FINANCIAL MARKET STRUCTURE AND INVESTOR PROTECTION

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Abstract - Uninformed investors preferentially select distribution companies to purchase funds that suit their investment objectives, because they cannot evaluate each product themselves. Thus, the investment decision depends significantly on their chosen fund distributor's recommendation. It may lead to conflicts of interest between fund distributors and their customers because distribution professionals and their affiliated financial companies have an incentive to prioritize their profits over investors under oligopolistic market structures. This study demonstrates that money flows into a fund, fund management company and fund distributor have significantly different patterns according to distribution channels, and this distinction is affected by vertical relations among financial companies. Money flows from affiliated distribution channels are less sensitive to the determinants of investment decision compared with non-affiliated ones. This result contributes by providing the insight that changes in the incentive structure of distribution channels result in different outcomes in terms of investor protection and market competition under oligopolistic distribution structures.

Index Terms - Fund Flow, Distribution Channel, Investor Protection, Oligopolistic Market Structure, Vertical Relation

I. INTRODUCTION

Much recent empirical research analyzed the determinants of a mutual fund's net cash inflows to understand investor behavior, particularly from the flow–performance relationship perspective. Chevalier and Ellison (1997) examined the flow–performance relationship as an incentive scheme implicitly given to mutual fund companies by investors and reported that investors would like the fund company to use its judgment to maximize risk-adjusted fund returns. Sirri and Tufano (1998) argued that consumers base their fund purchase decisions on prior performance information but asymmetrically, investing disproportionately more in funds that performed very well during the prior period. Cashman et al. (2012) documented that investors appear to evaluate and respond to mutual fund performance, although time spans are much shorter than previously assessed. Huang et al. (2007) demonstrated that mutual funds with lower participation costs have greater flow sensitivity to medium performance and less flow sensitivity to high performance than their higher-cost peers, indicating an asymmetric flow–performance relationship.

However, whether different categories of investors act in similar ways has been less studied. Understanding the investment behavior of different mutual fund clientele may reveal which investors and which of their decisions are responsible for the aggregate flow–performance relation observed. Del Guercio and Tkac (2002) found differences between the flow–performance relation of retail mutual fund

investors and institutional investors. They showed that retail investors chase past winners with far greater intensity than institutional investors and that only institutional investors sell poorly performing funds. This phenomenon resulted in retail flows being markedly more convex than institutional flows. James and Karceski (2006) observed that investors in institutional funds are less reactive to raw performance but more reactive to risk-adjusted performance than are investors in retail funds. Christoffersen et al. (2007) examined whether brokers put the brakes on investors' behavioral biases by reducing flow–performance sensitivity. Using more disaggregated flow data, they found that retail investors investing without a broker have the highest flow–performance sensitivity.

This study contributes to the burgeoning literature by analyzing whether fund flows from each distribution channel indicate different responses to the determinants of investment decisions and this distinction is caused by a fund distributor's transaction-specific variables, particularly in an emerging financial market with an oligopolistic distribution structure. Work on the determinants of mutual fund flows was overwhelmingly U.S. market-based. Therefore, examining the drivers of net cash inflows in an immature fund marketplace would provide insights into the notion that changes in the distribution scheme lead to different outcomes in terms of investor protection and market competition. This research area has been lacking. This study offers the first analysis of separated money flows from each distribution channel, and fund distributor flows with considering several distribution company and market structure features. By dividing fund distributors into categories defined by aspects such as their financial business segment, market share, and sales

concentration in the affiliated funds, this study provides empirical evidence that may be useful to investors and policy makers. By providing a research framework for the distributor-level analysis of fund flows, this study may also be used as an initial reference point for future studies.

II. THE KOREAN FUND INDUSTRY

The Korean fund industry involves oligopolistic distribution channels; therefore, the structure may lead to conflicts of interest between fund distribution companies and their customers because distribution professionals have an incentive to prioritize their profits over investors.

As Table 2 shows, many distribution companies in Korea have underperformed the market and the maximum difference in excess returns compared with the benchmark (KOSPI) among distribution companies has grown beyond 10%. However, they charge much higher distribution fees to investors than the other countries. As Table 3 shows, the ratio of fund distribution to management fees is as high as 6:4, and distribution fees are paid as regular charges rather than one-time fees (Min and Rhee 2010). In most countries, mutual fund fees primarily consist of the management charge, and the commission to the distribution channel is generally paid only once (Won and Hahn 2011).

Moreover, it presents significant risks in terms of investor losses due to intensifying fund distributors' sales concentration in the affiliated funds, because most fund management companies (hereafter, FMCs) in Korea are controlled by fund distributors. Recently, the average level of sales concentration has decreased, because investors have consistently complained. However, the controversy has not disappeared because some major distribution companies sustain high sales concentration (see Table 4). This tendency acts as an entry barrier for small and independent fund management companies, leading to a lack of market competition, which further hampers growth of the fund industry and should be addressed.

III. RESEARCH DESIGN

If you are using Word, use either the Microsoft Equation Editor or the MathType add-on (http://www.mathtype.com) for equations in your paper (Insert | Object | Create New | Microsoft Equation or MathType Equation). "Float over text" should not be selected.

IV. UNITS

Fund flows are disaggregated based on distribution channels into the following five categories resulting from consideration of the distribution structure:

- Financial business segment: (1) banks, (2) securities companies, and (3) insurers; and,
- Affiliate relations: (4) affiliated distributors and (5) non-affiliated distributors.

Thus, the aggregated fund flows are integrated as following equations.

Fund flows = Net cash inflows from banks + Net cash inflows from securities + Net cash inflows from insurers + Net cash inflows from others (1)

Fund flows = Net cash inflows from affiliated distribution channels + Net cash inflows from non-affiliated distribution channels (2)

Because our fund flow measure should be comparable across distribution channels, the normalized fund flows are defined based on Keswani and Stolin (2012). This method involves first scaling each month's flow from each distribution channel into each fund by the fund's value for the month, and then scaling the result by the corresponding aggregate ratio (all flows through that channel in that month are divided by the aggregate value of funds for that month in which these flows are present).

$$Fund_Flow_{i,t} = \frac{Sales_{i,t} - Sales_{i,t-1}}{Sales_{i,t-1}} \quad (3)$$

$Sales_{i,t}$: Sales of equity fund i at time t.

To analyze the determinants of fund flows in the context of market structure, we conduct a multivariate dynamic panel regression that considers various fund distributor characteristics. We lag all independent variables by one time period unit to mitigate potential endogeneity problems based on Kacperczyk et al. (2005) and include year dummies. We estimate the coefficients using the system generalized method of moments (system GMM) proposed by Arellano and Bover (1995) and Blundell and Bond (1998) because the lagged dependent variable is included in the specifications (Khorana and Servaes 2012). We verify the nonlinear flow–performance relation through dummy variables indicating that past performance is positive and negative, and the significance of the difference using the Wald F-test.

V. RESEARCH DATA

The dataset in this paper consists of (1) information on funds (i.e., returns, fees, NAV, setup date, management company, risk-adjusted performance ratios, evaluation grade), (2) sales information on funds (i.e., distribution company and its sales), (3) distributors' transaction specific information (i.e., sales for each FMC and for affiliated FMCs), (4)

macro-economic conditions (i.e., government bonds yield, corporate bonds yield, KOSPI dividend yield, monetary stabilization bonds yield), and (5) market index (KOSPI and KOSDAQ) on a monthly basis. We obtained these datasets from the FnGuide database, the statistics database (FreeSIS), and the electronic disclosure system (KOFIA) of the Korea Financial Investment Association and the Korea Exchange (KRX). The period of analysis, October 2009 to June 2013, was defined based on the availability of sales information on funds. The raw dataset includes 11,675 funds, 99 distribution companies, and 57 FMCs.

This study selected 1,843 funds by excluding index-, theme-, sector-, and dividend-type products from 6,234 domestic equity funds (more than 60% of the stock position). Of these, we selected 963 funds offered by 51 FMCs and 83 distributors with more than 12 months of operation and a NAV of ₩1 billion. This study included non-surviving funds satisfying these conditions to avoid survivorship bias.

VI. EMPIRICAL RESULTS

First, we apply equation (5) to the normalized fund flows from each distribution channel to identify whether they have different sensitivities to the determinants of investment decisions. The results in Table 6 indicate that the Entire fund flows from all distribution channels increase when abnormal performance is favorable and decrease when abnormal performance is poor. Comparing these reactions, the response to positive performance (.4820) is more than triple the response to negative performance (.1310), which results in the aggregate flow–performance relation being significantly convex (p-value < 0.01). However, when we compare the separated fund flows, we find that the banking segment and non-affiliated channels respond more sensitively to positive performance than the opposite parties, although the insurance segment has no significant flow–performance relation. This finding implies that the flow–performance relationship is convex, similar to findings from previous studies; however, the sensitivity differs across the distribution channels.

Moreover, the results indicate that the normalized fund flows respond differently to fund expenses (the price) according to each distribution channel. In the banking segment and for non-affiliated channels, the coefficients of the front-end load are significantly negative, but they are significantly positive for securities companies and affiliated channels. One interpretation of this result is that fund distributors in securities companies and affiliated channels place disproportionate emphasis on selling funds with higher front-end loads in the Korean equity fund industry, whereas the decreasing demand curve is applied to the banking segment and non-affiliated channels.

From the return volatility perspective, fund flows from the banking and insurance segments react negatively to the standard deviation of monthly returns for the previous twelve-month period, whereas the others are not significant. This finding implies that money flow from banks and insurance companies have more risk-adverse characteristics. This tendency is observed in the separated risk factors—beta (systematic) and residual risk (unsystematic)—and indicates that fund flows from securities companies respond positively to both risk factors, and those from affiliated channels react negatively to beta. These features also support the hypothesis that fund flows are affected by distribution companies, and fund characteristics.

In addition, Table 6 shows that fund flows from each distribution channel are highly persistent, similar to the results from Cashman et al. (2012), although different sensitivities exist among the distribution paths. The coefficients of the banking segment and non-affiliated channels are larger than for securities companies and affiliated channels, implying that persistence even in fund flows from each distribution channel may be used to predict future cash inflows.

Graphically, we identify these results from Figure 1, which represents separated money flows into all equity funds by the financial business segment and the affiliate relation of distribution companies. Fund flows from the banking segment fluctuate significantly compared with those from securities companies, and stabilize at similar levels after sales sharply decrease. Similarly, fund flows from non-affiliated distribution channel record greater sensitivity compared with fund flows from affiliated channels, a finding that also supports the concept that distribution channels matter to fund flows.

We expand the analysis of money flows from each distribution channel to fund management companies according to equation (7) to identify cash inflows that are influenced by their distribution channels even at the fund management company level. As Table 7 shows, the Entire fund management company flows from all distribution channels respond positively to abnormal performance when performance is only favorable. The interpretation of this result is that the flow–performance relationship in the fund management company level is also nonlinear, although the test for the null hypothesis of Wald-F test is not rejected. However, when we compare the separated fund management company flows, we find that the banking segment and non-affiliated channels respond to positive abnormal performance. However, in the securities companies, the response is more sensitive for negative performance, although the

insurance segment and the affiliated channels have no significant flow–performance relation. This finding implies that the nonlinear flow–performance relationship is applied to the fund management company level; however, sensitivity differs across the distribution companies.

Moreover, the results indicate that the normalized fund management company flows also respond differently to asset-weighted fund expenses according to each distribution channel. The coefficients of the front-end load are significantly positive in the banking and securities segments, and are significantly negative in the insurance segment and for non-affiliated channels. This result may be interpreted as fund management companies' distributors in banks and securities companies placing disproportionate emphasis on selling funds with higher front-end loads in the Korean equity fund industry, whereas a decreasing demand curve is applied to the insurance segment and non-affiliated channels.

Nanda et al. (2004) documented that fund families with greater variation in investment strategies across funds are shown to be more likely to generate star performance. In this study, this phenomenon appears in the securities and insurance segments and affiliated channels (see CrsFundStd).

For return volatility, fund management company flows from the banking and insurance segments react positively to the systematic risk factor for the previous twelve-month period, whereas non-affiliated channels respond significantly negative. From the fund management company point of view, this result is interpreted as the money flow coming from non-affiliated channels, which represent more risk-adverse characteristics.

Table 7 shows that the Entire fund flows from all distribution channels are significantly persistent; however, the coefficients are negative in the insurance segment and affiliated channels. This finding implies that persistence is selectively applied as a predictor of future cash inflows according to the distribution paths. This finding supports the notion that, at the fund management company level, cash inflows react differently to the determinants of investment decision according to the distribution channel.

Nanda et al. (2004) reported that star performance results in greater cash inflow to the fund and to the other funds in its family. To verify this phenomenon at the fund management company level, we analyze the effects of star funds and star FMCs. As Table 8 shows, generally, star fund and star management company effects are applied to the Korean equity fund industry except for the banking segment. Moreover, fund management company flows respond more sensitively to the star company effect than the star fund effect, implying that the fund management company's characteristics are important determinants of fund flows. However, the effects differ across distribution channels. In the classification of distribution companies' financial business segment, securities companies are much sensitive compared with the other segments. In the affiliate relation, affiliated ones react more sensitively to star fund and star management company effects.

In the previous section 5.1 and 5.2, we identify that fund and fund management company flows represent different responses to the determinants of investment decisions, for instance, upside and downside past performance, expenses, risk exposures, and the star phenomenon, according to distribution channels. It supports that investment decisions depend significantly on their fund distributors as the survey result. Thus, financial product distribution channels need to be properly modeled to estimate money flows accurately. This study extends the analysis to fund distributor flows with their transaction specific variables and market structure for the first time in the literature.

Figure 2 shows that net cash inflows from affiliated products are relatively stable. This may imply that fund distribution companies have an incentive to sell affiliated funds with a settled way in a higher priority. However, money flows from non-affiliated products represent different patterns; decreasing in fund distributors with market control but increasing in opposite groups during the analysis period of this study. This implies that net cash inflows from non-affiliated product selling are more sensitive to market situation, so that changes in aggregate fund distributor flows primarily depends on non-affiliated ones. One exception is the securities companies, whose affiliated sales sharply decrease. This may be because their affiliate relations are not so strong, and their product portfolios are replaced with the competitive ones in response to the demand shock.

We conduct more in-depth analysis of fund distributor flows according to equation (8). As Table 9 shows, generally fund distributor flows respond only to negative abnormal performance, in contrast with fund and fund management company flows, particularly in the banking segment. This phenomenon implies that fund distributors' flow–performance relationship is also nonlinear but more sensitive to underperformance. In Table 10, the results indicate that this tendency is stronger in non-affiliated product selling (see the banking segment) as we see in Figure 2.

Moreover, net cash inflows into fund distributors generally respond negatively to the sales concentration

in specific fund management companies. This finding implies that a vertical relation between fund management companies and distributors, including the affiliate relation, negatively affects the growth of the equity fund industry, and thus should be decreased. This phenomenon appears also stronger in non-affiliated channels as represent in Table 10.

From the return volatility perspective, fund distributor flows in the banking segment react positively to the standard deviation of monthly returns for the previous twelve-month period, but in the securities companies, money flows respond negatively to them. And we identify these aggregate flows are driven primarily by non-affiliated products in Table 10. This supports our expectation from Figure 2.

In addition, we analyze the effects of star funds and star distribution companies on distributor flows, similar to the analysis of fund management companies. To determine the star fund effect, we include the number of star funds sold by each fund distributor because many distribution companies sell at least one star fund, making it difficult to differentiate among distributors. Star distribution companies are selected by Korea Investor Protection Foundation (KIPF) as the top five companies. The results indicate that, at the level of fund distributor flows, the star fund and the star distributor effects are applied to the Korean equity fund industry. However, the star distributor effect is larger than the star fund effect, implying that investors evaluate fund distributors during the investment decision. Interestingly, these effects represent only in non-affiliated product selling as well.

CONCLUSION

The Korean fund industry is one of the largest and fastest-growing emerging markets in the world. However, the immature market structure of this industry, currently involved oligopolistic distribution channels and highly concentrated sales in affiliated FMCs of fund distributors, may lead to conflicts of interest between fund distribution companies and their customers because distribution professionals and their affiliated companies have an incentive to prioritize their profits over investors. This tendency acts as an entry barrier for small and independent fund management companies, leading to a lack of market competition that further hampers the growth of the fund industry and thus should be addressed. Uninformed investors preferentially select distribution companies to purchase funds that suit their investment objectives because they cannot evaluate each product themselves. Thus, the investment decision depends significantly on their chosen fund distributor's recommendation. If fund distributors, which have market control, disproportionately emphasize selling funds with an intention of prioritizing their profits over investors, a severe investor protection problem exists in the Korean equity fund industry. This study analyzes whether fund flows from each distribution channel indicate different responses to the determinants of investment decisions, and this distinction is caused by the fund distributor's transaction specific variables. The results demonstrate that fund and fund management company flows have significantly different patterns according to distribution channels, and fund distributor flows are affected by their financial business segment, market share, vertical relation, and company evaluation grade. However, these tendencies are apparent in non-affiliated product selling, while money flows from affiliated distribution channels are relatively stable. This result contributes to provide the insight that changes in the incentive structure of distribution channels may lead to different outcomes in terms of investor protection and market competition. Charging an asset driven front-end load and an abnormal performance driven regular distribution fees to compensate for distribution companies can be an example to enhance the market competition.

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