

Social Capital in Mutual Funds: The Implications for Agency Problem, Governance, and Synergy

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ABSTRACT

Although agency problem, governance, and synergy in mutual fund industry have been studied in financial literature, the implications of social capital for these issues have not been studied. Using 12,809 investments in open-ended mutual funds collected from Taiwan, this study finds that social capital between mutual funds and their investors results in agency problems. The reciprocal relationships between mutual funds and certain investors may damage other investors, causing agency problems. This study also finds that because formal governance infrastructures are weak in mutual fund industry, investors seek informal social mechanisms to govern agency problems and protect their own interests. Finally, this study finds that social capital is crucial for investment companies, which issue and manage multiple mutual funds, to create synergies with regard to transferring and sharing customer-specific information across mutual funds.

INTRODUCTION

Investor investment in mutual funds is just like investment in corporate stocks, facing agency problems. Investors invest in mutual funds in the hope that the professional knowledge of fund managers will increase returns and control risk, but in reality this does not necessarily occur. Fund managers may use the proceeds that investors invested to increase their own interests at the expense of investors. When facing agency problems, investors seek corporate governance mechanisms to protect their own interests. In public corporations, investors organize boards of directors, align managerial incentives, and introduce market for corporate control to govern the agency problems (Sundaram and Inkpen, 2004). However, in mutual fund industry, the governance mechanisms are not well-designed (Radin and Stevenson, 2006); namely, investors investing in mutual funds are less protected. Additionally, investment companies, which issue and manage multiple mutual funds, prevail in mutual fund industry in order to create synergies by combining several mutual funds within an investment company. However, the synergies are not empirically significant in literature (Chen, Hong, Huang, and Kubik, 2002).

Although agency problem, governance, and synergy in mutual fund industry have been studied in financial literature, the manner in which social capital between mutual funds and investors affects these phenomena is unknown. Social capital describes the goodwill available to individuals or groups from the network of relationships in which they are embedded (Adler and Kwon, 2002). Social capital has proved effective in governing interorganizational relationships and hazardous transactions (Coleman, 1988; Uzzi, 1996; 1997; 1999; DiMaggio and Louch, 1998; Dyer, 1997; Dyer and Singh; 1998; Dyer and Chu, 2003; Gulati, 1995; Chung, Singh, and Lee, 2000; Inkpen and Tsang, 2005; McEvily and Marcus, 2005; Kotabe, Martin, and Domoto, 2003; Peng and Heath, 1996; Subramani and Venkatraman, 2003; Reuer and Arino, 2007; Westphal, Boivie, and Chng, 2006). Additionally, scholars have shown that social capital is important to corporate governance within business groups in emerging economies (Khanna and Palepu, 1997, 2000; Luo and Chung, 2005; Peng, Lee, and Wang, 2005). Nevertheless, the manner in which social capital functions as a corporate governance mechanism for external investors is unknown.

However, as argued by Granovetter (1985; 1992), social capital itself may cause malfeasance. This study will investigate the agency problems incurred by social capital. Social capital may bring reciprocal relationships between an investment company and certain investors that damage other investors, causing agency problems.

Finally, social capital may create synergies for investment companies. Social capital transfers customer-specific information and knowledge to investment companies through fund-customer ties, which can be used by other mutual

funds within the same investment company to provide better service for that investor with a lower cost, creating synergies for the investment company.

This study addresses the following questions: (1) what are the agency problems between investors (principals) and investment companies (agents) which social capital bring about? (2) How does social capital function as a corporate governance mechanism to protect investor interests and enhance investor willingness to invest in mutual funds, given the agency problems between investors and investment companies? (3) How does social capital create synergies for investment companies, which manage multiple mutual funds?

Using data on 12,809 investments in open-ended mutual funds collected from Taiwan, this study empirically examines the agency problems result from social capital between mutual fund investors and investment companies, the manner in which social capital can be used as a corporate governance mechanism to protect the interests of mutual fund investors, and the manner in which social capital create synergies for investment companies. The Taiwanese mutual fund industry provides an excellent example for these research questions. Formal corporate governance mechanisms, such as boards of directors and the market for corporate control, do not exist in the Taiwanese mutual fund industry and, as in other countries, investment company compensation and mutual fund performance are misaligned, exacerbating agency problem and forcing investors to increase their reliance on social capital to protect their own interests.

THEORY AND HYPOTHESES

The Concept of Social Capital

Social capital is the goodwill available to individuals or groups from the network of relationships in which they are embedded (Adler and Kwon, 2002). To understand how social capital results in agency problem, acts as a corporate governance mechanism, and create synergies in mutual fund industry, it is best to first understand the concept of embeddedness.

Granovetter (1985) contended that economic actions are not “atomized” and cannot be explained by reference to individual motives alone, as described by neoclassical economics and financial economics; rather, economic actions are embedded in social networks. “Embeddedness” describes “the fact that economic actions and outcomes, like all social actions and outcomes, are affected by concrete, ongoing systems of social relations” (Granovetter, 1985). Granovetter (1992) further categorized the effects of embeddedness on economic actions into relational and structural aspects of embeddedness. Relational embeddedness is referred to as the fact that economic action and outcomes are affected by the dyadic or pairwise relations of actors. Meanwhile, structural embeddedness describes the effects of the overall network of relations.

However, social capital may be abused by individuals or groups, causing malfeasance. First, trust makes people vulnerable. Shapiro (1984) studied 526 cases of financial crimes in the U.S., finding that the criminals and the victims are acquaintances in most cases. Trust make people locked in hazardous transaction without adequate safeguards. Second, large scale malfeasance requires a well-structured group rather than an individual (Granovetter, 1992). Trust and reciprocity usually exist in the relationships among members in a criminal group, which is usually cohesive.

Agency Problems in Mutual Funds

Agency problems arise in the relationship between mutual fund investors (principals) and investment companies (agents). Investors invest in mutual funds managed by fund managers in the hope that the fund managers will manage the funds in the best interests of the investors based on fund manager professionalism and to diversify investor proceeds by spreading investment across a portfolio of securities to reduce risk. However, investment companies may not act in the best interests of investors but rather to maximize their own benefit, causing agency problems. Previous studies have shown that fund managers are engaged in marking-up or window-dressing of mutual funds they managed (Carhart, Kaniel, Musto, and Reed, 2002; Lakonishok, Shleifer, Thaler, and Vishny, 1991), excessive risk-taking by mid-year loser, herding in portfolio holdings, and commonality in trading behavior across funds (Chevalier and Ellison, 1999; Grinblatt, Titman, and Wermers, 1995; Hong, Kubik, and Stein, 2003). Recently, Gaspar, Massa, and Matos (2006) found that investment companies strategically transfer performance across member funds to favor those more likely to increase overall investment company profits (i.e., high fees or high past performers) at the expense of other funds.

This study proposes that misalignment between compensation and performance of mutual funds combined with reciprocal relationship between mutual funds and certain investors incurs agency problems. Investment companies managing mutual funds have three revenue sources: front-end-load fees, which are paid upon purchase of fund shares, back-end-load fees, paid upon redemption, and operating expenses, which are charged based on the average size of the assets under management (Barber, Odean, and Zheng, 2005; Almazan, Brown, Carlson, and Chapman, 2004). Only operating expenses are slightly aligned with fund performance (i.e., when the market value of assets [net asset value] under management increases, operating expenses increase accordingly). Most investment company revenue is related to mutual fund sales rather than performance.

Since investment company revenues are largely related to fund sales, investment companies implement strategies to increase fund sales, rather than fund performance. Particularly, fund managers invest the proceeds of mutual funds in stocks and bonds of firms that then invest the proceeds back in funds managed by the same investment company to increase fund sales, rather than investing the proceeds in stocks and bonds that are undervalued to enhance fund performance. Firms invest the proceeds back because the fund managers help to support firm stock price (i.e., reciprocity [Chung, Singh, and Lee, 2000; Coleman, 1988]). Accordingly,

Hypothesis 1: If a mutual fund holds stocks issued by an investor, the likelihood of that investor investing in a mutual fund (bond fund or non-bond fund) managed by the same investment company increases.

Hypothesis 2: If a mutual fund holds bonds issued by an investor, the likelihood of that investor investing in a mutual fund (bond fund or non-bond fund) managed by the same investment company increases.

Social Capital as a Corporate Governance Mechanism for Mutual Funds

Because formal corporate governance mechanisms are incomplete and imperfect, informal corporate governance mechanisms, i.e., social capital, emerge and play important roles in protecting investor interests.

Relational embeddedness refers to the influence of dyadic relationships on economic actions (Granovetter, 1992). Former research on embeddedness has shown that mutual trust and information sharing in dyadic relationships effectively govern opportunistic behavior (Dyer and Singh, 1998; Dyer, 1997; Dyer and Chu, 2003; Reuer and Arino, 2007; Westphal, Boivie, and Chng, 2006) and agency problems. Because past transaction experience enhances trust and information sharing, we hypothesize that:

Hypothesis 3a: The greater the frequency of past direct transactions, the greater the likelihood of the investor investing in a mutual fund managed by the same investment company.

The likelihood of new transactions may not increase linearly with the frequency of past direct transactions. Instead, the relationship may be inverted U shape. There are two reasons for this inverted U shape. First, too many transactions between an investor and a mutual fund may be harmful to the investor because of the associated lack of diversification, violating the principles of modern portfolio theory established by Markowitz (1952). Second, Uzzi (1996; 1997; 1999) has demonstrated that excessive embeddedness leads to firms lacking market information regarding price, fees, and service quality of alternative investment companies, negatively impacting firm performance. Therefore, with the increase in embeddedness and number of past transactions, the marginal effects of embeddedness decrease, resulting in inverted U shape relationships.

If the coefficient of the first term is positive, as suggested in H3a, and that of the square term is negative, the relationship between the likelihood of new investment and past direct transaction frequency has an inverted U shape. Thus, *Hypothesis 3b: The likelihood of an investor investing in a mutual fund managed by an investment company is negatively related to the square term of past direct transaction frequency.*

Structural embeddedness is referred to as the fact that economic actions are influenced by the structure of the overall social network in which they are embedded (Granovetter, 1992). Previous research on strategic alliances has found that firms with similar network status are more likely to become alliance partners, because status signals information regarding firm competence and trustworthiness, and thus reduces uncertainty (Stuart, 1997; Gulati and Garguilo, 1999; Chung, Singh, and Lee, 2000; Podolny, 1994). The competence and trustworthiness status signals are

referred to as reputational capital (Peng, Lee, and Wang, 2005). Thus,

Hypothesis 4: The likelihood of an investor investing in a mutual fund managed by an investment company is positively related to the degree of status similarity between the investor and the investment company.

Social Capital Creates Synergies for Mutual Funds

It is said that an investment company that issues and manages multiple mutual funds at the same time may create distribution synergies that a customer relation can be shared by several funds within the same investment company (Chen, Hong, Huang, and Kubik, 2002). However, no direct evidence on such synergies is provided.

Social capital can also help us to understand how customer relationships can be shared within investment companies to create synergies. When an investor invests in a bond fund managed by an investment company, they establish an information channel, which can be used by the investment company to collect investor information and tacit knowledge, which in turn can be used by the investment company to provide other services for the same investor (i.e., cross-selling), thus enhancing the likelihood of new non-bond fund transactions between the investor and the investment company.

However, this study argues that success in cross-selling between bond funds and non-bond funds in investment companies varies with the direction of cross-selling. Our data demonstrate that bond funds maintain considerably stronger ties with customers than do non-bond funds, i.e., the frequency with which corporate investors invest in bond funds are overwhelmingly greater than that with which they invest in non-bond funds, suggesting that bond funds can access sufficient customer-specific knowledge to complete a cross-selling process so as to enhance service efficiency, whereas non-bond funds, which maintain only weak ties with customers, cannot. Accordingly, the following hypothesis is proposed:

Hypothesis 5: Cross-selling process from bond funds to non-bond funds can be completed, whereas cross-selling process from non-bond funds to bond funds cannot.

METHODS

The unit of analysis in this study is the dyad between an investor and a specific category of mutual funds managed by an investment company. The mutual funds are categorized into bond funds and non-bond funds, with the latter including stock funds, balance funds, and others. A y value of 1 indicates that an investor invests in a specific category of funds (bond funds or non-bond funds) managed by an investment company, while a value of 0 indicates that the investment does not occur. This study gathered 12,809 investments by 1,051 corporate investors in mutual funds managed by 43 investment companies during 2002-2004. Among the 12,809 investments, 12,660 were in bond funds and only 149 were in non-bond funds. There are 45 securities investment trust companies in Taiwan during the sample period.

Among the 45 investment companies, 43 manage both bond and non-bond funds, and all of these are included in the present sample. The present sample only includes open-end mutual funds. Closed-end funds are excluded from this study. The 1,051 corporate investors are non-financial firms listed on the Taiwan Stock Exchange and the OTC market. Thus, there are 45,193 ($43 \times 1,051$) dyads in our sample (i.e. $N=45,193$) for each category of funds. Namely, there are 45,193 dyads for 1,051 possible corporate investors investing in bond funds of 43 possible investment companies, and 45,193 dyads for 1,051 possible corporate investors investing in non-bond funds of 43 possible investment companies. Each dyad may present a new investment ($y=1$) or not ($y=0$). Logistic regression model is used to test the factors that affect the likelihood of $y=1$.

Fund holding customer stocks is measured as whether or not mutual funds of an investment companies hold stocks issued by a corporate investor during 2002-2003. *Fund holding customer bonds* measures whether or not mutual funds of an investment company hold bonds issued by a corporate investor during 2002-2003. *Past investment ties* have two categories: past bond fund ties, measured as the frequency of an investor investing in bond funds managed by an investment company, and past non-bond fund ties, measured as the frequency of an investor investing in non-bond funds managed by an investment company during 2002-2003 (Chung, Singh, and Lee, 2000; Cural and Inkpen, 2002; Gulati, 1995; Gulati and Gargiulo, 1999; Pollock, Porac, and Wade, 2004; Reuer and Arino, 2007). *Past investment ties*

squares are calculated as the square term of past bond fund ties and the square term of past non-bond fund ties (Uzzi, 1996; 1997; 1999; Gulati, 1995). *Status similarity* measures the degree of similarity between investor and investment company status. *Cross-selling* is the process by which one division accesses customer-specific knowledge and then transfers this knowledge to another division, improving the efficiency of servicing and thus attracting that customer (Chuang and Lin, 2008; Yasuda, 2005; Rajan, 1996; Kanatas and Qi, 2003). If bond fund ties increase the likelihood of an investor investing in non-bond funds of the same investment company, the cross-selling process from bond fund to non-bond funds is successful. Similarly, if non-bond fund ties positively impact the likelihood of an investor investing in bond funds offered by the same investment company, the cross-selling process from non-bond funds to bond funds is successful (Chuang and Lin, 2008; Jensen, 2003; Yasuda, 2005).

This study controls several variables. First, this study controls investment company status, measured as the number of ties associated with an investment company, and investor status, measured as the number of ties associated with an investor, and joint status (*i.e.*, the product of investment company status and investor status). Joint status must be included to fully control the dyad-level combination of node characteristics (*i.e.*, the combination of investor status and investment company status) (Lincoln, 1984). Second, this study controls customer (investor) current ratio, which equals current assets divided by current liabilities of the investor. This study also controls customer size, measured as the natural log of total assets of the investor. Finally, this study controls investor age, measured as the number of years for which the investor has been established.

RESULTS

Table 1 summarizes the descriptive statistics of all variables. Meanwhile, Table 2 lists the results of logistic regression. Generally, the hypotheses developed in this study are largely supported.

Table 1. Descriptive statistics (N = 45,193)

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 New bond fund tie (0,1)	0.022	0.148	1.00													
2 Past bond fund ties	0.228	1.672	0.46	1.00												
3 Past bond fund ties square	2.847	61.330	0.22	0.79	1.00											
4 New non-bond fund tie (0,1)	0.001	0.023	0.08	0.07	0.04	1.00										
5 Past non-bond fund ties	0.002	0.094	0.03	0.05	0.04	0.31	1.00									
6 Past non-bond fund ties square	0.009	0.956	0.00	0.01	0.00	0.12	0.84	1.00								
7 Customer's current ratio	2.212	2.325	0.00	-0.01	0.00	0.00	0.00	0.00	1.00							
8 Customer's size	14.499	3.033	0.10	0.10	0.04	0.02	0.02	0.01	-0.01	1.00						
9 Customer's age	8.135	4.306	0.02	0.03	0.01	0.02	0.01	0.00	-0.07	0.11	1.00					
10 Investment company's status	58.837	42.060	0.08	0.12	0.04	0.00	-0.01	-0.01	0.00	0.08	0.00	1.00				
11 Customer's status	2.407	5.145	0.42	0.38	0.15	0.07	0.06	0.02	0.00	0.21	0.03	0.00	1.00			
12 Holding the customer's bonds	0.035	0.184	0.10	0.08	0.02	0.02	0.01	0.00	-0.01	0.10	0.06	0.08	0.17	1.00		
13 Holding the customer's stocks	0.197	0.397	0.17	0.15	0.06	0.03	0.02	0.00	0.03	0.19	-0.05	0.17	0.33	0.18	1.00	
14 Status similarity	0.552	0.253	0.04	0.06	0.02	0.00	-0.01	-0.01	0.01	0.01	-0.01	-0.66	0.07	0.01	-0.02	1.00
15 Joint status	141.635	385.632	0.47	0.51	0.21	0.06	0.03	0.00	0.00	0.18	0.03	0.26	0.78	0.19	0.34	0.18

DISCUSSIONS AND CONCLUSIONS

This study finds that social capital has important implication for agency problems, governance, and synergies in mutual funds. Just like those that invest in firms, investors that invest in mutual funds face agency problems. H1 and H2 demonstrate that fund managers, the agents, may use the proceeds invested by investors, the principals, to invest in securities issued by firms that may invest those proceeds back in the funds managed by the same investment company, based on their reciprocal relationships, to increase investment company sales and revenue, rather than investing in securities with growth potential and thus better serving investor interests.

Because certain formal corporate governance mechanisms are absent in mutual funds, informal governance mechanisms, *i.e.*, social capital and embeddedness, are important. This study has shown that trust and information transfer through social capital and embeddedness acts as a crucial corporate governance mechanism, reducing investor perceptions of agency costs and enhancing investor willingness to invest in the mutual funds (H3; H4).

Social capital is also vital in creating synergies for investment companies (H5). Investment companies need social capital to access customer-specific information and then apply this information to provide other mutual fund services to that customer, reducing the costs and increasing quality of service, thus creating synergies for investment companies.

Table 2. Results of logistic regression models (N = 45,193)

	Investing in a Bond Fund		Investing in a Non-bond Fund	
	Model 1	Model 2	Model 3	Model 4
Holding the customer's stocks		0.430 **** (0.089)		0.905 * (0.657)
Holding the customer's bonds		0.354 *** (0.121)		1.204 ** (0.596)
Past bond fund ties		0.307 **** (0.017)		0.092 † (0.083)
Past bond fund ties square		-0.004 **** (0.000)		-0.001 (0.002)
Past non-bond fund ties		0.028 (0.563)		3.171 **** (0.365)
Past non-bond fund ties square		-0.031 (0.223)		-0.206 **** (0.048)
Status similarity		2.453 **** (0.228)		2.685 * (1.774)
Investment company's status	0.010 **** (0.002)	0.017 **** (0.002)	-0.015 † (0.010)	-0.008 (0.012)
Customer's status	0.175 **** (0.008)	0.239 **** (0.011)	0.132 **** (0.029)	0.170 *** (0.060)
Joint status	0.001 **** (0.000)	-0.001 **** (0.000)	0.001 (0.000)	0.000 (0.001)
Customer's current ratio	0.044 *** (0.016)	0.041 ** (0.019)	-0.013 (0.148)	0.013 (0.162)
Customer's size	0.034 ** (0.014)	0.014 (0.014)	0.046 (0.083)	-0.025 (0.073)
Customer's age	-0.026 *** (0.008)	-0.021 ** (0.009)	0.107 ** (0.043)	0.103 * (0.055)
Intercept	-6.480 **** (0.254)	-8.367 **** (0.326)	-9.974 **** (1.436)	-11.966 **** (2.062)
-2LR	5882.578	5261.316	297.420	201.196
χ^2	3822.894 ****	4444.156 ****	97.395 ****	193.620 ****
Degrees of freedom	6	13	6	13

†p<0.15; *p<0.1; **p<0.05; ***p<0.01; ****p<0.001.
One-tailed tests for main variables; two tailed tests for control variables; standard errors are in parentheses.

This study found that formal corporate governance mechanisms in mutual funds suffer some weaknesses, resulting in significant agency problems that jeopardize investor interests, particularly in emerging economies such as Taiwan. Underdeveloped corporate governance institutions impede investment willingness and the development of mutual fund industries in Taiwan and other emerging economies (Khorana, Servaes, and Tufano, 2005). According to Khorana, Servaes, and Tufano (2005), the mutual fund industry accounts for only 17.6% of GDP in Taiwan, compared to 68.3% in the U.S. In particular, the equity sector of mutual funds accounts for only 3.2% of the total stock market in Taiwan, compared to 24.5% in the U.S. and 13.4% in the U.K. Although this study finds that informal governance mechanisms can be used to govern some agency problems, social capital itself cause agency problems. Future research should suggest how formal corporate governance mechanisms can be enhanced to further protect investor property right in the mutual fund industry (Radin and Stevenson, 2006).

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