A Macroprudential Response to Risks in the Asset Management Sector

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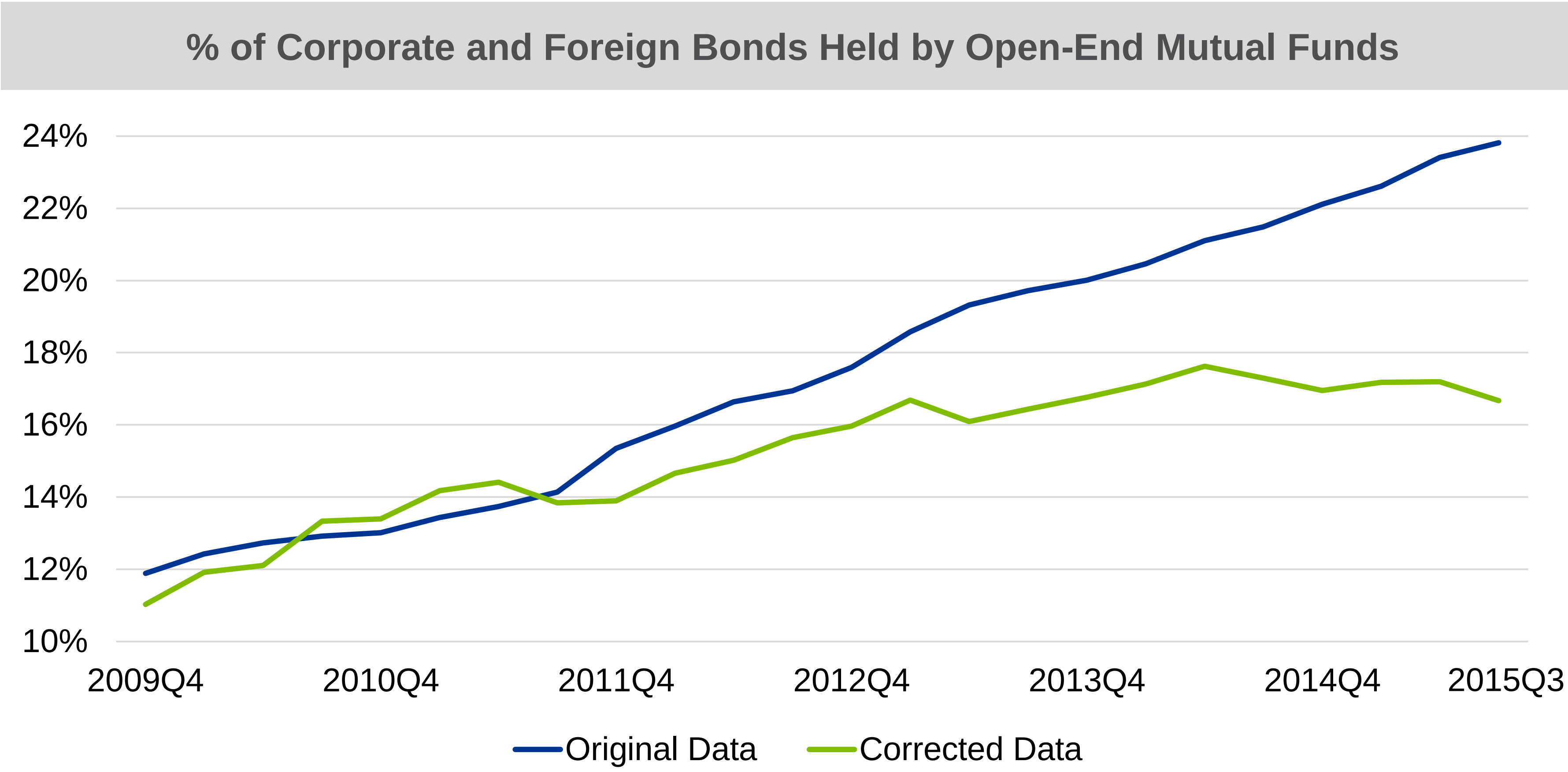
Ownership of Bonds by Mutual Funds



Source: Federal Reserve's Z.1 "Financial Accounts of the United States" Statistical Release. Original data from Dec. 2015 release. Corrected data from Sep. 2016 release. Chart includes quarterly data from fourth quarter 2009 through third quarter 2015 to illustrate corporate and foreign bond ownership by mutual funds following the 2008 Financial Crisis. Graphs represent total corporate and foreign bonds included in Fed Z.1 data.

Macroprudential Policies and Tools

As banking reforms come to completion, some policy makers are considering extending the perimeter of macroprudential regulation beyond banking to asset management

"System-Wide" Stress Testing	Liquidity Buffers	Redemption Gates and Suspensions
Stress Test Across Mutual Funds	Margin and Haircuts	Capital Flow Management Measures
Asset Manager Stress Tests	Mandatory Leverage Limits	

Differentiating Systemic Risk vs. Market Risk

What is systemic risk?

"a risk of disruption in the financial system with the potential to have serious negative consequences for internal market and the real economy."

– European Systemic Risk Board (ESRB)[a]

"the risk of widespread disruption to the provision of financial services that is caused by an impairment of all or parts of the financial system, and which can cause serious negative consequences for the real economy."

– IMF-FSB-BIS[b]

What is market risk?

"the risk that an overall market will decline, bringing down the value of an individual investment in a company regardless of that company's growth, revenues, earnings, management, and capital structure."

– FINRA[c]

"the risk of financial loss resulting from movements in market prices."

– Federal Reserve Board[d]

"the risk of losses in on and off-balance sheet positions arising from adverse movements in market prices."

– European Banking Authority (EBA)[e]

a ESRB Regulation (Nov. 24, 2010), https://www.esrb.europa.eu/shared/pdf/ESRB-en.pdf.
b IMF-FSB-BIS, Elements of Effective Macroprudential Policies, (Aug. 31, 2016), https://www.imf.org/external/np/g20/pdf/2016/083116.pdf (IMF-FSB-BIS).
c FINRA, Market Risk: What You Don't Know Can Hurt You Jun. 24, 2016), https://www.finra.org/investors/alerts/market-risk-what-you-dont-know-can-hurt-you.
d Federal Reserve Board, Market Risk Management (May 17, 2016), https://www.federalreserve.gov/bankinforeg/topics/market_risk_mgmt.htm.
e EBA, Market Risk, https://www.eba.europa.eu/regulation-and-policy/market-risk.

Potential Implications of Market Risk Across Different Entities

Banks

- Balance sheet exposure to losses
- May be compounded by leverage
- Further compounded by triggers tied to downgrades
- Potential funding issues
- Potential solvency issues and thus counterparty risks

Mutual Funds

- Losses reflected in NAV
- Losses dispersed among shareholders
- Leverage constraints limit losses
- If NAV declines, manager revenue will decline

Asset Managers

- Agency business model limits impact of market risk
- Primary impact is NAV declines in funds, which causes revenue decline
- No balance sheet exposure to funds or to separate accounts
- No counterparty exposures

Potential Implications of Liquidity Risk Across Different Entities

Banks

- Exposure to short-term funding
  - Retail deposits
  - Institutional
- Government insurance for depositors
- Access to central bank liquidity
- Loss of confidence can lead to runs and/or lack of funding
- Systemic implications given counterparty exposure and intermediation role

Mutual Funds

- Extensive data showing runs have not occurred over numerous cycles
- Diversity of asset owners, tax considerations, long investment horizons
- Fund sponsors actively employ liquidity risk management
- Extraordinary measures rarely used in funds

Asset Managers

- Agency business model fundamentally different from banks
- No exposure to short-term funding markets
- No guarantees
- No obligation to step-in for funds
- No solvency issues for asset manager

Post-Crisis Regulation has Made the Financial System More Resilient

Major Market Events

Date	Event	Market Impact
Oct. 2014	US Treasury "Flash Rally"	Intra-day volatility
Oct. 2014	Bank of Japan and Government Pension Investment Fund announcements about asset allocation shifts	7% increase in Nikkei Index[a]
Jan. 2015	Swiss National Bank lifted currency cap on Swiss franc	15% decline in Swiss Market Index[b]
Jan. 2015	European Central Bank announced expansion of QE	5% European equity market rally[c]
Aug. 2015	Equity market opening issues on August 24	Intra-day volatility
Jun. 2016	UK EU referendum result ("Brexit")	7% drop in FTSE 250; 11% drop in FTSE 350[d]
Oct. 2016	UK Pound Flash Crash	Intra-day volatility
Nov. 2016	US Election results followed by Dec. 2016 FRB rate hike	Increase in 10Y Treasury yields[e]

a WSJ, using end of day data for Oct. 27-31, 2014. As of Nov. 2014.
b Bloomberg, using end of day data for Jan. 12-16, 2015. As of Jan. 2015.
c WSJ, using end of day data for Jan. 19-23, 2015. As of Jan. 2015.
d The Guardian, Brexit fallout – the economic impact in six key charts (Jul. 8, 2016), available at https://www.theguardian.com/business/2016/jul/08/brexit-fallout-the-economic-impact-in-six-key-charts.
e Bloomberg, BlackRock Investment Institute. As of Dec. 2016.

"Winners" and "losers" but no major bank failures

Asset Owners Control Asset Allocation

Asset Owner	Assets (US $ trillions)
Pension funds[a]	$33.8
Insurers[b]	$24.0
Sovereign wealth funds[c]	$7.4
Banks[d]	$50.9
Foundations / Endowments[e]	$1.6
Ultra-High Net Worth (UHNW)[f]	$13.4
High Net Worth Individuals (HNWI)[f]	$65.4
Mass Affluent[f]	$88.9

Some assets may be double counted as part of the assets of Mass affluent, HNWI and UHNW will be invested with insurance companies and pension funds.

a. OECD Global Pension Statistics. As of 2014. Includes private pensions in both OECD and non-OECD countries; does not include public pensions. Available at http://www.oecd.org/finance/private-pensions/globalpensionstatistics.htm.

b. IMF Global Financial Stability Report as of April 2016: https://www.imf.org/External/Pubs/FT/GFSR/2016/01/pdf/c3.pdf.

c. Sovereign Wealth Fund Institute. As of Jun. 2016.

d. Represents largest 25 Banks. Source: http://www.relbanks.com/worlds-top-banks/assets. As of Jun. 2016.

e. McKinsey & Company Performance Lens. As of 2015.

f. BCG Global Wealth 2016: Navigating the New Client Landscape. Ultra-High Net Worth is defined as those having more than $100 million in investible assets, High Net Worth is defined as those having between $1 million and $100 million, and Mass Affluent is defined as those having between $250,000 - $1 million.

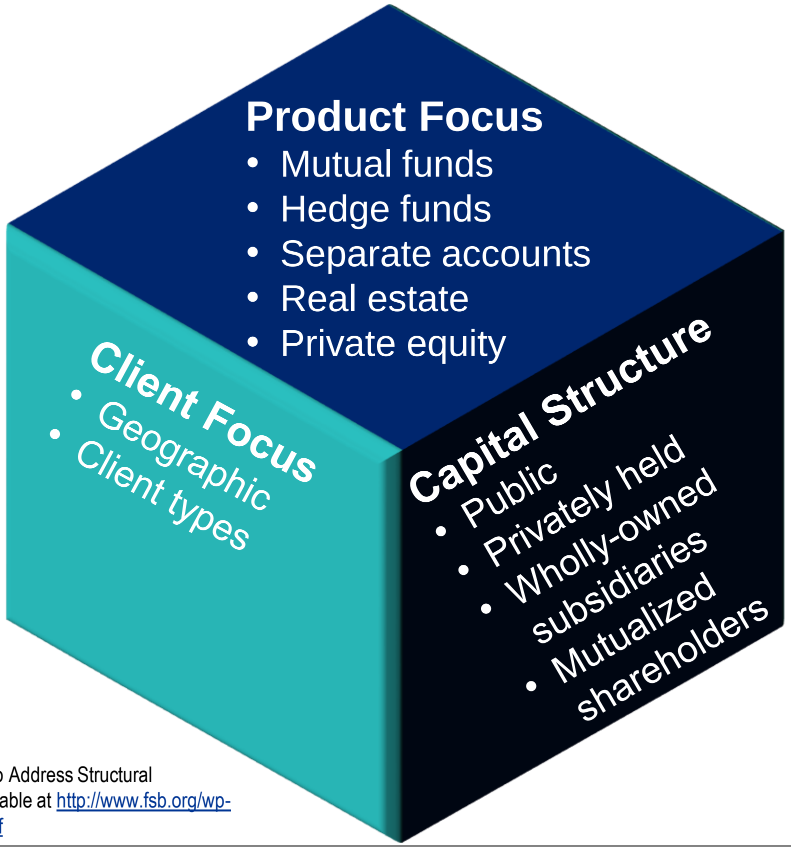
Asset owners have different investment objectives and constraints

Challenges of Defining "System-Wide" Stress Test in Asset Management

External asset managers account for one-third of total assets under management*

The remaining two-thirds are managed by asset owners directly

Asset managers come in many shapes and sizes



*FSB, Consultative Document, Proposed Policy Recommendations to Address Structural Vulnerabilities for Asset Management Activities (Jun. 22, 2016), available at http://www.fsb.org/wp-content/uploads/FSB-Asset-Management-Consultative-Document.pdf

Challenges of Defining Stress Test Across Funds

49 categories of dedicated bond mutual funds in the US, as defined by Morningstar*

- Different investment strategies, benchmarks, and types of clients

Assets of each fund are segregated and funds reflect 100% equity capital

- Bond funds have fluctuating NAVs

PIMCO experience demonstrated lack of "platform contagion"

Actual flow behavior in market stress scenarios

- Does not demonstrate "run risk" or "fire sales"
- Inflows and outflows depending on fund category and underlying types of bonds

10 Largest US Open-End Bond Mutual Fund Categories*

Morningstar Category	AUM ($ millions)	AUM (%)
Intermediate-Term Bond	963,713	30.6%
Short-Term Bond	276,721	8.8%
High Yield Bond	232,229	7.4%
World Bond	197,838	6.3%
Multisector Bond	158,893	5.1%
Muni National Interm	158,040	5.0%
Nontraditional Bond	132,134	4.2%
Muni National Short	114,925	3.7%
Intermediate Government	93,357	3.0%
Bank Loan	92,933	3.0%

*Simfund. As of Dec. 31, 2015. Accessed May 2016. Includes active and index open-end bond mutual funds. Excludes ETFs and fund of funds. Categories defined by Morningstar. Includes bond funds within each category. 1) Total open-end bond fund AUM is the total AUM held in dedicated US open-end bond funds as defined by Morningstar. Total AUM is $3.15 trillion as of Dec. 31, 2015.

Stress test individual funds' ability to meet redemptions

For more information, see BlackRock, *ViewPoint*, Macroprudential Policies and Asset Management (Feb. 7, 2017), available at https://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-macroprudential-policies-and-asset-management-february-2017.pdf.

Challenges of Defining "Top Down Stress Test" of Asset Managers

Asset owners control asset allocation decisions

- Asset managers act within investment guidelines

Client investment objectives and constraints lead to different decisions

- DB pensions, DC pensions, insurers, SWFs, individuals, etc.

Different investment styles lead to different decisions

- Index portfolios hold benchmark weights
- Active portfolios are under- or over-weight relative to the benchmark
- Absolute return strategies have no benchmark

Client assets, including mutual funds, are not commingled with firm assets

- Assets remain on the balance sheet of the asset owner

Asset managers are not the counterparty for client derivatives contracts

- Asset owners and funds enter into these contracts

We believe asset managers do not present systemic risk at the company level

For more information, see BlackRock, *ViewPoint*, Macroprudential Policies and Asset Management (Feb. 7, 2017), available at https://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-macroprudential-policies-and-asset-management-february-2017.pdf.

Potential Challenges of Applying Macroprudential Tools to Market Finance

We believe the application of macroprudential policies in stressed markets is likely to cause investors to retreat when their participation might otherwise be stabilizing

Liquidity Buffers

- Can provide false confidence about the liquidity of a fund
- Cash drag on fund performance
- Can lead to procyclical outcomes

Capital Flow Management Measures

- Euphemism for capital controls
- May inhibit price discovery and natural price adjustments
- May introduce market distortions and impact investor confidence

Mandatory Leverage Limits

- No single measure can accurately quantify leverage for all types of funds
- Important to factor in sources and terms of funding as well as fund redemption terms

Redemption Gates and Suspensions

- Mutual funds only represent a minority of financial assets
- Creates fundamental fairness questions
- Could result in selling of direct investments not subject to redemption gates

Margin and Haircuts

- Could reduce the attractiveness of SFT or derivatives transactions, impacting liquidity and the efficiency of markets
- Could have procyclical impact

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Product and Activities Approach to Market Finance

Collect and monitor data on liquidity profiles of funds

Review existing regulations to establish high standards for liquidity risk management and the broadest possible toolkit

Develop a suite of leverage and potential loss measures that can be collected consistently across portfolios

Require fund redemption terms be aligned with the amount and type of leverage used by individual funds

Review existing regulations to establish high standards for business continuity and disaster recovery planning

Any system-wide stress testing efforts need to begin by filling data gaps related to asset owner holdings and investment behavior

Source: BlackRock. As of May 2017. The opinions and views expressed here are those held by the author as at the time of publication, which are subject to change and are not to be taken as or construed as investment advice.

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