

Happiness in Sub-National Regions and Foreign Firm Performance: Evidence from China

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Abstract—This study attempts to examine how emotions (happiness in particular) affect the performance of foreign subsidiaries. Our hypotheses are tested on a large sample of foreign firms located in China during the period of 2006-2013. Our results provide evidence for the strong influence of happiness at the sub-national level. We also find that happiness has a weaker positive effect on the performance of foreign subsidiaries with a longer length of operation or a higher level of domestic ownership. Our study extends the literatures of international business by examining the effects of emotion, an important yet under-researched factor, on foreign firm performance. The findings of our research also have important practical implications for foreign firms operating in countries with heterogeneous sub-national regions by showing the importance of examining emotion in the analysis of the business environment for international operation.

Keywords—emotion, happiness, sub-national region, firm performance, emerging markets, multinational enterprises

I. INTRODUCTION

Emotions have been an interesting subject for a long time in many academic disciplines such as psychology and sociology. Researchers in these disciplines generally argue that emotion influences human thinking, attitudes and behavior and plays a key role in the decision-making process. The economics and management literatures have slowly taken up on emotions in their studies (Ashkanasy and Daus, 2002; Camerer, 2011; Cryder *et al.*, 2008; Graham *et al.*, 2004; Ifcher and Zarghamee, 2011; Lyubomirsky *et al.*, 2005; Guven, 2011; Van Winden *et al.*, 2011). For instance, Graham *et al.*, 2004 find that happier people are wealthier and are in better health conditions. Lyubomirsky and King (2005) find that happiness is related to better health, labor, and social outcomes. Cryder *et al.* (2008) show a link between emotion and consumption. Camerer (2011) argues that emotions can influence people's economic choices for prices, information and income. Guven (2011) shows a causal effect of happiness on social capital. Ifcher and Zarghamee (2011) investigate how positive emotion impacts time preference and find that mild positive emotion significantly reduces time preference over money. Van Winden *et al.* (2011) find that emotion is an important driving factor in investment behaviors. Some studies find

that retreat emotions (e.g., fear) sending negative signals about product quality can explain product quality perceptions and product avoidance (Lazarus, 1991; Roseman *et al.*, 1994). Given that merger and acquisitions (M&As) are regarded as 'highly emotional life events' (Buono and Bowditch, 1989), researches on cross border M&As focus on the emotional experiences of employees during organizational changes and how employee emotions affect the success rate of international M&As (Cartwright and Schoenberg, 2006).

This study attempts to examine a less explored topic, that is, how emotions (happiness in particular) affect the performance of foreign subsidiaries. Furthermore, we take advantage of the sub-national differences of happiness within a country to test the impact of happiness on foreign firm performance. International business activities do not only take place at the national level but also occur at the sub-national levels within nations. There are considerable sub-national variations between regions within countries (Beugelsdijk *et al.* 2014; Dow and Karunaratna, 2006). Such differences are especially remarkable in large countries like the US and China (Shaver and Flyer, 2000). According to the Global Cities Investment Monitor (2018), nearly 45% of the world's total international investment took place in the top 35 global cities, implying highly heterogeneous sub-national regions. Many studies in international business have found evidence of wide sub-national variations in terms of institutions (Castellani, *et al.*, 2013), economics (Beugelsdijk and Mudambi, 2013), culture (Beugelsdijk *et al.* 2014), and other geographic characteristics (Goerzen *et al.*, 2013; Sun *et al.*, 2015). Therefore, it is necessary to explore the impact of heterogeneous sub-national regions on IB activities.

Based on the literatures, we propose a positive relationship between happiness and the performance of foreign subsidiaries at the sub-national level. Positive emotion like happiness can improve firm performance by smoothing social interaction, facilitating communication and promoting information sharing, knowledge transfer and cooperation. Positive emotion is especially important to foreign subsidiaries, as conflicts are more likely to rise when employees with diverse cultural backgrounds work together and positive emotions can help reduce stress of cross-cultural communication.

We also investigate how this positive effect varies by the firm-level factors. First, FDI requires knowledge and experience, which are usually developed over time. With age, a firm may develop capabilities to adapt to the host countries. Given the continuing administrative involvement in the transitional economies, age indicates the level of institutional relationships that helps MNEs gain institutional support (Hoskisson *et al.*, 2000). Therefore, happiness is supposed to have a smaller impact on performance for foreign subsidiaries with a longer length of operation. Secondly, happiness is supposed to have a smaller impact on performance for foreign subsidiaries with a higher level of domestic ownership. There are two reasons for this argument. For one, partnering with local firms can help foreign subsidiaries to bridge the cultural gap caused by the differences in values, customs, and behaviors between the home country and the host country. Furthermore, co-managing the foreign firm with a local partner can gain access to local resources, reduce risk and speed up the process of learning the local markets. As a result, employees from different countries face fewer cultural barriers in communications and are more likely to reach agreement at workplace. The need for happiness to reduce conflicts and disputes is lower.

Our hypotheses are tested on a large sample of foreign firms located in China during the period of 2006-2013. China is an appropriate setting to examine the sub-national effects on foreign firm performance given the large number of highly heterogeneous regions and the ever-increasing amount of FDI in China. Our results provide support for positive relationship between sub-national happiness and foreign firm performance. We also find that, as hypothesized, happiness has a weaker positive effect on the performance of foreign subsidiaries with a longer length of operation or with a higher level of domestic ownership.

This study contributes to the literature in several ways. First, it extends the literature on the effect of emotions on business. Interest in research of emotion is relatively recent in business studies (Antonetti 2019; Ashkanasy and Humphrey, 2011; Wang, 2020). Emotions may be relevant and even critical in firms' strategic decision making (Ashkanasy and Ashton-James, 2005). However, although the human side in IB research receives greater attention in the recent years, IB studies on emotions are still limited. Relatively little is known about the role of emotions in shaping firms' international strategy and performance. Our findings demonstrate that happiness in sub-national regions affects the performance of foreign subsidiaries. Our study calls for more consideration of the role of emotions when examining strategy and performance in future researches of IB.

Second, it enriches the literature on how sub-national factors affect foreign firm performance. Studies in this stream of research have examined the impact of a variety of location factors. However, there are few researches focusing on the "human" side factors. Our study does not only support the previous studies regarding the impact of sub-national factors on foreign firm performance, but also fills an important niche in the literature of international

business studies by exploring the role of emotions in foreign firm performance in diverse sub-national environment of a large transitional economy.

II. THEORY AND HYPOTHESIS DEVELOPMENT

Human resources are of strategic importance to an organization. Happiness, one of the positive emotions, is related to better health, labor, and social outcomes (Lyubomirsky *et al.*, 2005). Psychological studies have shown that happier people behave differently from those who are less happy. The literatures on organizational behavior have found antecedents and evidences of positive effects of happiness on job performance (Fisher, 2010; Wright and Cropanzano, 2000)

There are at least two reasons for this positive link. First, happy people are more likely to get job satisfaction and hence have greater work commitment. Negative emotions like anger, frustration, and stress cause disengagement, a neurological and psychological response which prevents people from processing information, thinking creatively and making good decisions. On the other hand, happiness in the form of pleasant moods and emotions, well-being, and positive attitudes effectively increases capacity for creativity, critical thinking and a wide range of other functions. Therefore, happier employees will make greater contributions to their workplace by using their skills and capacities more productively.

Second, happiness helps build strong interpersonal relationships at work and encourages people to work together for the organization they are serving. Some studies (Frank, 1999) have shown that happy people smile more often during social interactions, are more prepared to initiate social contacts, are more inclined to respond to requests for help, and are less likely to get involved in work disputes. Therefore, happiness helps facilitate information transmission and promote cooperation at workplace. This is especially important for a foreign firm since it is more likely to experience conflicts among its employees with diverse backgrounds. The differences may be caused by different cultures or business practices. Culture shapes the way people relate to each other in daily life, how they perceive, attribute and believe. Different cultures may bring misunderstanding and lead to breakdown in communication. In addition, when a foreign firm's business practices differ from those of a host country, conflicts may also rise. Happiness can ease the stress caused by complexity of inter-cultural communication within MNEs. Therefore, happiness creates higher levels of engagement and collaboration at work, and our first hypothesis is as follows:

H1: There is a positive relationship between happiness and foreign firm performance.

The influence of happiness on performance of foreign subsidiaries may vary by firms. First, the length of operation makes happiness relatively less important in promoting foreign firm performance. The traditional IB literature views age to be indicative of experience-based capabilities (Baum and Shipilov, 2006; Dunning, 1980, 1988). Since newly established foreign firms are subject to the liability of foreignness (Zaheer, 1995) and outsidership

(Johanson and Vahlne, 2009), it takes time for foreign subsidiaries to acquire local knowledge and to develop the capabilities to adapt to the local environments. Older firms typically possess better local knowledge and more experiences, and are more likely to enter local networks. Employees with diverse backgrounds have been working together for a certain amount of time and gradually finding a way to manage the culture differences so as to avoid and resolve conflicts. In addition, if the host countries are transitional economies with continuing administrative involvement in the economy, foreign subsidiaries need time to build institutional relationships that may enhance their ability to gain institutional support. Older firms have closer ties and familiarity with government officials. These networks and relationships with local institutions can provide access to critical resources and preferential treatment of government like regulation relief, fewer bureaucratic harassments and tax advantages (Makhija, 2003). In contrast, younger firms in transition economies do not have enough knowledge and experience and lack institutional support. Inexperienced employees would face greater challenges in dealing with new environments. In this case, happiness plays a more important role in facilitating cooperation and reducing conflicts at work. Therefore, the longer foreign subsidiaries operate in the local market, the less dependence on happiness in a region to facilitate communication and promote cooperation. The above discussion leads to the hypotheses as follows:

H2: Happiness has a weaker positive effect on the performance of foreign subsidiaries with a longer length of operation.

In addition, the effect of happiness also depends on *domestic ownership* of the foreign subsidiaries. There are two ways in which the relative importance of happiness that facilitates communication and promotes cooperation within a foreign firm is reduced by domestic ownership. First, domestic ownership helps foreign subsidiaries to successfully operate in culturally different host countries. This argument is supported by Hennart and Larimo (1998) finding that MNEs from countries which are culturally more distant choose to enter the host country with joint ventures. Due to differences in values, customs, and

behaviors between the home country and the host country, foreign subsidiaries have a particular need to learn how to bridge the cultural gap. With the help of local partners, foreign subsidiaries will find it easier to develop local knowledge and understand the local culture and custom. As a result, employees with different cultural backgrounds will find fewer cultural barriers and easier to communicate at workplace. Naturally, this will help reduce stress and avoid conflicts, and hence happiness plays a less important role.

Secondly, the ways to conduct business in the host country may be quite different from those in the home country. Without fully understanding the consumer behavior, distribution network, and marketing strategies that are effective in a specific country, a foreign firm will unlikely succeed in this market. And some local knowledge is tacit and difficult to describe. Besides, foreign subsidiaries may find it hard to access the local resources like local networks (e.g., suppliers, distributors and buyers). By co-managing the foreign firm with a local partner, a foreign firm can learn from the partner how to manage locally and amend the liability of foreignness. It would be easier for employees from different countries to reach agreement on the issue of management and policies for the company. And hence there are fewer conflicts and disputes at workplace. Partnering with local firm can also help foreign subsidiaries reduce local market uncertainty and overcome institutional barriers such as excessive regulations, red tape, and local bureaucratic practices. All these will make the jobs of employees easier and more likely to maintain positive attitudes at work. The need for happiness to facilitate work is lower in this case. In contrast, a MNE choosing a wholly owned affiliate must explore the best practices by itself to resolve the problems that arise due to differences in business practices. Therefore, foreign subsidiaries with higher levels of domestic ownership will rely less on happiness, as summarized in the following hypothesis:

H3: Happiness has a weaker positive effect on the performance of foreign subsidiaries with a higher level of domestic ownership.

Fig. 1 illustrates the above relationships.

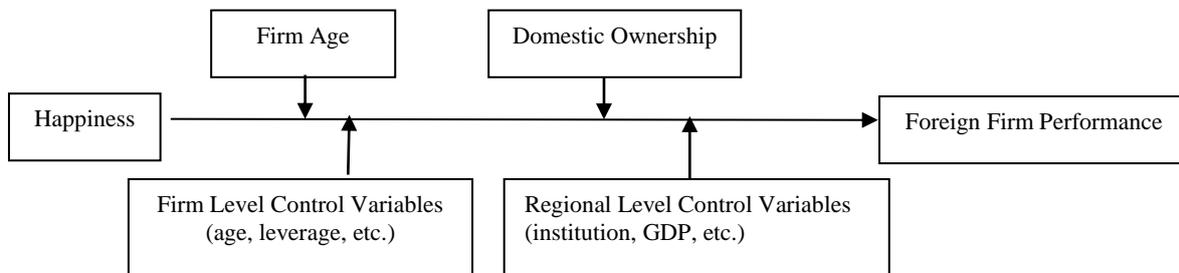


Figure 1. Theoretical framework

III. DATA AND SAMPLE

We use data on China to test our hypotheses. China is an ideal setting to examine the sub-national effects on foreign firm performance for several reasons. First, as the world's largest emerging economy, China has become one

of the major FDI recipients in the world (UNCTAD, 2022). China's substantial market size, strong economic growth, and increasing openness have attracted a large number of FDIs. Foreign investment in China grew steadily in 2021, reaching about US\$170 billion, up 15.8 percent year-on-year (China Foreign Investment Statistics Bulletin 2022).

Second, China has a large number of sub-regions, which vary significantly in terms of factors of production, institutional development, and the amount of FDI received (e.g., Li and Sun, 2017; Lu *et al.*, 2018), as shown in Fig. 2. In mainland China, the first level of administration

consists of 23 provinces, five autonomous regions, and four municipalities. Consistent with the economics and IB literatures (Chan *et al.*, 2010; Ma *et al.*, 2013), sub-national regions refer to this level of administration in mainland China in this paper.

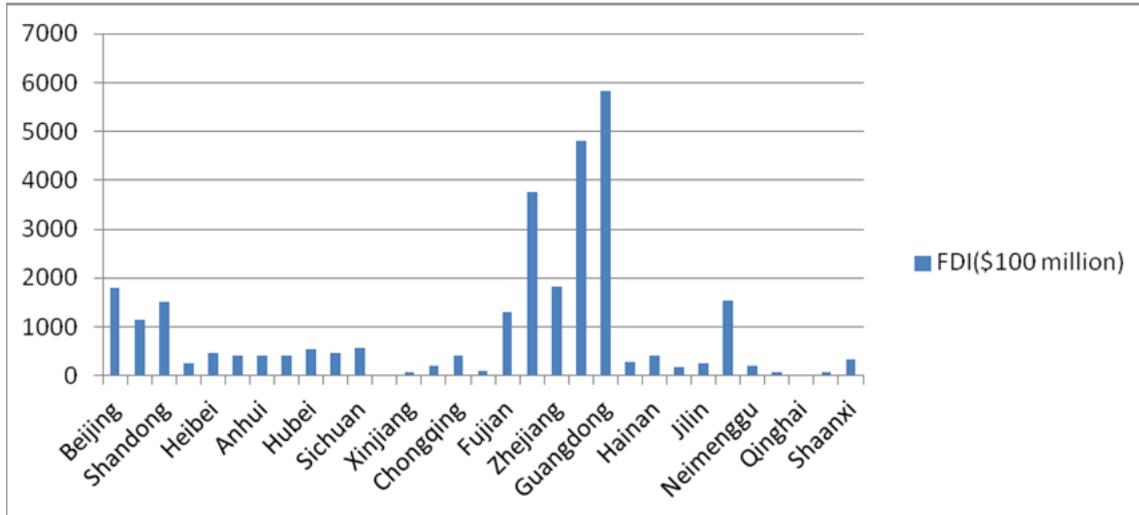


Figure 2. Provincial average annual FDI over 1998 to 2019 in China

We create a comprehensive dataset from multiple data sources. The first source is the Annual Census of Industrial Enterprises (ACIE) compiled by the National Bureau of Statistics (NBS) of China. This dataset, based on data collected from annual censuses, covers both domestic and foreign firms with annual turnover of more than five million Chinese Yuan (about US \$60,000), accounting for 85–90% of total output of manufacturing industries in mainland China. ACIE provides detailed information on firm identity, geographic location, establishment year, industry affiliation, ownership structure, employment, and many operational and financial indicators. We include foreign firm only, which is defined to have at least 50% foreign ownership. Due to its compressive coverage, ACIE has been used in many economics and IB studies (Buckley *et al.*, 2002; Ma *et al.*, 2013), which have shown its reliability and internal consistency.

Data on province-level happiness comes from the Chinese General Social Survey (CGSS). CGSS was launched jointly by Hong Kong University of Science and Technology and Renmin University in 2003. As one of the earliest national representative continuous surveys in mainland China, CGSS aims to systematically monitor the relationship between social structure and quality of life in China. CGSS follows the same procedure of General Social Survey in the US (www.chinagss.org). We include respondents from cities only because China’s FDI policy does not allow foreign subsidiaries to locate in rural areas.

Data for other province-level control variables are from the Database of China Economic Network except formal institution, which is from National Economic Research Institute (NERI, Wang *et al.*, 2017).

We combine all the datasets together. From the merged data set, we excluded observations with missing values of data required for the empirical analysis. As a result, three

sub-national regions (Qinghai, Tibet and Xinjiang) and two years (2007 and 2009) were dropped from the data set. Our final sample consisted of 88814 firm-year observations from 2006 to 2013. Our data set is an unbalanced panel, the use of which is common in prior economics and IB research.

IV. VARIABLES AND MEASURES

We estimated a linear regression model to investigate how happiness influences the performance of foreign subsidiaries. The dependent variable y_{ijt} is foreign firm performance. Following the literature of IB, we use return on asset (ROA) as primary measurement of performance ($ROA_{ijt} = \frac{Net\ Profit_{ijt}}{asset_{ijt}}$, where ROA_{ijt} is the net profit over total sales of foreign firm i in region j in the year t). This is a financial measure widely used in the IB literature (Hu and Lin, 2019; Ma *et al.*, 2013).

The key independent variable is the average level of happiness of a sub-region. We use the data on happiness from CGSS. CGSS asks the respondents the following questions: "How do you feel about your life? You feel that your life is: 1. Very unhappy; 2. Unhappy; 3. Average; 4. Happy; 5. Very happy". For instance, if the respondent chooses "very happy", the recorded number is "5". Therefore, the variable measuring each individual's happiness level takes five values from one to five, the interpretation of which is consistent with the survey questions. For instance, if this variable is equal to 1, it means that this respondent feels very unhappy. We aggregate the original GSS data at the individual level to the provincial level and obtain the happiness variable used in the regression model. That is, $Happiness_{jt}$ is equal to the average value of the individual happiness level in region j in year t .

To test Hypothesis 2 and Hypothesis 3, we include two interaction terms in the regression model. One interaction term testing Hypothesis 2 is between happiness and domestic ownership, which is defined to be the ratio of shares held by domestic firms to all shares in a foreign firm. The other one between happiness and firm age tests Hypothesis 3. Firm age is measured by the number of operation years since its establishment.

There are two groups of control variables. The first group contains industry fixed effects and firm level variables X_{it} , including domestic ownership, firm age, firm size, financial leverage, and export intensity. The size of firm certainly affects its performance. Larger firms usually possess a larger stock of managerial and financial resources and capabilities. Moreover, large firms can enjoy economies of scale and have more bargaining powers when dealing with upstream and downstream business partners. Nevertheless, the size effect may not be monotonic as there is a natural limit on the amount of the benefits of size described above. Some studies (e.g., Haveman, 1993; Shinkle and Kriauciunas, 2010) have found that size has a diminishing rate of effect on firm performance. Accordingly, we predict that the benefits of size will diminish as size increases. We measure firm size by firm's number of employees. The literatures suggest a diminishing rate of benefit of age as well (Shinkle and Kriauciunas, 2010) since after foreign subsidiaries acquire the necessary local knowledge, benefits of age will be limited. To capture these nonlinear effects of age and size on performance, we include the square term of these two

variables as well. Both age and size variables are log-transformed. Organizational slack resources can serve as a buffer against risk and allow firms to better adapt to complex competitive environments, and hence positively affect firm performance (e.g., Tan and Peng, 2003). In our paper, it is operationalized with the leverage variable, which is the ratio of total debt to total assets. To capture a firm's international activities through export, we include export intensity, which is measured as the ratio of export sales to total sales.

The second group contains the regional level control variables Z_{jt} , including regional income, formal institutions, GDP growth rate, population density and whether the region enjoys preferential policies. Regional income, which measures the local labor cost, is equal to logarithm of the average wage in a region. We measure formal institution using the marketization index developed by NERI. To represent preferential policies, we create a dummy variable and let it equal to 1 if a region has at least one Opening Coastal City or Special Economic Zone and 0 otherwise. Table I reports the definitions and descriptive statistics of all the variables. The table shows that there is enough variation in firm performance and happiness levels. There are two sources of variations in the combined data: time variation (measurements of ROA and happiness change over time) and cross-sectional variation (measurements of ROA and happiness vary across firms and regions, respectively).

TABLE I. DEFINITION OF THE VARIABLES AND SUMMARY STATISTICS

Variable	Measurement	Data source	Observation	Mean	Std. Dev.
ROA	return on asset	ACIE	88814	0.08	0.26
Happiness	the provincial mean of recorded choices of individual respondents	CGSS	88814	3.74	0.23
Domestic	ratio of shares held by domestic firms to all shares in a foreign firm	ACIE	88814	0.06	0.14
Firm age	the number of years since established	ACIE	88814	2.12	0.61
Firm size	the number of employees	ACIE	88814	2947767	6007352
Leverage	the ratio of debt to asset	ACIE	88814	0.49	1.09
Export intensity	the ratio of export sale to total sale	ACIE	88814	0.42	3.14
Sub-national institution	marketization index developed by the National Economic Research Institute	Wang et al., 2017	88814	8.49	1.36
Average wage	Average annual wage of workers	China census	88814	42442	17852
Population density	10,000 people per square kilometers	China census	88814	0.35	0.11
GDP growth rate	(GDP of this year-GDP of last year)/ GDP of last year*100%	China census	88814	1.11	0.02
Preferential policy dummy	1 if firm is located in a coastal region or Special Economic Zone, 0 otherwise.	China census	88814	0.69	0.46

V. RESULTS

In this section, we report the empirical results of hypothesis testing. Despite that a large number of control variables at the regional level, industrial-level and firm-level are included in the regression model, there may still be omitted variables causing endogeneity. This is because

there are some unobserved factors affecting both foreign firm performance and happiness in a particular region. We attempt to address this issue by using the instrumental variable approach. We use regional sunshine as an instrument variable for happiness. We believe that this is a valid instrument variable for the following reasons. First of all, sunshine is in principle unlikely to affect foreign firm performance directly. Secondly, there are studies

providing evidence that weather affects happiness positively (Becchetti *et al.*, 2007; Guven, 2012; Rehdanz and Maddison, 2005). For instance, Rehdanz and Maddison (2005) demonstrate that climate variables have a powerful effect on self-reported levels of happiness. Becchetti *et al.* (2007) document the significant links between climatic factors and happiness. To study how happiness affects consumption and savings behavior, Guven (2012) uses regional sunshine as an instrument for personal happiness because sunshine improves happiness significantly. Furthermore, the first-stage estimation result shows a significant and positive correlation between happiness and sunshine (coefficient=0.408), suggesting that weak identification is not a problem. The regression results for the two stage least squares (2SLS) regression are reported in Table II.

In Table II, Model 1 includes the key variable of interest *Happiness* and all control variables. Hypothesis 1 predicts a positive effect of happiness on foreign firm performance. Consistent with Hypothesis 1, the coefficient of happiness is positive and statistically significant, suggesting that happiness is positively correlated with foreign firm performance. In terms of the economic significance of the happiness effect, we find that a one-standard-deviation increase in happiness will lead to a 2.3% increase in firm ROA. As shown in Table I, the mean value of ROA is 8% and thus 2.3 % increase in firm ROA suggests an 18.4% increase in the mean ROA. This is a non-trivial amount of economic significance to foreign subsidiaries.

We next consider the interaction terms. In Models 2–3, we add the interaction terms between happiness and the moderators to test the moderating effects. In Model 2, the coefficient for the interaction term between happiness and

firm age is negative and significant as expected, and hence Hypothesis 2 is supported. As expected, Model 3 shows that the coefficient of the interaction term between happiness and domestic ownership is significantly negative, suggesting that happiness has a smaller positive effect on foreign firm performance as domestic ownership increases. The full model in the last column includes both interaction terms and the conclusions remain the same to a great extent. The signs of most control variables' coefficients are consistent with our expectations. As expected, domestic ownership has a positive and significant coefficient, suggesting that domestic ownership helps foreign subsidiaries to successfully operate in host countries. The age and age-squared variables both have expected signs and are significant in all the models, suggesting that firm age has a diminishing positive relationship with foreign firm performance. The U-shaped relationship with foreign firm performance, however, does not hold for size. The results on size and size squared variables are mixed. Only in model 1 and model 2, the coefficients of the square term of size are significant. Besides, the magnitude of the squared size is very small (close to zero). For all the models, the financial leverage is negatively associated with foreign firm performance. In contrast, export intensity is positive but insignificant in all four models. For the regional level control variables, foreign subsidiaries operating in areas with high GDP per capita have better performance. The regional labor cost measured by the average wage has a statistically significant and negative effect on foreign firm performance. The coefficients of population density and preferential policy are however insignificant.

TABLE II. HAPPINESS AND THE PERFORMANCE OF FOREIGN SUBSIDIARIES

VARIABLES	(1) ROA	(3) ROA	(2) ROA	(4) ROA
happiness	0.099*** [0.013]	0.247*** [0.057]	0.110*** [0.015]	0.256*** [0.057]
happiness*age		-0.069*** [0.024]		-0.068*** [0.024]
happiness*domestic ownership			-0.250* [0.128]	-0.246* [0.129]
age	0.056*** [0.006]	0.303*** [0.085]	0.055*** [0.006]	0.298*** [0.085]
age2	-0.017*** [0.001]	-0.015*** [0.002]	-0.017*** [0.001]	-0.015*** [0.002]
domestic ownership	0.051*** [0.005]	0.051*** [0.005]	0.989** [0.479]	0.972** [0.480]
size	0.007*** [0.002]	0.004 [0.002]	0.007*** [0.002]	0.004* [0.002]
size2	-0.000*** [0.000]	-0.000 [0.000]	-0.000*** [0.000]	-0.000 [0.000]
export intensity	-0.001	-0.001	-0.001	-0.001

	[0.001]	[0.001]	[0.001]	[0.001]
leverage	-0.122***	-0.122***	-0.122***	-0.122***
	[0.005]	[0.005]	[0.005]	[0.005]
institution	-0.008***	-0.008***	-0.008***	-0.008***
	[0.001]	[0.001]	[0.001]	[0.001]
GDP growth	0.424***	0.451***	0.417***	0.443***
	[0.057]	[0.058]	[0.057]	[0.059]
regional labor costs	-0.029***	-0.030***	-0.024***	-0.025***
	[0.008]	[0.008]	[0.009]	[0.009]
population density	-88.339	-93.113	-73.239	-78.201
	[115.334]	[115.531]	[117.011]	[117.231]
preferential policies	-0.002	-0.003	0.000	-0.001
	[0.003]	[0.003]	[0.003]	[0.003]
year fixed effects	yes	yes	yes	yes
industry fixed effects	yes	yes	yes	yes
Observations	88,814	88,814	88,814	88,814
R-squared	0.277	0.276	0.276	0.275

Note: Robust standard errors are reported in the bracket. *** p<0.01, ** p<0.05, *

In Fig. 3a and Fig. 3b, we illustrate the combined impact of the main effect of happiness and its interaction effects. Impact is measured with three different levels of happiness and three different levels of age or domestic ownership. The levels of happiness correspond roughly to the mean, the mean plus and minus one standard deviation (i.e., 3.74, 3.97 and 3.51). Similarly, the levels of age are 2.12, 2.73 and 1.51, corresponding to the mean, the mean plus and minus one standard deviation as well. When a region's happiness level is 3.51 and its age is 2.12, the firm's ROA increases by 35.35%. For the same happiness level, when age increases to 2.73, a firm's ROA increases only by 20.58%. As for the levels of domestic ownership, we select a lower bound (0%), the mean level (6.0%), and the mean plus one standard deviation (20%). For instance, when a region's happiness level is 3.51 and a firm's domestic ownership is 0%, the firm's ROA increases by 38.61%. For the same level of regional happiness, with a domestic ownership of 20% instead, a firm's ROA increases by 21.06% only.

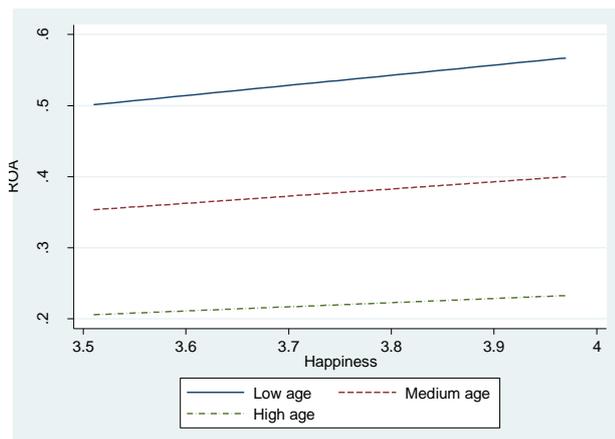


Figure 3a. Graphical interpretations of the moderating effect of age

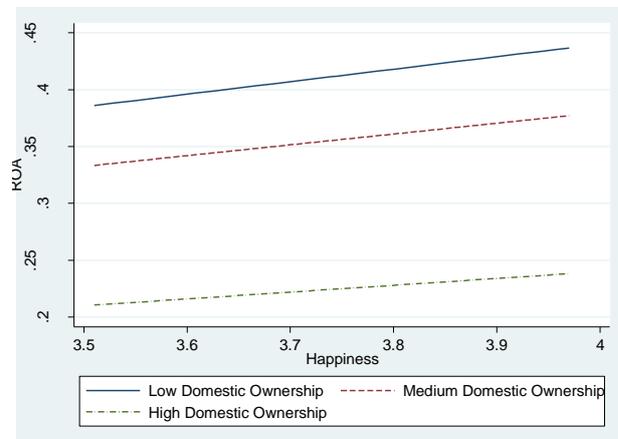


Figure 3b. Graphical interpretations of the moderating effect of domestic ownership

VI. CONCLUSION

Our study is among the first to examine the impact of happiness at the sub-national level on performance of foreign subsidiaries in a host country. We contribute to the literature in several ways. First, we extend the literature on international business environments by examining the effects of emotion, a critical yet under-studied area, on foreign firm performance. Researchers from a variety of academic disciplines strongly agree that emotions are highly relevant for organizational behavior and business activities). In spite of its importance, the role of emotion in international business is a relatively neglected area. Interest in emotion research is relatively recent among international business scholars. Our results provide evidence that positive emotions like happiness can serve as a complexity-reducing mechanism for social interactions at workplace and thus improve performance of multinational enterprises. Further, we find that

happiness has a smaller impact on performance of foreign subsidiaries with a longer length of operation or with a higher level of domestic ownership.

Secondly, we enrich the prior sub-national studies. The relevant literatures have examined how a variety of sub-national factors including culture, institutions, economic development and other geographic characteristics affect performance of foreign subsidiaries (Castellani *et al.*, 2013; Goerzen *et al.*, 2013; Sun *et al.*, 2015). But none of these studies explore the “human” side factors. We fill the gap in this literature by exploring the role of emotion in foreign firm performance in highly heterogeneous sub-national regions of a large transitional economy.

There are some directions for the future research. First, due to data availability, the sample period used in this paper is from 2006 to 2013. It would be useful to update the dataset in the future. In addition, this paper focuses on a single country, that is, China whose culture and history may drive our results. Future studies should try other empirical settings to confirm generalization of our conclusions. Second, future research will benefit from using more measurements for happiness and firm performance. Given data limitation, we only use one single measurement for the key variables of interest. Finally, it would be important for future studies to further explore the specific mechanism through which happiness improves firm performance.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

AUTHOR CONTRIBUTIONS

This paper was written by a single author, who did all the related work.

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