



## Stock returns and investment trust flows in the Japanese financial market: A system approach<sup>☆</sup>

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### ABSTRACT

To study dynamic and causal relations between stock returns and investment trust flows in Japan, we employ a system method which utilizes information from the stock, bond, and money markets. The empirical evidence from SURECM, and Granger (1969) and Sims (1972) causality tests in the system method indicates that investment trust flows are weakly exogenous and stock returns cause net fund flows, implying that investors move their money to the securities that yield higher returns to rebalance their investment portfolios in the short-run. Thus, our findings do not support the popular notion of mutual fund flows as a driving force behind rallies in Japanese financial markets.

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### 1. Introduction

This paper investigates the dynamics and the possibility of a causality between stock returns and investment trust flows in the Japanese financial market using a system method.<sup>1</sup> The degree to which prior stock market returns influence investor demand for mutual fund shares and to what extent this demand drives returns have important implications for the stability of the U.S. stock market. Substantial efforts have been made to detect the relationships explained by security returns and mutual fund flows of the U.S. market, however the Japanese mutual fund market which is one of the most advanced and largest mutual fund industries in the world has not been extensively researched and therefore, relatively little information is known on the behavior of cash flows of investment trusts and its relation to security returns. While mutual funds have grown to become a dominant vehicle for savings in the U.S. over the past decade, its Japanese counterpart, the investment trust sector – a term that includes both closed-end and open-end funds – has grown more modestly. It is our interest to see whether the fund flows have been a driving factor of equity returns in the Japanese market.

In analyzing the relations between stock returns and mutual fund flows, there are two different approaches, a microapproach and a macroapproach. The microapproach focuses attention on how mutual funds flows are analyzed on individual bases. Among the studies using the microapproach, Ippolito (1992), Hendricks, Patel, and Zeckhauser (1993), Grinblatt, Titman, and Wermers (1995), and Sirri and Tufano (1998) show that investors tend to move cash into the funds

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<sup>1</sup> Mutual funds are called investment trusts in Japan. We will use the words “investment trust” and “fund” interchangeably where there is no confusion.

that had the highest returns in the preceding years and find little support for the assumption that flows drive performance. On the other hand, the macroapproach analyzes large scale movements of money into and out of the market without regard to which fund it goes into or comes from. Hence, the research at the macrolevel has centered on the relationship between stock market returns and aggregate mutual fund flows. Warther (1995) pioneers study at the macrolevel and finds evidence of a positive relation between flows and subsequent returns but a negative relation between returns and subsequent flows. His results support the popular belief that fund inflows and returns are positively related. Empirical research including Remolona, Kleiman, and Gruenstein (1997), Edelen and Warner (2001), Goetzmann and Massa (2003), and Boyer and Zheng (2004) indicates that in general a high positive correlation exists between aggregate mutual fund flows and stock returns. Further, the positive correlation between aggregate mutual fund flows and stock returns is supported by theoretical approaches such as the price pressure theory, the information revelation hypothesis, and investor sentiment.<sup>2</sup>

The high positive correlation between fund flows and stock returns, however, does not necessarily imply that the former causes the latter and vice versa because there might be other possible reasons for the causal relationship.<sup>3</sup> Furthermore, it is not clear whether the stock market is driven by mutual fund inflows and outflows due to the fact that prior studies on stock returns and mutual fund flows employ overly simple regression approaches such as least squares methodologies with logged differenced or normalized data, which removes the unit root or permanent component of the data and therefore avoids the complications related to unit roots and spurious regressions. Since business cycle activity comprises both temporary and permanent components, the removal of the permanent component loses valuable long term information concerning the evolution of short-term movements.

To examine whether the monthly net fund flows have been a driving factor of equity market returns in the recent increase of the Japanese market we employ a seemingly unrelated regression error correction model (SURECM), and two causality tests proposed by Granger (1969) and Sims (1972) in a system method. More specifically, when markets have a close relationship with one another, a seemingly unrelated regression methodology is presented to account for cross equation correlations among markets. Furthermore, we make use of information in the variance–covariance matrix of residual to improve the efficiency of the statistical estimates. This study is distinctive from the existing literature in that the system method utilizes information from the stock, bond, and money markets to improve the efficiency and provides more economically reasonable estimates.

Our empirical evidence from the system method shows unidirectional positive causality from stock returns to net fund flows. Further, if there is a deviation from long-run equilibrium, the stock returns force the deviation to go toward the long-run equilibrium, implying that the investment trust flows are weakly exogenous and do not respond to eliminate the deviation from long-run equilibrium in the Japanese market.

## 2. Japanese mutual fund industry

The Security Investment Trust Law of 1951 enabled Japanese Investment Trust business to re-emerge from the turmoil of its post-war condition. Patterned on the U.S. Investment Company Act of 1940, it created a legal framework for regulated, professional money management for the benefit of small investors. The investment trust industry flourished with the dramatic expansion of the Japanese stock market over the ensuing decades. The net asset value of the total investment trust accounts grew from 767 billion yen in 1960 to 6051 billion yen in 1980, to 49,399 billion yen in 2000, to 79,761 billion yen or 714 billion dollars in 2007. By way of international comparison, in U.S. dollar terms, Japanese \$714 billion net asset value at the end of 2007 is the eighth in the world and the second in Asia & Pacific regions.<sup>4</sup> Despite its absolute magnitude, Japanese mutual fund market is small relative to the size of the national economy.<sup>5</sup> The fraction of household financial assets represented by investment trusts is only 5.2% in Japan while U.S. mutual funds manage 23% of households' financial assets in 2007. This differential may reflect the fact that Japanese investment trusts have performed poorly in comparison to international standards.<sup>6</sup> As shown by Iwai (2008), Japanese investment trust market began growing around 2003, probably owing to changes in market conditions, distribution channels, product innovation, and demographics. In June 2006 the Financial Services Agency proposed a new legislative framework for investor protection, the Financial Instruments and Exchange Law, containing far-reaching reforms and consolidation of existing laws to bring Japan into line with the rest of the developed world's approach to financial services.<sup>7</sup>

<sup>2</sup> Price pressure theory implies that when inflows in mutual funds increase, this stimulates a demand to hold stocks, and causes stock prices to go up. Information revelation hypothesis shows that based on the assumption that the market is to react to available information instead of responding to the fund flows, well-informed investors's purchases may signal to other less-informed investors to buy mutual fund, thus cause stock prices to rise. Further, investor sentiment is also considered as one of important factor affecting mutual fund market. See Warther (1995), Engen and Lehnert (2000), Boyer and Zheng (2004), and Braverman, Kandel, and Wohl (2005) for details.

<sup>3</sup> See Potter and Schneeweis (1998), Remolona et al. (1997), and Fortune (1998) for details.

<sup>4</sup> The net asset values of Luxembourg, Ireland, and Hong Kong are larger than Japanese net asset values, however those three mutual fund markets have extremely strong nonresident presence. Furthermore, Australia's \$1.2 trillion net asset value is the first in Asia & Pacific region, but its statistics on mutual funds results from the inclusion of the mandatory pension plans that operate on mutual fund principle. In this sense, Japan is actually fourth in the world in terms of the money flows from domestic investors.

<sup>5</sup> The Japanese mutual fund net assets as a percentage of GDP are 11.72% and are comparable to most advanced countries except to the U.S. and France. See Iwai (2008) for details.

<sup>6</sup> See Cai, Chan, and Yamada (1997) and Brown, Goetzman, Hiraki, Otsuki, and Shiraishi (2001) for details.

<sup>7</sup> See Russell (2007).

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