

# Taking Market-Based Finance Out of the Shadows

## Distinguishing Market-Based Finance from Shadow Banking



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“Applying the term ‘shadow banking’ to registered investment companies is particularly inappropriate as the word ‘shadow’ could be interpreted as implying insufficient regulatory oversight, or disclosure.”

— US Treasury Report on  
Asset Management &  
Insurance Regulation  
Oct. 26, 2017

The term, **shadow banking**, was coined in 2007 to describe products and activities that were “bank-like” but existed outside the bank regulatory perimeter.<sup>1</sup> Since then, shadow banking has become a catch-all for non-bank finance. This overly broad use of the term misrepresents the risks associated with the vast majority of non-bank finance that is beneficial to the real economy, does not entail bank-like risks, and (most importantly) contributes to financial stability rather than threatens it.

At a time when policy makers are reviewing whether post-crisis regulatory reforms properly balance the objective of mitigating systemic risk without impeding economic growth, a distinction must be drawn between capital invested in the real economy (either directly or through commingled vehicles), which should be called **market-based finance**, and shadow banking, which should refer to entities that have material asset-liability mismatches and the potential to place taxpayers on the hook through access to official sector backstops.

The lack of a clear distinction between shadow banking and market-based finance can hinder regulators’ ability to fully monitor and address risk in the financial system.<sup>2</sup> For example, there are inconsistencies between data produced by the Financial Stability Board (FSB), which show shadow banking assets that could create financial stability risk *increasing* since 2007, and the FSB’s communications to the G20, which state that systemic risks from shadow banking have *declined* over the same period.<sup>3</sup>

### In this ViewPoint...

- Today’s shadow banking system is a shadow of its pre-crisis self, thanks to global reforms. Yet, the FSB’s data creates an inaccurate picture that shadow banking is increasing due to its overly broad definition.
- The term, shadow banking, should be limited to entities that have material asset-liability mismatches, significant leverage, and direct connections to traditional banks, which can create implicit access to official sector backstops.
- Most non-bank finance provides clear benefits to the real economy without introducing bank-like risk, and should be classified as market-based finance.
- The current practice of calling so many different things “shadow banking” limits policy makers’ abilities to fully monitor and address financial stability risks.
- A continuum can help differentiate market-based finance from shadow banking.
- We recommend amending the existing regulatory definitions of shadow banking to account for how activities and entities are funded.
- Investment funds and asset managers should be removed from measures of shadow banking and reclassified into a new measure of market-based finance.

We would like to thank Nellie Liang, Miriam K. Carliner Senior Fellow, Economic Studies at Brookings for her thoughtful contributions to this paper.

The opinions expressed are as of February 2018 and may change as subsequent conditions vary.

This seeming contradiction is highlighted in Exhibit 1. We believe the FSB's statements are accurate, but its data on shadow banking obscures the decline in risk due to an overly broad definition. The recognition that more precise distinction between shadow banking and market-based finance is needed has led to an emerging dialogue.<sup>4</sup>

## Origins of Shadow Banking

The term, shadow banking, was first coined in 2007 by Paul McCulley, an economist at PIMCO. McCulley defined the shadow banking system as “the whole alphabet soup of levered up non-bank investment conduits, vehicles, and structures.”<sup>5</sup> For years, a buildup of risk in the shadow banking system developed from efforts of traditional banks to reduce balance sheet exposures in pursuit of higher returns. In effect, an entire ecosystem developed to facilitate this outcome.

Financial engineering fostered new uses of previously benign structures to embed greater leverage, reliance on short-term wholesale funding, and a variety of risky features.<sup>6</sup> Unlike the traditional banking system, which was funded by customer deposits that were backstopped by access to central bank liquidity, the shadow banking system was funded primarily through reliance on commercial paper markets. However, similar to the traditional banking system, shadow banks were susceptible to “runs.” Importantly, the shadow banking system was directly connected to the traditional banking system.

Examples of shadow banking entities under this definition include structured investment vehicles (SIVs) and a variety of other off-balance sheet conduits that were levered and reliant upon short-term wholesale funding markets to finance the purchase of longer-dated assets. Generally speaking,

these structures issued short- and/or medium-term debt to finance the purchase of longer-dated assets.

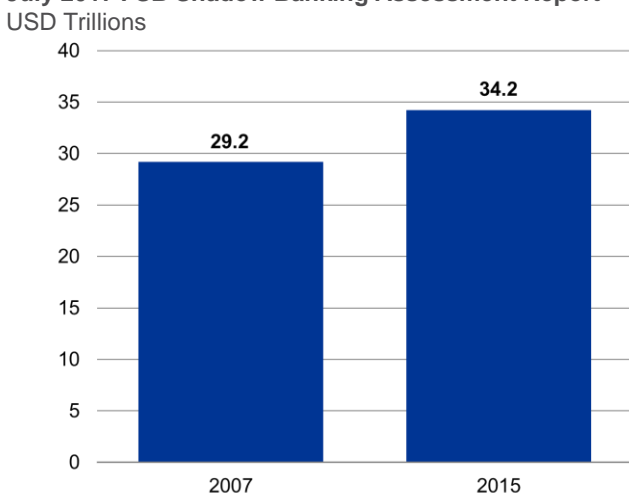
Oftentimes, a bank sponsor would provide implicit or explicit liquidity support to the vehicles as a backup in case there was a problem rolling over funding. Under the accounting and capital regulations at the time, the capital charge to finance loans in this manner was lower than the capital charge associated with holding the loans directly on the bank's balance sheet.<sup>7</sup> Shadow banking entities often had tranches associated with different risk levels, some of which were sold to investors. However, portions of these assets (often the most risky tranches) were retained by bank sponsors, meaning that the banks creating these products did not fully extricate themselves from the risks associated with them.<sup>8</sup>

As became painfully apparent, there were weaknesses in this system that led to billions in write-downs on banks' balance sheets between 2007 and 2008.<sup>9</sup> These losses demonstrated the downside of a classic regulatory arbitrage. The shadow banking system permitted bank-like and bank-connected entities to benefit from access to official sector backstops through explicit and implicit forms of liquidity support. The resulting moral hazard and a lack of adequate regulation of banks' exposure to shadow banking entities contributed to excessive risk taking.

In response, global regulators adopted reforms including changes to accounting and consolidation rules, as well as securitization practices.<sup>10</sup> These reforms, in addition to lessons learned by market participants, have by all accounts reduced the shadow banking system to a shadow of its former self. As shown in Exhibit 1, in July 2017, the FSB declared: “financial stability risks from the toxic forms of shadow banking at the heart of the crisis no longer represent

## Exhibit 1: Contradictions between FSB Data and G20 Communication

### July 2017 FSB Shadow Banking Assessment Report



Source: FSB, Assessment of Shadow Banking Activities, Risks and the Adequacy of Post-Crisis Policy Tools to Address Financial Stability Concerns (Jul. 3, 2017) (“Shadow Banking Assessment Report”), graph 2.

The graph represents the FSB's narrow measure of shadow banking.

### July 2017 FSB Letter to G20

***A series of measures are eliminating toxic forms of shadow banking and transforming the remaining into resilient market-based finance.***

A decade ago, enormous risks were built up outside the core banking system and away from effective supervision with devastating impact on the real economy. In 2013, the G20 agreed the Shadow Banking Roadmap, to implement its comprehensive framework to strengthen oversight and regulation of shadow banking.

***A decade on, as a result of these measures, the financial stability risks from the toxic forms of shadow banking at the heart of the crisis no longer represent a global stability risk.***

The remaining activities are now subject to policy measure which reduce their risks and reinforce their benefits, allowing for more diverse and resilient forms of market-based finance.

Source: Chairman Mark Carney, FSB Letter to G20 Leaders (Jul. 3, 2017) (“July 2017 G20 Letter”).

a global stability risk.” We agree with this statement. However, data published by the FSB presents a different picture. Specifically, the FSB’s July 2017 Shadow Banking Assessment Report showed an increase in shadow banking assets since 2007, which suggests the opposite conclusion, as shown in Exhibit 1.

## Casting a Wide Net

What accounts for the discrepancy shown in Exhibit 1 (i.e., shadow banking assets have increased since 2007 but the FSB statements indicate shadow banking risks have decreased during the same period)? In our view, the FSB’s data obscures the decline in shadow banking due to an overly broad definition. This definition emanates from an effort to be comprehensive in the initial years following the crisis, but this definition is no longer fit for purpose.

In its initial recommendations to “strengthen regulation and oversight of shadow banking”, the FSB laid out a two-step approach that would begin by casting a wide net, followed by a narrowing exercise to focus on entities and activities that present systemic risk.<sup>11</sup> In casting a wide net, the FSB did not distinguish shadow banking from other forms of non-bank finance. As a result, the FSB defined shadow banking as “credit intermediation involving entities and activities outside the regular banking system.” In employing this broad approach, the initial definition of shadow banking gave the impression that all non-bank credit intermediation was unregulated and presented financial stability risk.

With respect to the asset management industry, this led to proposals that sought to apply bank-like regulation to asset management products and activities, as well as asset managers themselves.<sup>12</sup> While education and constructive dialogue has largely led to the conclusion that bank-like regulation is not appropriate for asset managers or their products,<sup>13</sup> some regulators still believe such policies would mitigate perceived financial stability risks. For example, some have called for the application of macroprudential policies to mutual funds and alternative investment funds (AIFs).<sup>14</sup> In our *ViewPoint*, [Macroprudential Policies and Asset Management](#), we explore why the application of such policies to asset management would likely increase systemic risk, rather than reduce it.

In sum, while casting a wide net may have been necessary to address shadow banking risks in the immediate aftermath of the global financial crisis, it is time to refine the definition of shadow banking to ensure regulators can continue to effectively monitor and identify risks. This is particularly important as the calibration of post-crisis reforms is evaluated to ensure that financial stability risks are mitigated without unnecessarily impeding economic growth.<sup>15</sup> Recognizing that non-bank financing is an important supplement to bank

*“If it looks like a duck, quacks like a duck, and acts like a duck, then it is a duck – or so the saying goes. But what about an institution that looks like a bank and acts like a bank? Often it is not a bank – it is a shadow bank.”*

– Laura Kodres, IMF, June 2013<sup>16</sup>

financing, care must be taken to avoid grouping beneficial non-bank finance with activities and entities that exacerbated the financial crisis. In the following sections, we explore the differences between shadow banking and market-based finance.

## Defining Shadow Banking

When explaining the concept of shadow banking, many draw an analogy to the saying: “if it looks like a duck, quacks like a duck, and acts like a duck, then it is a duck.” But what does it mean to look like and act like a bank?

In its simplest form, the traditional bank model is to accept deposits from savers, and use this to make loans to borrowers. Although banks now provide many other services, the regulation of these institutions is based, in large part, on the need to protect deposits and mitigate the government’s risk of providing deposit insurance and access to central bank liquidity. While it is difficult to precisely identify all of the components of bank-like risk that when found in non-banks could be considered shadow banking, we believe a combination of the following attributes is key:

- (i) **Asset-Liability Mismatches.** Particularly when they involve “runnable” funding on the liability side;
- (ii) **Significant Leverage.** Leverage amplifies the risks associated with asset-liability mismatches; and
- (iii) **Official Sector Backstops.** Implicit or explicit access to government resources that create a moral hazard and place taxpayers at risk.

### Asset-Liability Mismatches

Asset-liability management is critical to banks’ business models. At the most fundamental level, banks gather short-term liabilities in the form of deposits to fund longer-dated and less liquid loans. The depositors are paid income generated from these loans, but they are not constrained by their liquidity or maturity, as depositors can demand the return of deposits at any time. While banks are not the only types of financial entities that have asset-liability mismatches, the liabilities of banks (investor deposits) are susceptible to runs, which creates a unique bank-like risk.

Bank runs have been a hallmark of banking crises for hundreds of years. Bank runs occur because deposits are short-term liabilities, as depositors can demand their money back in short order. The short-term nature of these liabilities embeds a first-mover advantage, as depositors at the front of the queue will receive their cash in full, but depositors at the back of the line could receive nothing. This creates an incentive to rush for the exits, or “run”, at the first sign of trouble. Further, the short-term nature of the funding can result in the sudden insolvency of the bank. That said, we note that post-crisis, banks have changed their funding models to reduce reliance on short-term funding markets.<sup>17</sup>

In the shadow banking context, runnable funding emanates from reliance upon short-term liabilities (e.g., commercial paper) to fund the purchase of longer-dated assets.

We note that there has been some confusion about the differences between run risk in banks and shadow banking entities, and run risk in mutual funds. Aside from the use of the term, “run risk”, these are two very different risks given that unlevered mutual funds do not have material asset-liability mismatches. We explore these differences on page 5.

### **Significant Leverage**

Leverage represents the total assets owned by a bank relative to its equity capital. Leverage amplifies returns to equity holders – and, hence, risk. The amount of leverage employed by banks can be sizeable.<sup>18</sup> Highly levered balance sheets can exacerbate concerns over asset-liability mismatches. Leverage is, therefore, a key risk that must be managed to ensure the solvency of a bank. To this end, bank regulators apply capital requirements and other regulations to limit the amount of leverage banks can employ.

Of course, the use of leverage is not limited to banks and it is important for regulators to monitor the use of leverage by other entities. However, when considering the financial stability implications associated with leverage used by non-banks, it is important to consider both the magnitude of leverage and the riskiness of the underlying assets that the leverage amplifies.<sup>19</sup>

### **Official Sector Backstops**

To mitigate the economic costs associated with bank runs and failures, governments provide deposit insurance. However, since depositors no longer face risk of loss (up to the covered amount) when deposit insurance is provided, this may result in moral hazard. As a result, the obligation to monitor and limit bank risk falls to the deposit insurer – in this case, the government. Deposit insurance, therefore, represents a form of official sector backstop (alongside access to central bank liquidity) that creates a linkage between banks and the taxpayer. This connection to taxpayers lies at the root of government regulation and prudential oversight of banking risks.

“*Focussing on the ultimate aim—the real economy—also reminds us not to intervene in ways that themselves damage the real economy.*”

– Alex Brazier, Bank of England  
Feb. 13, 2017<sup>20</sup>

In the shadow banking context, when banks provided liquidity support to off balance sheet vehicles, they extended their access to official sector backstops to those vehicles. Less stringent regulatory standards for shadow banking entities created a regulatory arbitrage that encouraged excessive risk-taking.

### **Prudential Regulation**

Historically the key linkage between the shadow banking system and financial stability risk has emanated from direct connections to traditional banks. As a result, the combination of runnable funding, coupled with the moral hazard created by implicit access to government backstops necessitates prudential regulation of shadow banking entities, principally to eliminate regulatory arbitrage. Equally, however, the absence of these critical elements removes the need for prudential regulation; though certainly not the need for oversight by regulators and regulation. In other words, it is the combination of material asset-liability mismatches, significant leverage, and official sector backstops that constitutes shadow banking, rather than the presence of these attributes in isolation.

This distinction can provide a guidepost for tailoring regulation. Particularly when access to official sector backstops is not present, applying bank-like regulation could be harmful to the real economy. This is because bank-like regulation entails restrictions and costs that will be borne by investors who do not benefit from government backstops. This would impact the risk-return projections that investors use to determine whether a particular investment meets their needs, and ultimately may discourage investment. As such, it is important to ensure regulation is tailored to the risks presented by a given entity or activity. Prudential regulation is tailored to the fact that a government is providing a backstop, and is not well-suited to address other types of risks.

### **A Word on Transparency**

We note that a lack of transparency as to an entity's risk exposures is another potential consideration. While we have not included opacity as a bank-like risk, the level of transparency is important to ensure that risk can be properly understood by regulators and investors. As a general matter, banks do not lend themselves to full transparency given the complexity of their businesses.

## Redeemable Equity versus Runnable Funding

*There is confusion between run risk associated with shadow banking entities, and redemptions from mutual funds. These risks are not the same due to the different structures of shadow banking entities relative to mutual funds.*

### Shadow Banks:

#### Run Risk = Funding Liquidity Risk

Run risk in shadow banks reflects the inability to produce sufficient liquid assets to pay liabilities that are coming due. This is known as funding liquidity risk, which if improperly managed can lead to insolvency. There are many historical examples where funding liquidity risk significantly impacted financial institutions and Sovereigns.

#### **Assets purchased by issuing short-term liabilities.**

The presence of run risk in banks and shadow banks emanates from substantial asset-liability mismatches. The use of short-term liabilities to finance assets reduces the cost of funding to the bank or shadow bank. However, the short-term nature of the loans limits the risks to the lender, leaving the shadow banking entity exposed to funding liquidity risk.

#### **Funding Provided by “Run” Prone Investors.**

Commercial paper purchasers are often cash investors that have a low risk tolerance. As a result, they are likely to demand their cash and cease providing financing at the first sign of trouble. This is analogous to bank depositors’ behavior in an old-fashioned run on the bank.

#### **Entity Becomes Forced Seller in Financial Distress.**

When asset purchases are funded with short-term liabilities and short-term funding cannot be rolled over, (resulting in liabilities coming due exceeding liquid assets) available collateral must be liquidated to pay redeeming liabilities. This is the true meaning of a forced seller.

**Bank Sponsor Support.** When faced with the inability to roll over short-term financing, the bank (in having provided liquidity support) must assume the liabilities of the shadow banking entity. This will likely prompt asset sales by the bank to generate liquidity, potentially at fire sale prices. Any losses incurred in the fire sales lead to a capital loss for the bank. This can quickly exhaust the availability of bank capital and, in the extreme, could lead to a bank’s failure. In other words, the bank sponsor is ultimately on the hook to assume the liabilities of the shadow banking entity, in the event it experiences financial distress. In exposing the bank to the liabilities of the shadow banking entity, ultimately these liabilities are borne by the taxpayer if such exposures cause a bank to become insolvent.

*\*By mutual funds, we are primarily referring to non-money market mutual funds that are unlevered in this section.*

### Mutual Funds:\*

#### Run Risk = Redemption Risk

Redemption risk is the risk that a fund might have difficulty meeting investor requests to redeem their shares for cash within the timeframe required by fund constituent documents and/or regulation without unduly diluting the interests of remaining shareholders. Liquidity risk management is an important component of managing funds to address redemption risk.

**Assets purchased with redeemable equity.** Unlevered mutual funds do not have material asset-liability mismatches. Mutual funds do not finance the purchase of assets by issuing short-term debt. Rather, funds are a means of permitting multiple asset owners to pool their capital to make investments. As such, mutual fund shares reflect equity ownership of the underlying assets. The value of the shares fluctuates with the value of the assets.

**Fund Shareholders are Long-Term Investors.** Mutual funds are vehicles used by savers who are long-term investors. The Investment Company Institute estimates that 53% of US mutual funds assets are held in retirement accounts.<sup>21</sup> Of course, mutual funds are available to all types of investors, meaning that investors with shorter time horizons can and do invest in mutual funds. Further, when mechanisms to fully externalize transaction costs are not available, a theoretical first-mover advantage does exist. However, this risk has never precipitated mass redemptions from (non-money market) mutual funds.

**Mechanisms to Avoid Becoming a Forced Seller.** Even in the worst case where a fund is unable to meet redemptions in the expected timeframe, funds can suspend redemptions or apply gates.<sup>22</sup> As such, the inability to meet redemptions does not automatically trigger fire sales. The recent example of UK property funds in the wake of the UK referendum demonstrates the effectiveness of suspensions and other tools to manage redemption challenges in extreme scenarios.<sup>23</sup>

**No Expectation of Bank Sponsor Support.** While some funds establish bank lines of credit to address timing mismatches between the settlement of asset sales and when investors expect to receive cash, a bank’s exposure to the fund is capped at a pre-agreed amount, and banks providing lines of credit reserve capital to support this obligation. Further, when a bank provides a loan to a fund, the bank becomes a senior creditor, which reduces the risk to the bank as lender. In practice, lines of credit are infrequently tapped by funds.

## Defining Market-Based Finance

Clearly, shadow banking does not appropriately describe the vast majority of non-bank financial assets. And, this is the reason why we believe the overly broad use of the term in regulatory data and pronouncements is misleading. This has led to an emerging dialogue around the need to refine the definition of shadow banking and to draw a distinction with market-based finance. For example, mutual funds and asset managers are included under most regulatory definitions of shadow banking. Recently, however, the US Treasury recommended that authorities avoid the term shadow banking when referring to mutual funds.<sup>24</sup> We agree with this recommendation and believe the term, market-based finance, should be used to describe capital that is invested in the real economy, either directly or through commingled investment vehicles.

In its purest form, market-based finance involves unlevered, investments in financial instruments (i.e., stocks, bonds). These investments provide capital to the real economy without introducing additional risk into the system. Likewise, activities like securitization, lending, and securities intermediation without material asset-liability mismatches, significant leverage, and/or access to official sector backstops can be very beneficial as diverse sources of capital for the real economy.

Of course, just as banks can use leverage and/or have asset-liability mismatches, market-based finance can have these features too, which increases the risk of these activities. However, in the absence of an official sector backstop, which would place taxpayers on the hook for excessive risk-taking, we consider such activities market-based finance.<sup>25</sup> Like shadow banking, market-based finance should be regulated; however the regulation must be appropriately tailored to the risks involved.

## Continuum of Non-Bank Finance

While it is easy to draw black and white distinctions on paper, in reality, non-bank finance is diverse and reflects a range of risks, meaning that there is grey area that requires a range of regulatory approaches. In this regard, we believe that a continuum is a helpful conceptual framework to classify non-bank finance. In this continuum, we envision shadow banking at one end and market-based finance at the other end. The combination of risks associated with a particular entity or activity and the magnitude of those risks would then determine placement on the continuum.

From a regulatory perspective, this classification mechanism can provide a basis for tailoring regulation. Items that are closer to shadow banking, namely because they involve implicit access to official sector backstops, should be considered for bank-like, prudential regulation; and those items that are closer to market-based finance should be considered for capital markets regulation and investor

*“In practice, of course, there can be many shades of grey between the riskier elements of shadow banking and the more resilient aspects of market-based finance.”*

– Tobias Adrian, IMF, Sep. 14, 2017<sup>26</sup>

protection regimes including: (i) disclosure, data reporting, and transparency to ensure regulators and investors have a view into the risks of these activities; (ii) suitability standards, recognizing that not all forms of investment are appropriate for all investors; and (iii) risk management standards to ensure risks are properly monitored and managed.<sup>27</sup> Exhibit 2 provides an illustration of how this continuum might look.

### Classifying Activities

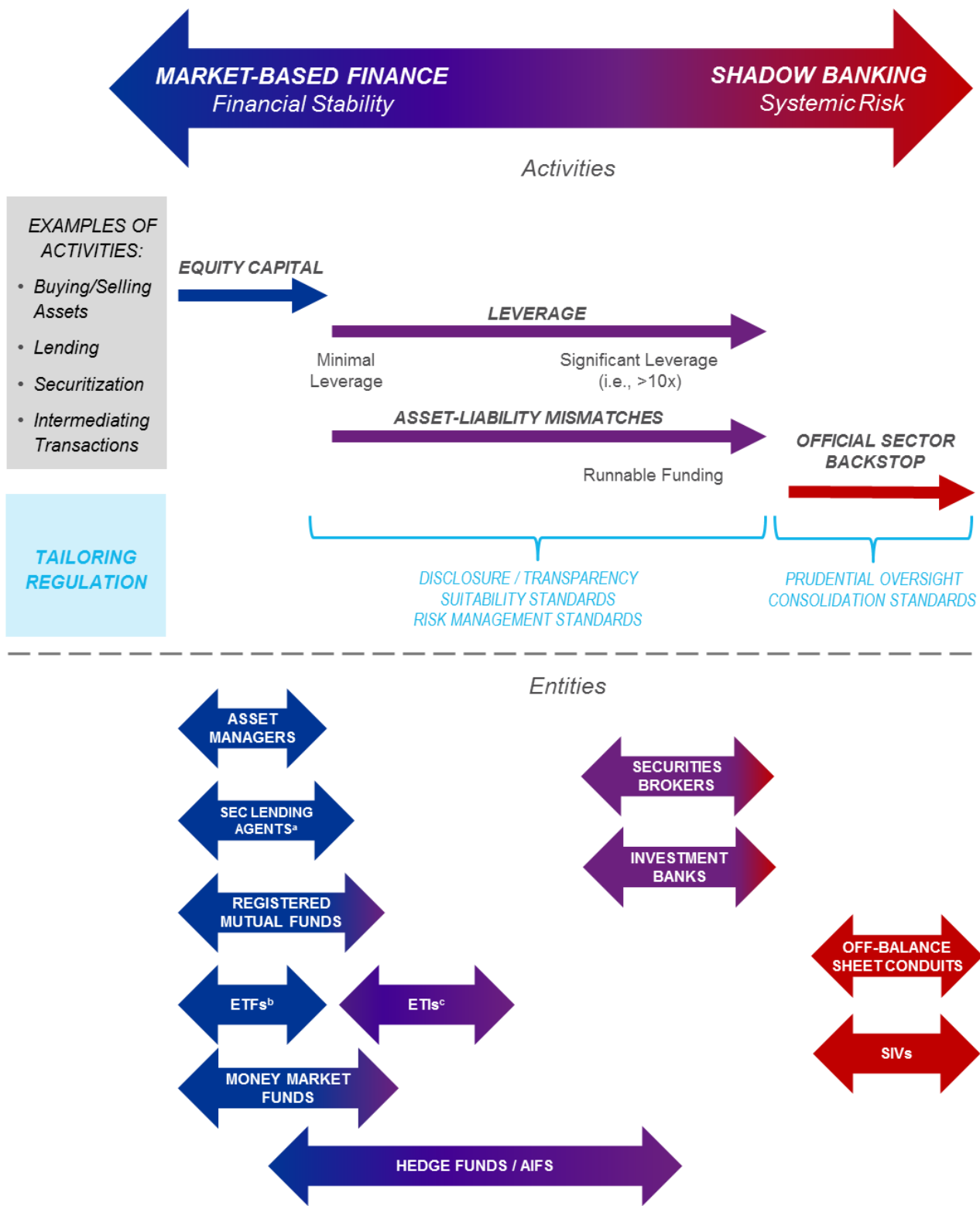
Beginning at the top of Exhibit 2, we see that activities are placed on the continuum not by the nature of the activity in isolation, but rather based on how that activity is funded and if there is an implicit or explicit connection to official sector backstops. For example, unlevered direct investments in financial instruments are placed on the market-based finance side of the continuum. Direct investing provides capital to the real economy without introducing financial stability risk. However, where long-dated investments are funded by short-term liabilities, the activity should entail greater risk and would be placed on the continuum based on the magnitude of the asset-liability mismatch. Similarly, were those investments to be funded by short-term commercial paper (i.e., runnable funding), they would be placed towards the middle of the continuum. Activities like lending and securitization would be placed similarly.

We note that the focus on the funding of the activity is a different approach than the regulatory definitions of shadow banking, which generally focus on trying to classify the nature of the activity or entity itself. We believe that focusing on the funding of the activity gets to the heart of the risks and provides greater insight as to how that activity should be classified and regulated.

### Classifying Entities

Determining the placement of entities is more difficult because different entities, even within the same sector, can have different risks. For example, while registered mutual funds are permitted to use some leverage, most mutual funds do not utilize leverage. As such, we have attempted to generalize the placement of entity types on the continuum based on what we know about their regulatory regimes and business models. As more granular data becomes available, the placement of entities could be refined. For the sake of brevity we do not cover all types of non-bank entities (i.e., finance companies, peer-to-peer lending, etc.) though we believe the continuum can provide a helpful roadmap in classifying entities we have not explored in this paper.

**Exhibit 2: Non-Bank Finance Risk-Based Continuum**



For illustrative purposes only. Not meant to be exhaustive list of non-bank finance products, entities, and activities.

a: Refers to non-bank securities lending agents.

b: Refers to ETFs that invest in securities and have no inverse or levered features.

c: Refers to exchange-traded instruments (ETIs) such as levered and inverse exchange-traded products..

**Asset Managers.** Asset managers act as agents, performing investment activities on behalf of asset owners. Asset managers do not have material asset-liability mismatches on their balance sheets, and they do not rely on short-term wholesale funding or significant amounts of leverage. In addition, asset managers have no implicit or explicit access to official sector backstops.<sup>28</sup> As such, asset managers are placed on the market-based finance end of the continuum.

**Securities Lending Agents (Non-Bank).** Most securities lending agents are affiliated with custodian banks; however, there are a few non-bank securities lending agents. For the sake of clarity, we will focus on non-bank securities lending agents. Securities lending agents arrange transactions between clients who wish to lend securities and entities that wish to borrow securities. This lending activity enables clients to generate additional returns for their portfolios. Importantly, the securities lending agent is not the counterparty to the securities loans.

In the wake of the 2008 Financial Crisis (2008 Crisis), securities lending came under scrutiny due to questions around the following practices: collateralization of loans, rehypothecation of collateral, reinvestment of cash, and borrower default indemnification. Today, it is well-established that loans are over-collateralized providing a safety cushion. Likewise, asset managers that act as securities lending agents do not re-hypothecate non-cash collateral.

In fact, they only touch the collateral to liquidate it in the event that a borrower fails to return the security on loan. Since the Crisis, reforms to rules for cash collateral reinvestment vehicles have been implemented.<sup>29</sup> The resulting cash portfolios are comprised of short maturity and high credit quality securities, and have a high degree of liquidity. If the borrower provides non-cash collateral, the collateral is delivered directly to a custodial account for safekeeping. The non-cash collateral is marked-to-market and the borrower may be required to deliver additional collateral to maintain the required over-collateralization cushion.

Finally, non-bank securities lending agents may offer borrower default indemnification to lending clients. Unlike bank-affiliated lending agents, non-banks do not benefit from official sector backstops and the end-clients consider the risk management practices and the strength of the lending agent on its own merits. While some have suggested that a lack of capital requirements for asset managers that act as securities lending agents could create regulatory arbitrage, the reality is that the difference in regulation reflects the fact that asset managers do not benefit from official sector backstops. As such, there is no taxpayer exposure, and bank capital requirements are not warranted. This is a good example of how the continuum can be used to tailor regulation effectively. Securities lending practices and

*“An investor in a [commingled fund] is a shareholder; as opposed to a depositor in a bank, who is a creditor.”*

– IOSCO, March 2013<sup>30</sup>

associated risk management are explained in our [ViewPoint, Securities Lending: The Facts](#).

**Registered Mutual Funds.** Registered mutual funds are collective investment vehicles that are publicly available, including to retail investors. For this reason, registered mutual funds are seen as the most highly regulated form of collective investment vehicles. For example, most registered mutual funds are subject to leverage limits and generally have unlevered and simple structures.<sup>31</sup> In addition, most registered funds publish their holdings on a periodic basis. Registered mutual funds can be open-ended or closed-ended. Closed-ended funds have a fixed number of shares that are traded on the secondary market; these funds do not have redemptions. Shares in open-end registered funds are redeemable with a frequency specified in the fund’s offering documents, often daily. Given their lack of access to official sector backstops and simple, unlevered structures, we placed registered mutual funds on the market-based finance side of the continuum.

**Money Market Funds (MMFs).** MMFs are registered mutual funds that hold highly liquid, short-term government or credit securities and cash. MMFs offer benefits to investors, primarily diversification of counterparty and credit risk, and sometimes greater yield than can be obtained in bank accounts. During the 2008 Crisis, MMFs experienced historic redemptions in the wake of the “breaking of the buck” by one MMF, the Reserve Primary Fund. To stabilize MMFs, the Federal Reserve and the US Treasury Department initiated several programs to help stabilize the MMF market.<sup>32</sup> For example, on September 19, 2008, the US Treasury Department announced the Temporary Guarantee Program for Money Markets Funds, which temporarily protected MMF shareholders from losses.<sup>33</sup>

Subsequently, regulators implemented significant reforms to MMFs. In the US, the SEC promulgated two sets of reforms in 2010 and 2014. These reforms encompassed both portfolio composition and structural changes, as well as enhanced public transparency.<sup>34</sup> In Europe, reforms in 2010 addressed MMF portfolio composition and, more recently, structural reforms have been finalized, coming into force in January 2019.<sup>35</sup> The arrow in Exhibit 2 reflects the fact that most (but not all) jurisdictions have undertaken MMF reforms post-Crisis.

A more granular version of the continuum could break MMFs into two categories: one for MMFs that have been subjected to post-crisis reforms, and one for MMFs that have not. This



would better reflect the fact that MMFs that do not have conservative guidelines and regulation may present greater risks. The most recent IOSCO peer review on the progress towards global implementation of MMF reforms concluded that implementation is most advanced in seven jurisdictions, reflecting approximately 72% of the global MMF market.<sup>36</sup>

**Exchange-Traded Funds (ETFs).** ETFs are registered mutual funds whose shares can be traded intraday on an exchange. Based on their lack of asset-liability mismatches and their lack of access to official sector backstops, we believe that ETFs fall squarely under market-based finance. We note that the FSB recently acknowledged that ETFs generally do not pose the issues...with respect to open-ended funds (i.e., issues related to on demand liquidity and first-mover advantage).<sup>37</sup>

However, some commentators have expressed concern that ETFs are a package of securities and investors are not paying attention to what is in them, suggesting they could be “herding” into those products without understanding the risks, similar to how investors may not have understood the risks of asset-backed securities or off-balance sheet vehicles in the lead up to the crisis.<sup>38</sup> This argument fails to recognize the fact that most ETFs publish their holdings regularly, meaning that there is full transparency into the risks associated with the underlying holdings of the ETF, and the ETF share is priced accordingly.

As we have previously written, policy makers should consider a classification system to help investors better understand the risks associated with different exchange-traded products. Just as simple securitization structures (i.e., mortgage-backed securities) from the 1980’s morphed into incredibly complex and difficult to understand structures (i.e., SIVs, CDO-squared) twenty years later, the exchange-traded product technology is not immune from this concern. That said, the vast majority of existing ETFs follow long-only investment strategies that do not embed any leverage or other risky features. However, there is a small subset of exchange-traded products that embed more risky features such as exchange-traded products designed to magnify the returns of an index or provide an inverse return. We call these exchange-traded instruments (ETIs). Although these products differ significantly from what we will view as “plain-vanilla ETFs,” they are commonly referred to as ETFs. We believe there is a place for these products, subject to regulatory approval and oversight, however we recommend a classification system that would help investors navigate the differences between plain-vanilla ETFs and other types of exchange-traded products that may have different risks.<sup>39</sup>

**Hedge Funds / Alternative Investment Funds (AIFs).** Unlike registered mutual funds, hedge funds and AIFs are not subject to regulatory leverage limits (though fund constituent documents may limit leverage). As such, these types of funds are allowed to employ greater levels of leverage than a registered mutual fund.<sup>40</sup> IOSCO has

undertaken a project to develop consistent measures of leverage and to define the data that regulators should collect so that they can monitor the use of leverage by funds.<sup>41</sup> By collecting this data, regulators will be able to identify funds that may be using significant levels of leverage. Our expectation is most hedge funds will be found to use only a modest amount of leverage and will include redemption terms that ameliorate the risk, thereby placing them closer to the market-based finance end of the continuum. More granular data on leverage in funds could be utilized to increase the precision of where hedge funds might be located on the continuum, recognizing that more substantial amounts of leverage used by certain hedge funds could warrant placing them more towards the middle of the continuum. Another important consideration is that while hedge funds can use leverage, they do not have access to official sector backstops.<sup>42</sup>

**Securities Brokers and Investment Banks.** Securities brokers and investment banks intermediate financial transactions. Securities brokers intermediate the trading of financial securities and investment banks intermediate corporate finance transactions. Both entity types rely on high degrees of leverage to run their businesses. In fact, in the lead up to the crisis, the largest of these entities were levered in the order of twenty- to thirty-times.<sup>43</sup> As is well-known by now, the largest of these entities either converted to depository institutions, were acquired by depository institutions, or failed. As a result, today, the largest investment banks and securities dealers are affiliated with traditional banks and, therefore, benefit from official sector backstops.<sup>44</sup> That said, there are some smaller institutions that remain independent.

**Off-Balance Sheet Conduits.** Off-balance sheet conduits were vehicles that facilitated the purchase of assets from bank balance sheets to facilitate lending and funding. The conduit would issue short-term commercial paper (short-term liabilities) to finance the purchase of assets. Banks would often provide committed liquidity support to these conduits as a backup were the conduit to become unable to roll over short-term funding. Conduits were reliant upon commercial paper markets, which are a form of runnable funding due to the generally low risk tolerance of investors, in these markets and thus their proclivity to run at the first sign of trouble.

**Structured Investment Vehicles (SIVs).** Recognizing that SIVs are no longer viable structures, and the rules around consolidation and capital treatment have been subject to regulatory reforms, we included them solely to call out the clearest examples of shadow banking. Unlike other types of off-balance sheet vehicles, SIVs did not have explicit agreements for sponsoring banks to provide liquidity support.<sup>45</sup> However, the fact that these vehicles were bank-sponsored created an implicit view that liquidity support would be provided, lest the insolvency, or inability of these vehicles to generate sufficient liquid assets to cover

short-term liabilities become a reputational risk for the bank. As a result, funding liquidity challenges by these entities ultimately caused bank sponsors to assume the liabilities of the SIV, and bear the losses during the crisis.<sup>46</sup> We believe this direct connection to a commercial bank that has access to official sector backstops represents one of the clearest examples of shadow banking. We, therefore, place SIVs squarely under shadow banking on the continuum.

As may become apparent from the discussions of SIVs and off-balance sheet conduits, the key to defining shadow banking is to look at how assets are funded. In particular, financing the purchase of assets by issuing short-term debt in addition to receiving liquidity support from banks that places banks on the hook to assume the entity's liabilities in a stress scenario are hallmarks of shadow banking.

### Final Thoughts on the Continuum

We recognize that the continuum approach is only one way to differentiate shadow banking from market-based finance. That said, there are several commonalities with other approaches that have been proposed, suggesting a path forward. For example, Tobias Adrian, Financial Counsellor and Director of the Monetary and Capital Markets Department at the IMF, proposed a framework that differentiated shadow banking from market-based finance by noting that shadow banking involves credit, maturity, and liquidity transformation and leverage, as well as credit enhancements. In contrast, market-based finance has less of an emphasis on credit enhancement and is less opaque than shadow banking.<sup>47</sup> Using either of these frameworks, bond mutual funds are classified as market-based finance.

### Measures of Shadow Banking

With this conceptual framework in mind, we turn back to the FSB's measures of shadow banking. The FSB maintains two measures of shadow banking: (i) the broad measure / other financial institutions (OFI); and (ii) the narrow measure. As mentioned earlier, the FSB set out a two-step process related to monitoring and reforming the shadow banking system that first cast a wide net to all non-bank credit intermediation, followed by a more narrow focus on shadow banking that could result in financial stability risks. The development of the broad and narrow measures reflects this two-step process. However, as the continuum illuminates, both the broad and narrow measures of shadow banking

As a starting point, we recommend the FSB update its shadow banking definition to account for the funding of activities and entities, by adding the bolded clause to the existing definition: "credit intermediation involving entities and activities fully or partly outside of the regular banking system **that have material asset liability mismatches and implicit access to official sector backstops.**"

capture assets, notably investment funds and reformed MMFs, that are not shadow banking. We recommend reclassifying these funds into a new measure of market-based finance.

### Broad Measure of Shadow Banking

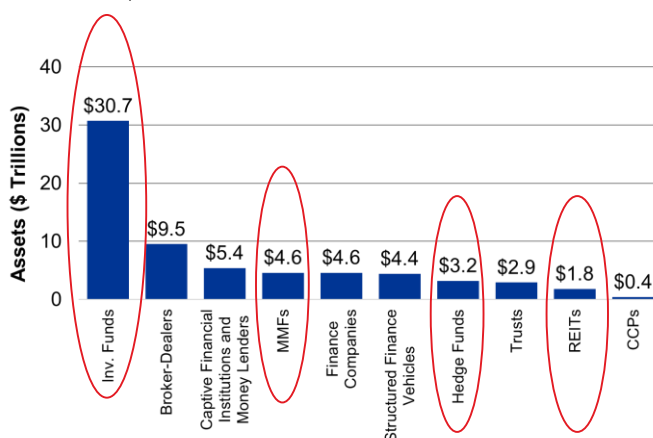
The broad measure of shadow banking, also referred to as Other Financial Institutions (OFI), is defined by the FSB as: "all financial institutions that are not classified as banks, insurance corporations, pension funds, public financial institutions, central banks, or financial auxiliaries." The broad measure of shadow banking totaled \$92 trillion as of 2015.<sup>48</sup> As shown in Exhibit 3, investment funds represent approximately one-third of the broad measure, or \$30.7 trillion. MMFs, a large portion of which have been reformed since the financial crisis, also represent one of the major subsectors of the broad measure of shadow banking, with \$4.6 trillion in assets.

Using the continuum as a framework, we believe that the inclusion of investment funds and reformed MMFs significantly inflates the broad measure of shadow banking, since these funds are not shadow banks, rather they should be classified as market-based finance. In addition, we believe that based on the continuum, further refinement to the broad measure could include re-classifying hedge funds and REITs into the market-based finance category, assuming they are not highly levered. This is because these products do not have official sector backstops and do not generally have material asset-liability mismatches.

To estimate what a reformed broad measure of shadow banking and a new measure of market-based finance might look like, we looked at a time-series of the FSB data that excludes investment funds, MMFs, hedge funds, and REITs from the broad measure of shadow banking. We then include those assets that were excluded from the broad measure in a new measure called market-based finance.

### Exhibit 3: Assets of Major OFI Subsectors

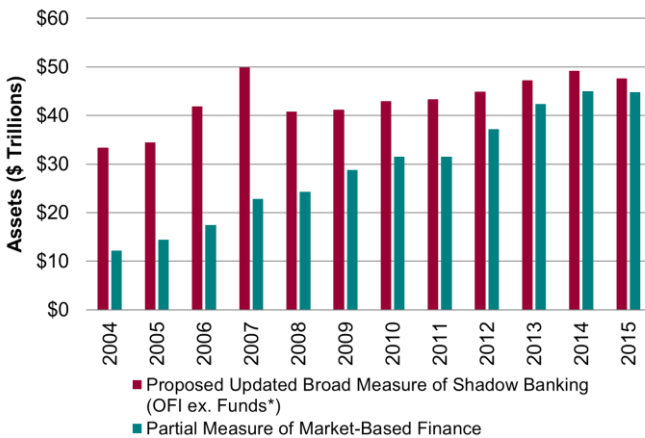
Total OFI: \$92 Trillion



Source: FSB. As of year-end 2015. Note this graph does not include all OFI subsectors, only the largest subsectors are included.

The result of this reclassification is shown in Exhibit 4. We believe this shows a more accurate trend in shadow banking over time. Namely, shadow banking assets peaked in 2007 and 2008. Over time, market-based finance has increased, which reflects a more healthy and diversified financial system. That said, we note even using the adjustments suggested above, shadow banking assets did not decline as much as we might have expected in the years following the crisis and may warrant further analysis. That said, our suggested adjustments would be a significant step forward in refining the FSB's broad measure of shadow banking to reflect the fact that investment funds are not shadow banks.

#### Exhibit 4: Updated Broad Measure of Shadow Banking and Market-Based Finance Measure



\*Funds includes investment funds, hedge funds, MMFs, and REITs.

Note that there are slight discrepancies between the data tables published in the Global Shadow Banking Monitoring Report 2016 and the time series data that the FSB publishes on its website. Hence this graph does not tie exactly with Exhibit 3, which was taken from the table provided in the report itself. We also note that a significant portion of OFI (25% in 2015) are listed as "Others (unidentified)". Thus, it is unclear where those assets should belong.

#### Narrow Measure of Shadow Banking

The narrow measure of shadow banking is defined as "non-bank financial entity types that are considered by authorities to be involved in credit intermediation where financial stability risks from shadow banking may occur." The narrow measure is derived by determining whether an entity performs one of five economic functions, as described by the FSB, below:

- *Economic Function 1 (EF1):* The management of collective investment schemes that are susceptible to runs.
- *Economic Function 2 (EF2):* Lending dependent on short-term funding.
- *Economic Function 3 (EF3):* Market intermediation dependent on short-term funding or secured funding of client assets.
- *Economic Function 4 (EF4):* Facilitating credit creation.
- *Economic Function 5 (EF5):* Securitization-based credit intermediation.

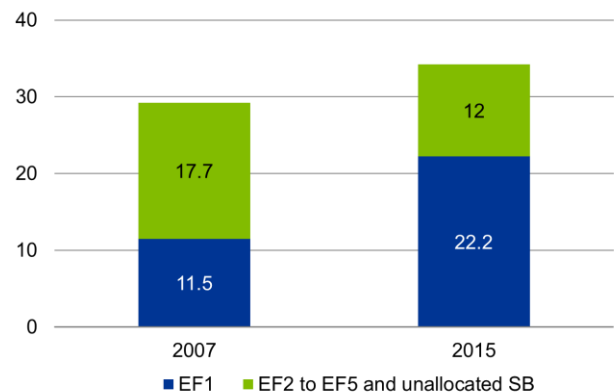
The narrow measure totaled \$34 trillion as of 2015. As shown in Exhibit 5, EF1 comprised approximately two-thirds of the narrow measure. In addition to being the largest category of assets in the narrow measure, EF1 is the primary driver of growth in the narrow measure since the Crisis. When EF1 is excluded, the narrow measure has declined by 32% between 2007 and 2015. However, when EF1 is included, the narrow measure has increased by 17%. Interestingly, approximately half of EF1 is comprised of fixed income or mixed or multi-asset investment funds; and about another quarter of EF1 is comprised of MMFs (most of which have been significantly reformed post-Crisis).

Recalling the conflict between the FSB's statements regarding the decline in shadow banking risks, and the increase in the narrow measure of shadow banking, it appears that EF1 explains this discrepancy. Similar to the broad measure, the size and trend of assets in the narrow measure is distorted by the inclusion of investment funds.

As demonstrated by the continuum in Exhibit 2, investment funds and reformed MMFs are more appropriately classified as market-based finance. We recommend that investment funds and reformed MMFs be removed from the narrow measure of shadow banking to more accurately reflect the reduction in risks emanating from the shadow banking sector. The new measure of market-based finance, would enable policy makers to monitor developments in this part of the market.

Recognizing that EF1 is comprised primarily of investment funds and reformed MMFs, these adjustments to EF1 can be simulated by looking at the narrow measure excluding EF1. Exhibit 6 shows a time-series of the narrow measure, when EF1 is excluded. While imprecise, it is clear that revising the inclusion of investment funds and reformed MMFs in the narrow measure would enable the narrow measure to more accurately track progress towards reducing systemic risks from the shadow banking system.

#### Exhibit 5: EF1 Drives Growth in Narrow Measure



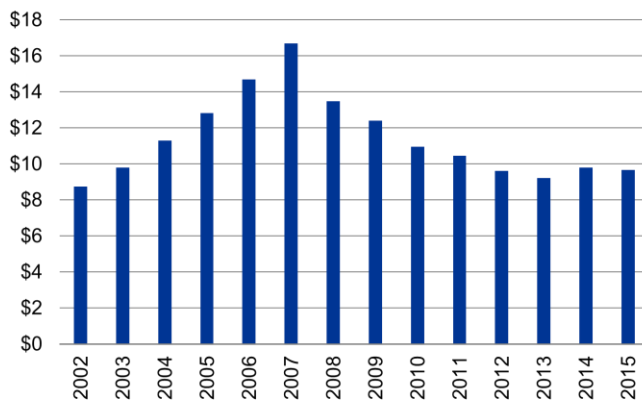
Source: FSB, Assessment of Shadow Banking Activities, Risks and the Adequacy of Post-Crisis Policy Tools to Address Financial Stability Concerns (Jun. 30, 2017) ("June 2017 Shadow Banking Assessment Report"), graph 2. The graph represents the FSB's narrow measure of shadow banking.

Recognizing that Exhibit 6 shows a decline in shadow banking risks since their peak in 2007, the exclusion of EF1 clearly makes the narrow measure more consistent with the FSB’s pronouncement that shadow banking risks have declined since the crisis.

Though similar to the broad measure, there may still be market-based finance assets included in the updated narrow measure of shadow banking. Further refinements to the narrow measure could include adding consideration of the funding of activities in the definitions of EFs 4 and 5, which do not currently contemplate the funding of activities. Likewise, the FSB could consider differentiating highly levered hedge funds from other funds, as well as reformed MMFs from those that have not been reformed. In addition, this framework would ameliorate the distortive effect of including investment funds under shadow banking and will better reflect the progress that FSB reforms have made in reducing risks in the shadow banking system. We encourage the FSB to utilize its data to more precisely parse market-based finance assets from shadow banking assets along the continuum we have proposed and refine its definitions.

We believe that these suggested changes to the FSB’s shadow banking monitoring framework will provide a baseline level of differentiation between shadow banking and market-based finance, which could be helpful both from a monitoring perspective and from the perspective of tailoring regulation to the risks presented by various entities and activities.

**Exhibit 6: Narrow Measure of Shadow Banking ex EF1 (USD Trillions)**



*Note there is a portion of the narrow measure that is unallocated in the FSB data but not broken out by year. We have not included the unallocated portion in these statistics, which is the reason for the differences in figures reported in Exhibit 5.*

Source: FSB Global Shadow Banking Monitoring Report 2016, BlackRock analysis. FSB data available at <http://www.fsb.org/2017/05/global-shadow-banking-monitoring-report-2016-underlying-data-for-exhibits/>.

**Conclusion**

As we approach the ten year anniversary of the global financial crisis, we are at an important inflection point. Regulators have implemented numerous reforms that strengthen the financial system. Developing more robust definitions and measures of shadow banking and market-based finance are critical next steps to assessing progress and developing an understanding of new and emerging risks. In this paper, we laid out a framework for differentiating shadow banking from market-based finance using a continuum that corresponds to risks, with a focus on the manner in which activities are funded and whether or not there is access to official sector backstops.

Importantly, a simple distinction between market-based finance and shadow banking is not sufficient. Both prudential authorities and securities regulators have a role to play in addressing risks to the financial system, as well as encouraging capital formation and economic growth. A continuum can help regulators focus their efforts where risks to financial stability may be the greatest and tailor regulation accordingly. Market-based finance (or securities) regulators should focus on: (i) disclosure, data reporting, and transparency; (ii) suitability standards; and (iii) risk management to ensure risks from market-based finance are properly monitored and managed. This is particularly true with respect to market-based finance that entails both material asset-liability mismatches and significant leverage (far purple side of the continuum). Prudential authorities should focus on the traditional banking system’s exposures to shadow banking and market-based finance entities to ensure appropriate regulatory guardrails are in place to protect the banking system.

However, care must be taken to avoid impeding the flow of capital through all areas of the financial system – traditional banking, shadow banking, and market-based finance – as the presence of diverse sources of funding are critical to a healthy economy. For example, while it may be appropriate to address banks’ exposure to shadow banking through macroprudential policies, the application of such policies to market-based finance could curtail investor appetite to invest their capital altogether, reducing sources of funding to the economy.

At the very least, we hope that this paper fosters discussion about the differences between shadow banking and market-based finance, and a recognition that these terms should not be used interchangeably. We believe strongly that both shadow banking and market-based finance should be subject to robust regulation and oversight. However, the regulatory approach to each must be appropriately tailored to the risks involved. We hope the continuum framework discussed in this *ViewPoint* is a helpful starting point to guide policy decisions as well as risk monitoring frameworks.

## Endnotes

1. Paul McCulley, Teton Reflections (Sep. 2007), available at <https://www.pimco.com/en-us/insights/economic-and-market-commentary/global-central-bank-focus/teton-reflections/> ("McCulley 2007").
2. Market-based finance and shadow banking are often used interchangeably even though they have different meanings. For example, FSB shadow banking documents always include the following footnote: "The FSB defines shadow banking as 'credit intermediation involving entities and activities (fully or partly) outside of the regular banking system'. Some authorities and market participants prefer to use other terms such as 'market-based finance' instead of 'shadow banking'. The use of the term 'shadow banking' is not intended to cast a pejorative tone on this system of credit intermediation. However, the FSB uses the term 'shadow banking' as this is the most commonly employed and, in particular, has been used in earlier G20 communications." This footnote misses the point, however, as shadow banking and market-based finance are not one and the same. Market participants have encouraged the use of the term market-based finance because the FSB's shadow banking measures mischaracterize many products and activities that are better classified as market-based finance.
3. See Exhibit 1.
4. See e.g., Tobias Adrian, Shadow Banking and Market Based Finance (Sep. 14, 2017), IMF, available at <https://www.imf.org/en/News/Articles/2017/09/13/sp091417-shadow-banking-and-market-based-finance> ("Tobias Adrian Speech").
5. McCulley 2007.
6. Martin Neil Bailey, William Bekker, and Sarah E. Holmes, The Big Four Banks: The Evolution of the Financial Sector, Brookings (May 2015) (Bailey et. al. 2015).
7. Markus K. Brunnermeier, Deciphering the Liquidity and Credit Crunch 2007-2008: 23(1), Journal of Economic Perspectives (Winter 2009); Gary Gorton, Banks, Banking, and Crisis, NBER: No. 4 (2007); Martin Neil Baily, Robert E. Litan, and Matthew S. Johnson, The Origins of the Financial Crisis, Brookings Fixing Finance Series: 3 (Nov. 2008) ("Brunnermeier 2008").
8. To address concerns related to banks' involvement in shadow banking, the FSB initiated a workstream that promulgated reforms to: (i) enhance consolidation rules for off-balance sheet entities, and (ii) enhance bank prudential regulation to ensure more robust measurement and capitalization of banks' exposures to shadow banking entities. In addition, the Bank for International Settlements (BIS) recently re-proposed a framework to address "step-in" risks, which are defined as the risk that a bank may have an incentive to support unconsolidated entities due to potential reputational risk associated with allowing such entities to fail, even though this is not required by a contractual obligation. Today, shadow banking activities have largely been curtailed both by regulatory reforms, and changes in the view of these products by market participants.
9. See e.g., Citi Annual Report 2008, available at [http://www.citigroup.com/citi/investor/quarterly/2009/ar08c\\_en.pdf?ieNocache=157](http://www.citigroup.com/citi/investor/quarterly/2009/ar08c_en.pdf?ieNocache=157) ("Citi Annual Report 2008") at 11.
10. For a description of the reforms implemented to address risks in the shadow banking system, see FSB, Assessment of Shadow Banking Activities, Risks and the Adequacy of Post-Crisis Policy Tools to Address Financial Stability Concerns (Jul. 3, 2017) ("Shadow Banking Assessment Report").
11. FSB, Shadow Banking: Strengthening Oversight and Regulation, Recommendations by the FSB (Oct. 27, 2011).
12. See e.g., FSB, Assessment Methodologies for Identifying Non-Bank Non-Insurer Global Systemically Important Financial Institutions: Proposed High-Level Framework and Specific Methodologies (Mar. 4, 2015), available at <http://www.fsb.org/wp-content/uploads/2nd-Con-Doc-on-NBNI-G-SIFI-methodologies.pdf>.
13. See e.g., FSB, Next Steps on the NBNI G-SIFI Assessment Methodologies, Press Release, (Jul. 30, 2015), available at <http://www.fsb.org/2015/07/next-steps-on-the-nbni-g-sifi-assessment-methodologies/>; Financial Stability Oversight Council Meeting Readout (Jul. 31, 2014), available at <https://www.treasury.gov/initiatives/fsoc/council-meetings/Documents/July%2031%202014.pdf>.
14. ECB, Developing Macroprudential Policy for Alternative Investment Funds: 202 (Nov. 2017).
15. US Department of the Treasury, A Financial System that Creates Economic Opportunities: Asset Management and Insurance (Oct. 2017), available at [https://www.treasury.gov/press-center/press-releases/Documents/A-Financial-System-That-Creates-Economic-Opportunities-Asset\\_Management-Insurance.pdf](https://www.treasury.gov/press-center/press-releases/Documents/A-Financial-System-That-Creates-Economic-Opportunities-Asset_Management-Insurance.pdf) ("US Treasury Report on Asset Management & Insurance Regulation"); FSB, Framework for Post-Implementation Evaluation of the Effects of the G20 Financial Regulatory Reforms (Jul. 3, 2017), available at <http://www.fsb.org/2017/07/framework-for-post-implementation-evaluation-of-the-effects-of-the-g20-financial-regulatory-reforms/>.
16. Laura E. Kodres, "What is Shadow Banking?", IMF, Finance & Development: 50(2) (Jun. 2013), available at <http://www.imf.org/external/pubs/ft/fandd/2013/06/basics.htm>.
17. IMF, Global Financial Stability Report: Transition Challenges to Stability (Oct. 2013), Chapter 3, available at <http://www.imf.org/en/Publications/GFSR/Issues/2016/12/31/Transition-Challenges-to-Stability>.
18. In the US, banks were typically levered fourteen to fifteen times before the crisis; post-crisis, leverage has dropped to approximately eleven to twelve times. Similar trends are evident in Europe, although balance sheet leverage has run historically higher as lower risk weighted assets (RWA) were typically retained on banks' balance sheets. See *ViewPoint*, Who Owns the Assets? Developing a Better Understanding of the Flow of Assets and the Implications for Financial Regulation (May 2014), available at <https://www.blackrock.com/corporate/en-se/literature/whitepaper/viewpoint-who-owns-the-assets-may-2014.pdf>.
19. GARP, Response to Consultative Document for Proposed Policy Recommendations to Address Structural Vulnerabilities for Asset Management Activities (Sep. 21, 2016), available at <http://www.fsb.org/wp-content/uploads/Global-Association-of-Risk-Professionals-GARP.pdf>.
20. Alex Brazier, Executive Director for Financial Stability Strategy and Risk, Bank of England, Speech, How to: MACROPRU 5 principles for macroprudential policy (Feb. 13, 2017), available at <http://www.bankofengland.co.uk/publications/Documents/speeches/2017/speech960.pdf>.
21. Source: ICI, The US Retirement Market, Third Quarter 2017, Table 24. Reflects long-term mutual fund assets, does not include money market funds.
22. We note that in the case of mutual funds registered under the Investment Company Act of 1940, as amended (1940 Act) that are not Rule 2a-7 MMFs (US mutual funds), the suspension of redemptions is only permissible if trading is halted or restricted on the New York Stock Exchange or under other emergency conditions described in the 1940 Act. Were a US mutual fund to become unable to meet redemptions within the timeframe outlined in its prospectus, the US mutual fund would need to ask the SEC to grant a Stop Order to permit the fund to cease meeting redemptions. We outline the availability of gates and suspensions in various fund jurisdictions globally in our *ViewPoint*, Fund Structures as Systemic Risk Mitigants, available at <https://www.blackrock.com/corporate/en-fi/literature/whitepaper/viewpoint-fund-structures-as-systemic-risk-mitigants-september-2014.pdf>.
23. Since then, the UK's FCA's subsequent Discussion Paper DP 17/01 on illiquid assets and open-ended property funds included a guidance note on fund suspensions as well as a number of recommendation on the use of liquidity management tools and improved investor disclosures <https://www.fca.org.uk/publication/discussion/dp17-01.pdf>.
24. US Treasury Report on Asset Management and Insurance Regulation.

## Endnotes (cont'd)

25. One of the concerns that have been posited about market-based finance is that non-banks may provide capital in good times but may cease doing so during stress. In other words, unlike traditional banks or broker-dealers, non-bank market participants do not have a responsibility to step in and support the market. And, as traditional broker-dealer models have shifted due to post-crisis regulations, this could present a problem, as there will be fewer participants who may step in during a crisis. This debate is outside the scope of this paper. However, we note that this is a question for bank regulators to address in the context of properly calibrating banking regulation, rather than in the context of regulation for asset managers or funds. No form of regulation will result in investors who do not benefit from official sector backstops stepping in to support markets when doing so is not in their best interest. Regulation that seeks to make it non-bank market participants' responsibility to do so will only cause investors to retreat from markets, rather than support financial stability. We consider this debate in our *ViewPoint*, Macroprudential Policies in Asset Management, available at <https://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-macroprudential-policies-and-asset-management-february-2017.pdf>.
26. Tobias Adrian Speech.
27. Under some regulatory regimes, asset managers that managed investment funds and/or segregated accounts are required to hold capital. We view regulatory capital for asset managers as risk management standards, rather than prudential regulation, given that this capital is primarily for the purposes of protecting clients from operational risks. Regulatory capital for asset managers is not held for the purpose of protecting taxpayers from excessive risk taking because asset managers do not have access to official sector backstops.
28. For further detail on the asset management business model, see *ViewPoint*, BlackRock: Worldwide Leader in Asset and Risk Management, available at <https://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-blackrock-worldwide-leader-in-asset-and-risk-management-nov-17.pdf>.
29. See Short-Term Investment Funds, 77 Fed. Reg. 61229 (Oct. 9, 2012). We note that unlike other cash re-investment vehicles whose rules have been updated to address concerns that arose during the Crisis, the rules for state-chartered STIFs have not been updated.
30. IOSCO, Principles of Liquidity Risk Management for Collective Investment Schemes, Final Report (Mar. 2013), available at <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD405.pdf> at 1.
31. In the US, the SEC limits US registered funds' balance sheet leverage that can be obtained through borrowing. Borrowings are limited to 33.3% of total fund assets (i.e., the fund must have asset coverage of 300%), which equates to a total asset limit of 1.5 times net assets. 15 U.S.C. § 80a-18(a)(1)(B). In Europe, UCITS limits borrowing to 10% for short-term purposes.
32. Details of the Fed's crisis era liquidity support programs can be found here: [https://www.federalreserve.gov/monetarypolicy/bst\\_crisisresponse.htm](https://www.federalreserve.gov/monetarypolicy/bst_crisisresponse.htm).
33. US Treasury Dept., Treasury Announces Temporary Guarantee Program for Money Market Funds (Sep. 6, 2008), available at <https://www.treasury.gov/press-center/press-releases/Pages/hp1161.aspx>.
34. See Money Market Fund Reform; Amendments to Form PF, 79 Fed. Reg. 47735 (Aug. 14, 2014); Money Market Fund Reform, 75 Fed. Reg. 10060 (Mar. 4, 2010).
35. See ESMA Guidelines on ETFs and other UCITS issues, ESMA /2014/937EN (Aug. 1, 2014), Sections X and XII, available at [https://www.esma.europa.eu/sites/default/files/library/2015/11/esma-2014-0011-01-00\\_en\\_0.pdf](https://www.esma.europa.eu/sites/default/files/library/2015/11/esma-2014-0011-01-00_en_0.pdf); Official Journal of the European Union, Regulation 2017/1131 of the European Parliament and of the Council on Money Market Funds (Jun. 14, 2017), available at <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017R1131&from=EN>.
36. IOSCO, Update to the IOSCO Peer Review of Regulation of Money Market Funds (Nov. 2017), available at <https://www.iosco.org/library/pubdocs/pdf/ioscoppd583.pdf> at 5.
37. FSB, Policy Recommendations to Address Structural Vulnerabilities from Asset Management Activities (Jan. 2017) available at: <http://www.fsb.org/wp-content/uploads/FSB-Policy-Recommendations-on-Asset-Management-Structural-Vulnerabilities.pdf> ("FSB Asset Management Vulnerabilities Recommendations").
38. See e.g., Gillian Tett, "Why ETFs Give an Uneasy Sense of Déjà Vu", *Financial Times* (May 5, 2011), available at <https://www.ft.com/content/d7558992-7730-11e0-aed6-00144feabd00>; Courtney Comstock, "Three Reasons People Think ETFs are the New CDOs", *Business Insider* (Sep. 19, 2011), available at <http://www.businessinsider.com/etfs-the-new-cdos-2011>.
39. See e.g., *ViewPoint*, A Primer on ETF Primary Trading and the Role of Authorized Participants (Mar 2017), available at <https://www.blackrock.com/corporate/en-us/literature/whitepaper/viewpoint-etf-primary-trading-role-of-authorized-participants-march-2017.pdf>.
40. Though AIFs are subjected to enhanced reporting when an AIF has commitments >300% of NAV.
41. See FSB Asset Management Vulnerabilities Recommendations, Recommendations 10-12.
42. The financial distress experienced by a highly levered hedge fund, Long-Term Capital Management (LTCM) in 1998 is often cited as an example where government support was provided to a hedge fund. In the wake of this event, an extensive analysis of the events that led up to government support was performed and a number of recommendations were made to address the concerns raised by this incident. See Report of The President's Working Group on Financial Markets, "Hedge Funds, Leverage, and the Lessons of Long-Term Capital Management," (April 1999). This episode highlights the important role that both banking and securities regulators have to play in mitigating financial stability risks. Securities regulators must ensure appropriate risk management standards and collect data to detect a build up of risks. Banking regulators must ensure appropriate counterparty risk management and capital standards to avoid banks becoming overly exposed to a single counterparty.
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48. This is the most recent data published by the FSB.

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