Fluctuations of Cross-Border Portfolio Investment Flows Caused by Japan’s Mutual Funds: Fund-level Micro Data Analysis

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Outline

1. Motivation
2. Usefulness of Micro Data
3. A Unique Example of Mutual Funds in Japan
4. Implications for Other East Asian Countries
1. Motivation
Risk of Cross-Border Portfolio Investment

(Example)

• Global Financial Crisis (GFC), transmitted across the Atlantic Ocean via cross-border portfolio investment.

Source: Shin (2011)
Build-up of Risks and Unwinding

• Searching for yield risk-taking European global banks invested in MBS and structured products, funded by MMF.

• Withdrawal of MMF by US investors forced European global banks’ fire sale of MBS and other risky assets.

• Highly leveraged European global banks, via cross-border portfolio flows, significantly exacerbated the US mortgage market collapse.
2. Usefulness of Micro Data
Limitations of Aggregate Data for Risk Analysis (BOP Statistics)

• Example: Mutual Funds (despite no obvious systemic risk embedded without leveraging)

• No information on “true/ultimate” holders of assets (third party problem)

• No information on individual funds’/investors’ transactions
  – Quantities (purchases, redemptions and distributions) vs prices
  – eg, fire sale of assets
Usefulness of Micro Data

• Individual Mutual Funds’ information disclosed in financial statements...
  – On locations of assets held => solving third party problem
  – On quantities and prices at individual funds’ level (albeit not at investors’ level)
  => assessing how funds behave in relation to market movements
  => eg, monthly distributing MFs in Japan
3. A Unique Example
Popular Monthly Distributing MFs in Japan: Background

• Aging population

• Low interest rates
  – Monthly distributions are perceived by investors as substitutes for past high interest income from bank deposits; and thus,
  – Used as a supplement to non-labor income and pension payouts especially for the elderly generation, covering living expenses
• Toward mid-2000s, monthly distributing MFs sharply increased, peaking in 2011 with their share close to 70% of net asset value (the latest share is lower at around 50%).

Note: Publicly offered mutual funds.
Source: Investment Trust Association, Japan
Third Party Problem

• Even BPM6 would not solve the third party problem where many mutual funds are registered in the third location, despite more detailed information than BPM5. => However, individual fund-level micro data in financial statements reveal information on locations of assets.

Stocks of Investment Fund Shares/Units by Regions
(end 2014, trillion yen)

<table>
<thead>
<tr>
<th>Regions</th>
<th>Central Bank</th>
<th>General Gov’t</th>
<th>Deposit-taking Corp</th>
<th>Other Financial Corp</th>
<th>Non-financial Corp, HHs</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>-</td>
<td>-</td>
<td>1.9</td>
<td>8.0</td>
<td>0.2</td>
<td>10.1</td>
</tr>
<tr>
<td>Cayman Island</td>
<td>-</td>
<td>0.0</td>
<td>11.0</td>
<td>32.2</td>
<td>2.4</td>
<td>45.7</td>
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<tr>
<td>Luxembourg</td>
<td>-</td>
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<td>0.4</td>
<td>8.4</td>
<td>2.8</td>
<td>11.6</td>
</tr>
<tr>
<td>Others</td>
<td>-</td>
<td>0.0</td>
<td>1.5</td>
<td>9.6</td>
<td>0.9</td>
<td>11.8</td>
</tr>
<tr>
<td>Total</td>
<td>-</td>
<td>0.0</td>
<td>14.8</td>
<td>58.2</td>
<td>6.3</td>
<td>79.2</td>
</tr>
</tbody>
</table>

Source: BPM6
1) Global Sovereign Open (as of Nov 2014)

**By Country**
- USA: 35.8%
- UK: 11.7%
- China: 6.7%
- New Zealand: 2.6%
- Australia: 1.9%
- Singapore: 0.2%
- Japan: 6.0%
- Norway: 0.3%
- Sweden: 0.4%
- Poland: 4.2%
- Other: 13.9%

**By Currency**
- USD: 38.3%
- EUR: 21.8%
- JPY: 6.6%
- AUD: 3.1%
- CAD: 0.6%
- MXN: 6.7%
- NZD: 4.3%
- SEK: 0.4%
- NOK: 0.3%
- Other: 13.9%

**By Credit Rating**
- A and above: 0.0%
- BBB/Baa: 6.4%
- BB/Ba: 43.1%
- B: 36.1%
- CCC/Caa: 12.0%
- CC/Ca and below: 0.1%
- No rating: 2.3%

2) Fidelity US High Yield Fund (as of May 2015)

**By Industry**
- Energies: 12.2%
- Finance/Investment: 10.6%
- Telecommunications: 10.0%
- Health Care: 6.7%
- Utilities: 5.2%
Sources of Distributions

Total Distributions = 1) Distributions from Income and Capital Gains + 2) Distributions from the Principal
Concept of Distributions from the Principal (simplified illustration)

(Case 1) When $P > C$, 
$P = P_{-1} + \text{income gains} + \text{capital gains.}$

(Case 2) When $P < C$, 
$P = P_{-1} + \text{income gains} - \text{capital losses.}$

Assets have to be sold to generate cash to finance distributions, given no sufficient income and capital gains!!!
Rise in Distributions from the Principal (simplified illustration)

Pre-determined amount of total distributions (unchanged regardless of share price changes)

Note: Total Distributions = Distributions from income and capital gains + Distributions from the principal
Risk of Monthly Distributing MFs

• Assets are concentrated in foreign-currency denominated bonds, aiming for higher returns...but, exposed to FX risk

• The amount of monthly distributions is mostly predetermined, regardless of performance

Built-in Mechanism: pro-cyclical fire sale of assets by MFs

- a fall in share prices due to JPY appreciation (eg, following GFC)
- fire sale of assets to generate cash to finance the predetermined amount of distributions
- distributions from the principal rise, amplifying cross-border portfolio flows
Fire Sale of Assets

- Approximation: Distributions from the principal = fire sale of assets
- Maximum of 3-4tr yen (or US$37.5-US$50bn), of total distributions of 4-5tr yen
- Fire sale is predominantly affected by FX => 10 JPY/USD appreciation is estimated to raise fire sale by 0.5tr yen (or US$6bn) per year

Note: Distributions from the principal are calculated from over 5,000 individual funds and aggregated. NEER = Nominal Effective Exchange Rate. Almost all distributions from the principal come from monthly distributing MFs whose assets are predominantly concentrated in foreign securities denominated in foreign currencies.
Source: Osawa (2015), BIS
Relative Size of Fire Sale to BOP

- Without fire sale, sale would have been smaller, making net purchase larger and overseas’ financial markets less volatile.

Foreign Portfolio Investment Flows by Mutual Funds

Note: Negative sign of net purchase indicates net acquisition of foreign assets.
Foreign Portfolio investment = equity + long-term debt securities (including investment fund shares) + short-term debt securities.
Source: BPM5, Osawa (2015)
Relative Size of Fire Sale (cont’d)

- Fire sale of 3-4 tr yen is quite large relative to 30 tr yen of total sale, equivalent to and even larger than the size of “intentional” net purchase following GFC.

Foreign Portfolio Investment Flows by Mutual Funds

Note: Negative sign of net purchase indicates net acquisition of foreign assets.
Total Portfolio investment (BPM5) = equity + long-term debt securities (including investment fund shares) + short-term debt securities.
Total purchase appears as a BOP official statistic.
Source: BPM5, Osawa (2015)
4. Implications
Implications for Other East Asian Countries

• Besides Japan, monthly distributing MFs exist in South Korea and Taiwan
  – Low interest rates
  – Large private saving
  – Current account surplus => capital outflows invested largely in US and Europe
  – Aging population

• Common characteristics for other EA countries => large scale volatile cross-border flows forthcoming?
Summary

• **Micro data are useful** for identifying mutual funds’ (MFs) transactions.

• **MFs by themselves are generally not embedded with systemic risk** (no leveraging).

• **However, a unique type of monthly distributing MFs contains a mechanism of pro-cyclical fire sale of foreign assets.**

• **Increasing this type of MFs in East Asia can be a financial instability risk to US and Europe.**
References


The End

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