Association between Transparency and Donation Revenue of Charity Foundations in China

-Using a Quantile Regression Method

Pu Jian, Jing Hua Zhang*
School of Business
Macau University of Science and Technology
Macao, China

Pinxiao Zeng
School of Journalism and Communication
Central China Normal University
Wuhan, China

Xi Lan
Aiju Social Innovation
(IKG Box)
Guangzhou, China

Abstract—**Using 6,035 charitable organization observations during 2010-2015 from Chinese Foundations Center（CFC）database, this study applied quantile regression method to examine how the transparency of CFs is associated with the donation revenues ratios across low and high percentiles. While the OLS result indicates transparency's highly positive association on average, the findings of the quantile regressions suggest that the positive associations between transparency level and donation revenue ratio are strong among the organizations at the low percentiles of donation revenue ratio distribution, meanwhile, there is no meaningful significant association once the donation revenue ratio has reached the median level among peer organizations. It is recommended that Chinese CFs with donation revenue ratio below the median level should enhance their transparency index to improve their revenue from charitable resources.**

Keywords—Transparency; Donation Revenue; Charity Foundations in China; Quantile Regression

I. INTRODUCTION

During the past decade, Charity Foundations (CFs) in China have been growing at a rapid rate. The number of CFs has increased from 609 in 2003 to 3,029 in 2012 [1]. The management and regulation system of CFs in China have been trying to catch up with the fast growth of the organizations. Some major scandals about fundraising and usages among CFs were exposed occasionally since 2004 and the public has called for higher level of transparency.

There are major concerns about agency problem [2] among the CFs too, because usually owners of CFs are not well-defined and the residual claimants are either unable to monitor efficiently or unwilling to do so [3] [4]. Also due to asymmetry information, the public can hardly get access to the internal information of foundations to monitor the CFs. Hence government-mandated transparency policies can regulate information users and disclosers [5]. Further, to solve the

asymmetric information issue and distinguish its good quality using signaling effect [6], organizations voluntarily disclose their information to the public on purpose of attracting capital or reducing monitoring [4][7]. Institutions with better governance can increase its own public transparency by creditably disclose more information to the public. By this means, a charitable organization with better transparency may be better trusted by the public, hence eventually can raise more donation funds.

According to resource dependence theory [8], as CFs are not self-reliant and donations are critical resources to their survival [9], they must make efforts to satisfy people who have control over their resources [10]. There has been an improved demand for information disclosure by charities as donors increase their giving [11] [12] [13]. There are some empirical evidence supporting resource dependence theory [14] [15] [16] in western society. A recent study about CFs in China also found that greater dependence on donations and larger foundation size were associated with more online disclosure [17].

All existing empirical literature only studies the association between the transparency level and the donation revenues. There has been no study examining how the association of transparency on donation revenue may vary across the distribution of the donation revenue ratios among the CFs.

II. RESEARCH METHOD

In this study, we adopt quantile regression method to examine whether the association between the transparency level and donation revenue varies at the low or high quantile of the distribution of the donation revenue ratio. The quantile regression parameter estimates the change at a specified quantile of the conditional distribution of the dependent variable associated with one unit change in the explanatory variable. This model makes no assumption about the distribution of the underlying data and provides unbiased

estimates even with the lack of normal distribution or the presence of outlier observations, therefore it can be a good alternative to Ordinary Least Squared (OLS) regression. Also, a comprehensive picture of the association of the associated factors can be obtained through quantile regression.

The data source of this study is Chinese Foundations Center (CFC) database (www.foundationcenter.org.cn) , which contains the most comprehensive CFs information available in China. The database also contains China Foundation Transparency Index (FTI), which is constructed as the sum of four categories including 41 sub-indexes. FTI is regarded as among the best indicators of charitable organization transparency in China [16]. The equation for quantile regression tests is set as below:

Donation revenue ratio = α +β₁FTI +β₂ Government subsidy ratio+β₃Investment return ratio+β₄Restricted fund ratio ratio +β₅Ln(Total asset)+β₆Age +γ+ e₁ (1)

Where *Donation revenue ratio* represents donation revenue as a percentage of the total revenue. *Government subsidy ratio* and *Investment return ratio* represents the relevant percentages of the total revenue respectively. *Restricted fund ratio* means restricted fund as a percentage of the total asset. Age means number of years in existence. γ represents a vector set of organization specialization types, areas and years of the observations.

III. EMPIRICAL ANALYSIS AND DISCUSSION

The final sample for the study consisted of 6,035 Chinese CFs (N=6,035) that were founded since 1981 and with 20102015 annual reports available in the database. Statistics software Stata 15.0 was adopted to perform the analysis. The descriptive statistics of the main variables is reported as in Table I:

TABLE I.   DESCRIPTIVE STATISTICS

Variable	Mean	SD
Donation revenue(%)	0.63	0.39
Transparency Index (FTI)	0.56	0.23
Government subsidy(%)	0.10	0.23
Restricted fund (%)	0.31	0.58
Investment return(%)	0.10	0.24
Total asset (million RMB)	42.3	140
Age	10.93	8.35
Observation Number	6035	

As shown in Column (1) of Table II, the results by OLS regression suggest that Donation Revenue Ratio of a charitable institution will statistically significantly increase by 2.6 percentage points on average if the Transparency Index increases by 10 percentage points. Meanwhile, the results in Column (2) to (5) indicate that the positive association of

Transparency is as high as 0.59 among the organizations at the 10th percentile of the Donation Revenue Ratio, however, the association decreases quickly to 0.29 at the 25th percentile, and further decreases to 0.05 at the median, though all being statistically highly significant. The association at the 75th percentile is almost zero. Though not reported in Table 2, the association at the 90th percentile is not statistically significant. The pattern is robust when interquantile regression tests were performed (results available upon request). Also, there is no similar pattern among the association of government subsidy or investment return.

TABLE II.   QUANTILE REGRESSION ANALYSIS RESULTS

Dep. Var: Donation Revenue Ratio

Variables	OLS	q10	q25	q50	q75
	(1)	(2)	(3)	(4)	(5)
Transparency Index	0.26***	0.59***	0.29***	0.05***	0.00***
	(0.019)	(0.053)	(0.035)	(0.006)	(0.001)
Government subsidy(%)	-0.73***	-0.46***	-0.76***	-0.98***	-1.00***
	(0.012)	(0.047)	(0.030)	(0.004)	(0.001)
Investment return(%)	-0.66***	-0.34***	-0.74***	-0.95***	-0.99***
	(0.027)	(0.033)	(0.028)	(0.006)	(0.001)
Restricted fund (%)	0.01*	0.01	0.00	0.00	-0.00
	(0.005)	(0.015)	(0.009)	(0.002)	(0.000)
Long term debt ratio	0.00	0.03	-0.04	-0.00	0.00
	(0.029)	(0.048)	(0.040)	(0.008)	(0.001)
Age	-0.00***	-0.01***	-0.00***	-0.00***	-0.00***
	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)
Ln(Total asset)	0.02***	0.03***	0.02***	-0.00	-0.00***
	(0.004)	(0.009)	(0.005)	(0.001)	(0.000)
Constant	0.32***	-0.68***	0.15	0.94***	1.01***
	(0.067)	(0.143)	(0.111)	(0.020)	(0.003)
Observations	6,035	6,035	6,035	6,035	6,035
R-squared	0.491				

a. Fixed effects of organization specialization, areas and years are included in the regressions, though not reported in the table. b. Robust Standard errors in parentheses.*** p<0.01, ** p<0.05, * p<0.1

IV. CONCLUSION AND SUGGESTION

Using quantile regression method, this paper examines how the transparencies of CFs in China are associated with donation revenue ratios at lower and higher percentiles of the distribution. The results suggest that the positive associations

of transparency are stronger among the foundations at the lower percentile of donation revenue ratio distribution, however, there is no significant association above the median level. We highly recommend the CFs with donation revenue ratios below the median level improve their transparency level to boost their revenue from funds raising.

This study is limited by the availability of the data source and accuracy. The strategies and behaviors of the foundations may also change drastically after new Charity Law was implemented in China since September 2016. In the future, not limited to the association relationship, the causal effect between the transparency and donation revenue ratio should also be further examined.

REFERENCES

[1] Lin Nie, Helen K. Liu, Wenhao Cheng. "Exploring Factors that Influence Voluntary Disclosure by Chinese Foundations." International Society for Third-Sector Research and The Johns Hopkins University 2016.

[2] Jensen, M.C. and W.H. Meckling, 1976. "Theory of the firm: Managerial behavior, agency CFsts and ownership structure." J. Financ. Econ.3, no.4: 305360.

[3] Bujaki, M., & McConomy, B. J. 2010. "Corporate governance: Factors influencing voluntary disclosure by publicly traded Canadian firms." Canadian Accounting Perspectives 1, no.2: 105–139.

[4] Cormier, D., Aerts, W., Ledoux, M. J., & Magnan, M. 2010. "Web-based disclosure about value creation processes: A monitoring perspective." A Journal of Accounting, Finance, and Business Studies 46, no.3: 320–347.

[5] Brody, E. 2003. "Accountability and public trust." The state of nonprofit America. Washington, DC: Brookings Institution Press.

[6] Ross, Stephen A.1979, "The Economics of Information and the Disclosure Regulation Debate." Issues in Financial Regulation (New York: McGrawHill, 1979) .

[7] Healy, P. M., & Palepu, K. G. 2001. "Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature." Journal of Accounting and Economics 31: 405–440.

[8] Pfeffer, J. A., & Salancik, G. R. 2003. "The external control of organizations: A resource dependence perspective." Stanford, CA: Stanford University Press.

[9] Elbers, W., & Arts, B. 2011. "Keeping body and soul together: Southern NGOs' strategic responses to donor constraints." International Review of Administrative Sciences 77, no.4: 713–732.

[10] Froelich, K. A. 1999. "Diversification of revenue strategies: Evolving resource dependence in Charity Foundations." Charitable and Voluntary Sector Quarterly 28, no.3: 246–268.

[11] Gandı´a, J. L. 2009. "Internet disclosure by nonprofit organizations: Empirical evidence of nongovernmental organizations for development in Spain." Nonprofit and Voluntary Sector Quarterly 40, no.1:57–78.

[12] Trussel, J. M., & Parsons, L. M. 2007. "Financial reporting factors affecting donations to Charity Foundations." Advances in Accounting 23:263– 285.

[13] Zhuang, J., Saxton, G. D., & Wu, H. 2014. "Publicity vs. impact in nonprofit disclosures and donor preferences: A sequential game with one nonprofit organization and N donors." Annuals of Operations Research 221, no.1: 469–491.

[14] Behn, B. K., DeVries, D. D., & Lin, J. 2010. "The determinants of transparency in nonprofit organizations: An exploratory study." Advances in Accounting 26, no.1: 6–12.

[15] Dainelli, F., Manetti, G., & Sibilio, B. 2013. "Web-based accountability practices in non-profit organizations: The case of national museums." VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations 24: 649–665.

[16] Rodriguez, M. M. G., Caba Perez, M. C., & Lopez Godoy, M. 2012. "Determining factors in online transparency of NGOs: A Spanish case study." VOLUNTAS: International Journal of Voluntary and Nonprofit Organizations 23:661–683.

[17] Liu, Z., Zhang, X., & You, Y. 2013. "Determining factors in online information disclosure of NGOs: A Chinese foundation case study." Chinese Public Administration 11:46–51.