Received 18 January 2021
Revised 28 May 2021
21 July 2021
Accepted 11 September 2021

Which formula for corporate risk-taking around the world? Exploring happiness as the "black box"

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Abstract

Purpose – This paper examines how the degree of happiness affects corporate risk-taking and the moderating influence of family ownership of firms on this relationship.
Design/methodology/approach – The authors use an international sample of 17,654 firm-year observations from 24 countries around the world from 2008 to 2016.
Findings – Using the happiness index from the World Happiness Report developed by the United Nations Sustainable Development Solutions Network, the authors show that a country's overall happiness is negatively correlated with risk-taking behavior by firms. The findings are robust to an alternative measure of risk-taking by firms. Further analyses document that the negative influence of happiness on firm risk-taking is more pronounced for family-owned firms.
Practical implications – The paper is consistent with the notion that happier people are likely to be more risk-averse in making financial decisions, which, in turn, reduces corporate risk-taking.
Originality/value – This study contributes to the broad literature on the determinants of corporate risk-taking and the growing literature on the role of sentiment on investment decisions. The authors contribute to the current debate about family-owned firms by demonstrating that the presence of family trust strengthens the negative influence of happiness on corporate risk-taking, a topic that has been unexplored in previous studies.

Keywords Happiness, Risk-taking, Family firms
Paper type Research paper

1. Introduction

Corporate risk-taking is the amount of volatility associated with expected outcomes and cash flows as a result of new investments (Wright *et al.*, 1996). Corporate risk-taking has significant implications for firm growth, performance, and survival (Bromiley, 1991). An extensive body of literature has investigated the determinants of corporate risk-taking decisions. Most of this research has concentrated on explaining risk-taking behavior from a firm-level perspective. However, relatively little is known about how country-level factors such as happiness shape corporate risk-taking. We fill this gap in the current literature by investigating whether and how happiness in a given country affects firms' risk-taking.

Emerging studies show that local characteristics (e.g. culture, religiosity, societal trust) play a crucial role in shaping firm behavior (Chen *et al.*, 2015; Dudley and Zhang, 2016). Because an individual's decision-making is often influenced by the behavior of a local peer

JEL Classification — G32, G34, M48

Journal of Asian Business and Economic Studies
Vol. 29 No. 4, 2022
pp. 242-262
Emerald Publishing Limited
2515-964X
DOI 10.1108/JABES-01-2021-0009

community, decisions are susceptible to the impact of the local environment and culture (Chuluun and Graham, 2016). Prior research on managerial risk-taking behavior confirms that managerial risk-taking propensities vary depending on affective states (Loewenstein, 2000; Kirchsteiger *et al.*, 2006; Card and Dahl, 2011). We investigate the impact of local happiness on corporate risk-taking. Since mood and affect, as well as overall well-being, influence decision-making, the emotional state of company decision-makers can have an effect on corporate decisions. In the corporate finance setting, it has been documented that certain biases and characteristics of managers, such as optimism and overconfidence, influence risk-taking by firms (Malmendier and Tate, 2008; Galasso and Simcoe, 2011; Kim *et al.*, 2016). Chuluun and Graham (2016) show from US data that local happiness encourages research and development activity. The commonality of these previous studies is that they were conducted in single-country settings. As such, they do not enable us to identify the country-level drivers of corporate risk-taking or explain from where the observed cross-country variations in the level of corporate risk-taking could stem. We extend these studies by examining international evidence on the impact of happiness on corporate risk-taking in 24 countries worldwide.

Using five indexes of happiness from survey data published in the World Happiness Report, we conduct a principal component analysis and retrieve the first component, which captures the largest variation of the five original indexes that measure the level of happiness. Using a sample of 17,654 firm-years from 3,254 firms incorporated in 24 countries, we find that firms in happier countries engage in less risk-taking. Second, our results also reveal that the negative effect of happiness on corporate risk-taking is more pronounced for family-owned firms, which is consistent with the view that family trust strengthens managers' emotion on investment decisions.

This study contributes to the broad literature on the determinants of corporate risk-taking (Nguyen, 2011b; Huang and Wang, 2015; Gupta and Krishnamurti, 2018; Chatjuthamard *et al.*, 2020) and the growing literature on the role of sentiment in investment decisions (Guven and Hoxha, 2015; Kaplanski *et al.*, 2015; Lane, 2017). Heo *et al.* (2018) examined the influence of happiness on investment decisions, as measured by capital expenditures and spending on research and development. Guven and Hoxha (2015) used shine as a measure for investors' happiness and documented that happier people are likely to be more risk-averse in financial decisions and that they tend to choose safer investments to reduce risk. However, these authors employed survey data of individuals; extensive evidence on whether the level of happiness mitigates or exacerbates risk exposure at the firm-level in the nonfinancial sector does not yet exist. Going beyond existing studies, ours is the first paper documenting international evidence on the relationship between corporate risk-taking and the level of happiness at the country-level in a sample of 24 countries from around the world. We explore the "black box" of happiness as an effective vehicle to reduce risk-taking by firms around the world.

We also contribute to the current debate on the effect of ownership structure, family ownership in particular, on corporate policies. Existing studies reveal the benefit of family firms in improving investment efficiency via the lower cost of debt (Anderson *et al.*, 2003). Others suggest that family ownership may harm shareholder value because family-owned firms exhibit higher agency costs (Eugster and Isakov, 2019), bear a higher interest rate on loans (Chiu and Wang, 2019), or face financial restrictions (Murro and Peruzzi, 2019). We explore the crucial role of family trust in reducing firm risk-taking by introducing the interactions between happiness and family ownership. In this setting, we contribute to the current debate about the role of family-owned firms by demonstrating that the presence of family trust strengthens the negative influence of happiness and firm risk-taking, which are unexplored in prior studies.

The rest of the paper is organized as follows. Section 2 reviews the literature and develops hypotheses. Section 3 explains the data selection and methodology. Section 4 reports the

empirical results and a cross-sectional analysis. Section 5 conducts robustness checks. Section 6 gives a conclusion.

2. Literature review and hypothesis development

2.1 Happiness and corporate risk-taking

Happiness is defined as the state of the experience of joy, contentment, or positive well-being, combined with a sense that one's life is good, meaningful, and worthwhile. The feeling of happiness also relates to what one expects about the future. Many research in the psychology literature demonstrate that happiness influences human behavioral decisions (Iaffaldano and Muchinsky, 1985; Kahneman and Krueger, 2006; Clark *et al.*, 2008). In terms of economic works, Kaplanski *et al.* (2015) suggest that an individual feeling well because they can expect to receive high payoffs in the future may spend more money on consumption or allocate more money toward investments rather than savings. In contrast, others look forward to living longer and presumably have stronger incentives to allocate money to savings accounts, rather than investing in risky assets (Guven and Hoxha, 2015). Thus, the question whether different happiness levels may be correlated, on average, to more or less risk-taking remains unanswered.

In recent years, the economics of happiness, particularly the role of national happiness indicators, has been a growing concern of researchers. Within organizational scholarship, happiness should be explored and examined in corporate studies for two reasons. Firstly, happiness has been recently measured by different approaches with a variety of key variables (see Tofallis, 2020 for a review of national happiness) that represent a synergistic effect on national happiness rather than acting as independent indicators. Thus, some researchers point to the limitations of GDP or GNP per capital to understand macroeconomic conditions, and they suggest considering Gross National Happiness as an alternative measure (Dixon, 2006; Bates, 2009). Secondly, happiness should be considered as a societal outcome of social support, public health, and economics. There may be a linkage between national happiness and corporate activities (Chan *et al.*, 2000; Chia *et al.*, 2020) because happiness, as conceptualized in psychological science, may affect stakeholders and managerial behavior in ways that strongly relate to corporate performance as well as corporate decisions.

There are conflicting studies addressing the impact of emotions on financial risk tolerance. There is evidence that people who are experiencing happy emotions are less risk tolerant, presumably to prevent prospective losses and to safeguard their high mood states, according to the "mood maintenance" theory (Isen and Patrick, 1983; Isen *et al.*, 1988). Isen and Patrick (1983) discovered that individuals' responses to risk stimuli vary depending on the stakes of the gamble: when presented with high stakes, persons in a positive state are more risk-averse in order to prevent huge losses. On the other hand, consistent with the affect infusion model, mood plays a more essential part in making assessments in extremely unclear situations and/or in the absence of a trustworthy source of information (Forgas, 1995). Johnson and Tversky (1983) indicate that affect impacts probability judgments in such a way that negative emotions elicit pessimistic risk assessments, resulting in reduced risk tolerance, and good emotions elicit optimistic risk assessments, resulting in increased risk taking. Kuhnen and Knutson (2011) also provide robust evidence that positive emotions such as excitement motivate people to take more risks while negative emotions such as anxiety discourage it.

Prior studies document two contrasting hypotheses to interpret the relation between happiness and corporate risk-taking. On the one hand, happier people are more likely to engage in risky projects than less happy people. Nygren *et al.* (1996) found that optimistic people tend to overestimate the chances of winning compared to those of losing, thereby

allocating more resources to risky assets, resulting in higher risk-taking. Recently, Ferris *et al.* (2017) have found that CEOs in social capital areas increase the riskiness of specific corporate investment and financial policies. Specifically, they invest in highly risky projects such as *R&D* activity, corporate diversification, financial leverage, and asset liquidity, which, in turn, create higher volatility in future stock returns and earnings.

On the other hand, other studies support the negative impact of happiness on firm risk-taking. From an executive's perspective, managers in highly happy countries take fewer risks because they want to keep their "quiet life" longer and wish to reduce the cost of mistakes that may disrupt the status quo. Guven and Hoxha (2015) document that people in happier regions tend to hold life insurance, savings accounts, and operating assets instead of stocks or bonds. From a corporate perspective, our argument is hinged on the view that happier countries are characterized by higher connectedness and higher societal trust, which lessen agency issues. Under the presence of severe agency conflicts, a firm's managers tend to act in their own interests, leading to high risks and harm to enterprise growth (Wu, 2005). Therefore, the efficiency of corporate investment tends to be worse in terms of the long-term sustainability of productivity, resulting in a higher probability of risk. Happiness may increase the connections between managers and shareholders, making firms less likely to take risks. Cao *et al.* (2016) found evidence that societal trust reduces stock price crash risk because managers have fewer incentives to hide bad news. From the perspective of both executives and the business environment, we hypothesize that happiness and corporate risk-taking are negatively correlated. We therefore propose our first hypothesis as follows:

H1. Happiness is negatively associated with corporate risk-taking.

2.2 The moderating effect of family ownership

Ownership structure plays a crucial role as a corporate governance mechanism that helps to minimize agency costs arising from the separation of principal and agent (Jensen and Meckling, 1976; Shleifer and Vishny, 1986). Agency conflicts occur when managers' goals, preferences, and interests are not aligned with those of the firm's owners. Consequently, an agency problem directly affects a firm's decisions, which, in turn, affects firm risk significantly. The high concentration of family ownership of firms around the world (La Porta *et al.*, 1999) allows firms to mitigate agency conflicts through alignment of management incentives. If a founder has a strong desire to involve in other family members, family trust creates better connections and firm performance in the long-run, such that family-owned firms are less likely to engage in risk-taking. We expect that the negative effect of happiness on corporate risk-taking is more pronounced for family-owned firms.

A few studies show evidence that family ownership may lessen risk-taking by firms (Jiang *et al.*, 2015; Boubaker *et al.*, 2016; Lee *et al.*, 2018). Boubaker *et al.* (2016) argue that French family firms with a large controlling shareholder take less corporate risk. Morck and Yeung (2003) conclude that family owners may behave in a risk-averse manner because they hold an undiversified portfolio, resulting in firms avoiding riskier projects. Poletti-Hughes and Williams (2019) stress that perpetuating the family entity could persuade owners to make conservative strategic decisions regarding risk that belie value maximization principles. Consequently, family controllers prefer to avoid potential losses and accept fewer risks. Based on the above argument, our second hypothesis posits a moderating role for family ownership in the relationship between happiness and corporate risk-taking as follows:

H2. The negative effect of happiness on corporate risk-taking is more pronounced for family-owned firms.

3. Methodology

3.1 Sample section

We collect accounting data for the period between 2008 and 2016 from the *Orbis* database owned by *Bureau van Dijk*. The data on the happiness index are from the World Happiness Report [1]. Macroeconomic variables are retrieved from the World Bank's World Development Indicators. We processed the sample by: (1) excluding financial and utility firms (SIC codes 6000–6999 and 4900–4999) because these firms are typically regulated, which limits the role of their directors in influencing risk-taking (Gopalan *et al.*, 2021); (2) excluding enterprises with incomplete indicators and information; and (3) winsorizing all continuous firm-level variables at the 2nd and 98th percentiles to lessen outliers. The final sample includes 17,654 firm-year observations (3,254 unique firms) from 24 countries during 2008–2016.

3.2 Measurement of happiness

Our main independent variable is the happiness index across countries. Following Tofallis (2020) and Heo *et al.* (2018), we first use five indicators of the happiness index from the World Happiness Report as measures of happiness, namely, *LIFE LADDER, SOCIAL SUPPORT, FREEDOM DECISIONS, GENEROSITY,* and *CORRUPTION PERCEPTIONS*. A higher score for these variables (except *CORRUPTION PERCEPTIONS*) indicates higher perceived happiness for people in the host country. For consistence, we multiple the original index of *CORRUPTION PERCEPTIONS* by −1. By this way, higher values of these indexes denote higher perceived happiness. A detailed description of these indicators is provided in Appendix. In addition, we also conduct a principal component analysis (PCA) to construct an aggregate index that represents the overall level of happiness. Specifically, we use the first principal component as the single linear combination of the happiness indicators that explains most of the variations we see in these indicators.

Table 1 shows the PCA for the happiness index. As shown in Panel A, the eigenvalue of the first component is 2.818, greater than the cut-off value of 1. This factor explains 56% of the sample variance. We then create an index of happiness level using the weights in Panels B and C of Table 1 assigned to the first principal component. The calculation is as follows:

$$Happiness\ Index(H\_INDEX) = \sum_{1}^{n} w_{ij} * X_i \tag{1}$$

where w_{ij} are the component loadings or weights, and X_i are the original variables. In other words, the *H_INDEX* is as follows:

$$\begin{aligned} H\_INDEX = {} & 0.5383^{*}\, LIFE\ LADDER + 0.4569^{*}\, SOCIAL\ SUPPORT \\ & + 0.4553^{*}\, FREEDOM\ DECISIONS + 0.3075^{*}\, GENEROSITY \\ & + 0.4469^{*}\, CORRUPTION\ PERCEPTIONS \end{aligned} \tag{2}$$

3.3 Model

To reduce the bias due to potential endogeneity problems, we employ the two-step system generalized method of moments (GMM) estimator of Blundell and Bond (1998) to estimate all specifications. Specifically, we estimate a panel regression as follows:

$$\begin{aligned} R\&D_{i,j,t} = {} & \alpha + \beta_1 R\&D_{i,j,t-1} + \beta_2 Happiness_{j,t} + \eta' Firm_{i,j,t} + \rho' Country_{i,j,t} \\ & + Country\ FEs_j + Year\ FE_t + \varepsilon_{i,j,t} \end{aligned} \tag{3}$$

Panel A. Factor analysis

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	2.81823	1.86278	0.5636	0.5636
Comp2	0.955457	0.293719	0.1911	0.7547
Comp3	0.661738	0.222629	0.1323	0.8871
Comp4	0.439109	0.313648	0.0878	0.9749
Comp5	0.125461		0.0251	1.0000

Panel B. Factors matrix

Variable	Comp1	Comp2	Comp3	Comp4	Comp5
LIFE LADDER	0.5383	−0.2780	0.1380	−0.2519	0.7419
SOCIAL SUPPORT	0.4569	−0.4092	0.5582	0.1426	−0.5402
FREEDOM DECISIONS	0.4553	0.3421	−0.2203	0.7849	0.1054
GENEROSITY	0.3075	0.7871	0.3087	−0.4177	−0.1274
CORRUPTION PERCEPTIONS	0.4469	0.1369	0.7249	0.3546	0.3611

Panel C. Rotated factor loadings

Variable	Comp1	Unexplained
LIFE LADDER	0.5383	0.1834
SOCIAL SUPPORT	0.4569	0.4117
FREEDOM DECISIONS	0.4553	0.4159
GENEROSITY	0.3075	0.7336
CORRUPTION PERCEPTIONS	0.4469	0.4372

Note(s): Panel A: This panel shows how much of total variations can be explained by each principal component. Panel C: A pattern matrix offers a clearer picture of the relevance of each variable in the factors

Table 1. Principal component analysis

where *i, j, t* represent firm, country, and year, respectively. *R&D,* the ratio of research and development expenditures to total assets, is a measure of risk-taking (Coles *et al.*, 2006; Bargeron *et al.*, 2010). Higher *R&D* is associated with higher risk-taking by firms. $Happiness_{j,t}$ captures six measures of the happiness level, including *H_INDEX, LIFE LADDER, SOCIAL SUPPORT, FREEDOM DECISIONS, GENEROSITY,* and *CORRUPTION PERCEPTIONS*.

$Firm_{i,j,t}$ consists of a set of firm-level control variables, including *SIZE, FIRM AGE, CAPEX, SALES GROWTH, LEVERAGE, R&D,* and *FIXED*. We include the natural logarithm of total assets (*SIZE*) and the natural logarithm of the number of years since incorporation (*FIRM AGE*) to capture information asymmetry and systematic variation in a firm's risk related to its life cycle (Guay, 1999; Coles *et al.*, 2006; Houston *et al.*, 2010). We include *CAPEX*, which is capital expenditure net of sales of property, plant, and equipment, scaled by assets. Coles *et al.* (2006) indicate that higher *CAPEX* is associated with lower firm risk. Faccio *et al.* (2011) indicate that firms with high growth options are more likely to engage in risky projects. We introduce *SALES GROWTH* as the growth rate of sales. Highly leveraged firms are more likely to be risk-takers (Huang and Wang, 2015; Gande and Kalpathy, 2017). We add *LEVERAGE*, which is the proportion of total long-term debt scaled by total assets. Nguyen (2011b) indicates that firms with higher fixed assets have higher relative idiosyncratic risk. We include *FIXED*, which is the ratio of net property, plant, and equipment to total assets.

$Country_{j,t}$ refers to macroeconomic control variables. We include a rule-of-law index (*RL*) to control for changes in the quality of the legal environment over time (Porta *et al.*, 1998). We also include a shareholder protection index (*SP*) to capture national governance quality

because John *et al.* (2008) found that better shareholder protection is positively associated with risk-taking by firms. In addition, we use the inflation rate (*INFLATION*) as a proxy for monetary uncertainty and GDP per capita (*CAPITA*) as a proxy for fluctuations in economic outcomes. *Country FEs* and *Year FEs* are a set of country and time dummies to control for country and time fixed effects. Detailed definitions of the variables are reported in the Appendix.

Our main coefficient of interest is β_2, which reflects the influence of happiness on risk-taking by firms. If higher happiness leads to firms taking less risk, we conjecture that β_2 becomes negative and significant.

4. Empirical results

4.1 Descriptive statistics

Table 2 reports the summary statistics for happiness measurement, firm risk-taking, and family ownership of firms across countries in our sample. Overall, Norway is the happiest country, whereas India exhibits the lowest happiness index (*H_INDEX*) score. In addition, we observe that firms in Australia and Canada have the highest *R&D* investment, whereas firms in Vietnam and the Philippines are less likely to invest in *R&D* activity. In terms of ownership structure, we find that 67.5% of firms in South Korea are defined as family-owned firms. In contrast, family firms account for a small proportion in Canada, the UK, and Norway.

Table 3 shows descriptive statistics for all variables in our regressions. We find that the mean of *R&D* is 2.5%. The mean of the standard deviation of ROE using a rolling three-year window is 0.228. Regarding the happiness index, we find that the mean of *LIFE LADDER* is 6.099 out of 10, with a standard deviation of 0.638. In terms of control variables, the mean of *Size* for the whole sample is approximately 10.65. The mean and standard deviation of *Firm Age* are 3.077 and 0.601, respectively. Capital expenditures account for 15.5% of total assets. The growth in sales over the period is about 15.1% per year. Firms in our sample have an average leverage ratio of 11.9%. For country-level variables, this sample reveals that the mean value of the annual inflation rate is 2.3%, calculated by the GDP deflator, while the countries' average GDP per capita after taking the natural logarithm is 10.19.

Pairwise correlation values between variables are provided in Table 4. The correlation between *H_INDEX* and *R&D* is negative and statistically significant at the conventional level, indicating a negative effect between happiness and firm risk-taking. It is easy to find that the correlations between the happiness indexes are high. To reduce multicollinearity problems, we include these indexes in our regressions separately. Notably, we observe that the correlation between independent variables is low, indicating that potential collinearity is not a major problem in our model.

4.2 Baseline results

Table 5 reports our regression results to test Hypothesis 1. We regress six specifications separately for the six indicators of happiness. These models show that the coefficients of the lag of the dependent variable ($R\&D_{t-1}$) are positive and significant at the 1% level in all specifications. This finding explains the persistence of firm risk-taking and justifies the use of dynamic panel analysis in this study. We find that the coefficients on the dimensions of happiness are negative and statistically significant at the conventional level. As suggested in Model 1, the coefficient of *H_INDEX* is −0.001 and the *t*-statistic = −3.296, indicating that increasing *H_INDEX* by one unit leads to an increase of 1.8% in *R&D*. Similarly, the coefficients on the other dimensions of happiness are also positive and significant at the conventional statistical level. This result is in line with studies that find that people and firms

Table 2. Happiness, firm risk-taking, and ownership structure

	H_INDEX	*LIFE LADDER*	*SOCIAL SUPPORT*	*FREEDOM DECISIONS*	*GENEROSITY*	*CORRUPTION PERCEPTIONS*	*R&D*	*FM20*
Norway	4.829	7.575	0.950	0.952	0.166	−0.373	0.048	0.063
Sweden	4.763	7.396	0.930	0.932	0.163	−0.262	0.039	0.126
Netherlands	4.745	7.446	0.924	0.909	0.300	−0.429	0.026	0.090
Australia	4.730	7.343	0.947	0.933	0.306	−0.389	0.056	0.254
Canada	4.724	7.405	0.932	0.927	0.253	−0.421	0.047	0.000
United Kingdom	4.392	6.840	0.944	0.865	0.336	−0.489	0.034	0.000
United States	4.339	7.059	0.912	0.825	0.210	−0.711	0.045	0.196
Germany	4.293	6.847	0.930	0.887	0.094	−0.561	0.028	0.409
Singapore	4.273	6.533	0.861	0.847	0.091	−0.113	0.031	0.367
France	4.043	6.626	0.910	0.840	−0.117	−0.639	0.014	0.150
Thailand	3.935	6.323	0.899	0.877	0.420	−0.912	0.022	0.454
Spain	3.784	6.330	0.944	0.767	−0.080	−0.848	0.018	0.151
Japan	3.677	6.005	0.911	0.819	−0.122	−0.687	0.034	0.295
Taiwan	3.664	6.163	0.845	0.697	0.014	−0.807	0.031	0.224
Slovenia	3.620	5.915	0.921	0.897	0.007	−0.885	0.014	0.375
Slovakia	3.526	6.022	0.927	0.642	−0.077	−0.914	0.022	0.146
Malaysia	3.506	5.774	0.821	0.808	0.094	−0.836	0.018	0.488
Italy	3.501	6.016	0.900	0.600	−0.036	−0.920	0.013	0.480
South Korea	3.356	5.748	0.765	0.608	−0.028	−0.797	0.032	0.675
Vietnam	3.297	5.352	0.817	0.863	0.000	−0.784	0.006	0.183
Indonesia	3.242	5.269	0.807	0.764	0.369	−0.949	0.011	0.052
Philippines	3.172	5.089	0.814	0.896	0.010	−0.785	0.003	0.124
Turkey	3.100	5.321	0.797	0.553	−0.143	−0.751	0.018	0.355
India	2.681	4.502	0.597	0.776	0.003	−0.828	0.019	0.307
Mean	*3.689*	*6.099*	*0.862*	*0.755*	*0.018*	*−0.755*	*0.025*	*0.306*

Note(s): This table provides the summary statistics of happiness variables, firm-level risk-taking and family ownership by country for the sample of 17,654 firm-year observations from 2008–2016. All variables are defined in Appendix

	N	Mean	St. dev.	P25	Median	P75
Risk-taking variables						
R&D	17,654	0.025	0.043	0.000	0.005	0.239
σ (*ROE*)	17,654	0.228	0.013	0.225	0.226	0.232
Happiness variables						
H_INDEX	17,654	3.689	0.438	3.43	3.666	3.919
LIFE LADER	17,654	6.099	0.638	5.801	6.126	6.467
SOCIAL SUPPORT	17,654	0.862	0.075	0.817	0.879	0.921
FREEDOM DECISIONS	17,654	0.755	0.119	0.677	0.779	0.850
GENEROSITY	17,654	0.018	0.164	−0.099	−0.024	0.072
CORRUPTION PERCEPTIONS	17,654	−0.755	0.169	−0.862	−0.789	−0.647
Control variables						
SIZE	17,654	10.65	1.168	9.850	10.65	11.49
FIRMAGE	17,654	3.077	0.601	2.639	3.091	3.526
CAPEX	17,654	0.155	0.156	0.043	0.098	0.198
SALES GROWTH	17,654	0.151	0.358	−0.111	0.005	0.145
LEVEGARE	17,654	0.119	0.279	0.000	0.015	0.105
FIXED	17,654	0.380	0.672	0.065	0.189	0.436
RL	17,654	0.859	0.716	−0.928	0.788	2.043
SP	17,654	4.351	2.870	1.500	3.500	6.000
INFLATION	17,654	0.023	0.033	0.008	0.013	0.028
CAPITA	17,654	10.19	0.700	10.13	10.47	10.54
Other variables						
FM20	17,654	0.306	0.461	0.000	0.000	1.000

Table 3.
Summary statistics

Note(s): This table shows a summary statistic of all variables. The sample includes 17,654 firm-year observations in 24 countries, covering the period from 2008 to 2016. All variables are defined in Appendix

in happier countries appear to be more risk-averse both in financial decisions as well as in general life decisions. Consequently, they are more likely to choose safer investments. Guven and Hoxha (2015) document that happy people prefer riskless assets to risky ones. For example, people in Germany and the Netherlands tend to own life insurance, savings accounts, and operating assets but are less likely to hold stocks or bonds. The authors further indicate that happy people are more optimistic and expect to live longer; therefore, they take less risk at present they expect better opportunities in the future. Overall, our finding supports Hypothesis 1, indicating that happiness is negatively correlated with corporate risk-taking.

In terms of the control variables, our findings are consistent with prior studies in the literature on risk-taking. For example, larger or more mature firms are associated with less risk-taking, which is consistent with Guay (1999). In contrast, firms with higher capital expenditures, higher sales growth, and higher fixed assets are more likely to take risks. These results are quantitatively similar to those of previous studies (Nenova *et al.*, 2000; Chen *et al.*, 2015; Vural-Yavaş, 2020). Although we expected that firms with high leverage ratios would tend to be risk-taking, we found an insignificant relation between leverage and corporate risk-taking. Consistent with John *et al.* (2008), we document that firms in countries with better rule of law and shareholder protection tend to take more risk.

4.3 The role of family ownership

We now investigate the moderating influence of ownership structure (Hypothesis 2) on the linkage between happiness and corporate risk-taking. To test this hypothesis, we regress the following model:

Table 4.
Pairwise correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1) *R&D*	1.00																
(2) *LIFE*	−0.04***	1.00															
LADDER																	
(3) *SOCIAL*	−0.10***	0.71***	1.00														
SUPPORT																	
(4) *FREEDOM*	0.01	0.43***	0.45***	1.00													
DECISIONS																	
(5)	−0.07***	0.33***	−0.03***	0.29***	1.00												
GENEROSITY																	
(6)	−0.05***	0.41***	−0.16***	−0.39***	0.11***	1.00											
CORRUPTION																	
(7) *H_INDEX*	−0.02***	0.97***	0.71***	0.31***	0.15***	−0.48***	1.00										
(8) *SIZE*	−0.09***	−0.04***	0.12***	−0.04***	−0.08***	0.10***	−0.05***	1.00									
(9) *FIRMAGE*	−0.15***	0.01	0.06***	0.03***	−0.17***	−0.10***	0.01	0.18***	1.00								
(10) *CAPEX*	0.17***	−0.01	0.01	0.05***	−0.06***	−0.09***	0.01	0.03***	0.01	1.00							
(11) *SALES*	0.02**	−0.01	−0.01*	0.01	0.03***	0.04***	−0.01	0.00	−0.11***	0.04***	1.00						
GROWTH																	
(12)	−0.05***	−0.03***	0.02***	0.01	0.03***	0.05***	−0.03***	0.33***	0.02**	−0.09***	0.00	1.00					
LEVERAGE																	
(13) *FIXED*	−0.05***	0.06***	0.12***	0.00	−0.01*	0.00	0.06***	0.39***	0.08***	−0.05***	−0.05***	0.46***	1.00				
(14) *RL*	0.02***	0.44***	0.28***	0.16***	−0.45***	−0.30***	0.39***	0.06***	0.07***	0.13***	−0.07***	−0.03***	0.05***	1.00			
(15) *SP*	0.02**	0.15***	0.17***	−0.25***	−0.51***	−0.15***	0.06***	0.24***	0.09***	0.04***	−0.08***	0.06***	0.14***	0.45***	1.00		
(16)	0.08***	−0.24***	−0.29***	−0.06***	0.35***	0.08***	−0.19***	−0.13***	−0.10***	−0.06***	0.07***	−0.03***	−0.11***	−0.37***	−0.39***	1.00	
INFLATION																	
(17) *CAPITA*	−0.08***	0.42***	0.56***	0.02***	−0.30***	−0.38***	0.45***	−0.03***	0.10***	0.12***	−0.05***	−0.04***	0.06***	0.39***	0.28***	−0.31***	1.00

Note(s): This table provides the correlation coefficient matrix of the main independent variables. The sample includes 17,654 firm-year observations over the period 2008–2016. All variables are defined in Appendix. ***, **, and * indicate significance levels of 1, 5, and 10%, respectively

Table 5.
Happiness and corporate risk-taking

	Dependent variable: *R&D*					
	(1)	(2)	(3)	(4)	(5)	(6)
$R\&D_{t-1}$	0.933*** (42.035)	0.621*** (6.870)	0.967*** (38.130)	0.294*** (26.757)	0.920*** (39.983)	0.945*** (32.378)
H_INDEX	−0.001*** (−3.296)					
LIFE LADDER		−0.003* (−1.675)				
SOCIAL SUPPORT			−0.008** (−1.990)			
GENEROSITY				−0.008*** (−2.919)		
FREEDOM DECISIONS					−0.003** (−2.140)	
CORRUPTION						−0.001** (−2.194)
PERCEPTIONS						
SIZE	−0.010** (−2.237)	−0.005** (−1.765)	−0.001** (−2.175)	−0.009*** (−7.728)	−0.001*** (−2.730)	−0.001* (−1.728)
FIRMAGE	−0.001* (−1.651)	−0.020* (−1.911)	−0.002** (−2.352)	−0.014*** (−7.780)	−0.002** (−1.985)	−0.002* (−1.777)
CAPEX	0.003** (2.494)	−0.057 (−0.925)	0.003** (2.393)	0.139*** (12.974)	0.013* (1.946)	0.010*** (3.316)
SALES GROWTH	0.008*** (3.419)	0.012 (1.375)	0.008*** (3.356)	0.008*** (2.795)	0.009*** (3.941)	0.007*** (3.325)
LEVERAGE	−0.002 (−0.387)	0.001 (0.021)	0.007 (1.307)	0.021** (2.127)	0.001 (0.204)	0.003 (0.597)
FIXED	0.000* (1.709)	0.026*** (4.278)	0.001* (1.697)	0.015*** (5.450)	0.002** (1.991)	−0.000 (−0.208)
RL	0.001* (1.841)	0.001** (2.120)	0.001*** (3.497)	0.003*** (3.006)	0.000 (0.582)	0.002*** (3.681)
SP	0.001*** (3.955)	0.002 (1.413)	0.001*** (4.370)	0.003*** (6.489)	0.001*** (5.841)	0.001*** (4.473)
INFLATION	−0.014 (−1.302)	−0.013 (−0.409)	−0.054*** (−4.824)	0.156*** (5.913)	−0.011 (−0.890)	−0.047*** (−4.435)
CAPITA	−0.000 (−0.486)	0.002 (1.425)	−0.001** (−2.480)	−0.002*** (−3.965)	−0.000 (−0.853)	−0.001* (−1.732)
CONSTANT	−0.005 (−0.631)	0.000 (0.282)	0.007 (0.966)	0.142*** (11.896)	0.012* (1.728)	0.008 (0.972)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
p-value for AR(2) test	0.123	0.200	0.104	0.331	0.434	0.372
p-value for Hansen test	0.488	0.176	0.923	0.919	0.117	0.129
Observations	17,654	17,654	17,654	17,654	17,654	17,654

Note(s): This table reports the results of the influence of happiness on firm risk-taking, estimated by GMM. *R&D* is the dependent variable for all specifications. All variables are defined in Appendix. The values of the *t*-statistics are in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively

$$R\&D_{i,j,t} = \alpha + \beta_1 R\&D_{i,j,t-1} + \beta_2 Happiness_{j,t} + \beta_3 Happiness_{j,t} \times FM20_{i,j,t} + \beta_4 FM20_{i,j,t} + \eta' Firm_{i,j,t} + \rho' Country_{i,j,t} + Country\,FEs_j + Year\,FE_t + \varepsilon_{i,j,t} \quad (4)$$

In Eqn. (4), we introduce interaction terms between *Happiness* and *FM20*, which is a dummy variable that takes a value of 1 if a firm is family-owned using the threshold of 20%, as suggested in prior studies (Nguyen, 2011a; Doan *et al.*, 2020). We also include the same vector of control variables as in the baseline regression. We show the regression results in Table 6. Consistent with our conjecture, we find that all coefficients on the interaction terms are negative and statistically significant at the conventional level. For instance, the coefficient on $H\_INDEX \times FM20$ is −0.002 and significant 1% (t-statistics = −3.580). In terms of economic significance, family-owned firms with a one percent point increase in happiness are associated with an approximately 0.002% lower degree of risk, compared to nonfamily-owned firms. These results are consistent with Eugster and Isakov (2019), who document that family trust may benefit firms in enhancing corporate governance by minimizing agency problems, thereby lowering risk-taking. This finding supports Hypothesis 2, strongly indicating that the negative effect of happiness on firm risk-taking is more pronounced for family-owned firms.

5. Robustness checks

In this section, we confirm our previous findings by using an alternative measure of risk-taking. Following Guay (1999) and Panta (2020), we use the standard deviation of return on equity using a three-year rolling window σ (*ROE*) as an alternative measure of risk-taking. Higher σ (*ROE*) denotes higher firm risk-taking. Table 7 shows the robustness test for happiness and firm risk-taking. The moderating influence of family ownership on the relationship between happiness and firm risk can be seen in the results provided in Table 8. We observe that the coefficients on six measures of happiness load negatively and significantly. The coefficients vary from −0.003 to −0.019. This implies that happiness is negatively associated with corporate risk-taking, consistent with previous findings.

Turning to Table 8, we investigate the moderating role of family ownership in happiness – risk-taking linkage. We show that the coefficients on the interaction terms between family ownership and happiness are negative and significant at the conventional level. The effect also economically significant. The coefficients on the interaction terms range between −0.003 and −0.092. We again confirm this negative effect of happiness on corporate risk-taking is more pronounced for firms with a higher proportion of family ownership.

6. Conclusion

The influence of country-level factors on corporate policies and performance has increasingly gained attention in financial research. Using five different measurements of happiness level from the World Happiness Report, this paper investigates the association between happiness and firm risk-taking in an international sample of 17,654 firm-year observations in 24 countries. Our empirical results indicate that happiness in a given country has a significant negative impact on risk-taking by businesses. In addition, cross-sectional tests show that the presence of family ownership strengthens the influence of happiness on corporate risk-taking, which is consistent with the notion that family trust may benefit firms by reducing agency problems and thereby generating lower risk.

Our paper is the first to study the relationship between country-level happiness and corporate risk-taking. The implications from this paper may not only benefit managers in

Table 6.
Interaction of happiness and family firms

	Dependent variables: *R&D*					
	(1)	(2)	(3)	(4)	(5)	(6)
$R\&D_{t-1}$	0.922*** (36.443)	0.634*** (7.488)	0.997*** (38.157)	0.276*** (24.606)	0.880*** (34.121)	1.450*** (54.433)
FM20	−0.012 (−1.194)	−0.055 (−1.287)	−0.006 (−0.318)	−0.012*** (−4.906)	−0.022*** (−2.659)	−0.017 (−1.175)
H_INDEX (A)	−0.002* (−1.909)					
LIFE LADDER (B)		−0.003 (−0.655)				
SOCIAL SUPPORT (C)			−0.008 (−0.731)			
GENEROSITY (D)				−0.015*** (−2.756)		
FREEDOM DECISIONS (E)					−0.011** (−2.454)	
CORRUPTION PERCEPTIONS (F)						−0.017*** (−2.781)
FM20 × A	−0.002*** (−3.580)					
FM20 × B		−0.011** (−2.331)				
FM20 × C			−0.005** (−2.246)			
FM20 × D				−0.072*** (−4.791)		
FM20 × E					−0.024** (−2.062)	
FM20 × F						−0.018* (−1.899)
SIZE	−0.000 (−0.440)	−0.004 (−0.651)	0.001 (1.131)	−0.009*** (−6.968)	−0.000 (−0.844)	0.003** (2.339)
FIRMAGE	0.003*** (2.809)	−0.020** (−2.053)	0.003*** (2.641)	−0.014*** (−7.198)	0.001 (0.912)	0.013*** (6.330)
CASH	0.028*** (3.522)	−0.045 (−0.774)	−0.006 (−0.752)	0.144*** (11.142)	0.033*** (4.161)	−0.066*** (−4.675)
SALESGROWTH	0.012*** (4.896)	0.005 (0.482)	0.009*** (3.626)	0.005* (1.677)	0.011*** (4.681)	0.004 (0.901)
LEVERAGE	−0.004 (−0.605)	−0.012 (−0.453)	0.001 (0.210)	0.008 (0.748)	−0.005 (−0.949)	−0.017 (−1.464)
FIXED	0.001 (0.832)	0.020 (1.068)	−0.002 (−0.964)	0.017*** (5.923)	0.003** (1.975)	−0.007** (−2.104)
RL	0.003*** (4.948)	0.001 (0.155)	0.002*** (2.800)	0.004*** (3.527)	0.001 (1.566)	0.005*** (4.679)
SP	0.007*** (4.380)	0.000 (1.055)	0.009*** (2.682)	0.012*** (3.739)	0.030*** (5.860)	0.000 (1.288)
INFLATION	0.048*** (4.389)	0.026 (0.804)	0.053*** (4.638)	0.142*** (5.149)	0.005 (0.387)	0.144*** (7.348)
CAPITA	−0.002*** (−3.143)	0.002* (1.833)	−0.001 (−1.300)	−0.002*** (−4.326)	−0.001 (−1.249)	0.001* (1.716)
CONSTANT	−0.001 (−0.101)	0.000 (1.283)	−0.018 (−1.327)	0.140*** (9.890)	−0.007 (−0.904)	−0.103*** (−6.088)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
p-value for AR(2) test	0.293	0.100	0.923	0.237	0.111	0.101
p-value for Hansen test	0.391	0.381	0.102	0.410	0.637	0.482
Observations	17,654	17,654	17,654	17,654	17,654	17,654

Note(s): This table reports the impact of happiness and firm risk-taking conditional on the family ownership, estimated by GMM. *R&D* is the dependent variable in all specifications. All variables are defined in Appendix. The values of the *t*-statistics are in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively

Table 7.
Robustness checks 1

	Dependent variables: σ (*ROE*)					
	(1)	(2)	(3)	(4)	(5)	(6)
σ $(ROE)_{t-1}$	1.347*** (68.207)	1.349*** (68.187)	0.332*** (33.019)	1.342*** (68.534)	0.328*** (32.370)	0.953*** (41.603)
H_INDEX	−0.003*** (−2.933)					
LIFE LADDER		−0.003*** (−3.570)				
SOCIAL SUPPORT			−0.019*** (−2.775)			
GENEROSITY				−0.006* (−1.749)		
FREEDOM DECISIONS					−0.005** (−2.037)	
CORRUPTION						−0.003* (−1.791)
PERCEPTIONS						
SIZE	0.002 (1.374)	0.002* (1.774)	−0.002** (−2.358)	0.001 (1.035)	−0.005*** (−5.169)	0.001 (1.320)
FIRMAGE	0.010*** (6.035)	0.010*** (5.811)	−0.014*** (−9.333)	0.010*** (6.208)	−0.016*** (−10.254)	0.001 (0.830)
CASH	−0.019*** (−4.199)	−0.021*** (−4.671)	0.045*** (9.974)	−0.017*** (−3.412)	0.046*** (10.026)	0.000 (0.039)
SALES GROWTH	0.009** (2.511)	0.009** (2.563)	−0.008*** (−4.120)	0.009*** (2.667)	−0.004 (−1.603)	0.010*** (4.487)
LEVERAGE	0.001 (0.095)	0.000 (0.032)	−0.032*** (−4.233)	0.003 (0.306)	−0.007 (−0.850)	0.006 (1.135)
FIXED	−0.005* (−1.796)	−0.005** (−2.037)	0.013*** (4.839)	−0.005* (−1.848)	0.012*** (4.710)	−0.002 (−1.577)
RL	0.005*** (4.603)	0.005*** (4.248)	0.003*** (2.729)	0.005*** (5.068)	0.003*** (3.006)	0.001** (2.344)
SP	0.003 (1.150)	0.000 (1.003)	0.009*** (6.365)	0.000 (1.270)	−0.011*** (−6.489)	0.004*** (2.787)
INFLATION	−0.118*** (−6.038)	−0.122*** (−6.270)	0.118*** (5.571)	−0.120*** (−6.184)	0.126*** (5.290)	−0.048*** (−4.672)
CAPITA	0.001 (1.472)	0.002** (2.158)	−0.000 (−0.210)	−0.000 (−0.494)	−0.001*** (−2.939)	−0.001 (−1.452)
CONSTANT	−0.057*** (−4.307)	−0.061*** (−4.608)	0.101*** (10.009)	−0.049*** (−3.464)	0.133*** (11.703)	−0.003 (−0.348)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
p-value for AR(2) test	0.291	0.116	0.102	0.140	0.474	0.193
p-value for Hansen test	0.384	0.723	0.111	0.777	0.293	0.118
Observations	12,308	12,308	12,308	12,308	12,308	12,308

Note(s): This table reports the effect of happiness on firm risk-taking, estimated by GMM. σ (*ROE*) is the dependent variable in all specifications. All variables are defined in Appendix. The values of the *t*-statistics are in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively

Table 8.
Robustness checks 2

	Dependent variables: σ (*ROE*)					
	(1)	(2)	(3)	(4)	(5)	(6)
σ (*ROE*)$_{t-1}$	0.931*** (44.829)	0.938*** (45.138)	0.986*** (43.660)	0.287*** (25.937)	0.926*** (41.486)	1.396*** (66.114)
FM20	−0.038*** (−4.035)	−0.039*** (−3.603)	−0.004 (−0.227)	−0.005** (−2.044)	−0.020** (−2.495)	−0.012 (−0.893)
H_INDEX (A)	−0.004*** (−3.837)					
LIFE LADDER (B)		−0.002*** (−2.843)				
SOCIAL SUPPORT (C)			−0.006 (−0.584)			
GENEROSITY (D)				−0.020*** (−3.781)		
FREEDOM DECISIONS (E)					−0.008* (−1.903)	
CORRUPTION PERCEPTIONS (F)						−0.012** (−2.066)
FM20 × A	−0.010*** (−3.906)					
FM20 × B		−0.006*** (−3.506)				
FM20 × C			−0.003*** (−3.152)			
FM20 × D				−0.092*** (−5.971)		
FM20 × E					−0.024** (−2.144)	
FM20 × F						−0.011** (−2.129)
SIZE	0.001* (1.906)	0.001 (1.348)	0.001 (0.966)	−0.007*** (−6.021)	−0.000 (−0.742)	0.003** (2.134)
FIRMAGE	0.001 (0.864)	0.001 (1.149)	0.003*** (2.699)	−0.019*** (−10.691)	0.001 (0.820)	0.014*** (7.027)
CASH	0.006** (2.346)	0.005** (1.961)	0.000 (0.180)	0.044*** (8.244)	0.008*** (2.595)	−0.022*** (−4.272)
SALESGROWTH	0.009*** (5.041)	0.010*** (4.716)	0.010*** (4.512)	−0.007** (−2.088)	0.004*** (3.126)	0.011*** (3.173)
LEVERAGE	−0.001 (−0.143)	0.002 (0.296)	0.002 (0.263)	−0.003 (−0.265)	−0.008 (−1.594)	−0.013 (−1.257)
FIXED	−0.001 (−0.853)	−0.001 (−0.874)	−0.002 (−0.779)	0.013*** (4.813)	0.002 (1.316)	−0.005 (−1.524)
RL	0.001** (2.003)	0.001* (1.858)	0.002*** (2.800)	0.004*** (3.527)	0.001 (1.566)	0.005*** (4.679)
SP	0.003*** (3.975)	0.023*** (3.862)	0.001*** (2.682)	0.004*** (3.739)	0.009*** (5.860)	0.000 (1.288)
INFLATION	−0.005 (−0.416)	−0.008 (−0.701)	−0.051*** (−4.554)	0.118*** (4.480)	−0.006 (−0.452)	−0.131*** (−7.412)
CAPITA	−0.000 (−0.883)	−0.000 (−0.327)	−0.001 (−1.375)	−0.002*** (−3.551)	−0.000 (−0.771)	0.000 (0.491)
CONSTANT	−0.026*** (−3.040)	−0.025*** (−2.687)	−0.015 (−1.137)	0.168*** (11.747)	−0.003 (−0.400)	−0.095*** (−6.013)
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
p-value for AR(2) test	0.221	0.197	0.110	0.139	0.931	0.183
p-value for Hansen test	0.392	0.819	0.371	0.453	0.102	0.219
Observations	12,308	12,308	12,308	12,308	12,308	12,308

Note(s): This table reports the impact of happiness and firm risk-taking conditional on family ownership, estimated by GMM. σ (*ROE*) is the dependent variable in all specifications. All variables are defined in Appendix. The values of the *t*-statistics are in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% levels, respectively

making investment decisions but also provide international evidence about the role of country-level factors in explaining corporate risk-taking. We give robust evidence why policymakers and business leaders should consider happiness as a causal factor in reducing firm risk because we show that happiness can reduce firm risk-taking. We also make important contributions in helping shareholders better understand various determinants of risk-taking behavior. However, it is undeniable that our study still has several limitations. First, we mainly focus on the relation between happiness and corporate risk-taking. Additionally, it is important to show that board of director's characteristics may also affect corporate decisions. Scholars can take into account how other firm-level characteristics (e.g. managerial ability, board diversity) affect the happiness – risk-taking nexus. Second, in our setting, we do not account for the moderating role of institutional development on the relation between happiness and corporate risk-taking. It would be interesting to investigate whether institutional characteristics (e.g. corruption) play a pivotal role in shaping external governance mechanisms that contribute to firm risk-taking behavior.

Note

1. The United Nations Sustainable Development Solutions Network publishes this index yearly and gives special attention to global and regional charts showing the distribution of answers from roughly 3,000 respondents in more than 150 countries. The data are available at <https://worldhappiness.report/ed/2020/>.

References

Anderson, R.C., Mansi, S.A. and Reeb, D.M. (2003), "Founding family ownership and the agency cost of debt", *Journal of Financial Economics*, Vol. 68, pp. 263-285.

Bargeron, L.L., Lehn, K.M. and Zutter, C.J. (2010), "Sarbanes-Oxley and corporate risk-taking", *Journal of Accounting and Economics*, Vol. 49, pp. 34-52.

Bates, W. (2009), "Gross national happiness", *Asian-Pacific Economic Literature*, Vol. 23, pp. 1-16.

Blundell, R. and Bond, S. (1998), "Initial conditions and moment restrictions in dynamic panel data models", *Journal of Econometrics*, Vol. 87, pp. 115-143.

Boubaker, S., Nguyen, P. and Rouatbi, W. (2016), "Multiple large shareholders and corporate risk-taking: evidence from French family firms", *European Financial Management*, Vol. 22, pp. 697-745.

Bromiley, P. (1991), "Testing a causal model of corporate risk taking and performance", *Academy of Management Journal*, Vol. 34, pp. 37-59.

Cao, C., Xia, C. and Chan, K.C. (2016), "Social trust and stock price crash risk: evidence from China", *International Review of Economics and Finance*, Vol. 46, pp. 148-165.

Card, D. and Dahl, G.B. (2011), "Family violence and football: the effect of unexpected emotional cues on violent behavior", *The Quarterly Journal of Economics*, Vol. 126, pp. 103-143.

Chan, K.C., Gee, M.V. and Steiner, T.L. (2000), "Employee happiness and corporate financial performance", *Financial Practice and Education*, Vol. 10, pp. 47-52.

Chatjuthamard, P., Wongboonsin, P., Kongsompong, K. and Jiraporn, P. (2020), "Does economic policy uncertainty influence executive risk-taking incentives?", *Finance Research Letters*, Vol. 37, p. 101385.

Chen, M., Jeon, B.N., Wang, R. and Wu, J.J.E.M.R. (2015), "Corruption and bank risk-taking: evidence from emerging economies", *Emerging Markets Review*, Vol. 24, pp. 122-148.

Chia, A., Kern, M.L. and Neville, B.A. (2020), "CSR for happiness: corporate determinants of societal happiness as social responsibility", *Business Ethics: A European Review*, Vol. 29, pp. 422-437.

Chiu, W.-C. and Wang, C.-W. (2019), "Rollover risk and cost of bank debt: the role of family-control ownership", *Pacific-Basin Finance Journal*, Vol. 53, pp. 362-378.

Chuluun, T. and Graham, C. (2016), "Local happiness and firm behavior: do firms in happy places invest more?", *Journal of Economic Behavior and Organization*, Vol. 125, pp. 41-56.

Clark, A.E., Frijters, P. and Shields, M.A. (2008), "Relative income, happiness, and utility: an explanation for the Easterlin paradox and other puzzles", *Journal of Economic Literature*, Vol. 46, pp. 95-144.

Coles, J.L., Daniel, N.D. and Naveen, L. (2006), "Managerial incentives and risk-taking", *Journal of Financial Economics*, Vol. 79, pp. 431-468.

Dixon, F. (2006), "Gross national happiness: measuring what matters", *Reflections*, Vol. 7.

Doan, A.T., Le, A.T. and Tran, Q. (2020), "Economic uncertainty, ownership structure and small and medium enterprises performance", *Australian Economic Papers*, Vol. 59, pp. 102-137.

Dudley, E. and Zhang, N. (2016), "Trust and corporate cash holdings", *Journal of Corporate Finance*, Vol. 41, pp. 363-387.

Eugster, N. and Isakov, D. (2019), "Founding family ownership, stock market returns, and agency problems", *Journal of Banking and Finance*, Vol. 107, p. 105600.

Faccio, M., Marchica, M.-T. and Mura, R. (2011), "Large shareholder diversification and corporate risk-taking", *Review of Financial Studies*, Vol. 24, pp. 3601-3641.

Ferris, S.P., Javakhadze, D. and Rajkovic, T. (2017), "CEO social capital, risk-taking and corporate policies", *Journal of Corporate Finance*, Vol. 47, pp. 46-71.

Forgas, J.P. (1995), "Mood and judgment: the affect infusion model (AIM)", *Psychological Bulletin*, Vol. 117, p. 39.

Galasso, A. and Simcoe, T.S. (2011), "CEO overconfidence and innovation", *Management Science*, Vol. 57, pp. 1469-1484.

Gande, A. and Kalpathy, S. (2017), "CEO compensation and risk-taking at financial firms: evidence from U.S. federal loan assistance", *Journal of Corporate Finance*, Vol. 47, pp. 131-150.

Gopalan, R., Gormley, T.A. and Kalda, A. (2021), "It's not so bad: director bankruptcy experience and corporate risk-taking", *Journal of Financial Economics*, Vol. 142, pp. 261-292.

Guay, W.R. (1999), "The sensitivity of CEO wealth to equity risk: an analysis of the magnitude and determinants", *Journal of Financial Economics*, Vol. 53, pp. 43-71.

Guillén, M.F. and Capron, L. (2016), "State capacity, minority shareholder protections, and stock market development", *Administrative Science Quarterly*, Vol. 61, pp. 125-160.

Gupta, K. and Krishnamurti, C. (2018), "Do macroeconomic conditions and oil prices influence corporate risk-taking?", *Journal of Corporate Finance*, Vol. 53, pp. 65-86.

Guven, C. and Hoxha, I. (2015), "Rain or shine: happiness and risk-taking", *The Quarterly Review of Economics and Finance*, Vol. 57, pp. 1-10.

Heo, Y., Hou, F. and Park, S.G. (2018), "Happiness, corporate investment and innovation: evidence across countries", available at: SSRN 3368666.

Houston, J.F., Lin, C., Lin, P. and Ma, Y. (2010), "Creditor rights, information sharing, and bank risk taking", *Journal of Financial Economics*, Vol. 96, pp. 485-512.

Huang, Y.S. and Wang, C.-J. (2015), "Corporate governance and risk-taking of Chinese firms: the role of board size", *International Review of Economics and Finance*, Vol. 37, pp. 96-113.

Iaffaldano, M.T. and Muchinsky, P.M. (1985), "Job satisfaction and job performance: a meta-analysis", *Psychological Bulletin*, Vol. 97, p. 251.

Isen, A.M. and Patrick, R. (1983), "The effect of positive feelings on risk taking: when the chips are down", *Organizational Behavior and Human Performance*, Vol. 31, pp. 194-202.

Isen, A.M., Nygren, T.E. and Ashby, F.G. (1988), "Influence of positive affect on the subjective utility of gains and losses: it is just not worth the risk", *Journal of Personality and Social Psychology*, Vol. 55, p. 710.

Jensen, M.C. and Meckling, W.H. (1976), "Theory of the firm: managerial behavior, agency costs and ownership structure", *Journal of Financial Economics*, Vol. 3, pp. 305-360.

Jiang, F., Jiang, Z., Kim, K.A. and Zhang, M. (2015), "Family-firm risk-taking: does religion matter?", *Journal of Corporate Finance*, Vol. 33, pp. 260-278.

John, K., Litov, L. and Yeung, B. (2008), "Corporate governance and risk-taking", *The Journal of Finance*, Vol. 63, pp. 1679-1728.

Johnson, E.J. and Tversky, A. (1983), "Affect, generalization, and the perception of risk", *Journal of Personality and Social Psychology*, Vol. 45, p. 20.

Kahneman, D. and Krueger, A.B. (2006), "Developments in the measurement of subjective well-being", *Journal of Economic Perspectives*, Vol. 20, pp. 3-24.

Kaplanski, G., Levy, H., Veld, C. and Veld-Merkoulova, Y. (2015), "Do happy people make optimistic investors?", *Journal of Financial and Quantitative Analysis*, Vol. 50, pp. 145-168.

Kim, J.B., Wang, Z. and Zhang, L. (2016), "CEO overconfidence and stock price crash risk", *Contemporary Accounting Research*, Vol. 33, pp. 1720-1749.

Kirchsteiger, G., Rigotti, L. and Rustichini, A. (2006), "Your morals might be your moods", *Journal of Economic Behavior and Organization*, Vol. 59, pp. 155-172.

Kuhnen, C.M. and Knutson, B. (2011), "The influence of affect on beliefs, preferences, and financial decisions", *Journal of Financial and Quantitative Analysis*, Vol. 46, pp. 605-626.

La Porta, R., Lopez-De-Silanes, F. and Shleifer, A. (1999), "Corporate ownership around the world", *The Journal of Finance*, Vol. 54, pp. 471-517.

Lane, T. (2017), "How does happiness relate to economic behaviour? A review of the literature", *Journal of Behavioral and Experimental Economics*, Vol. 68, pp. 62-78.

Lee, E.J., Chae, J. and Lee, Y.K. (2018), "Family ownership and risk taking", *Finance Research Letters*, Vol. 25, pp. 69-75.

Loewenstein, G. (2000), "Emotions in economic theory and economic behavior", *American Economic Review*, Vol. 90, pp. 426-432.

Malmendier, U. and Tate, G. (2008), "Who makes acquisitions? CEO overconfidence and the market's reaction", *Journal of Financial Economics*, Vol. 89, pp. 20-43.

Morck, R. and Yeung, B. (2003), "Agency problems in large family business groups", *Entrepreneurship Theory and Practice*, Vol. 27, pp. 367-382.

Murro, P. and Peruzzi, V. (2019), "Family firms and access to credit. Is family ownership beneficial?", *Journal of Banking and Finance*, Vol. 101, pp. 173-187.

Nenova, T., Claessens, S. and Djankov, S. (2000), "Corporate risk around the world", World Bank Policy Working Paper, p. 2271.

Nguyen, B.D. (2011a), "Ownership structure and board characteristics as determinants of CEO turnover in French-listed companies", *Finance*, Vol. 32, pp. 53-89.

Nguyen, P. (2011b), "Corporate governance and risk-taking: evidence from Japanese firms", *Pacific-Basin Finance Journal*, Vol. 19, pp. 278-297.

Nygren, T.E., Isen, A.M., Taylor, P.J. and Dulin, J. (1996), "The influence of positive affect on the decision rule in risk situations: focus on outcome (and especially avoidance of loss) rather than probability", *Organizational Behavior and Human Decision Processes*, Vol. 66, pp. 59-72.

Panta, H. (2020), "Does social capital influence corporate risk-taking?", *Journal of Behavioral and Experimental Finance*, Vol. 26, p. 100301.

Poletti-Hughes, J. and Williams, J. (2019), "The effect of family control on value and risk-taking in Mexico: a socioemotional wealth approach", *International Review of Financial Analysis*, Vol. 63, pp. 369-381.

Porta, R.L., Lopez-de-Silanes, F., Shleifer, A. and Vishny, R.W. (1998), "Law and finance", *Journal of Political Economy*, Vol. 106, pp. 1113-1155.

Shleifer, A. and Vishny, R.W. (1986), "Large shareholders and corporate control", *Journal of Political Economy*, Vol. 94, pp. 461-488.

Tofallis, C. (2020), "Which formula for national happiness?", *Socio-Economic Planning Sciences*, Vol. 70, p. 100688.

Vural-Yavaş, Ç. (2020), "Corporate risk-taking in developed countries: the influence of economic policy uncertainty and macroeconomic conditions", *Journal of Multinational Financial Management*, Vol. 54, p. 100616.

Wright, P., Ferris, S.P., Sarin, A. and Awasthi, V. (1996), "Impact of corporate insider, blockholder, and institutional equity ownership on firm risk taking", *Academy of Management Journal*, Vol. 39, pp. 441-458.

Wu, X. (2005), "Corporate governance and corruption: a cross-country analysis", *Governance*, Vol. 18, pp. 151-170.

Appendix

Variables	Definition	Sources
R&D	The ratio of research and development expenditures to total assets	Authors' calculation based on Orbis
H_INDEX	Principal component factor from the five happiness measures in the World Happiness Report, namely, life-ladder, social support, freedom to make life choices, generosity, and perceptions of corruption	Authors' calculation based on World Happiness Report 2017
LIFE LADDER	Life-ladder is measured by answers to the Cantril ladder question: "Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?"	As above
SOCIAL SUPPORT	Social support is the national average of the binary responses (either 0 or 1) to the Gallup World Poll (GWP) question "If you were in trouble, do you have relatives or Social support is the national average of the binary responses" (either 0 or 1) to the Gallup World Poll (GWP) question "If you were in trouble, do you have relatives or not?"	As above
FREEDOM DECISIONS	Freedom to make life choices is the national average of binary responses to the GWP question "Are you satisfied or dissatisfied with your freedom to choose what you do with your life?"	
GENEROSITY	Generosity is the residual of regressing the national average of GWP responses to the question "Have you donated money to a charity in the past month?" on GDP per capita	As above
CORRUPTION PERCEPTIONS	Perceptions of corruption are the average of binary answers to two GWP questions: "Is corruption widespread throughout the government or not?" and "Is corruption widespread within businesses or not?" Where data for government corruption are missing, the perception of business corruption is used as the overall corruption perception measure	As above
SIZE	Natural logarithm of total assets	Authors' calculation based on Orbis
FIRM AGE	Natural logarithm of number of years since incorporation	As above
SALES GROWTH	The percentage change in sales	As above
LEVERAGE	Leverage ratio as the sum of debt in current liabilities and total long-term debt, divided by total assets	As above
FIXED	The ratio of fixed assets to total asset	As above
CAPEX	The ratio of capital expenditures to total asset	As above
RL	Rule of law index, varies from −2.5 to 2.5, a higher score exhibits better institutional development	World Governance Indicators

(*continued*)

Table A1. Variables definitions

Variables	Definition	Sources
SP	Shareholder Protection index which measures the degree of protection of minority shareholder rights according to a list of ten basic legal provisions (e.g. prohibition of multiple voting rights, feasibility of directors' dismissal, mandatory disclosure of major share ownership). This index ranges between 0 and 10, a higher value denotes better protection	Guillén and Capron (2016)
INFLATION	The inflation rate based on the GDP deflator index for each country	World Bank Indicator
CAPITA	The natural logarithm of GDP per capita	As above
FM20	A dummy variable that takes a value of one if the percentage of a firm owned by family block shareholders is above the threshold of 20%, and zero otherwise	Authors' calculation based on Orbis
σ(ROE)	Standard deviations of returns on equity using a 3-year rolling window	Authors' calculation based on Orbis

Table A1.

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