	0.0790	1.0000	
Profitability	0.3133	0.4914	-0.0837	0.3542	0.2919	0.1521	0.1025	1.0000

References

Akbulut, M.E. and Matsusaka J.G. (2003). 50+ years of diversification announcements. *The Financial Review*, 45, 231–262.

Andrés P. de, Fuente G. de la and Velasco P. (2014). Level of investment and the effect of corporate diversification on value. *The Spanish Review of Financial Economics* 12 (2, July-December), 72-81.

Asrarhaghighi, E., Rahman, A.A., Sambasivan, M. and Mohamed, Z.A. (2013). Diversification Strategy and Performance Studies: Results, Measures, and Sampling Design. *Journal of Advanced Management Science*, 1 (1), 12-18.

Bae, S.C., Kwon, T.H. and Jang, W. L. (2011). Does corporate diversification by business groups create value? Evidence from Korean chaebols. *Pacific-Basin Finance Journal*, 19, 535–553.

Bausch A., Pils F. (2009). Product diversification strategy and financial performance: meta-analytic evidence on causality and construct multidimensionality. Review of Managerial Science, 3, 157-190.

Benito-Osorio, D., Guerras-Martín, L.A. and Zuniga-Vicente, J.A. (2012). Four decades of research on product diversification: A literature review. *Management Decision*, 50 (2), 325-344.

Berger, P.G. and Ofek, E. (1996). Bust-up takeovers of value destroying diversified firms. *The Journal of Finance*, 49 (4), 1175– 1200.

Campa, J.M. and Kedia, S (2002). Explaining the diversification discount. *The Journal of Finance*, 57, 1731–62.

Carney M., Gedajlovic E.R., Heugens P.P.M.A.R., Essen M.V., Oosterhout J.V. (2011). Business Group Affiliation, Performance, Context, and Strategy: A Meta-Analysis. *Academy of Management Journal*, 54 (3), 437-460.

Chatterjee S.; Wernerfelt B. (1991). The Link between Resources and Type of Diversification: Theory and Evidence. *Strategic Management Journal* , Vol. 12, No. 1., 33-48.

Chen, Y.-M., Yang, D.-H. and Lin, F.-J. (2013). Does technological diversification matter to firm performance? The moderating role of organizational slack. *Journal of Business Research*, 66, 1970–1975.

Claessens, S., Djankov, S., Fanc Joseph, P.H. and Lang, L. H.P. (2003). When does corporate

diversification matter to productivity and performance? Evidence from East Asia" *Pacific-Basin Finance Journal*, 11, 365–392.

Delios, A. and Beamish P.W. (1999). Geographic scope, product diversification and the corporate performance of Japanese firms. *Strategic Management Journal*, 20, 711–727.

Ferris, S.P., Sen, N., Lim, C.Y. and Yeo, G.H.H. (2002). Corporate focus versus diversification: the role of level of investment and cashflow. *Journal of International Financial Markets, Institutions and Money*, 12, 231–252.

Geringer, J. M., Beamish, P. W. and DaCosta, R. C. (1989). Diversification strategy and internationalization: implications for MNE performance. *Strategic Management Journal*, 10, 109–119.

Graham, J. R., Lemmon, M. L. and Wolf, J. G. (2002). Does corporate diversification destroy value? *The Journal of Finance*, 57, 695–720.

Guo, Z.-F. and Cao, L. (2012). An analysis of the degree of diversification and firm performance. *The International Journal of Business and Finance Research*, 6 (2), 53-59.

Hitt, M. A. and Ireland, R. D. (1986). Relationships among corporate level distinctive competencies, diversification strategy, corporate strategy and performance. *Journal of Management Studies*, 23, 401–416.

Ivashkovskaya I. and Stepanova A. (2011). Does strategic corporate performance depend on corporate financial architecture? Empirical study of European, Russian and other emerging market's firms. *Journal of Management & Governance*, 15 (4), 603-616.

Kahloul, I. and Hallara, S. (2010). The Impact of Diversification on Firm Performance and Risk: An Empirical Evidence. *International Research Journal of Finance and Economics*, 35, 150-162.

Kanga, K. H., Leeb, S. and Yang, H. (2011). The effects of product diversification on firm performance and complementarities between products: A study of US casinos. *International Journal of Hospitality Management*, 30, 409–421.

Khanna, T. and Palepu (2000). Is group affiliation profitable in emerging markets? An analysis of diversified Indian business groups. *The Journal of Finance*, LV (2), 867-891.

Kuppuswamy, V. and Villalonga, B. (2010). *Does Diversification Create Value in the Presence of External Financing Constraints? Evidence from 2007-2009 Financial Crisis*. Working Paper 10-101, Harvard Business School.

Lang, L.H.P. and Stulz, R.M. (1994). Tobin's q, corporate diversification, and firm performance. *Journal of Political Economy*, 102, 1248– 1280.

Lichtenthaler, E. (2005). Corporate diversification: Identifying new businesses systematically in the diversified firm. *Technovation*, 25, 697–709.

Lins, K. and Servaes, H. (1999). International evidence on the value of corporate diversification. *The Journal of Finance*, LIV (6), 2215-2239.

Lunsford, D.A. and LaForge, R.W. (1992). Product diversification and firm development: An empirical examination of contingency relationships. *The Journal of Marketing Management*, 13-26.

Malone, C.B., North, P. and Rose, L.C. (2006). Intangible assets and firm diversification. *International Journal of Managerial Finance*, 2 (2), 136-153.

Mansi, S.A. and Reeb, D.M. (2002). Corporate diversification: What gets discounted? *The Journal of Finance*, LVII (5), 2167-2183.

Nachum, L. (2004). Geographic and industrial diversification of developing country firms. *Journal of Management Studies*, 41, 273–294.

Palich, L.E., Cardinal, L.B. and Miller, C.C. (2000). Curvilinearity in the Diversification Performance Linkage: An Examination of over Three Decades of Research. *Strategic Management Journal*, 21 (2), 155-174.

Pils F. (2009). Meta-Analysis on the Relationship between Diversification and Performance. *Diversification, Relatedness, and Performance*, 9-61.

Pitts, R. and Hopkins, H. (1982). Firm diversity: Conceptualization and measurement. *Academy of Management Journal*, 7 (4), 620-629.

Purkayastha, S., Manolova, T. S. and Edelman, L.F. (2012). Diversification and Performance in Developed and Emerging Market Contexts: A Review of the Literature. *International Journal of Management Reviews*, 14, 18–38. DOI: 10.1111/j.1468-2370.2011.00302.

Regina M. Abrami, William C. Kirby, F. Warren McFarlan (2014). Why China Can't Innovate. *Harvard Business Review*, 92 (3), 107–111.

Rudolph, C. and Schwetzler, B. (2013). Conglomerates on the rise again? A cross-regional study on the impact of the 2008–2009 financial crisis on the diversification discount". *Journal of Corporate Finance*, 22, 153-165. http://92.242.59.41:2086/10.1016/j.jcorpfin.2013.04.006.