

Table 9 reports the result from our cross-sectional regression, in which the dependent variable is environmental preservation (CSP-ENV).

TABLE 9 ABOUT HERE

In this case coefficients for the fraction of shares owned by founding families are all negative and statistically significant at 5% level. We also find that coefficients for the CEO dummy are all negative, although they are not significant. Based on those cross-sectional regression results, our H5 concerning environment preservation should be rejected.

In conclusion, we reject the hypotheses H1, and H5, and are inconclusive with H2, H3 and H4. Surprisingly, overall we found evidence against higher attainment of corporate social performance by family firms in Japan both in employment relations and environment preservation. This is somewhat of a surprise considering the widely accepted pre-notion that Japanese management style has been generally paternalistic and also that some of the founders of family businesses in Japan boasted how they take high value of social service for better environment. Furthermore, even though other categories were not significant by univariate analysis or multivariate analysis, we did not find any positive evidence that these levels shown by family firms are any superior to the ones by non-family firms, either.¹⁸

As a caveat, however, there may be sampling bias in that family firms, which positively contribute to the CSR activities, may not have responded to the questionnaire by Toyo Keizai Co. It may be the case that firms possess higher internal and external

¹⁸ Stockmans et al. (2010) argue that family firms may seek for accumulation of their own “socio-emotional” wealth and may not seek for outside goal, both economically and non-economically.

consciousness to social value, but do not want to reveal this paternalistic culture to outsiders, minority shareholders, or to society (Miller and Le Breton-Mille, 2005, ch. 3). However, note in all the last four tables of cross-sectional regressions, the size variable was always significant with positive signs, and it may be the case that the size may have more to do to with explaining CSR scores of Japanese firms, whether they are from family or non-family firms. Thus, in order to further pinpoint the nature of family firms in contributing to social responsibility, we may have to further control for the size in our sample. One way to control for the size might be to conduct form-matching samples among each industry of family and non-family firms, which is our future work¹⁹.

In spite of these concerns our finding is a contribution in the literature by investigating the level of attainment of corporate social performance by family firms in Japan.

8. Additional Assessment of CSP of by Family Firms in Japan

In this final section we explore the level of corporate social responsibility, ranked among the top 30 firms by Suto and Takehara (2012) in fulfilling the aforementioned five categories as of June 2009: 1) employee relations, 2) social contributions, 3) security of the firm and product safety, 4) internal governance and risk management, and 5) environmental preservation. Among the top 30 firms, in employee relations, 3 family firms belong to the top 30 list; in social contributions, 6 family firms; in security of the firm and product safety, 7 family firms; in internal governance and risk management, 5 family firms; and in environmental preservation, 6 family firms. Because the proportion of family firms in our overall sample is 29.67 per cent, the number of firms appearing in this list is smaller than the sample average. But, note that

¹⁹ Allouche et al. (2008) use matching method for their Japanese family firm sample.

Toyota Moto Co. and Seiko-Epson Co., which are both large firms, appear twice.

When we take the average scores of these five attribute categories and rank all firms, we find again only 6 firms appear in the top 50 list; 12% of the weight compared to the family firm weight of 29.67% of the total sample. However, top ranked among family firms is Toyota Motor Co. at the sixth rank with an average score of 1.649. Next is Panasonic at the eleventh rank with an average score of 1.666. From Table 3, the average score for family firms was 0.035 and 0.332 for non-family firms, and these firms are superior to the average of all firms.

From another perspective, Asaba (2010) finds that family firms are more investment-oriented and even more so when economic conditions are adverse. However, there are no studies that compare R&D activities of family vs. non-family firms in Japan. According to the ranking of R&D investment of the top 40 firms by Nikkei News Paper (2011) we find only three family firms included out of valid sample of 31 firms.²⁰ They are Toyota Motor Co., Seiko-Epson, and Shionogi Pharmaceutical Co. The appearance rate is $3/31=9.7\%$. Once again, the percentage of surpassing firms is lower than our sample average. However, because this ranking is demonstrated by the total investment amount, not by its ratio-to-size variable, like sales, this ranking may be once again a reflection of the size of firms and of more research-oriented industries. Hence, we cannot unequivocally conclude from this evidence that R&D activity is less among family firms than among non-family firms.

A further perspective can be taken from brand image ranking of Japanese firms. In a new era of CSR2 (Frederick, 1994, p. 158) executives are more concerned about

²⁰ Nine firms not included in the calculation above are either firm which did not respond to the Toyo Keizai corporate social performance questionnaire, or newly merged firm which are listed in the Nikkei News ranking as of 2011, but were not in our original sample.

business and social issues, whose activities include public relations such as press releases and advertisements, which influence brand images of firms. Also, Miller and Le Breton-Miller (2005, pp.73-77) emphasize that building up brand image is crucial to maintain the continuity of family businesses. Also, recently Delcove (2009) finds that the corporations with superior corporate brands exhibit higher profitability and shareholder's wealth for U.S. public traded companies. Also, Barnett (2007) argues that the stakeholders' relations have to be accounted for by path-dependent nature of corporate responsibility activities and claims that the accumulated effects of CSR activities should be evaluated over the several years. We believe the effects are impounded into the brand image of firms' image, brand, and products through the long run CSR activities. This is the reason why we take a look at qualitative aspects of family firms from this brand image angle.

We look at the ranking of brand images of Japanese firms here. According to a recent survey by Interbrand Japan Co., we find that there are 5 family firms among the top 30 global brands of Japanese firms (Interbrand, 2009) according to our family firm criterion. Because Toyota and Lexus appear in this list, the appearance rate is $5/29=17.2\%$; again the percentage is lower than the average weight of family firms of our sample.

In sum, from the data in this section which used ranking information to assess family firms' social responsibility performance, R&D activities, and brand image, we also conclude that social responsibility attained by family firms in Japan in our sample is overall lower than that of non-family firms, thus complementing our quantitative empirical explorations in previous sections.

9. Conclusion and Reservations

In this paper we investigated the degree of corporate social performance of publicly traded family firms in Japan relative to non-family firms. The data for family firms in Japan is as of March 2009 that covers three years of observations constructed by us.

The corporate social performance indices for Japanese firms are borrowed from Suto and Takehara (2012), which covers three years of observations until September 2009. The original CSP data constructed and provided by Toyo Keizai Co. is based on a questionnaire survey, and Suto and Takehara (2012) constructed five attributes of corporate social performance: i.e., employee relations, social contributions, security of the firm and product safety, internal governance and risk management, and environmental preservation from the original Toyo Keizai data. Suto and Takehara (2012) then computed normalized CSP scoring indices using principal component analysis.

Overall, we find that corporate social performance attained by our sample of family firms in Japan is lower than that of non-family firms. Their ROE performance is not different and Tobin's q values are lower while their leverage ratios are lower. Family firms are significantly inferior to non-family firms in two categories of employment relations and environment preservation from the results of both univariate analysis and multivariate analysis. In addition, in other three categories of CSPs we did not find any positive evidence, either.

Altogether, we reported that the results are not favorable to family firms in Japan. Nonetheless, because our observation period is limited only for three years, further extension of the data may give us more convincing evidence. In spite of such a limitation this is the first study to use family firm data, which quantitatively assessed the

level of corporate social performance shown by Japanese family firms, and it is a new contribution to the literature in the field.

References:

- Aghion, P., Tirole, J., 1997. Formal and real authority in organizations. *Journal of Political Economy* 105, 1-29.
- Ali, A., Chen, T-Y, Radhakrishnan, S., 2007. Corporate disclosure by family firms. *Journal of Accounting and Economics* 44, 238-286.
- Allouche, J., Amann, B., Jaussaud, J., Kurashina, T. (2008). The impact of family control on the performance and financial characteristics of family versus nonfamily businesses in Japan: A matched-pair investigation. *Family Business Review*, 21, 315-329.
- Almeida, H., Park, S. Y., Subrahmanyam, S. G., Wolfenzon, D., 2010. The structure and formation of business groups: Evidence from Korean *Chaebols*. Working Paper, Stern School of Business, New York University.
- Anderson, R. C., Duru, A., Reeb, D. M., 2006. Founders, heirs, and corporate opacity in the United States. *Journal of Financial Economics* 92, 205-222.
- Anderson, R. C., Reeb, D. M., 2003. Founding-family ownership and firm performance: Evidence from the S&P 500. *Journal of Finance* 58, 1301-1328.
- Asaba, S., 2010. Patient investment: A study on the behavior of the listed family business in the Japanese electric machinery industry. Paper presented at the 6th Workshop on Family Firms Management Research, Barcelona.
- Barnea, A., Rubin, A., 2010. Corporate social responsibility as a conflict between shareholders. *Journal of Business Ethics* 97, 71-86.
- Barnett, M. L. 2007. Stakeholder influence capacity and the variability of financial returns to corporate social responsibility. *Academy of Management Review* 32, 794-816.
- Claessens, S., Djankov, S., Lang, L. H. P., 2000. The separation of ownership and control in East Asian corporations. *Journal of Financial Economics* 58, 81-112.
- Danes, S. M., 2011. Family social capital as family business resilience capacity. A note distributed at the FD Consortium, International Family Enterprise Research Academy 2011 Conference.
- Delcours, N., 2009, Corporate branding and shareholders' wealth. Paper presented at Southwestern Finance Association Annual Meeting.

- Dyer, W. D. Jr, Whetten, D. A., 2006. Family firms and social responsibility: Preliminary evidence from the S&P500. *Entrepreneurship Theory and Practice* 30, 785-802.
- Ebihara, T., H., Kubota, K., Takehara, H., Yokota, E., 2012a. Quality of accounting disclosures by family firms in Japan. Working Paper at [ssrn.com](http://dx.doi.org/10.2139/ssrn.1996505) <http://dx.doi.org/10.2139/ssrn.1996505>
- Ebihara, T., Kubota, K., Takehara, H., Yokota, E., 2012b. Private information and the cost of capital of family businesses in Japan: A microstructure study. Working Paper at [ssrn.com](http://dx.doi.org/10.2139/ssrn.2012105) <http://dx.doi.org/10.2139/ssrn.2012105>.
- Eoyang, C., 1998. The liquefaction of Japanese crossholding: Analyzing the unwinding process. *Goldman Sachs Equity Derivative Research*, Goldman Sachs and Co.
- Frederick, W.C., 1994. From CSR₁ to CSR₂: The maturing of business-and-society thought. *Business & Society* 33, 150-164.
- Frederick, W.C., 1995. *Values, nature and culture in American corporations*. (Oxford University Press. Oxford, UK).
- Gallo, M. A., 2004. The family business and its social responsibilities. *Family Business Review* 17, 135-149.
- Gomez-Mejia, L. R., Nunez-Nicker, M., 2001. The role of family ties in agency contracts. *Academy of Management Journal* 44, 81-95.
- Interbrand Japan Marketing, 2009. Japan's best global brands 2009 <http://interbrand.com/jp>
- Jensen, M. C., Meckling, W. H. 1976. Theory of the firms: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics* 3, 305-360.
- Masulis, R.W., Pham, P. K., & Zein, J., 2011. Family business groups around the world: Costs and benefits of pyramids. *Review of Financial Studies*, 24, 3556-3600.
- McConaughy, D. L., Walker, M. C., Henderson, G. V. Jr., Mishra, C. S. 1998. Founding family controlled firms: Efficiency and value. *Review of Financial Economics* 7, 1-19.
- Miller, D., Le Breton-Miller, I., 2005. *Managing for the long run: Lessons in competitive advantage from great family businesses*. (Harvard Business School Press, Boston, MA).
- Morck, R., Yeung, B., 2004. Family control and the rent-seeking society. *Entrepreneurship Theory and Practice* 28, 391-409.
- Myers, S. 1984. The capital structure puzzle, *Journal of Finance* 39, 575-592.
- Nikkei News Paper, 2011. Ranking of top 40 Japanese firms by R&D investment. Nikkei News Digital Version, August 6, 2011.
- Oh, W. Y., Chang, Y. K., Martynov, A., 2011, The effects of ownership structure on

corporate social responsibility: Empirical evidence from Korea. *Journal of Business Ethics* 104, 283-297.

Porter, M. E., Kramer, M. R., 2006. Strategy & society: The link between competitive advantage and corporate social responsibility, *Harvard Business Review*, (February), 78-92.

Reinking, J. F., Robb, S. W. G., Roberts, R. W., 2011. Family firm's corporate social responsibility and financial performance. Presented at the 2011 American Accounting Association Annual Meeting, Denver.

Saito, T., 2008. Family firms and firm performance: Evidence from Japan. *Journal of the Japanese and International Economies* 22, 620-646.

Stockmans, A., Lybaert, N., Voordeckers, W., 2010. Socioemotional wealth and earnings management in private family firms. *Family Business Review* 23, 280-294.

Suto, M. Takehara, H., 2012. Stock ownership structure and corporate social performance: Evidence from Japan, Working Paper, Waseda University, Tokyo, Japan.

Tricker, B., 2009, *Corporate Governance: Principles, Policies, and Practices*. (Oxford Press, Oxford, UK).

Villalolonga, B., Amit, R., 2006. How do family ownership, control and management affect firm value? *Journal of Financial Economics* 80, 385- 417

Waddock, S. A., 1997. The corporate social performance: Financial performance link. *Strategic Management Journal* 18, 303-319.

Wang, D., 2006. Founding family ownership and earnings quality. *Journal of Accounting Research* 44, 619-655.

Yafeh, Y., (2000), Corporate governance in Japan: Past performance and future prospects. *Oxford Review of Economic Policy* 16, 74-84.

Zellweger, T. M., Nason, R. S., 2008. A stakeholder perspective on family firm performance. *Family Business Review* 21, 203-215.

Table 1. Fraction of Family Firms in Each Industry

%FF denotes percentage of shares owned by founding families. We define family firms whose percentage of shares owned by founding families (%FF) is greater than or equal to 10%, or its CEO is a founder. We do not include financial firms in the sample and sample is also limited to March fiscal end year firms.

Industry	Number of Firms	%FF \geq 10% and CEO is a founder	%FF \geq 10% and CEO is not a founder	%FF<10% and CEO is a founder	Fraction of family firms (in %)	Average shares owned by founded family (in %)
Fishery & Agriculture	2	0	0	0	0.00	0.00
Mining	0	----	----	----	----	----
Construction	37	1	2	8	29.73	2.96
Foods	23	5	1	2	34.78	5.09
Textiles & Apparels	19	1	0	2	15.79	1.51
Pulp & Paper	6	1	0	0	16.67	4.24
Chemicals	48	4	1	2	14.58	3.07
Pharmaceutical	16	2	1	2	31.25	5.36
Oil & Coal Products	3	0	0	0	0.00	0.00
Rubber Products	7	0	0	2	28.57	2.12
Glass & Ceramics Products	9	0	0	3	33.33	1.09
Iron & Steel	12	0	1	0	8.33	3.32
Nonferrous Metals	8	0	0	1	12.50	0.46
Metal Products	15	2	0	3	33.33	5.63
Machinery	44	6	1	8	34.09	5.15
Electric Appliances	70	5	4	11	28.57	3.03
Transportation Equipment	38	0	0	5	13.16	0.76
Precision Instruments	16	0	1	3	25.00	3.45
Other Products	23	6	2	1	39.13	9.73
Electric Power & Gas	11	0	0	0	0.00	0.00
Transportation	16	0	0	1	6.25	0.63
Warehousing	6	0	0	0	0.00	0.00
Communication	6	1	1	0	33.33	11.33
Wholesale Trade	64	11	5	10	40.63	7.70
Retail Trade	34	14	3	4	61.76	17.53
Real Estate	10	2	2	0	40.00	11.14
Services	40	12	4	3	47.50	12.15
All Firms	583	73	29	71	29.67	5.45

Table 2. Differences in Ownership Structure and Financial Attributes

'Floating Stock Ratio' is defined as shares owned by 10 big shareholders to the number of shares issued. 'Dependency on Bank' is defined as (short term bank borrowing plus long term bank borrowing)/(Interest bearing debt). Financial statement data is as of end of March and stock price is as of end of June.

	Average Share-holdings and Financial Attribute				Spearman Rank Correlation	
	Family	Non-Family	<i>p</i> -value (Student <i>t</i>)	<i>p</i> -value (Wilcoxon)	ρ (vs. %FF)	<i>p</i> -value (ρ)
Number of Firm-Years	556	1155				
%Shares held by Founding Family	17.946	0.513	0.000	0.000		
Floating Stock Ratio (%)	55.165	55.676	0.429	0.010	-0.112	0.000
%Shares held by Investment Trust	2.135	2.517	0.020	0.312	-0.046	0.059
%Shares held by directors	7.323	0.506	0.000	0.000	0.718	0.000
%Shares held by Government and Public Corporation	0.004	0.229	0.013	0.000	-0.217	0.000
%Shares held by Financial Institutions	23.364	27.879	0.000	0.000	-0.267	0.000
%Shares held by Borkerage Firms	0.859	1.288	0.000	0.000	-0.235	0.000
%Shares held by Other Corporate Shareholders	20.833	25.304	0.000	0.015	-0.034	0.157
%Shares held by Foreign Corporations	12.711	15.648	0.000	0.000	-0.213	0.000
%Shares held by Individuals and others	40.093	27.135	0.000	0.000	0.466	0.000
Logarithm of Market Value of Equity (in Mil. JPY)	10.619	11.459	0.000	0.000	-0.338	0.000
Book-to-Market (%)	112.752	95.846	0.000	0.000	0.183	0.000
Net Sales per Employee (in Mil. JPY)	101.607	168.141	0.000	0.000	-0.199	0.000
Labor Equipment Ratio (in Mil. JPY)	25.343	50.423	0.000	0.000	-0.188	0.000
Return on Equity (Past 5year Average %)	4.797	3.791	0.024	0.958	0.011	0.652
Tobin's Q Ratio	1.186	1.255	0.023	0.000	-0.178	0.000
Dependency on Bank (%)	83.611	74.388	0.000	0.000	0.244	0.000
Debt Ratio (%)	44.236	51.310	0.000	0.000	-0.221	0.000
Fixed Aseet to Equity (%)	112.224	133.219	0.000	0.000	-0.221	0.000
Fixed Asset to Long-term Capital (%)	77.768	80.882	0.090	0.000	-0.149	0.000
R&D Expenditure to Sales (%)	1.964	2.907	0.000	0.000	-0.192	0.000

Table 3. Differences in Corporate Social Performance

The five indices used here are as reported in Suto and Takehara (2012) and applied to our sample firms..

	Firm Characteristics and CSP scores				Spearman Rank Correlation	
	Family	Non-Family	<i>p</i> -value (Student <i>t</i>)	<i>p</i> -value (Wilcoxon)	ρ (vs. %FF)	<i>p</i> -value (ρ)
Number of Firm-Years	556	1155				
%Shares held by Founding Family	17.946	0.513	0.000	0.000		
CSP-EMP (Employee Relations)	-0.025	0.452	0.000	0.010	-0.284	0.000
CSP-SC (Social Contribution)	-0.005	0.360	0.000	0.312	-0.275	0.000
CSP-SS (Security and Product Safeness)	0.163	0.251	0.071	0.000	-0.112	0.000
CSP-IRGM (Internal Governance and Risk Management)	-0.033	0.142	0.001	0.000	-0.122	0.000
CSP-ENV (Environment Preservation)	0.077	0.453	0.000	0.000	-0.294	0.000
Comprehensive CSP	0.035	0.332	0.000	0.000	-0.311	0.000

Table 4. Spearman Rank Correlation Matrix

The definitions of the variables are as explained in Table 2 and 3.

Panel A. Spearman Rank Correlation and Corresponding p -values								
	%FF	EMP	SC	SS	IGRM	ENV	lnMV	B/M
%FF	1.000	-0.284	-0.275	-0.112	-0.122	-0.294	-0.338	0.183
EMP	0.000	1.000	0.365	0.222	0.196	0.382	0.363	-0.219
SC	0.000	0.000	1.000	0.349	0.379	0.549	0.560	-0.288
SS	0.000	0.000	0.000	1.000	0.246	0.282	0.326	-0.193
IGRM	0.000	0.000	0.000	0.000	1.000	0.268	0.275	-0.174
ENV	0.000	0.000	0.000	0.000	0.000	1.000	0.528	-0.236
lnMV	0.000	0.000	0.000	0.000	0.000	0.000	1.000	-0.652
B/M	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000
Panel B. Results of Welch's two-sample t tests								
CEO is a founder	17.056	0.003	0.011	0.170	-0.029	0.114	10.677	114.011
CEO is not a founder	2.118	0.407	0.328	0.242	0.128	0.412	11.376	96.611
p -value	0.000	0.000	0.000	0.163	0.006	0.000	0.000	0.000

Table 5. Shares Owned by Founding Family and Employee Relations

Cross-sectional regressions results for fiscal years 2007-2009. The dependent variable is the CSP-EMP (Employee Relations) Index. Standard errors are controlled by White's method for heteroskedasticity. "% Family" is the ratio of the share owned by family members and their related charitable foundations. DFounder is a dummy variable which we set to 1 if the founder is a CEO. lnMV is natural logarithm of the market value of equity and B/M is the book-to-market ratio. In panel B, we compute the ranked dependent variable as $(\text{rank}(x)-1)/(n-1)$ which transforms the dependent variable into the range between 0 and 1.

	Intercept	%Family	DFounder	lnMV	B/M	Adjusted R^2
Panel A. Raw dependent variable (CSP-EMP) is used.						
Coef.	0.458	-0.025	-0.037			0.069
<i>p</i> -value	0.000	0.000	0.607			
Coef.	-1.651	-0.016	-0.026	0.185	0.000	0.151
<i>p</i> -value	0.000	0.000	0.707	0.000	0.739	
Panel B. Ranked dependent variable (CSP-EMP) is used.						
Coef.	0.541	-0.006	-0.006			0.071
<i>p</i> -value	0.000	0.000	0.734			
Coef.	0.013	-0.004	-0.003	0.046	0.000	0.155
<i>p</i> -value	0.817	0.000	0.847	0.000	0.589	

Table 6. Shares Owned by Founding Family and Social Contributions

Cross-sectional regressions results for fiscal years 2007-2009. The dependent variable is CSP-SC (Social Contributions) Index. Standard errors are controlled by White's method for heteroscedasticity. "%Family" is the ratio of the share owned by family members and their related charitable foundations. DFounder is a dummy variable which we set to 1 if the founder is a CEO. lnMV is natural logarithm of the market value of equity and B/M is the book-to-market ratio. In panel B, we compute the ranked dependent variable as $(\text{rank}(x)-1)/(n-1)$ which transforms the dependent variable into the range between 0 and 1.

	Intercept	%Family	DFounder	lnMV	B/M	Adjusted R^2
Panel A. Raw dependent variable (CSP-SC) is used.						
Coef.	0.371	-0.020	-0.014			0.063
<i>p</i> -value	0.000	0.000	0.824			
Coef.	-3.358	-0.009	0.005	0.313	0.001	0.324
<i>p</i> -value	0.000	0.000	0.925	0.000	0.000	
Panel B. Ranked dependent variable (CSP-SC) is used.						
Coef.	0.538	-0.006	-0.003			0.062
<i>p</i> -value	0.000	0.000	0.877			
Coef.	-0.565	-0.002	0.003	0.093	0.000	0.328
<i>p</i> -value	0.000	0.000	0.860	0.000	0.000	

Table 7. Shares Owned by Founding Family and Security and Safety

Cross-sectional regressions results for fiscal years 2007-2009. The dependent variable is CSP-SS (Security of the Firm and Product Safety) Index. Standard errors are controlled by White's method for heteroscedasticity. "%Family" is the ratio of the share owned by family members and their related charitable foundations. DFounder is a dummy variable which we set to 1 if the founder is a CEO. lnMV is natural logarithm of the market value of equity and B/M is the book-to-market ratio. In panel B, we compute the ranked dependent variable as $(\text{rank}(x)-1)/(n-1)$ which transforms the dependent variable into the range between 0 and 1.

	Intercept	%Family	DFounder	lnMV	B/M	Adjusted R^2
Panel A. Raw dependent variable (CSP-SS) is used.						
Coef.	0.260	-0.008	0.049			0.009
<i>p</i> -value	0.000	0.000	0.420			
Coef.	-1.294	-0.003	0.057	0.133	0.000	0.064
<i>p</i> -value	0.000	0.212	0.335	0.000	0.387	
Panel B. Ranked dependent variable (CSP-SS) is used.						
Coef.	0.514	-0.003	0.020			0.013
<i>p</i> -value	0.000	0.000	0.296			
Coef.	-0.071	-0.001	0.023	0.051	0.000	0.102
<i>p</i> -value	0.233	0.133	0.205	0.000	0.623	

Table 8. Shares Owned by Founding Family and Internal Governance

Cross-sectional regressions results for fiscal years 2007-2009. The dependent variable is CSP-IGRM (Internal Governance and Risk Management) Index. Standard errors are controlled by White's method for heteroscedasticity. "%Family" is the ratio of the share owned by family members and their related charitable foundations. DFounder is a dummy variable which we set to 1 if the founder is a CEO. lnMV is natural logarithm of the market value of equity and B/M is the book-to-market ratio. In panel B, we compute the ranked dependent variable as $(\text{rank}(x)-1)/(n-1)$ which transforms the dependent variable into the range between 0 and 1.

	Intercept	%Family	DFounder	lnMV	B/M	Adjusted R^2
Panel A. Raw dependent variable (CSP-IGRM) is used.						
Coef.	0.144	-0.008	-0.040			0.010
<i>p</i> -value	0.000	0.002	0.552			
Coef.	-1.345	-0.003	-0.033	0.127	0.000	0.052
<i>p</i> -value	0.000	0.296	0.624	0.000	0.496	
Panel B. Ranked dependent variable (CS-IGRM) is used.						
Coef.	0.517	-0.002	-0.014			0.010
<i>p</i> -value	0.000	0.003	0.470			
Coef.	0.010	0.000	-0.011	0.044	0.000	0.081
<i>p</i> -value	0.867	0.716	0.548	0.000	0.940	

Table 9. Shares Owned by Founding Family and Environmental Preservation

Cross-sectional regressions results for fiscal years 2007-2009. The dependent variable is CSP-ENV (Environmental Preservation) Index. Standard errors are controlled by White's method for heteroscedasticity. "%Family" is the ratio of the share owned by family members and their related charitable foundations. DFounder is a dummy variable which we set to 1 if the founder is a CEO. lnMV is natural logarithm of the market value of equity and B/M is the book-to-market ratio. In panel B, we compute the ranked dependent variable as $(\text{rank}(x)-1)/(n-1)$ which transforms the dependent variable into the range between 0 and 1.

	Intercept	%Family	DFounder	lnMV	B/M	Adjusted R^2
Panel A. Raw dependent variable (CSP-ENV) is used.						
Coef.	0.451	-0.019	-0.021			0.070
<i>p</i> -value	0.000	0.000	0.697			
Coef.	-2.572	-0.009	-0.006	0.253	0.001	0.288
<i>p</i> -value	0.000	0.000	0.900	0.000	0.000	
Panel B. Ranked dependent variable (CSP-ENV) is used.						
Coef.	0.543	-0.006	-0.012			0.074
<i>p</i> -value	0.000	0.000	0.498			
Coef.	-0.484	-0.003	-0.007	0.086	0.000	0.299
<i>p</i> -value	0.000	0.000	0.649	0.000	0.000	

