

Chae Hee Shin
1126 E. 59th Street
Chicago, IL 60637 USA
Phone: +1-773-569-6450
E-mail: chaehee@uchicago.edu
Web: <http://home.uchicago.edu/~chaehee>

January 15, 2013

Mr. Denis Healy
Director of Development NBER
1050 Massachusetts Avenue
Cambridge, MA 02138-5398

Dear Mr. Healy,

It is with great interest that I am submitting this proposal to apply to your call for research from the Household Finance Working Group. I am an Economics Ph.D. candidate at the University of Chicago, with research interests over household investment behavior, in particular, its portfolio choice, and its decision-making process associated with purchase made in the financial goods market.

I enclose my research proposal, an itemized budget, and my curriculum vitae. A letter of reference will follow from my advisor, Ali Hortaçsu.

Thank you for your consideration.

Sincerely,

Chae Hee Shin

Research Proposal for NBER Household Finance Working Group

Chaehee Shin
University of Chicago

January 15, 2013

INTRODUCTION

Despite an exhaustive literature on investment behaviors of households¹, one area of study that yet remains to be explored is household's purchase decision of financial goods. To take, for instance, the mutual funds market, which 81% of U.S. households used in 2011², there are more than 400 fund families actively competing with over 25,000 funds (counting separately the different share classes) to attract a part of \$11.8 trillion total assets in this market. That the highest performer in each period does not monopolize this huge market and evidence accumulated throughout the literature suggesting that fund flows are also affected by *non-portfolio* characteristics of the fund³, give room to apply a competitive setting that applies to any other consumer goods, to study this market for financial goods. Therefore, the goal of this research is to enhance our understanding of how households make decisions to purchase financial goods, here, the mutual funds, and to identify the influence and magnitude of numerous portfolio and non-portfolio characteristics of the funds on the purchase (investment) decision. By construction, this approach deviates from the standard financial analysis where the investor only cares about the two moments – mean and variance – of the portfolio, but instead takes the industrial organizations approach of demand estimation in a market with differentiated goods.

LITERATURE REVIEW

A recent strand of literature has improved our knowledge on how the fund's portfolio characteristics can determine its inflows from investors. For instance, Sirri and Tufano (1998), Khorana and Servaes (1999), Barber, Odean, and Zheng (2005), and Ivkovic and Weisbenner (2009), study the effects of various fee schemes, performance, and tax motivations on the fund inflows. On the other hand, there has been relatively little study to shed light on the effects of the non-portfolio characteristics of funds on its demand. Hortacsu and Syverson (2004) illustrate how the demand for even index funds, the closest to what we can call financially equivalent products, can be affected by fund attributes such as age and total number of funds under the same fund family. This research most resembles Khorana and Servaes (2012) in that it analyzes the determinants for market shares in the mutual funds market, but further brings it to a structural demand scheme taken from the IO literature.

¹ The focus has largely been put to the household's portfolio allocation, particularly regarding its diversification. See Coerudacier and Guibaud (2011), Calvet, Campbell, and Sodini (2007), and Ivkovic, Sialm, and Weisbenner (2008) for a recent discussion on the topic.

² 2012 Investment Company Fact Book.

³ Gerken, Starks, and Yates (2012), Nanda, Wang, and Zheng (2004), Sirri and Tufano (1998), and Barber, Odean, and Zheng (2005) discuss the effects of fund family's reputation, "star" fund, and marketing efforts on fund inflows.

DATA

20-year panel Morningstar data on U.S.-based mutual funds, which include fund inception date, the managing fund family, various fees and expenses, various returns and risk measures, portfolio holdings, turnover ratio, tax rate, manager data and any other operationals.

RESEARCH OBJECTIVE AND METHODOLOGY

This project aims to fill the void by estimating the U.S. retail investors' demand for (funds offered by) U.S.-based mutual fund families. Based on the evidence that fund family membership significantly influences household's fund investment decisions and that the fund families operate to actively exploit such tendency to capture demand within its family,⁴ the study will look at the market shares of fund families instead of individual funds. The estimation will be based on a random coefficients discrete choice model, following Berry, Levinsohn, and Pakes (1994). Individual investors not only value fund family's portfolio attributes, such as performance, fee, and regional/industrial portfolio allocation, but also have tastes for non-portfolio attributes, and all these tastes can vary with different individuals.

In the model, the outside option for the household will be represented by ETFs and index mutual funds, taking into consideration the possibility of households making transition between the passive versus active investment vehicles (i.e. mutual funds). The BLP scheme will be able to capture the horizontal taste difference. Lacking a household-level data, I plan to use simulated demographics using the information given with regard to income and age distribution of the households investing in the mutual funds market, from the annual Investment Company Fact Books. The panel structure of the Morningstar dataset will allow us to control for price endogeneity using the fund family fixed effects.

In the end, the goal is to characterize demand for U.S.-based mutual fund families. The estimation will be able to measure households' elasticities to both portfolio and non-portfolio characteristics of fund families. For instance, we can learn about the distribution of household's preference for portfolio allocation including specific tastes for certain regional or industrial investment and various return measures such as Morningstar ratings (and also, if there is enough identification power, whether they have gone through any significant change throughout time). Tastes for specific portfolio allocation strategies, such as domestically concentrated investment, can shed light on the demand side of the well-known puzzle of individual's under-diversification. How the demand reacts to different types of return and performance measures and how the fund family's marketing efforts and investment assistance service might affect demand elasticity, can also allow us to learn more about the important drivers of mutual fund demand beyond its purely financial goods aspect. Examining how consumers with different demographics can have varying tastes for various fees and expenses could also relate to addressing interesting policy implications such as whether the recent adoption of rule for making explicit the 12b-1 fee seems to have had any effect, or the ongoing debate of whether there seems to be enough fee competition.

The fund family-level data hereby created will be most likely to be made publicly available without violating any license agreement, as confirmed by the Morningstar.

⁴ Capon, Fitzsimons, and Prince (1996), Gerken, Starks, and Yates (2012), Khorana and Servaes (2012), Nanda, Wang, and Zheng (2003), and Elton, Gruber, and Blake (2006). See Shin (2012) for more detailed explanation.

REFERENCES

- Barber, Brad M., Terrance Odean, and Lu Zheng. 2005. "Out of Sight, Out of Mind: The Effects of Expenses on Mutual Fund Flows." *The Journal of Business* 78 (6): pp. 2095–2120.
- Berry, Steven, James Levinsohn, and Ariel Pakes. 1995. "Automobile Prices in Market Equilibrium." *Econometrica* 63 (4): pp. 841–890.
- Calvet, Laurent E, John Y Campbell, and Paolo Sodini. 2007. "Down or Out: Assessing the Welfare Costs of Household Investment Mistakes." *Journal of Political Economy* 115 (5): pp. 707–747.
- Capon, Noel, Gavan J. Fitzsimons, and Russ Alan Prince. 1996. "An Individual Level Analysis of the Mutual Fund Investment." *Journal of Financial Services Research*: 59–82.
- Coourdacier, Nicolas, and Stephane Guibaud. 2011. "International Portfolio Diversification Is Better Than You Think." *Journal of International Money and Finance* 30 (2): 289–308.
- Elton, Edwin J., Martin J. Gruber, and Christopher R. Blake. 2006. "The Adequacy of Investment Choices Offered by 401(k) Plans." *Journal of Public Economics* 90 (6-7): 1299–1314.
- Gerken, William Christopher, Laura T. Starks, and Michael Yates. 2012. "Reputation and Mutual Fund Choice."
- Hortaçsu, Ali, and Chad Syverson. 2004. "Product Differentiation, Search Costs, and Competition in the Mutual Fund Industry: A Case Study of S&P 500 Index Funds." *The Quarterly Journal of Economics* 119 (2): pp. 403–456.
- Ivković, Zoran, and Scott Weisbenner. 2009. "Individual Investor Mutual Fund Flows." *Journal of Financial Economics* 92 (2) : 223–237.
- Khorana, A., and H. Servaes. 1999. "The Determinants of Mutual Fund Starts." *Review of Financial Studies* 12 (5): 1043–1074.
- Khorana, A., and H. Servaes. 2011. "What Drives Market Share in the Mutual Fund Industry?" *Review of Finance* 16 (1) : 81–113.
- Nanda, Vikram, Z. Jay Wang, and Lu Zheng. 2004. "Family Values and the Star Phenomenon: Strategies of Mutual Fund Families." *Review of Financial Studies* 17 (3): 667–698.
- Shin, Chaehee. 2012. "The Supply Side of Diversification: Evidence from Global Entry Patterns of Mutual Fund Families."
- Sirri, Erik R., and Peter Tufano. 1998. "Costly Search and Mutual Fund Flows." *The Journal of Finance* 53 (5): pp. 1589–1622.

Estimated Budget

Description of costs	Amount
Data purchase from Morningstar	\$ 5,000
Total	\$ 5,000

CHAE HEE SHIN

1401 E.55th St. 913N
Chicago, IL 60615

Citizenship: Republic of Korea (F1 Visa)

E-mail: chaehee@uchicago.edu

Web: <http://home.uchicago.edu/~chaehee>

Phone: (773) 569-6450

EDUCATION	Ph.D. in Economics, University of Chicago B.A. in Economics (<i>summa cum laude</i>), Seoul National University	June 2013 (Expected) 2006
-----------	--	------------------------------

RESEARCH INTERESTS	Empirical IO, Household/Corporate finance, International finance/economics
--------------------	--

JOB MARKET PAPER	“The Supply Side of Diversification: Evidence from Global Entry Patterns of Mutual Fund Families”
------------------	--

The lack of global diversification of investor portfolios is a major puzzle in financial economics. Most individuals gain access to diversification through mutual funds. I study the supply side of global diversification by examining the decisions of mutual fund families to invest in foreign stock markets. Specifically, I quantify the bounds for fixed costs of foreign investment. I construct a structural model of supply and demand for mutual fund families' funds to calculate the fund family's profit gain (or loss) from counterfactual entry scenarios and use it to bound the cost based on a revealed preference approach. The results show a modest cost of entry can justify many fund families' non-entries abroad. Assuming systematic heterogeneity in fixed costs across countries and fund families gives high prediction rate for entry patterns. In particular, entering countries with higher levels of investor protection and familiarity requires lower fixed costs. Having investment experience in similar countries, along with indicators of fund family size and experience, creates a considerable impact on determining the family's foreign entry costs. Such a comparative advantage of fund families matters to a greater extent if one is investing in countries with adverse attributes.

PUBLICATIONS	"Is an Automaker's Road to Bankruptcy Paved with Customers' Beliefs?" (with Ali Hortaçsu, Gregor Matvos, Chad Syverson, and Sriram Venkataraman). <i>American Economic Review Papers and Proceedings</i> 101(3): 93–97, 2011.
--------------	---

WORKS IN PROGRESS	"Pooled Investment and Global Diversification: Consumer's Perspective" "Positive Spillover Effects in Foreign Investment? Expansion Patterns of Mutual Funds Over Time"
-------------------	--

TEACHING AND RESEARCH EXPERIENCE	Teaching Assistant Econometrics B Elements of Economic Analysis–1 Introduction to Microeconomics History of Money Research Assistant to Ali Hortaçsu	2010, 2011 2009 2009 2008 2009–2011
----------------------------------	---	---

HONORS AND AWARDS	Homer and Alice Hanson Jones Scholarship / Margaret G. Reid Memorial Fund Dissertation Fellowship Samsung Scholarship Humane Studies Fellowship TS Kim Memorial Scholarship (Seoul National University) Financial Award (Merit-based, Seoul National University) The Korea Foundation for Advanced Studies Scholarship	2012–2013 2007–2012 2010–2011 2007 2004–2006 2003–2006
-------------------	--	---

PRESENT -ATIONS	2012 Midwest Economics Association Annual Meeting, Western Economics Association International 87th Annual Conference, IO Lunch (The University of Chicago Booth School of Business), Industrial Organizations Working Group, Finance Brown Bag (The University of Chicago Booth School of Business), Federal Reserve Bank of Chicago
-----------------	---

REFERENCES

Ali Hortaçsu (Chair)
Professor of Economics
The University of Chicago
Phone: (773) 834-1482
E-mail: hortacsurecs2012@gmail.com

Samuel S. Kortum
Professor of Economics
Yale University
Phone: (203) 432-6217
E-mail: samuel.kortum@yale.edu

Juhani T. Linnainmaa
Associate Professor of Finance
Booth School of Business
The University of Chicago
Phone: (773) 834-3176
E-mail: juhani.linnainmaa@chicagobooth.edu

Tarek Alexander Hassan
Assistant Professor of Finance
Booth School of Business
The University of Chicago
Phone: (773) 834-3291
E-mail: tarek.hassan@chicagobooth.edu