管 理 學 報
民100年，28卷，4期，361-377。

Journal of Management
2011, Vol. 28, No. 4, 361-377

The Advertising Spillover Effect: Implication for Mutual Fund Families

An-Pin Wei
National Sun Yat-sen University
Miao-Ling Chen
National Sun Yat-sen University
Chi-Lu Peng
National Sun Yat-sen University

Paper No. : 3051

Received January 22, 2010 → First Revised September 23, 2010 → Second Revised January 11, 2011 → Accepted January 25, 2011

Prior studies have found that a firm's advertising for one of its products can spill over and enhance sales for other existing products with the same brand name. This study examines whether the advertising spillover effect exists in the mutual fund market. The evidence shows that advertised funds in a fund family can significantly increase the cash flows of other higher-performing funds in the same family but not for those funds with middle and lower performance. For the fund family's advertising, results indicate that fund family's advertising can significantly increase the family cash flows for large fund families but not for those small fund families.

Key Words: The Advertising Spillover Effect, Advertising, Mutual Fund Families, Performance.

Introduction

There is a strong linkage between advertising and the product sales. Recent evidence (Aaker and Keller, 1990; Crane, 1990) shows that a firm's advertising for one of its products can spill over and enhance sales for other existing products in the same firm because of improving the brand awareness of the firm.[1] This pattern is termed the "advertising spillover effect." The issue of the advertising spillover effect has been extensively discussed in marketing studies (Srivastava, Shervani and Fahey, 1998; Balachander and Ghose, 2003) but is lack of in the field of finance. For the mutual fund market, advertising is an important marketing strategy, with funds in the U.S. spending $6 billion a year on advertising (Cronqvist, 2006). While individual mutual funds that belong to a single fund family could be regarded as heterogeneous products with the same brand name because of their different characteristics and investment objectives.[2] This

An-Pin Wei is the PhD candidate of Department of Finance, National Sun Yat-sen University, E-mail: anpinwei@gmail.com; **Miao-Ling Chen** is Professor and Director of Department of Finance, National Sun Yat-sen University, Address: Department of Finance, National Sun Yat-sen University, 70 Lien-hai Rd., Kaohsiung 804, Taiwan, Tel: +886-7-5252000 ext 4800, E-mail: miaoling@mail.nsysu.edu.tw; **Chi-Lu Peng** is the PhD candidate of Department of Finance, National Sun Yat-sen University, E-mail: chilupeng@gmail.com. The authors acknowledge two anonymous reviewers for their helpful comments.

[1] Macdonald and Sharp (2000) indicate that the brand awareness has important effects on consumer decision making by influencing which brands enter the consideration set — the set of brands to which consumer gives serious attention when making a purchase decision.

[2] Following the definition of Almazan, Brown, Carlson and Chapman (2004) and Huang, Wei and Yan (2007), this study defines the term of a fund family when a mutual fund company operates funds with the same brand name (e.g., the HSBC China equity mutual fund and the HSBC China fixed income fund). We group all categories of funds managed by the same security investment trust company (such as a mutual

raises the question of whether the advertising spillover effect exists in the mutual fund market. That is, whether the advertised funds in a fund family would bring the advertising spillover effect to cash flows of other funds in the same family.

In the Taiwanese mutual fund market, mutual fund sponsors offer thousands of domestic and foreign mutual funds for investors.[3] Therefore, the market is very competitive. How a fund family can attract greater cash flows is an important question. Using individual fund-level data, researchers show that the money which flows into mutual funds is affected by, among other things, advertising (Sirri and Tufano, 1998; Jain and Wu, 2000; Barber, Odean and Zheng, 2005). Using fund family-level data, Korkeamaki, Puttonen and Smythe (2007) find that the effect of past one-year fund family's advertising is significantly positive for the fund family cash flows only when there are top performing funds in the family.[4] However, owing to data constraints, these studies that use past one-year advertising variable to examine the advertising-flow relation seem to assume that the impact of advertising on the funds' cash flows would be maintained for one year. Tellis, Chandy and Thaivanich (2000) indicate that advertising would stimulate direct response and its impact dissipates very rapidly. Wood (2009) also documents that advertising often has a pronounced short-term sales impact. Their findings suggest that the effectiveness of advertising will not be maintained over a long time. Therefore, we challenge their findings using past one-year advertising variable to examine the advertising-flow relation.

Mutual fund advertising is one of the most important sources of information for investors making investment decisions (Sirri and Tufano, 1998; Jain and Wu, 2000; Barber et al., 2005). Those studies examine the advertising-flow relation by regarding those advertised funds as stand-alone entities rather than the members of fund families. However, most mutual funds are members of fund families.[5] Nanda, Wang and Zheng (2004) indicate that the family structure can bring the economies of scale to promotion of funds. Therefore, if the advertising spillover effect exists between members of a fund family, the literature (e.g., Jain and Wu, 2000; Barber et al., 2005) that treated funds as though they were stand-along entities is inappropriate.

According to the theory of market-based assets developed by Srivastava et al. (1998) that advertising can create the intangible market-based assets and bring the spillover effect to other products, we infer that the advertised funds in a family should improve the brand awareness of that family and then bring the spillover effect to other funds in the same family. Therefore, investors drawn to those advertised funds may notice other unadvertised funds in the same family and thereby invest in those funds. Thus, we hypothesize that the findings of the advertising spillover effect in the product market should pertain to the mutual fund market.

The objective of this study is to investigate whether the advertising spillover effect exists in the mutual fund market. To our knowledge, this is the first study to examine the advertising spillover effect in the financial market. This research contributes to the past literature in three aspects: First, we regard the funds as the members of fund families rather than treat them as stand-alone funds in the market. That is, we consider not only the impact of advertising on the individual funds but also the advertising spillover effect between funds in the same family. Second, the unique data set used in this paper contains the exact monthly amount of funds' advertising on different media types for each fund in the market. This data allows us to examine the advertising-flow relation precisely and to extend Jain and Wu (2000) and Korkeamaki et al. (2007)

fund/investment company in the U.S.) as members of the same fund family.

[3] In the end of June 2009, there are 502 domestic and 947 foreign mutual funds in the Taiwanese mutual fund market. Source: Source: Securities Investment Trust and Consulting Association (SITCA) of Taiwan, website: www.sitca.org.tw.

[4] The advertising data that used in Korkeamaki et al.'s (2007) study only include the top advertising spenders in the mutual fund industry for a given year. So Korkeamaki et al. (2007) indicate that their empirical relationship may be difficult to identify because of their lack of the low-level advertisers data.

[5] Similar with U.S. market, most Taiwanese mutual funds in the market are members of fund families. Nanda, Wang and Zheng (2004) indicate that more than 80% US mutual funds are belong to investment companies, while in Taiwan, there are more than 95% of mutual funds are members of fund families.

studies to examine whether the advertising spillover effect exists between members of a fund family. Finally, since the regulation in Taiwan requires all domestic mutual funds to report the exact amount of purchases and redemptions per month, this study can calculate the exact cash flows of funds rather than using the approximate cash flows (the growth rate of the funds' size) to measure the exact amount of funds' cash flows.[6]

Our evidence shows that the advertised funds significantly attract money flows into itself (Jain and Wu, 2000). After we divide the sample funds in the market into lower-performing, middle-performing, and higher-performing funds according to their risk-adjusted returns, the evidence shows that advertised funds brings significantly positive spillover effect to cash flows of higher-performing funds in the same family, whereas this pattern is reversed but insignificant for middle-performing and lower-performing funds. That is, advertising spillover effect exists only when funds in an advertised family are the higher-performing funds. Moreover, we also find that the higher-performing funds in the advertised family attract greater cash flows than those in the unadvertised family. With respect to the fund family's advertising, results indicate that fund family's advertising can significantly increase the family cash flows for large fund families but not for small fund families. In summary, our evidence not only shows the positive relation between the fund family's advertising and fund family cash flows (Korkeamaki et al., 2007) but also point out that the advertising spillover effect exists between funds in the same family and this effect is affected by the funds' performance.

[6] Previous studies (e.g., Jain and Wu, 2000; Barber et al., 2005) use the approximate cash flows to funds ($NCF_{i,t} = TNA_{i,t} - TNA_{i,t-1}\times(1+r_{i,t}) - MGTNA_{i,t}$) as a proxy for the growth rate of an individual mutual fund. Here $NCF_{i,t}$ is the net cash flows during time t, $TNA_{i,t}$ ($TNA_{i,t-1}$) is the total net assets for fund i at the end of time t (t-1), $r_{i,t}$ is the rate of return of fund i during time t. $MGTNA_{i,t}$ is the increase in the total net assets due to mergers during time t. Ivković and Weisbenner (2009) indicate that the patterns of buying and selling behavior by investors may be different. Since analyzing net purchases and redemptions separately could detect potentially different patterns in investor purchases and redemptions, aggregating purchases and redemptions into net flows may restrict the development of more detailed insights.

This paper is organized as follows. The next section provides a more extensive literature review. Section 3 reviews the Taiwanese mutual fund market. A discussion of the methodology and the definition of variables follows. Section 5 describes the data for this study. Analysis of empirical results is presented and the study is ended with a conclusion.

Literature Review

Blattberg, Briesch and Fox (1995) document that the increased advertising and the resultant higher brand equity produce an asymmetric sales response to sales promotions. Based on the market-based theory, Srivastava et al. (1998) indicate that advertising campaigns can create both intangible market-based assets (e.g., visibility, reputation, and brand awareness) and sales growth. Moreover, Aaker and Keller (1990) and Balachander and Ghose (2003) find that a firm's advertising for one of its products not only enhance sales for the advertised products but also increase sales for other existing products with the same brand name. This phenomenon was termed the "advertising spillover effect."

Sirri and Tufano (1998) and Jain and Wu (2000) indicate that the advertising of funds has emerged as one of the important information for investors' decision making. Recent research regarding the relation between advertising and mutual funds' cash flows (sales) shows that funds with advertising experience substantially larger cash flows than those with no advertising (Jain and Wu, 2000; Barber et al., 2005). They also indicate that advertising can lower the mutual fund investors' search cost (Sirri and Tufano, 1998; Huang et al., 2007) and higher the brand awareness of funds (Faff, Parwada and Poh, 2007). Awareness of a fund family can provide an umbrella from which all funds carried by the family will benefit (Crane, 1990). In addition, Massa (2003) documents investors appear to first pick the fund families in which to invest, not the individual funds. The findings of Elton, Gruber and Green (2007) indicate that individual investors often choose their investments from the same

family. Both of their findings may be explained by a fund family's reputation and brand awareness and imply that the reputation and brand awareness of fund families may influence investors when making decision. The advertising of individual funds in a fund family may improve the brand awareness of the overall family, and then spill over to cash flows of other funds in the same family. If there is the advertising spillover effect in mutual fund market, according to the findings of Aaker and Keller (1990) and Balachander and Ghose (2003), we infer that investors drawn to the advertised fund may also notice of other funds in the same family. Thus, we hypothesize that the advertised funds may bring a spillover effect to those funds with lower advertising and thereby increase their cash flows.

It is well documented in the mutual fund cash flows studies that fund's past performance is one of the most important determinants to investors' cash flows to funds (Chevalier and Ellison, 1997; Shu, Yeh and Yamada, 2002; Nanda et al., 2004; Sapp and Tiwari, 2004; Kempf and Ruenzi, 2008). These studies find that investors make investment decisions based on past fund performance (performance-flow relation). As mentioned above, there may be an interactive effect between the advertising and funds' performance. Therefore, our study hypothesizes that the advertising spillover effect should be affected by the performance of funds.

The Taiwanese Mutual Fund Market

The Taiwanese mutual fund market has experienced a growing share in the Asian mutual fund market. At the end of 2008, the Taiwanese domestic mutual fund market was ranked as the 26th globally (Investment Company Institute 2009). Table 1 reports the descriptive statistics by year for the domestic open-end mutual funds in Taiwan. Mutual fund families in Taiwan have grew substantially in the past decade, with the number of domestic open-end mutual funds increasing from 200 at the end of 1998 to 520 at the end of 2008. Among them, the number of equity mutual funds change from 124 at the end of 1998 to 175 at the end of 2008. On average, there was roughly NT$262.10 billion under management by the equity mutual funds which is about 15% of the overall mutual fund market. There are 905 thousand investors (898.5 thousand individual investors and 7.1 thousand institutional investors) in the Taiwan equity mutual fund market in June 2009. These investors comprise about 50% of all investors in the Taiwan mutual fund market.[7] In addition, the annual aggregated purchases and redemptions of equity funds are, on average, NT$227.95 billion and NT$220.99 billion, indicating that the money flows into managed funds is increasing. The annual total amount of advertising expenditures, on average, is roughly NT$0.58 billion.

Methodology

This paper investigates the relation between family members' (individual funds in a family) cash flows and fund family's advertising, and the relation between family cash flows and fund family's advertising expenditures, respectively. This study based on the spirit of Nanda et al. (2004), using a linear regression method to examine the advertising spillover effect. Due to the data used in this study is unbalanced panel data, this study estimates a fixed-effects regression model with a correction for serial correlation of errors (McAlister, Srinivasan and Kim, 2007).

Measure of the Advertising Spillover Effect

In order to investigate whether the advertising spillover effect exists between funds in the same family, the dependent variable is monthly individual fund's cash flows and the variable of interesting is the advertising of funds in the same family. We use the advertised family binary variable as proxy for the fund family which has at least one advertised fund. If the advertising spillover effect

[7] Source: SITCA of Taiwan.

Table 1 Descriptive Statistics of the Taiwan Open-End Mutual Fund Market

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Average
Number of Domestic Mutual Funds	200	236	301	326	362	417	465	504	513	545	520	399
Number of Domestic Equity Funds	124	150	177	180	183	186	188	183	179	183	175	173
Number of Fund Families	28	31	35	37	40	40	40	39	37	37	38	36
Mutual Funds Market Value (NT$ billions)	745.96	1,059.04	1,096.72	1,777.61	2,181.16	2,666.85	2,481.26	1,963.13	1,976.60	2,040.91	1,571.38	1,778.24
Equity Funds Market Value (NT$ billions)	236.3	294.75	191.01	250.97	222.85	256.17	246.44	252.87	255.77	437.21	238.73	262.10
Mutual Funds Market Purchases (NT$ billions)	2,534.19	3,707.11	4,576.23	5,865.69	7,593.60	7,683.42	7,551.75	5,474.15	4,387.36	4,694.66	4,076.35	5,285.86
Equity Funds Market Purchases (NT$ billions)	166.16	268.52	339.65	132.98	189.52	127.38	151.97	158.09	186.74	575.53	213.86	227.95
Mutual Funds Market Redemption (NT$ billions)	2,367.48	3,555.68	4,452.94	5,310.57	7,211.76	7,364.16	7,860.44	6,174.06	4,478.27	4,769.15	4,026.72	5,233.75
Equity Funds Market Redemption (NT$ billions)	178.07	294.31	307.26	127.39	162.58	147.87	167.19	234.53	225.64	396.54	189.53	220.99
Advertising Expenditures (NT$1,000)	61,284	23,399	130,863	30,270	18,771	19,792	28,674	8,620	12,314	18,823	271,363	57,559

Note. This table presents the annual summary statistics for the Taiwan open-end mutual fund market in the period 1998 to 2008. For each year, rows 2 to 4 show the number of all funds, equity funds, and the fund families respectively. Rows 5 and 6 show the market value (TNA) of all funds and equity funds (in NT$ billion). Rows 7 and 8 show the total amount of cash inflows of all funds and equity funds per year (in NT$ billion). Rows 9 and 10 show the total amount of cash outflows of all funds and equity funds per year (in NT$ billion). The last row shows the total amount of advertising expenditures of funds per year (in NT$1,000).

exists, the coefficient of the advertised family binary variable will be significantly positive. That is, funds belonging to an advertised family should attract greater cash flows than those in an unadvertised family. Moreover, we add the interactive terms of the advertised family binary variable with the ranking of funds' performance to capture whether the advertising spillover effect would be affected by the funds' performance. If the advertising spillover effect is affected by funds' performance, the coefficients of the interactive terms between the advertised family binary variable and the ranking of funds' performance will be significantly different from zero.

Prior studies find that funds' cash flows are also related to certain variables apart from advertising, including the ranking of fund's prior performance, the fund's past performance, the past fund's cash flows, the size of fund, the turnover ratio, management fees, fund's age, the size of fund family, and the fund family's historical performance. Kempf and Ruenzi (2008) show that the fund's cash flows are influenced by the ranking of fund's performance. Chevalier and Ellison (1997) and Sapp and Tiwari (2004) point out that fund's past performance is one of the most important determinants to investors' cash flows to funds. Kempf and Ruenzi (2006, 2008) indicate that a fund that experiences large cash inflows incur higher subsequent positive cash flows. Kempf and Ruenzi (2008) find that the relation between the size of fund and fund's cash flows is negative. Shu et al. (2002) document that the relationship between the turnover ratio and fund's cash flows and between the management fees and fund's cash flows are both negative. Bergstresser and Poterba (2002) find that cash flows of younger funds are greater than that of older ones. Kempf and Ruenzi (2008) indicate that the size of fund family can be positively influence cash flows of funds in the family. Nanda et al. (2004) show that fund family's historical performance increase cash flows of the members in the family. The purpose of this paper is to examine whether the advertising spillover effect exists in the mutual fund market. In order to avoid the "omission of variable" problem, we use these variables as control variables. The fixed-effects regression model is as following:

$$\begin{aligned} Flows_{i,t} = \sum \alpha_i &+ \beta_1 LOW_{i,t-1} + \beta_2 MID_{i,t-1} + \beta_3 HIGH_{i,t-1} \\ &+ \beta_4 ADFam_{i,t} + \beta_5 ADFam_{i,t} \times LOW_{i,t-1} \\ &+ \beta_6 ADFam_{i,t} \times MID_{i,t-1} + \beta_7 ADFam_{i,t} \times HIGH_{i,t-1} \\ &+ \beta_8 AD_{i,t} + \beta_9 StarFam_{i,t-1} + \beta_{10} Perf_{i,t-1} \\ &+ \beta_{11} Flows_{i,t-1} + \beta_{12} lnTNA_{i,t-1} + \beta_{13} TR_{i,t-1} \\ &+ \beta_{14} Fees_{i,t-1} + \beta_{15} lnAge_{i,t-1} + \beta_{16} lnFamTNA_{i,t-1} + \varepsilon_{i,t} \end{aligned} \quad (1)$$

Here i is the index for the individual fund, t is the index for month, and α_i captures the family fixed-effects. The meanings of the variables in this model are as following:

$Flows_{i,t}$ is the monthly cash flows which is measured by the fund's monthly purchases minus monthly redemptions.

$LOW_{i,t-1}$, $MID_{i,t-1}$, and $HIGH_{i,t-1}$ are the binary variables used to denote the relative ranking of fund's performance in the market. At the end of each month, all sample funds are ranked in ascending order based on the past 12-month Carhart (1997) four-factor risk adjusted returns (alphas). Following Kempf and Ruenzi (2008), funds ranking in the bottom 30 percent (0-30th percentile) are considered lower-performing funds ($LOW_{i,t-1}$), while those with ranking in the top 30 percent (71th- 100th percentile) are considered higher-performing funds ($HIGH_{i,t-1}$). The remainder (31th- 70th percentile) are considered middle- performing funds ($MID_{i,t-1}$). For example, $LOW_{i,t-1}$ has a value of one if fund i is a lower-performing fund and zero otherwise.

$AD_{i,t}$ is the advertised fund binary variable which equals one if the fund itself is an advertised fund and zero otherwise.

$ADFam_{i,t}$ is the fund family advertised binary variable of fund i during time t which is equal to one if there is at least one advertised fund (excluding individual fund i) in the family and zero otherwise.

$StarFam_{i,t-1}$ is the number of star funds in fund i's family (see Kempf and Ruenzi, 2008, p.183).[8]

$Perf_{i,t-1}$ is the past 6-month cumulative return of fund.

[8] Nanda et al. (2004) and Kempf and Ruenzi (2008) define the funds with performance among the top deciles as the star funds.

$lnTNA_{i,t-1}$ is the logarithm of total net assets under management by a fund.

$TR_{i,t-1}$ is the monthly turnover ratio of a fund, is measured by (buy-in turnover ratio + sell-out turnover ratio)/2 (Shu et al., 2002).

$Fees_{i,t-1}$ is the management fees of a fund.

$lnAge_{i,t-1}$ is the logarithm of a fund's age.

$lnFamTNA_{i,t-1}$ is the logarithm of total net assets under management by fund i's family.

We expect that the advertising spillover effect would appear between members of a fund family and the effect of advertising would be affected by the relative level of funds' performance ranking.

Measure of the Effect of Family Advertising on Family Cash Flows

In addition to examine the existence of the advertising spillover effect in advertised families, we also investigate whether fund families significantly benefit from the fund families' advertising by using regression approach. In line with Nanda et al. (2004) and Korkeamaki et al. (2007), the dependent variable in this model is the monthly fund family cash flows and the variable of interesting is the advertising of fund families.[9] If fund families benefit from advertising of fund families, the coefficient of the fund families' advertising will be significantly positive. The control variables are the fund family's characteristics: past cash flows, fund family size, past performance, turnover ratio, management fees, and the number of individual funds under management. Then we estimate the following fixed-effects regression model:

$$\begin{aligned} FamFlows_{f,t} = {} & \sum \alpha_f + \beta_1 FamADPct_{f,t} + \beta_2 FamFlows_{f,t-1} \\ & + \beta_3 lnFamTNA_{f,t-1} + \beta_4 FamPerf_{f,t-1} \\ & + \beta_5 FamTR_{f,t-1} + \beta_6 FamFees_{f,t-1} \\ & + \beta_7 ln\left(Number\ of\ Funds\right)_{f,t-1} + \varepsilon_{f,t}. \end{aligned} \quad (2)$$

Here, f is the index for the fund family, t is the index for month, and α_f captures the family fixed-effects. The meanings of the variables in this model are as follows:

$FamFlows_{f,t}$ is the monthly family cash flows which is calculated as

$$FamFlows_{f,t} = \sum_{i=1}^{N} Flows_{i,t} \quad (3)$$

where the $Flows_{i,t}$ is the cash flows of fund i belongs to the fund family f and N is the total number of funds in the fund family.

$FamADPct_{f,t}$ is the aggregate of each fund's advertising expenditures in the same family.

$lnFamTNA_{f,t-1}$ is the logarithm of total net assets under management by the fund family.

$FamPerf_{f,t-1}$ is the family-level performance calculated as the TNA-weight average of the corresponding fund-level measures in the same family.

$FamTR_{f,t-1}$ is the family-level turnover ratio calculated as the TNA-weight average of the corresponding fund-level measures in the same family.

$FamFees_{f,t-1}$ is the family-level management fees calculated as the TNA-weight average of the corresponding fund-level measures in the same family.

$ln(Number\ of\ Funds)_{f,t-1}$ is the logarithm of the total number of funds managed by the family.

We expect that a fund family would benefit from the advertising. That is, advertising expenditures of fund families should significantly enhance the family cash flows and the expensive advertising campaign should attract greater family cash flows than a smaller advertising campaign.

Sample Collection and Data

The main objective of this study is to explore whether

[9] Grullon, Kanatas and Weston (2004) indicate that the dollar amount of advertising expenditures would be a better proxy of investor visibility than the scaled measures. Thus, in this study, we use exact advertising expenditures rather than a scaled measure such as the ratio of advertising to sales or to scales because the various scaled measures do not gauge the scope of advertising.

the advertising spillover effect exists in mutual fund market. Past studies (e.g., Grullon et al., 2004) indicate that advertising has a significant effect on individual investors but not on institutional investors. In Taiwan, at the end of 2008 there are 898,502 individual investors invested in the domestic open-end equity mutual funds, which consists of 85.75% of all the domestic funds.[10] Thus, this study employs the domestic open-end equity mutual funds data to examine the advertising spillover effect.

According to the findings of Grullon et al. (2004), if the advertising spillover effect exists, a fund family's advertising for one of its funds can spill over and increase cash flows for other existing funds in the same family. That is, the unadvertised open-end equity mutual funds cash flows may be influenced by any categories advertised funds (e.g., bond funds and balanced funds) with a common brand name. Therefore, we collect the advertising data from all categories of funds in the family. We obtain the monthly advertising data published by Rainmaker XKM International Corporation (hereafter RXKM).[11]

We obtain other fund characteristic data from Taiwan Economic Journal (TEJ), including fund performance, total net assets (TNA), the exact amount of purchases (cash inflows) and redemptions (cash outflows); the buy-in and sell-out turnover ratio; the management fees; and the dates of original, liquidated, and combination. We collect the fund characteristic data from January 1998 to December 2008 because the advertising data that we obtain begins from 1998 to 2008. We include all the remaining funds regardless of their survival status during the sample period to mitigate the survivorship bias as documented by Brown, Goetzmann, Ibbotson and Ross (1992). Since the ranking of funds in the market is based on the past 12-month Carhart's risk adjusted returns, we only include funds in the sample after a full year of lagged data are available. Moreover, we exclude the fund families which have only one fund under management. Finally, our sample includes 15,885 monthly observations from 39 fund families with a total of 237 domestic open-end equity mutual funds.

Table 2 presents the descriptive statistics for the equity mutual funds over the sample period. On average, the monthly purchases and redemptions for the equity mutual funds are roughly NT$108.38 million and NT$105.12 million, respectively. The monthly advertising expenditures on fund families (individual funds) is, on average, NT$1.13 (NT$0.35) million. For the fund families, there is an average of roughly NT$50.09 billion under management by the fund families. The averages of funds' turnover ratio, management fees, and age are 33.14%, NT$2.07 million, and 6.98 years old, respectively. On average, the past 6-month cumulative returns is 3.14%. This study also tests for potential multicollinearity by checking the variance inflation factors (VIFs) in our model. Past literature states that if any of the VIFs exceeds 10 (Montgomery, Peck and Vining, 2001) or the mean VIF is more than 1.9 (Shimizu and Hitt, 2005; Adegbesan and Higgins, 2010), indicating that the associated regression coefficients are poorly estimated because of multicollinearity. However, in our model we find that the largest single VIF is 3.3 and the mean VIF is about 1.52, indicating that our regression model should not be biased by multicollinearity.[12]

Results

Advertising Spillover Effect

In this section, we examine whether the advertising spillover effect exists between funds in the same family. In Column 1 of Table 3, the evidence shows that the coefficient of $ADFam_{i,t}$ is insignificant, suggesting that the

[10] Source: SITCA of Taiwan.

[11] RXKM is the specialized organization for monitoring the advertising which broadcasts on the four resources media: television channels (including 4 wireless channels and 91 wired channels), newspapers (65 publishers), magazines (170 publishers), and radios (19 stations).

[12] The VIF for the jth regression coefficient can be presented as $\mathrm{VIF}_j = \frac{1}{1-R_j^2}$, where R_j^2 is the coefficient of multiple determination obtained from regressing x_j on the other regressor variables. The results of VIF tests are not reported but are available on request.

Table 2 Summary Statistics for Taiwan Open-End Equity Mutual Fund

	Mean	S.D.	Skewness	Kurtosis	75th Percentile	Median	25th Percentile
Average Purchases (NT$1,000)	108,384.02	280,744.23	9.08	140.01	95,736.75	28,598.00	7,271.50
Average Redemption (NT$1,000)	105,119.10	201,919.10	6.54	79.50	111,563.25	40,551.00	13,014.00
Average Net Cash flows (NT$1,000)	3,264.92	182,751.87	8.26	162.28	14,596.25	-3,258.00	-31,959
Families' Advertising Expenditures (NT$1,000)	1,127.12	2,103.86	4.94	35.85	1,249.81	426.55	142.90
Funds' Advertising Expenditures (NT$1,000)	353.92	614.33	3.23	14.48	326.49	130	78
Average Funds' TNA (NT$1,000)	1,446,172.81	1,724,419.39	3.68	25.21	1,747,486.00	874,872.00	455,022.75
Average Families' TNA (NT$1,000)	50,085,681.66	43,397,674.75	0.85	2.97	79,958,449.50	39,358,035.00	12,432,813.25
Turnover Ratio (%)	33.14	27.08	1.89	9.69	45.1	26.76	13.99
Management Fees (NT$1,000)	2,070.87	2,486.46	3.81	26.72	4,518.67	2,491.23	1,256.26
Age (Years)	6.98	4.23	0.76	3.43	10	6	4
Past 6-Month Cumulative Return (%)	3.14	22.78	0.26	3.28	30.5	18.43	3.45

Note. This table presents the summary statistics for the Taiwan open-end equity mutual funds observations in the period 1998 to 2008 (include 132 months). All variables are measured on a monthly basis. This table shows the mean, standard deviation, skewness, kurtosis, 75th percentile, median, and 25th percentile of the fund month observations. Rows 1 and 2 are the actual monthly purchases (cash inflows; in NT$1,000) and redemptions (cash outflows; in NT$1,000) amount. Row 3 is the cash flows (in NT$ 1,000) which is calculated by the monthly purchases minus the monthly redemptions. Rows 4 and 5 are the advertising expenditures of fund families and funds (in NT$1,000) which are the exact amount of money spent on advertising. Rows 6 and 7 are the total net assets of funds (in NT$1,000) and fund families (in NT$1,000) which are the total amount of assets under management by the fund and fund family. Row 8 is the turnover ratio (in %) of funds which is the average of buy-in and sell-out turnover rate. Row 9 is the management fees of funds. Row 10 is the fund's age (in years). Finally, Row 11 is the past 6-month cumulative returns (in %)

advertising of fund in a given month does not bring spillover effect to other funds' cash flows in the same family. This might be because investors do not follow the advertising blindly to make their investment decisions. Past studies indicate that fund investors seek to select funds with strong performance (Chevalier and Ellison, 1997; Nanda et al., 2004; Sapp and Tiwari, 2004; Kempf and Ruenzi, 2008). As mentioned above, our study infers that the effect of advertising on the funds' cash flows may be affected by the funds' performance.

Following Kempf and Ruenzi (2008), we define the funds as the lower-performing, middle-performing, and higher-performing funds based on the past 12-month Carhart risk-adjusted returns and add the interactive terms

Table 3 Advertising Spillover Effects on the Funds' Cash Flows

	(1)		(2)		(3)	
	Coefficient	**P-Value**	**Coefficient**	**P-value**	**Coefficient**	**P-value**
$LOW_{i,t-1}$	-	-	-	-	-0.043	(0.002)***
$MID_{i,t-1}$	-	-	-	-	-0.021	(0.077)*
$HIGH_{i,t-1}$	-	-	-	-	0.054	(0.000)***
$ADFam_{i,t} \times LOW_{i,t-1}$	-	-	-0.028	(0.482)	-0.009	(0.837)
$ADFam_{i,t} \times MID_{i,t-1}$	-	-	-0.050	(0.131)	-0.032	(0.366)
$ADFam_{i,t} \times HIGH_{i,t-1}$	-	-	0.125	(0.002)***	0.081	(0.053)*
$ADFam_{i,t}$	0.007	(0.753)	-	-	-	-
$AD_{i,t}$	0.433	(0.000)***	0.418	(0.000)***	0.417	(0.000)***
$StarFam_{i,t-1}$	0.014	(0.044)**	0.012	(0.107)	-0.001	(0.934)
$Perf_{i,t-1}$	0.028	(0.000)***	0.027	(0.000)***	0.023	(0.001)***
$Flows_{i,t-1}$	0.463	(0.000)***	0.462	(0.000)***	0.460	(0.000)***
$lnTNA_{i,t-1}$	-0.021	(0.102)	-0.021	(0.092)*	-0.027	(0.037)**
$TR_{i,t-1}$	0.003	(0.660)	0.003	(0.660)	0.002	(0.746)
$Fees_{i,t-1}$	0.005	(0.688)	0.005	(0.663)	0.007	(0.577)
$lnAge_{i,t-1}$	0.027	(0.000)***	0.027	(0.000)***	0.029	(0.000)***
$lnFamTNA_{i,t-1}$	0.004	(0.615)	0.005	(0.563)	0.005	(0.496)
R^2	0.223		0.223		0.224	

Note. This table estimates the following fixed-effect panel regressions:

$$\begin{aligned} Flows_{i,t} = \sum \alpha_i &+ \beta_1 LOW_{i,t-1} + \beta_2 MID_{i,t-1} + \beta_3 HIGH_{i,t-1} + \beta_4 ADFam_{i,t} \\ &+ \beta_5 ADFam_{i,t} \times LOW_{i,t-1} + \beta_6 ADFam_{i,t} \times MID_{i,t-1} + \beta_7 ADFam_{i,t} \times HIGH_{i,t-1} \\ &+ \beta_8 AD_{i,t} + \beta_9 StarFam_{i,t-1} + \beta_{10} Perf_{i,t-1} + \beta_{11} Flows_{i,t-1} + \beta_{12} lnTNA_{i,t-1} + \beta_{13} TR_{i,t-1} \\ &+ \beta_{14} Fees_{i,t-1} + \beta_{15} lnAge_{i,t-1} + \beta_{16} lnFamTNA_{i,t-1} + \varepsilon_{i,t}. \end{aligned}$$

Here, the index i and t denote the individual fund and month, respectively. $_i$ captures the family fixed-effects. The dependent variable is $Flows_{i,t}$, the monthly cash flows of individual fund i. $LOW_{i,t-1}$, $MID_{i,t-1}$, and $HIGH_{i,t-1}$ are the binary variables used to denote the relative ranking of fund in the market. $AD_{i,t}$ is the advertised fund binary variable indicating whether the fund has advertising. And $ADFam_{i,t}$ is the fund family advertised binary variable of fund i during time t which is equal to one if there is at least one advertised fund (excluding individual fund i) in the family and zero otherwise. $StarFam_{i,t-1}$ is the number of star funds in the family. $Perf_{i,t-1}$ denote the past 6-month cumulative return of fund. $Flows_{i,t-1}$ denotes the past cash flows of funds. $lnTNA_{i,t-1}$ is measured by the logarithm of total assets under management by funds. $TR_{i,t-1}$ and $Fees_{i,t-1}$ denote the turnover ratio and management fees of funds, respectively. $lnAge_{i,t-1}$ is measured by the logarithm of a fund's age. Finally, the $lnFamTNA_{i,t-1}$ is measured by the logarithm of total assets under management by fund family. We use the standard data to estimate the coefficients. Statistical significance at the 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively.

of $ADFam_{i,t}$ with the relative ranking of fund in the market. Column 3 of Table 3 shows that the impact of the interactive effect between the ranking of funds and the advertised family on fund's cash flows grows monotonically from the lower-performing funds to the higher-performing funds. Essentially, the advertised funds can generate a significantly positive effect on cash flows of higher-performing funds in the same family. This evidence supports that the advertising spillover effect is affected by fund's performance. On average, the cash flows of the higher-performing funds in the advertised family is 8.1% higher than other funds per month. However, for the middle-performing and lower-performing funds, we find that there is insignificant advertising spillover effect. This result suggests that the advertising spillover effect exists only when funds have higher historical performance. That is, the advertising spillover effect may be affected by the performance of funds.

Moreover, comparing the coefficients of $HIGH_{i,t-1}$ and $ADFam_{i,t} \times HIGH_{i,t-1}$, we find greater money flows into the higher-performing funds in an advertised family than into those in an unadvertised family. On average, the cash flows of the higher-performing funds are 5.4% higher than other funds, but are 2.7% lower than the higher-performing funds in the advertised family per month. This implies that there are greater cash flows into the higher-performing funds in the advertised family due to the existence of the advertising spillover effect. This result might be because the higher-performing funds are further promoted due to the advertising spillover effect.

With respect to the control variables, Column 3 of Table 3 shows that the coefficient of $HIGH_{i,t-1}$ is positive and significant. In addition, the influence on the cash flows of the lower-performing funds ($LOW_{i,t-1}$) and middle-performing funds ($MID_{i,t-1}$) are both significantly negative. This is consistent with Kempf and Ruenzi (2008), who show that there is an asymmetric relation between funds' performance and cash flows. In line with Sirri and Tufano (1998) and Jain and Wu (2000), the coefficient of $AD_{i,t}$ is positive and significant suggesting that funds' advertising in a given month significantly increase cash flows of funds. The coefficient of $Perf_{i,t-1}$, is significantly positive, indicating that the investors make their investment decision based on the past fund performance. The significantly positive coefficient of $Flows_{i,t-1}$ shows that the cash flows of funds are persistent. Consistent with the finding of Kempf and Ruenzi (2008), we find that the coefficient of $lnTNA_{i,t-1}$ is significantly negative. A possible explanation of this finding in the Taiwan mutual fund market is that, in practical market, in order to increase smaller fund's scale, fund sponsors usually offer some special discount to loads/fees for attracting cash flows into their small funds. Therefore, smaller funds may attract greater cash flows than larger funds. The coefficient of $lnAge_{i,t-1}$ is significant and positive, indicating that the older funds can attract greater cash flows than younger ones.

In summary, the advertising spillover effect exists between funds in the advertised family. The advertised family can attract greater cash flows into funds in the same fund family only when those funds are higher-performing funds.

Effect of Advertising on Family Cash Flows

This section reports the evidence of whether the fund family flows would benefit from the fund family's advertising. In Column 1 of Table 4, our finding is consistent with Korkeamaki et al. (2007), the coefficient of the $FamADPct_{f,t}$ is positive and significant. That is, fund families advertising significantly increase the family cash flows and then the scale of the family would be growth. This result in the increasing of management fees of fund family received from investors. Gallaher, Kaniel and Starks (2006) show that the relation between the advertising and funds' cash flows are only effective in fund families with higher advertising expenditures, which are usually the large fund families. It is quite likely that an expensive advertising campaign will reach a wider population of potential investors than a smaller advertising campaign. Therefore, the effect of advertising on cash flows of funds in large families should be stronger than in small families. To examine whether the effect of the advertising on the family cash flows is more pronounced

Table 4 Advertising Spillover Effects on the Family Cash Flows

	Full		Large		Small	
	Coefficient	P-Value	Coefficient	P-Value	Coefficient	P-Value
$FamADPct_{f,t}$	0.032	(0.029)**	0.040	(0.063)*	0.003	(0.825)
$FamFlows_{f,t-1}$	0.597	(0.000)***	0.601	(0.000)***	0.300	(0.000)***
$lnFamTNA_{f,t-1}$	0.294	(0.000)***	0.436	(0.000)***	0.132	(0.000)***
$FamPerf_{f,t-1}$	-0.004	(0.769)	0.006	(0.824)	-0.002	(0.731)
$FamTR_{f,t-1}$	0.030	(0.119)	0.130	(0.008)***	0.001	(0.892)
$FamFees_{f,t-1}$	-0.222	(0.000)***	-0.263	(0.000)***	-0.031	(0.578)
$ln(Number\ of\ Funds)_{f,t-1}$	-0.030	(0.554)	-0.057	(0.712)	-0.053	(0.003)***
R^2	0.361		0.376		0.163	
Observations	3245		1706		1539	

Note. This table estimates the following fixed-effect panel regression:

$$FamFlows_{f,t} = \sum \alpha_f + \beta_1 FamADPct_{f,t} + \beta_2 FamFlows_{f,t-1} + \beta_3 lnFamTNA_{f,t-1} + \beta_4 FamPerf_{f,t-1} + \beta_5 FamTR_{f,t-1} + \beta_6 FamFees_{f,t-1} + \beta_7 ln(Number\ of\ Funds)_{f,t-1} + \varepsilon_{f,t}.$$

Here f is the index for fund family, t is the index for month, and α_f captures the family fixed-effects. The dependent variable is $FamFlows_{f,t}$, the monthly family cash flows of fund family f. $FamADPct_{f,t}$ is measured by aggregating each fund's advertising expenditures. $FamFlows_{f,t-1}$ denotes the past family cash flows. $lnFamTNA_{f,t-1}$ is measured by the logarithm of total assets under management by fund family. $FamPerf_{f,t-1}$, $FamTR_{f,t-1}$, and $FamFees_{f,t-1}$ are defined as the TNA-weight average of corresponding fund-level measures, respectively. Finally, $ln(Number\ of\ Funds)_{f,t-1}$ is the logarithm of the total number of funds managed by the family. We use the standard data to estimate the coefficients. Statistical significance at the 10%, 5%, and 1% levels is indicated by *, **, and ***, respectively.

in large families than in small families, we split up our sample into observations from large families and small families.[13]

In Column 2 and 3 of Table 4, the evidence shows that the relation between the advertising and family cash flows is significantly positive in the large families, but is insignificant in the small families. This result could be due to several reasons. Firstly, the advertising budget of the large families is typically larger than small families. Thus, the expenditures for advertising campaigns in the large families should be greater than those in the small families (Gallaher et al., 2006). Secondly, the impact of the advertising on cash flows would not efficiently attract cash flows into the families unless their visibility is high enough (Kempf and Ruenzi, 2008). As mentioned above, the effect of advertising would be more pronounced in large families than in small families.

With respect to the control variables, the results in Table 4 indicate that the family cash flows is positively related to past family cash flows and size of fund family and it is negatively related to the management fees during the sample period. The coefficient of $FamFlows_{f,t-1}$ is positive and significant, implying that families' cash flows are persistent. The coefficient of $lnFamTNA_{f,t-1}$ is significantly positive. This result may be driven because of the higher visibility of a large fund family. Nanda et al. (2004) and Kempf and Ruenzi (2008) indicate that the size of a fund family can be considered as the visibility of the fund family and expected to positively influence investor recognition. Thus, the higher visibility of a fund family can attract more money flows into the fund family. The coefficient of $FamFees_{f,t-1}$, is significantly negative, implying that higher fees funds may stem investors to invest in those funds (Shu et al., 2002).

Our empirical result suggests that the advertising of a fund family can attract greater cash flows into the fund family. This implies that fund families can benefit from the advertising.

[13] Large families are defined as those families in which the average money managed by the families over the sample period is larger than NT$50 billion. We also use NT$ 40 billion, NT$ 45 billion, and NT$ 60 billion as cutoffs to define large fund families. Our results are robust against variations of this definition for large fund families.

Robustness Tests

To compare the results with prior studies (Sirri and Tufano, 1998; Jain and Wu, 2000), we first employ the binary variables ($AD_{i,t}$ and $ADFam_{i,t}$) to examine the advertising-flow relation in Table 3. However, the RXKM offers the monthly exact amount of funds' advertising on different media types for each fund in the market that allow us to replace the binary variables with the exact amount of funds' advertising expenditures to reexamine the advertising-flow relation. Our evidence shows that the results using exact amount of funds' advertising expenditures data are not significantly different with the results that we use binary advertising variables in Table 3. Goriaev, Nijman and Werker (2008) show that there is a lower sensitivity of funds' cash flows to very recent performance than to performance half a year ago. In Equation 1, we further replace $Perf_{i,t-1}$ with past 1, 3, and 12 month cumulative returns, and the evidence are generally robust. Moreover, a similar result is obtained if we base the ranking of funds ($LOW_{i,t-1}$, $MID_{i,t-1}$, and $HIGH_{i,t-1}$) on Fama and French's (1993) three-factor alphas. The evidence reported on Table 3 is robust.[14]

Major Findings

This study employs unbalance panel data regression approach, finding that the advertising spillover effect exists only when funds that experience higher performance. That is, the advertising spillover effect is affected by funds' performance. We also find that fund families can benefit from their advertising. The advertising of fund families can bring a significantly positive influence on the family cash flows and the fund family's advertising can significantly increase the family cash flows for large fund families but not for those small fund families.

Conclusions and Implications

The issue of the advertising spillover effect has been extensively discussed in marketing studies (Aaker and Keller, 1990; Crane, 1990; Srivastava et al., 1998; Balachander and Ghose, 2003). According to Srivastava et al.'s (1998) market-based assets theory, advertising can create the intangible market-based assets and bring the spillover effect to other products with the same brand name. In the mutual fund market, individual funds in the same family could be regarded as heterogeneous products with the same brand name due to the different characteristics and investment objectives. Moreover, consistent with the findings in product markets, studies on mutual fund market find that advertising is a common and important instrument for financial services to communicate with current and potential consumers (Sirri and Tufano, 1998; Jain and Wu 2000; Nanda et al., 2004; Barber et al., 2005; Faff et al., 2007; Huang et al., 2007). Therefore, it is valuable to investigate whether the advertising spillover effect that appears in the product markets also exists between funds in the same family.

In this study, our evidence shows that advertising can significantly attract cash flows into advertised funds. Furthermore, the advertised family significantly attracts more money flows into the higher-performing funds in the family, but insignificant amounts of cash flows into the middle-performing and lower-performing funds in the same family. This result partially supports Srivastava et al.'s (1998) market-based assets theory that advertising only brings the spillover effect to parts of funds in the fund family. Our evidence also shows that the higher-performing funds in an advertised family can attract greater cash flows than those in an unadvertised family. For the fund family, the evidence shows that the advertising can significantly attract cash flows into the family. The significantly positive relation between advertising and fund family cash flows can enhance the scale of the fund family and then increase the management fees received from investors. This suggests that the fund family benefits from the advertising. Moreover, compared with the small families, the fund family's advertising can significantly increase the family cash flows for large fund families but not for those small fund families. This evidence indicates that the scale of the fund families is an

[14] To conserve space, the results of robustness tests are not reported here but are available from the authors on request.

important factor affecting the effect of the advertising on the family cash flows.

McAlister et al. (2007) indicate that financial studies often slight the power of advertising to investors' behaviors. Our research findings provide valuable implications to mutual fund families. In the competitive mutual fund market, advertising plays an important role for fund families to reach a wider population of potential investors. The advertised funds can attract more money flows into themselves and bring a significantly positive advertising spillover effect to higher-performing funds in the same family. Thus, the marketing managers could allocate the advertising budgets to optimize the effect of advertising on cash flows of funds in the family. Although investors would make their investment decisions according to the funds' past performance and other characteristics of funds, fund managers should consider the effect of the advertising on cash flows of all funds in the family.

References

Aaker, David A. and Kevin L. Keller, 1990. Consumer Evaluations of Brand Extensions, ***Journal of Marketing***, 54(1), 27-41.

Adegbesan, J. Adetunji and Matthew J. Higgins, 2010. The Intra-alliance Division of Value Created through Collaboration, ***Strategic Management Journal***, 32(2), 187-211.

Almazan, Andres, Keith C. Brown, Murray Carlson and David A. Chapman, 2004. Why Constrain Your Mutual Fund Manager?, ***Journal of Financial Economics***, 73(2), 289-321.

Balachander, Subramanian and Sanjoy Ghose, 2003. Reciprocal Spillover Effects: A Strategic Benefit of Brand Extensions, ***Journal of Marketing***, 67(1), 4-13.

Barber, Brad M., Terrance Odean and Lu Zheng, 2005. Out of Sight, Out of Mind: The Effects of Expenses on Mutual Fund Flows, ***Journal of Business***, 78(6), 2095-2110.

Bergstresser, Daniel and James Poterba, 2002. Do After-tax Returns Affect Mutual Fund Inflows?, ***Journal of Financial Economics***, 63(3), 381-414.

Blattberg, Robert C., Richard Briesch and Edward J. Fox, 1995. How Promotions Work, ***Marketing Science***, 14(3), 122-132.

Brown, Stephen J., William Goetzmann, Roger G. Ibbotson and Stephen A. Ross, 1992. Survivorship Bias in Performance Studies, ***Review of Financial Studies***, 5(4), 553-580.

Carhart, Mark M., 1997. On Persistence in Mutual Fund Performance, ***Journal of Finance***, 52(1), 57-82.

Chevalier, Judith and Glenn Ellison, 1997. Risk Taking by Mutual Funds as a Response to Incentives, ***Journal of Political Economy***, 105(6), 1167-1200.

Crane, Frederick G., 1990. The Need for Corporate Advertising in the Financial Services Industry: A Case Study Illustration, ***Journal of Services Marketing***, 4(2), 31-37.

Cronqvist, Henrik, 2006. ***Advertising and Portfolio Choice***, Working Paper, Ohio State University.

Elton, Edwin J., Martin J. Gruber and T. Clifton Green, 2007. The Impact of Mutual Fund Family Membership on Investor Risk, ***Journal of Financial and Quantitative Analysis***, 42(2), 257-278.

Faff, Robert W., Jerry T. Parwada and Hun Lune Poh, 2007. The Information Content of Australian Managed Fund Ratings, ***Journal of Business Finance and Accounting***, 34(9-10), 1528-1547.

Fama, Eugene. F. and Kenneth. R. French, 1993. Common Risk Factors in the Return on Bonds and Stocks, ***Journal of Financial Economics***, 33(1), 3-53.

Gallaher, Steven, Ron Kaniel and Laura Starks, 2006. ***Madison Avenue Meets Wall Street: Mutual Fund Flows, Competition and Advertising***, Working Paper, University of Texas at Austin.

Goriaev, Alexeim, Theo, E. Nijman and Bas, J.M., Werker, 2008. Performance Information Dissemination in the Mutual Fund Industry, ***Journal of Financial Markets***, 11(2), 144-159.

Grullon, Gustavo, George Kanatas and James P. Weston, 2004. Advertising, Breadth of Ownership, and

Liquidity, ***Review of Financial Studies***, 17(2), 439-461.

Huang, Jennifer, Kelsey D. Wei and Hong Yan, 2007. Participation Costs and the Sensitivity of Fund Flows to Past Performance, ***Journal of Finance***, 62(3), 1273-1311.

Investment Company Institute, 2009. ***Worldwide Mutual Fund Assets and Flows***, http:// www.ici.org.

Ivković, Zoran and Scott Weisbenner, 2009. Individual Investor Mutual Fund Flows, ***Journal of Financial Economics***, 92(2), 223-237.

Jain, Prem C. and Joanna, Shuang Wu, 2000. Truth in Mutual Fund Advertising: Evidence on Future Performance and Fund Flows, ***Journal of Finance***, 55(2), 937-958.

Kempf, Alexander and Stefan Ruenzi, 2006. Status Quo Bias and the Number of Alternatives: An Empirical Illustration from the Mutual Fund Industry, ***Journal of Behavioral Finance***, 7(4), 204-213.

Kempf, Alexander and Stefan Ruenzi, 2008. Family Matters: Rankings within Fund Families and Fund Flows, ***Journal of Business Finance and Accounting***, 35(1-2), 177-199.

Korkeamaki, Timo, Vesa Puttonen and Tom Smythe, 2007. Advertising and Mutual Fund Asset Flows, ***International Journal of Bank Marketing***, 25(7), 434-451.

Macdonald, Emma K. and Byron M. Sharp, 2000. Brand Awareness Effects on Consumer Decision Making for a Common, Repeat Purchase Product: A Replication, ***Journal of Business Research***, 48(1), 5-15.

Massa, Massimo, 2003. How do Family Strategies Affect Fund Performance? When Performance Maximization Is Not the Only Game in Town, ***Journal of Financial Economics***, 67(2), 249-304.

McAlister, Leigh, Raji Srinivasan and MinChung Kim, 2007. Advertising, Research and Development, and Systematic Risk of Firm, ***Journal of Marketing***, 71(1), 35-48.

Montgomery, Douglas C., Elizabeth A. Peck and C. Ceoffrey Vining, 2001. ***Introduction to Linear Regression Analysis 3rd ed.***, New York: John Wiley and Sons, Inc.

Nanda, Vikram, Z. Jay Wang and Lu Zheng, 2004. Family Values and Star Phenomenon: Strategies of Mutual Fund Families, ***Review of Financial Studies***, 17(3), 667-698.

Sapp, Travis and Ashish Tiwari, 2004. Does Stock Return Momentum Explain the "Smart Money" Effect?, ***Journal of Finance***, 59(6), 2605-2622.

Shimizu, Katsuhiko and Michael A. Hitt, 2005. What Constrains or Facilitates Divestitures of Formerly Acquired Firms? The Effects of Organizational Inertia, ***Journal of Management***, 31(1), 50-72.

Shu, Pei Gi, Yin Hua Yeh and Takeshi Yamada, 2002. The Behavior of Taiwan Mutual Fund Investors: Performance and Fund Flows, ***Pacific Basin Finance Journal***, 10(5), 583-600.

Sirri, Erik R. and Peter Tufano, 1998. Costly Search and Mutual Fund Flows, ***Journal of Finance***, 53(5), 1589-1622.

Srivastava, Rajendra K., Tasadduq A. Shervani and Liam Fahey, 1998. Market-based Assets and Shareholder Value: A Framework for Analysis, ***Journal of Marketing***, 62(1), 2-18.

Tellis, Gerard J., Rajesh K. Chandy and Pattana Thaivanich, 2000. Which Ad Works, When, Where, and How Often? Modeling the Effects of Direct Television Advertising, ***Journal of Marketing Research***, 37(2), 32-46.

Wood, Leslie, 2009. Short-term Effects of Advertising: Some Well-established Empirical Law-like Patterns, ***Journal of Advertising Research***, 49(2), 186-192.

魏安平為國立中山大學財務管理系博士候選人。主要研究領域為財務經濟、投資組合管理與財務行銷。其專長於使用階層線性模型等財務計量方法。學術論文曾發表於匿名審查之學術期刊如 Investment Analysts Journal (SSCI)。

An-Pin Wei is a PhD candidate of Finance, National Sun Yat-sen University, Taiwan. His current research interests include issue related to financial economics, portfolio management, and financial marketing. He has the professional specialty on structure change use the method of Hierarchical Linear Model (HLM) and Quantile Regression. His recent academic papers have been published in refereed journals such as the Investment Analysts Journal (SSCI).

陳妙玲（通訊作者）為國立中山大學財務管理系教授兼系主任，日本慶應義塾大學商學博士。主要教授行銷學、財務報表分析、財務行銷學等。研究領域主要為財務與行銷之跨領域研究以及消費者行為。學術論文曾發表於匿名審查之學術期刊如 Journal of Business Research (SSCI), Applied Economics (SSCI), Applied Economics Letters (SSCI), Investment Analysts Journal (SSCI), Journal of Chinese Economic and Business (Econlit),公平交易季刊 (TSSCI)，台大管理論叢 (TSSCI)，中山管理評論 (TSSCI)。

Miao-Ling Chen (corresponding author) is a Professor and Director at Department of Finance, National Sun Yat-sen University, Taiwan. She received her PhD degree in Marketing from Keio University in Japan. She teaches both undergraduate and graduate courses, including Marketing, Financial Statement Analysis, Financial Marketing, and so on. Her interests in research include: marketing/finance interface research, advertising and consumer behavior. She has published in different refereed journals such as the Journal of Business Research (SSCI), Applied Economics (SSCI), Applied Economics Letters (SSCI), Investment Analysts Journal (SSCI), Journal of Chinese Economic and Business (Econlit), Fair Trade Quarterly (TSSCI), National Taiwan University Management Review (TSSCI), and Sun Yat-Sen Management Review (TSSCI).

彭琪祿為國立中山大學財務管理系博士候選人。主要研究領域為財務經濟、投資組合管理、不動產財務與財務行銷。其專長在於使用財務計量方法。學術論文曾發表於匿名審查之學術期刊如 Journal of Real Estate Finance and Economics (SSCI), Investment Analysts Journal (SSCI), International Research Journal of Finance and Economics (Econlit)。

Chi-Lu Peng is a PhD candidate of Finance, National Sun Yat-sen University, Taiwan. His current research interests include issue related to financial economics, portfolio management, real estate finance and financial marketing. He has the professional specialty on structure change use the method of Quantile Regression. His recent academic papers have been published in refereed journals such as the Journal of Real Estate Finance and Economics (SSCI), Investment Analysts Journal (SSCI) and International Research Journal of Finance and Economics (Econlit).

廣告之外溢效果：共同基金家族的實証研究

魏安平
國立中山大學
陳妙玲
國立中山大學
彭琪祿
國立中山大學

論文編號：3051
收稿 2010 年 1 月 22 日 → 第一次修正 2010 年 9 月 23 日 → 第二次修正 2011 年 1 月 11 日 → 正式接受 2011 年 1 月 25 日

過去研究發現公司對其某一商品之廣告的效果會外溢並增加其他存在於市場中之相同品牌商品的銷售。本研究主要探討廣告的外溢效果是否存在於共同基金市場之中。研究結果顯示：共同基金家族中的某一基金之廣告能增加同家族中績效較佳之基金的現金流量；但對績效中等與績效較差之基金，此一效果則不顯著。對於共同基金家族之廣告而言，研究結果顯示：基金家族的廣告能增加該基金家族的現金流量，而此一廣告的效果在規模較大的基金家族呈現顯著，在規模較小的基金家族則呈現不顯著。

關鍵字：廣告之外溢效果、廣告、共同基金家族、績效。

魏安平為國立中山大學財務管理研究所博士候選人，E-mail: anpinwei@gmail.com。陳妙玲為國立中山大學財務管理系教授兼系主任，地址：高雄市鼓山區蓮海路 70 號，電話：(07)5252000 轉 4800，E-mail: miaoling@mail.nsysu.edu.tw。彭琪祿為國立中山大學財務管理研究所博士候選人，E-mail: chilupeng@gmail.com。作者衷心感謝二位匿名評審提供寶貴意見。