

SHADOW BANKING

Policy Frameworks and Investor Perspectives
on Markets-Based Finance



CFA Institute

SHADOW BANKING

Policy Frameworks and Investor Perspectives
on Markets-Based Finance

©2015 CFA Institute

CFA Institute is the global association of investment professionals that sets the standards for professional excellence. We are a champion for ethical behavior in investment markets and a respected source of knowledge in the global financial community.

Our mission is to lead the investment profession globally by promoting the highest standards of ethics, education, and professional excellence for the ultimate benefit of society.

ISBN: 978-1-942713-02-9
April 2015

Contents

Executive Summary	1
Summary of Findings	2
1. Introduction	7
2. Shadow Banking Components, Facts, and Figures	9
2.1. Entities	12
2.2. Activities	25
3. Shadow Banking in China	31
3.1. Entities	32
3.2. Regulatory Developments	37
4. Risks and Financial Stability	38
4.1. Runs, Disorderly Liquidation, and Procyclicality	39
4.2. Interconnectedness, Collateral Chains, and Counterparty Risk	40
4.3. Opaqueness and Data Gaps	41
5. Regulation and Policy Developments	44
6. Survey on Investor Perspectives	47
6.1. Results and Analysis	48
7. Building a Framework for Securitisation	60
7.1. Operational Enablers	62
7.2. Moral Hazard Mitigation	64
7.3. Prudential Treatment	65
7.4. Alternatives to Securitisation	66
7.5. Industry Initiatives	67

8. Conclusions and Policy Considerations	68
Appendix A: Regulatory Analysis—Investment Funds	72
A1. European Union	72
A2. United States	77
A3. International Developments	78
Appendix B: Regulatory Analysis—Money Market Funds	82
B1. Reforms on the Asset Side of the Balance Sheet	82
B2. Reforms on the Liability Side of the Balance Sheet	84
Appendix C: Regulatory Analysis—Securitisation	87
C1. Alignment of Interests, Risk Retention, and Due Diligence Requirements	87
C2. Prudential Rules	89
C3. Prospectus and Transparency Frameworks	91
C4. Identification of "Quality Securitisation"	92
Appendix D: Regulatory Analysis—Securities Financing Transactions	94
Appendix E: Regulatory Analysis—Other Developments	99
Appendix F: Profile of Respondents to the CFA Institute Member Survey on Shadow Banking	101
References	103

Executive Summary

— **Shadow** banking refers to the process of credit intermediation that is conducted outside the regular banking system. It represents a diverse ecosystem spanning wholesale markets-based credit intermediation and alternative lending channels and includes a broad range of entities, activities, and interconnections among financial institutions.

At its core, the shadow bank credit intermediation process typically involves short-term funding or borrowing to facilitate longer-term lending or investment in less liquid assets, resulting in maturity transformation, liquidity transformation, credit risk transfer, or leverage.

In this report, we examine the scope of the shadow banking system, evaluate the policy frameworks applicable to different shadow banking entities and activities, and survey the perspectives of investment professionals on key shadow banking issues. The purpose is to inform the development of shadow banking policy initiatives from the perspective of investors.

Examples of shadow banking entities in economies with advanced financial sectors, such as the United States and Europe, include money market funds, which have deposit-like funding characteristics and invest in money market instruments with different maturities; hedge funds, which may use leverage to finance their trading positions in securities or financial instruments with differing liquidity profiles; and securitisation vehicles, such as asset-backed securities, which transfer credit risk among different investors. Shadow banking also includes securities financing transactions and the reuse of collateral for further financing.

In addition, shadow banking includes a range of alternative lending channels that are predominant in Asia. These alternative lending channels include a variety of nonbank loan companies, microfinance companies specialising in credit provision to small enterprises, trust companies, peer-to-peer lending, and various forms of retail-oriented loan provision.

Shadow banking provides a significant and valuable source of nonbank finance that can support real economic activity as well as improve the efficient functioning of financial markets. Yet, shadow banking can pose several risks to financial

stability if not adequately supervised, including runs on shadow bank entities, procyclicality in financial markets, interconnectedness, counterparty risk, and collateral chains that multiply leverage. Furthermore, shadow banking may lack transparency, and the inadequacy of data on shadow banking activities and exposures makes monitoring costly and prohibitive.

We propose detailed policy considerations to strengthen market integrity in **Box 1**. In summary,

1. CFA Institute supports transitioning towards a variable net asset value (VNAV) pricing model for all money market funds over an appropriate time period that should be long enough to allow investors and fund sponsors to adjust investment policies and mandates accordingly.
2. Securitisation policy initiatives should focus on (i) increasing standardisation and simplification of issuance structures and (ii) improving transparency via initial and ongoing disclosures to investors. Detail on each of these elements is provided in Box 1.
3. A robust framework surrounding the reuse of collateral in relation to securities financing transactions is needed to prevent financial stability risks. Elements should include greater transparency for securities financing transactions via reporting to trade repositories and investors, harmonised rules on collateral reinvestment, and consistent implementation of international policy frameworks. Further detail is provided in Box 1.

Summary of Findings

- Shadow banking entities and activities are characterised by the existence of maturity, liquidity, or credit-risk transformation, and/or leverage.
 - ▲ These risk transformations can pose risks to financial stability, including disorderly liquidation risks from money market funds or investment funds, procyclicality in financial markets, and counterparty risk and interconnectedness, as well as general opaqueness from limited data availability or complexity in the credit intermediation process. All of these risks have the potential to create systemic risk.
- Significant parts of the shadow banking sector are well regulated.
 - ▲ Regulation of investment funds marketed towards retail investors is comprehensive; in the context of shadow banking risks, it addresses liquidity transformation

via liquidity risk management and redemption rules as well as exposure risks via portfolio concentration limits, in addition to other measures.

- ▲ Regulation of other investment funds, such as hedge funds and private equity funds, is substantive in Europe but less extensive in the United States. European regulation of alternative investment funds addresses liquidity risk, leverage, transparency, and investor protection considerations; in the United States, private funds must register with the Securities and Exchange Commission and are subject to certain reporting requirements.
- Other parts of the shadow banking sector are undergoing regulatory reform, such as money market funds.
 - ▲ Regulatory proposals related to money market funds address maturity transformation via portfolio maturity limits and liquid assets requirements. They also address the risk of runs via limited redemption facilities and proposals to switch from constant net asset value (CNAV) to variable net asset value (VNAV) pricing.
 - ▲ The specific provisions related to redemption policies and liquidity risk management for money market funds differ between the United States and Europe.
- Regulatory measures related to securitisation seek to address the potential misalignment of interests between originators and investors along the chain from loan origination to issuance, as well as potential inadequate transparency over issuance structures and collateral.
 - ▲ Similar regulatory frameworks apply in the United States and Europe with regard to risk retention, prospectus, and transparency requirements.
 - ▲ International bodies, including the Basel Committee on Banking Supervision (BCBS) and the International Organization of Securities Commissions (IOSCO), are leading the development of policy guidance on securitisation, including prudential frameworks and the criteria for determining “quality” securitisation.
- In other areas of the shadow banking sector, such as securities financing transactions, the Financial Stability Board (FSB) has developed policy frameworks that may inform the development of further regulatory initiatives.
 - ▲ The FSB framework is designed to increase transparency and reporting for securities financing transactions and provide greater consistency regarding the treatment, type, and amount of collateral held against certain transactions.

- ▲ Currently, regulation of securities financing transactions varies among jurisdictions and is less extensive than for other areas of the shadow banking system.
- Against a backdrop of lower lending by banks undergoing the process of deleveraging and balance sheet repair, developing a robust framework for orderly and sustainable securitisation markets has become a key policy objective.
- Investment professionals surveyed by CFA Institute identified the following areas of focus for policy and regulatory initiatives:
 - ▲ Improving transparency and disclosures over shadow banking activities in general
 - ▲ Increasing standardisation and simplification of issuance structures in securitisation markets
 - ▲ Implementing a more robust collateral framework
 - ▲ Strengthening data collection and monitoring capabilities over shadow banking activities and exposures

Box 1. Policy Considerations

We recommend the following policy considerations to strengthen market integrity.

1. Money market funds

CFA Institute recognises the risks to financial stability posed by money market funds (MMFs) and supports regulatory actions to reduce these risks in a structural manner. In an October 2012 survey, CFA Institute members supported MMFs' developing liquidity risk management mechanisms to help manage potential instances of mass redemptions; stronger disclosures about the risks of investing in MMFs (and the differences from bank deposits), especially with respect to funds that offer a constant net asset value; and that sponsors of MMFs that provide capital guarantees to investors be subject to capital requirements.

Ultimately, CFA Institute supports transitioning towards a VNAV model for all MMFs over an appropriate time period that should be long enough to allow investors and fund sponsors to adjust investment policies and mandates accordingly. Supervisors should also monitor flows to bank deposits and other possible alternatives to CNAV MMFs to ensure that potential risks are identified.

2. Securitisation

Overcoming issues related to product and market fragmentation, transparency, and illiquidity are central to improving the securitisation market. To that extent, policy initiatives should focus on increasing standardisation and simplification of issuance structures as well as improving transparency via initial and ongoing disclosures to investors.

Standardisation and simplification should focus on the following aspects:

- Issuance structures, including the distribution of risks across tranches
- Structure of any credit enhancements or guarantees
- Legal terms applicable to relevant contracts, including pooling and servicing agreements
- Definition of eligible assets, including whether the asset pool comprises real or synthetic loans and the underlying economic activity being supported

Standardisation of legal frameworks across geographic markets is also desirable to improve the ease and certainty of enforcing ownership rights and creditor protections.

Transparency initiatives should focus on the collection of pertinent, standardised pool and flow data in central repositories. Existing data warehouses support this aim, and their scope should be expanded. Specifically, investors require access to information on

- the asset class being financed, including links to underlying loan-level data, such as that available in European DataWarehouse;
- the transaction's structure, including risk characteristics, scheduled and actual cash flows, subordination levels, servicing arrangements, and the nature and extent of risk transformation;
- the type of transaction participants (i.e., type of risk seller and risk buyer; individual participants may be anonymous);
- the aggregate market size, trends, and pricing data across asset classes and regions; and
- the transaction history, including details of any secondary market activity, such as post-trade data.

The ability to map a more holistic view of transaction data would improve market transparency, encourage investor participation, and thereby support liquidity in securitisation markets. Attention should also be given to regulatory compliance costs to avoid imposing undue burdens on suppliers and demanders of securitisations.

3. Securities financing transactions and collateral

A robust framework surrounding the reuse of collateral in relation to securities financing transactions is needed to mitigate the build-up of excessive leverage in the financial system and prevent associated financial stability risks. Key aspects of a robust collateral framework include the following:

- Restrictions on rehypothecation based on client net indebtedness
- Greater transparency for securities financing transactions via reporting transaction data to trade repositories and reporting to clients
- Rules on collateral reinvestment, such as restrictions on the maturity of reinvested assets and counterparty liquidity standards
- Harmonised requirements for central clearing of repo transactions

Moreover, the FSB's policy framework on securities financing transactions and collateral haircuts should be implemented consistently by national regulators.

1. Introduction

Shadow banking refers to the process of credit intermediation conducted outside of the regular banking system (for example, see FSB 2011). Such credit intermediation typically involves short-term funding or borrowing to facilitate longer-term lending or investment in less liquid assets, resulting in maturity transformation, liquidity transformation, credit risk transfer, or leverage.

Examples of so-called shadow banking entities include money market funds, which have deposit-like funding characteristics and invest in money market instruments with different maturities; hedge funds, which may use leverage to finance their trading positions in securities or financial instruments with differing liquidity profiles; and securitisation vehicles, such as asset-backed securities, which transfer credit risk among different investors.

Shadow banking also includes activities such as repurchase agreements (repos) and securities lending, which are forms of secured financing, and the reuse of collateral for further financing. These activities enable the transfer of risk or the build-up of leverage and also increase the interconnectedness of the financial system among banks and nonbanks.

The shadow banking sector grew rapidly in the early 2000s prior to the financial crisis in 2008. For example, Pozsar, Adrian, Ashcraft, and Boesky (2010) estimate that the shadow banking system in the United States grew from around \$10 trillion in 2000 to nearly \$20 trillion by March 2008—significantly larger than the liabilities of the traditional banking system.¹

But this growth coincided with the build-up of risks that were subsequently manifested in the financial crisis, including complex and opaque financing vehicles, poor governance and lax underwriting standards surrounding loan origination, and excessive system-wide leverage, to name but a few.

These risks became most evident following the collapse of Lehman Brothers in September 2008, which revealed a highly leveraged institution reliant on short-term repo funding that failed when credit markets dried up. The failure of Lehman set off a chain reaction in financial markets and contributed to the Reserve Primary Fund, a money market mutual fund, “breaking the buck” (its stable \$1 per share net asset value). A run on money market

¹For reference, the most recent data reported by the FSB in its global shadow banking monitoring report (2014b) indicate that as of the end of 2013, the assets of nonbank financial intermediaries were approximately \$25 trillion in both the United States and the euro area.

funds (MMFs)—which were large holders of asset-backed commercial paper (ABCP)—ensued, resulting in at least 43 MMFs requiring sponsor support to maintain their value.² As haircuts increased on a range of collateral types for secured borrowing, asset values and liquidity declined in a procyclical manner.

These examples demonstrate not only the entities that lie at the heart of the shadow banking sector, such as MMFs, securities broker/dealers, and securitisation vehicles, but also the shadow banking activities (e.g., repo funding, leverage, secured borrowing) that connect these entities with each other and with the banking sector. A third factor in the shadow banking realm is the role of credit rating agencies, which effectively act as enablers of credit risk transfer by assigning the ratings to securitisations.

As this discussion implies, shadow banking is pervasive in the financial system and, if not properly monitored, can transmit systemic risk. Yet, shadow banking also plays a crucial role in the financing of the economy, and in this respect, the term “shadow” banking is somewhat misplaced. As banks tighten the availability of credit in response to new bank capital and liquidity requirements, markets-based financing, such as the issuance of asset-backed securities, can play a pivotal role in channelling funds to corporate enterprises, particularly small and medium-sized enterprises (SMEs). Indeed, it is arguable that the higher prevalence and wider availability of nonbank credit channels in the United States compared with in Europe are relevant factors of the former’s stronger economic performance since the crisis (for example, see Veron 2013).

As part of the ongoing financial reform efforts in the wake of the financial crisis, and in recognition of the need to revitalise economic growth in an era when bank lending is likely to be more constrained than before, policymakers around the world are developing measures to both regulate and stimulate shadow banking. These efforts focus on creating more standardised, transparent, and simpler financing structures as well as safer investment vehicles. These policy initiatives are being led at the global level by the Financial Stability Board (FSB) and are supported by the development of specific regulations in the European Union, United States, and other national jurisdictions.

In this report, the regulatory frameworks applicable to different shadow banking entities and activities in key jurisdictions are examined. The report is also informed by a global survey of CFA Institute members that identifies the perspectives of investment professionals on key shadow banking issues. On the basis of the analysis and the survey findings, policy considerations from the investor standpoint are identified in order to inform the debate on shadow banking and strengthen market integrity.

²For example, see Bank of England and European Central Bank (2014), Box 4.

2. Shadow Banking Components, Facts, and Figures

As Pozsar et al. (2010) note, shadow banking decomposes the simple process of deposit-funded, hold-to-maturity lending conducted by banks into a more complex, wholesale-funded or securitisation-based lending process. In essence, shadow banking is a broad concept that involves any form of nonbank credit intermediation. Because these credit channels lie outside the regulated banking sector, shadow banks typically do not have recourse to central bank liquidity or public guarantees.

The main shadow banking entities in economies with advanced financial sectors include but are not limited to MMFs; leveraged investment funds, such as hedge funds; intermediaries, such as broker/dealers and securities lending agents; and securitisation vehicles. As such, shadow banking in economies with advanced financial sectors largely comprises wholesale markets-based credit intermediation channels. These shadow banking entities and the activities they engage in—which involve the transformation of maturity, liquidity, or credit risk—are the focus of this report.

Shadow banking also includes a range of alternative lending channels that are predominant in Asia. These alternative lending channels include a variety of nonbank loan companies; microfinance companies specialising in credit provision to small enterprises; entities providing entrusted loans, letters of credit, and other forms of credit; trust companies; peer-to-peer lending channels; and various forms of retail-oriented loan provision.³ Among Asian economies, China stands out because of the relative size, growth, and importance of its shadow banking sector. Accordingly, the specificities of shadow banking in China are addressed separately in Section 3 and referenced again in Section 6 of this report.

³Many of these alternative lending channels also exist in the United States and Europe, although their relative contribution to shadow banking is less in these two regions compared with in Asia. Peer-to-peer lending, for example, is significant in the United States and United Kingdom (see IMF 2014, p. 76).

Related to shadow banking but outside the scope of this report are credit rating agencies, which play a key role in the securitisation market, and market infrastructures, such as central counterparties that clear securities financing transactions.

Globally, the size of the shadow banking sector has been estimated by the FSB to be approximately \$75 trillion as of the end of 2013.⁴ This figure comprises the total assets of the FSB's monitoring universe of nonbank financial intermediation (MUNFI) and represents a broad-based estimate of shadow banking activity.⁵ Based on the FSB data, the total assets of nonbank financial intermediaries of \$75 trillion amount to approximately 120% of global GDP and approximately 56% of total bank assets.

After adjusting for exchange rate effects, nonbank financial intermediaries' assets grew by 7% in 2013.⁶ The largest shadow banking jurisdictions based on MUNFI assets are the United States and the euro area, each with assets of approximately \$25 trillion, or one-third of MUNFI assets, in 2013, as shown in **Exhibit 1**. A breakdown of the entities classified within MUNFI, and their relative sizes, is provided in **Exhibit 2**.

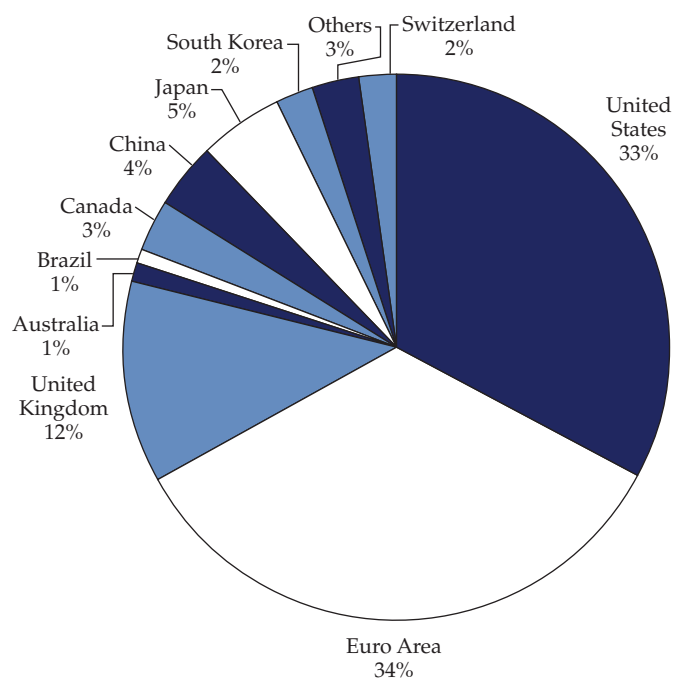
A narrower estimate of shadow banking activity is also provided by the FSB that filters out entities not directly involved in credit intermediation (such as equity investment funds) and entities that are prudentially consolidated into a banking group. According to the FSB, this narrower measure reduces MUNFI assets by approximately \$25 trillion.

⁴See FSB (2014b).

⁵MUNFI excludes financial intermediation by insurance companies, pension funds, and public financial institutions.

⁶According to the FSB, the growth in MUNFI assets in 2013 is partly attributable to a generally positive performance in financial markets and a corresponding increase in the valuation of assets held by other financial intermediaries, including investment funds.

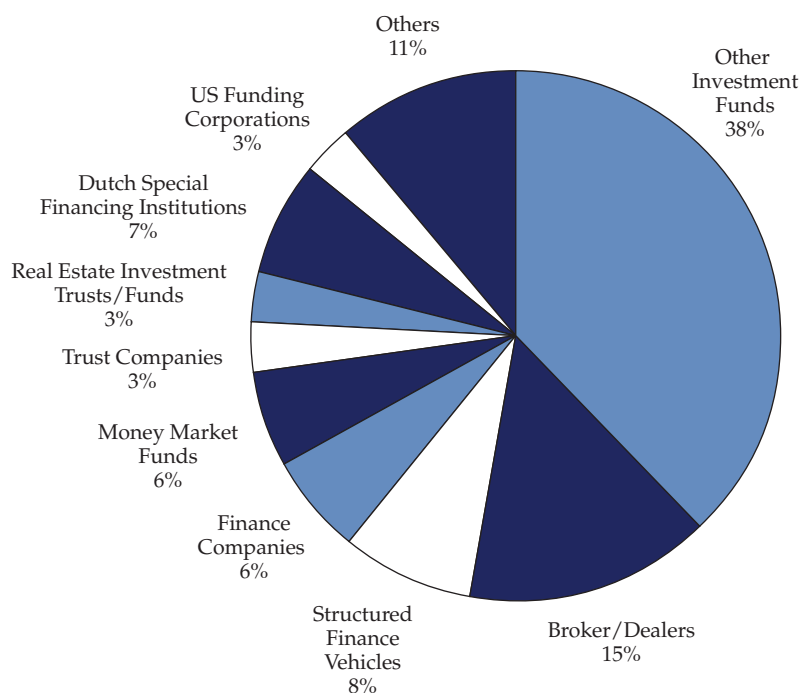
Exhibit 1. Share of Assets of Nonbank Financial Intermediaries by Jurisdiction, 2013



Note: The euro area comprises five participating countries in the FSB survey: France, Italy, Germany, the Netherlands, and Spain.

Source: Based on data from FSB (2014a).

Exhibit 2. Share of Assets of Nonbank Financial Intermediaries by Type of Entity, 2013



Source: Based on data from FSB (2014a).

2.1. Entities

A description of the main shadow banking entities considered within the scope of this report follows.

2.1.1. Money Market Funds

MMFs are collective investment schemes that invest in short-term debt securities (money market instruments). MMFs are an important source of short-term financing for banks, companies, and governments. Companies and governments also use MMFs as an alternative to bank deposits, given comparable liquidity, marginally higher returns, and diversification across issuers.

The United States and Europe account for 90% of the global MMF industry, with \$2.7 trillion and €1.1 trillion, respectively, in assets at the end of 2013.⁷ Units (or shares) of MMFs are either valued at market prices, offering a VNAV in the same way as any other investment fund, or at cost, offering a constant net asset value (CNAV). In the United States, the CNAV feature has been part of the definition of MMFs in regulation⁸ and the vast majority of MMFs are priced in this manner, whereas in Europe, there is an approximately 50/50 split between CNAV and VNAV structures. Worldwide, about 80% of MMFs follow the CNAV business model.⁹

Money market funds have deposit-like funding characteristics, particularly those with stable (e.g., \$1 per share) pricing. Investments in MMFs are generally redeemable on demand, much like a bank deposit; furthermore, some types of MMF (such as in the United States) confer cheque-writing capacity. MMFs typically invest in short-duration, held-to-maturity debt, such as government securities and commercial paper (i.e., loans to issuers), thus creating a maturity mismatch between the money “borrowed” (shareholders’ funds) and the money lent. Furthermore, there is a liquidity mismatch in stable or CNAV funds because market price fluctuations in the portfolio are not passed through to investors. The combination of deposit-like funding and maturity transformation makes MMFs substantively similar to banks.

MMFs are a source of interconnection between the banking and nonbank financial sectors because these entities are large holders of bank-issued commercial paper. MMFs are a significant source of short-term liquidity for the banking sector; in Europe, for example, MMFs allocate nearly 85% of their assets to securities issued by banks, which accounts for approximately 38% of the short-term debt issued by banks. MMFs also account for about 22% of the short-term debt issued by companies or governments (European Commission 2013a). MMFs thus play a significant role in the short-term funding of the economy.

⁷Figures are based on CFA Institute calculations based on statistics from the European Fund and Asset Management Association for UCITS (Undertakings for Collective Investment in Transferable Securities) MMFs (€0.9 trillion at the end of 2013) and the European Commission estimates on the ratio of UCITS MMFs versus AIFMD (Alternative Investment Fund Managers Directive) MMFs (80% versus 20% of assets under management).

⁸See Section 5.2 for details.

⁹Figures are based on estimates from the European Commission and the International Organization of Securities Commissions (IOSCO).

2.1.2. Investment Funds

Aside from money market funds, the main types of investment funds considered in the sphere of shadow banking are those that invest in relatively illiquid securities (such as certain types of debt instruments) and/or rely on borrowing to facilitate investment. For the most part, retail funds (given regulatory restrictions on leverage and eligible assets) and long-only equity funds (holding easy-to-liquidate assets) are considered outside the perimeter of shadow banking.

Leveraged investment funds, such as hedge funds, typically engage in securities financing transactions with their prime broker, borrowing cash and securities to facilitate long or short trading strategies. Prime brokers may also provide direct secured or unsecured lending. Such borrowing creates leverage and can result in liquidity transformation between the source of funds from the prime broker and the assets bought or sold. Furthermore, loans provided by prime brokers are typically collateralised and may be rehypothecated (e.g., reusing the collateral to support other lending), thus further propagating nonbank credit and the process of liquidity transformation.

According to the 2014 hedge fund survey published by the UK Financial Conduct Authority (FCA), global hedge fund assets under management were approximately \$2.5 trillion as of 2013 (FCA 2014), which amounts to less than 5% of the global asset management industry. Overall, it should be recognised that leverage appears to be low in most investment funds in absolute terms and in comparison with other financial intermediaries, although some significant exceptions exist. The average gross leverage per fund included in the same FCA survey was 40.0 times net asset value (NAV), whereas median leverage was just 4.2 times NAV as of September 2013. According to the FCA, the primary source of hedge fund leverage is the use of derivatives to obtain market exposure; financial leverage, including securities financing transactions and other lending by prime brokers, is used to a lesser extent.

Other fund vehicles, such as private equity funds, may also intermediate credit. Some private equity vehicles (as well as some hedge funds) provide direct loans, either secured or unsecured, to medium-sized companies. These private equity vehicles specialising in direct loan provision are an investment possibility for pension funds and insurance companies seeking predictable, stable cash flows over the medium to long term, particularly when these funds offer a relatively high yield in an otherwise low interest rate environment. Such non-bank loan provision by investment funds competes directly with bank lending and provides a valuable alternative source of credit for companies to finance their activities.

2.1.3. *Securities Broker/Dealers and Lending Agents*

Securities broker/dealers and securities lending agents are intermediaries within the shadow banking system. Broker/dealers, for example, are the primary participants in the repo markets, typically engaging in secured borrowing from cash-rich entities, such as MMFs, to finance trading activities, thereby creating the potential for maturity and liquidity transformation. Moreover, securities broker/dealers (including those entities within bank holding companies) may originate structured credit assets based on, for example, mortgages and real estate loans as well as sponsor off-balance-sheet financing vehicles.

Securities lending agents include prime brokers and custodian banks that intermediate securities loans between counterparties, such as investment funds. These loans are typically collateralised, and the collateral may be reused by the agent. Securities lending (and securities financing more broadly) is examined in Section 2.2.

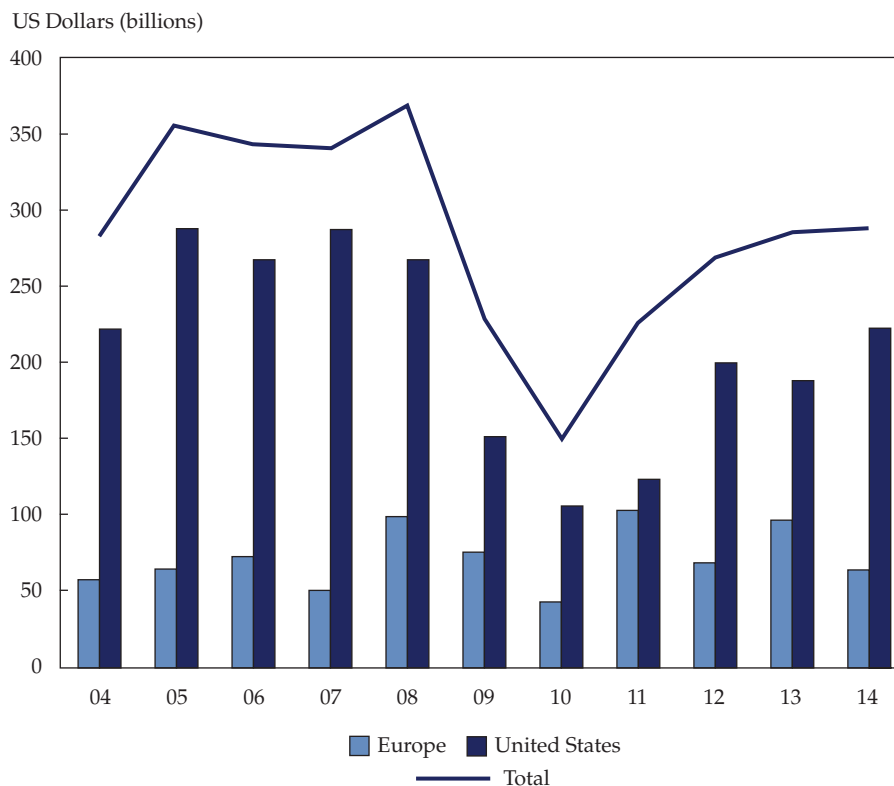
2.1.4. *Securitisation Vehicles*

Securitisation refers to the process by which credits (loans) are originated and pooled, packaged into securities, and sold to investors. Securitisation thus transforms pools of loans into tradable debt securities. By creating a tradable asset with a different risk profile from the underlying collateral, securitisation provides a valuable credit intermediation function and an important source of nonbank finance.

Securitisations that are collateralised by loans and receivables are referred to as asset-backed securities (ABS). Data on ABS issuance in the United States and Europe are presented in **Exhibit 3**. The most common collateral types for ABS in the United States and Europe include auto loans and credit card receivables, as illustrated in **Exhibits 4** and **5**. Other (less common) collateral types include equipment leases, music or film royalty receivables, and municipal parking ticket receivables.

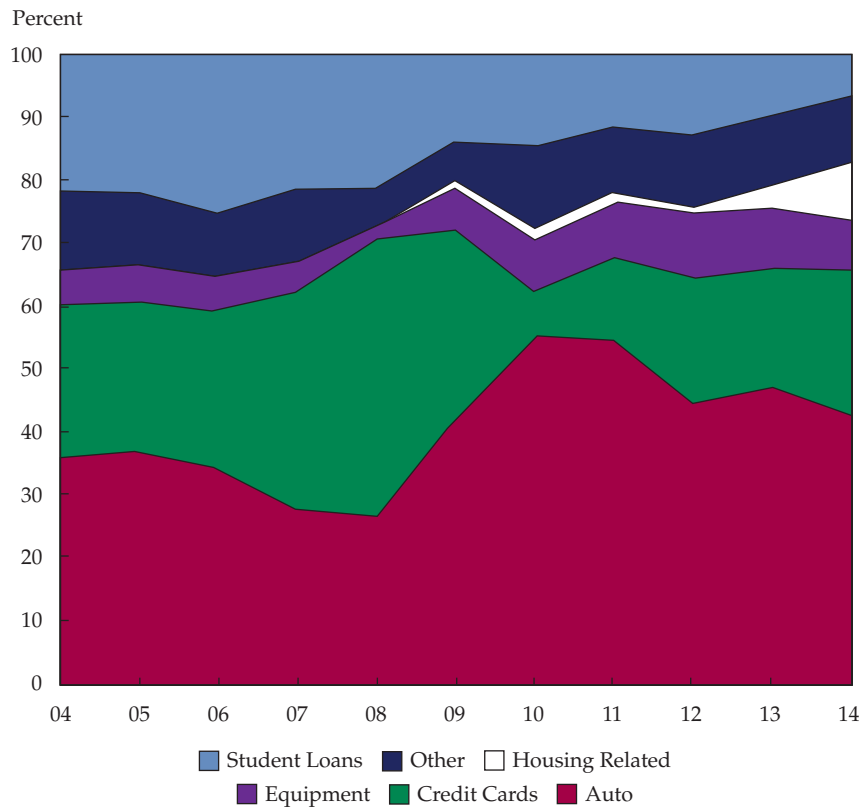
In a similar vein, debt securities collateralised by mortgages are referred to as mortgage-backed securities (MBS). Data on MBS issuance are presented in **Exhibits 6** and **7** for the United States and Europe, respectively. Another type of securitisation is the issuance of asset-backed commercial paper (ABCP), which is a typically short-term security sponsored by banks and collateralised by other financial assets, such as trade receivables. ABCP is commonly sold to MMFs and provides short-term financing for banks. Data on ABCP issuance in the United States are shown in **Exhibit 8**. Securitisation also includes collateralised debt obligations (CDOs), which are debt instruments collateralised by pools of debt, including securitised debt backed by mortgages, bonds, and loans. The securitisation process thus involves multiple layers of credit intermediation. Data on global CDO issuance are provided in **Exhibit 9**.

Exhibit 3. ABS Issuance in the United States and Europe, 2004-2014



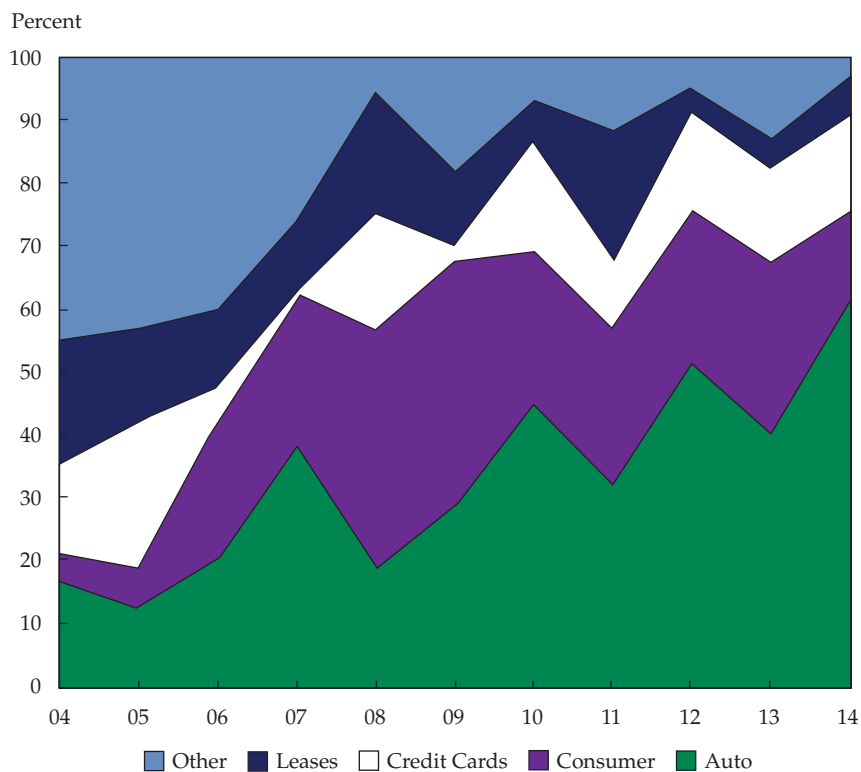
Sources: Based on data from Association for Financial Markets in Europe (AFME) and Securities Industry and Financial Markets Association (SIFMA) members, Bloomberg, Dealogic, Thomson Reuters, prospectus filings, Fitch Ratings, Moody's Investors Service, Standard & Poor's, AFME, and SIFMA.

Exhibit 4. US ABS Issuance by Collateral Type, 2004–2014

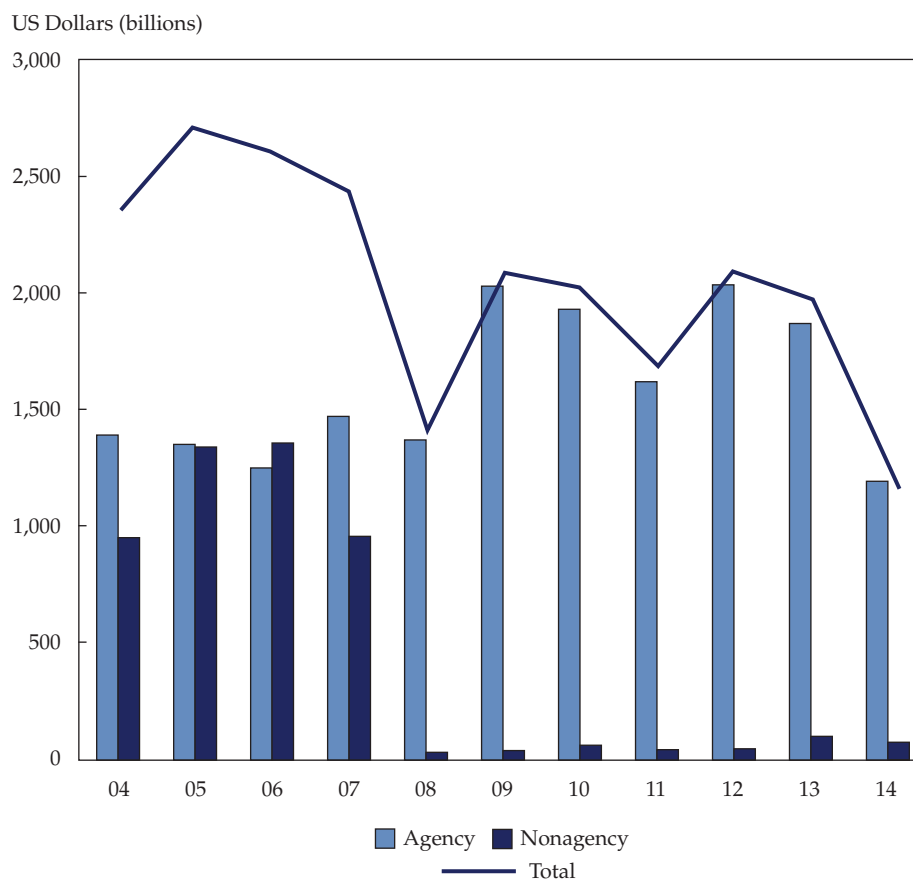


Sources: Based on data from Thomson Reuters and SIFMA.

Exhibit 5. Europe ABS Issuance by Collateral Type, 2004–2014



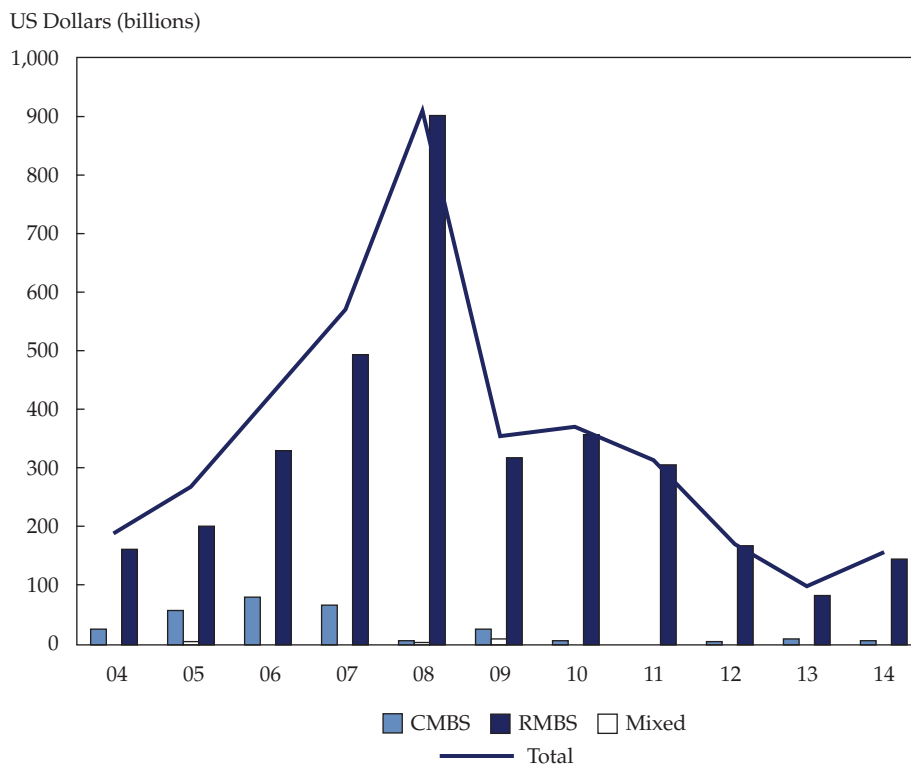
Sources: Based on data from AFME and SIFMA members, Bloomberg, Dealogic, Thomson Reuters, prospectus filings, Fitch Ratings, Moody's Investors Service, Standard & Poor's, AFME, and SIFMA.

Exhibit 6. US MBS Issuance, 2004-2014

Note: Agency includes Fannie Mae, Freddie Mac, and Ginnie Mae.

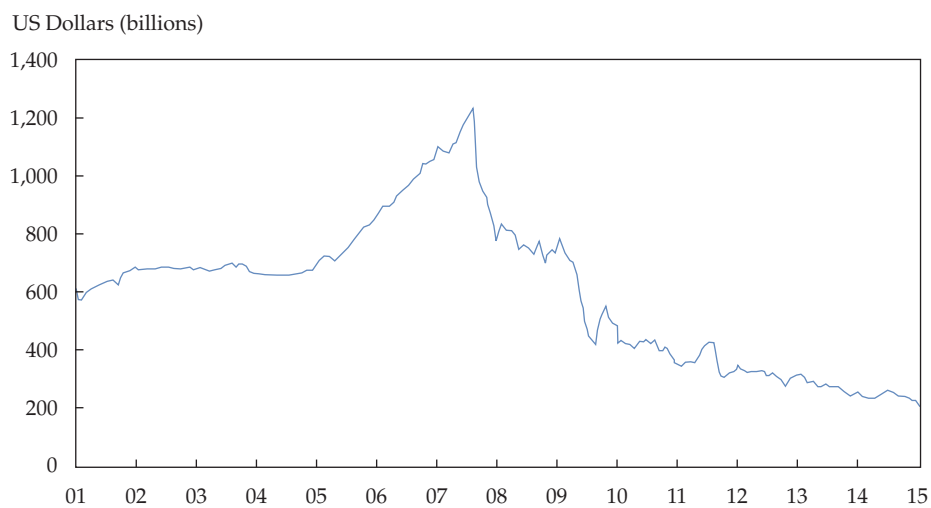
Sources: Based on data from Freddie Mac, Fannie Mae, Ginnie Mae, the National Credit Union Administration, the Federal Deposit Insurance Corporation, Bloomberg, Dealogic, Thomson Reuters, and SIFMA.

Exhibit 7. Europe MBS Issuance, 2004–2014



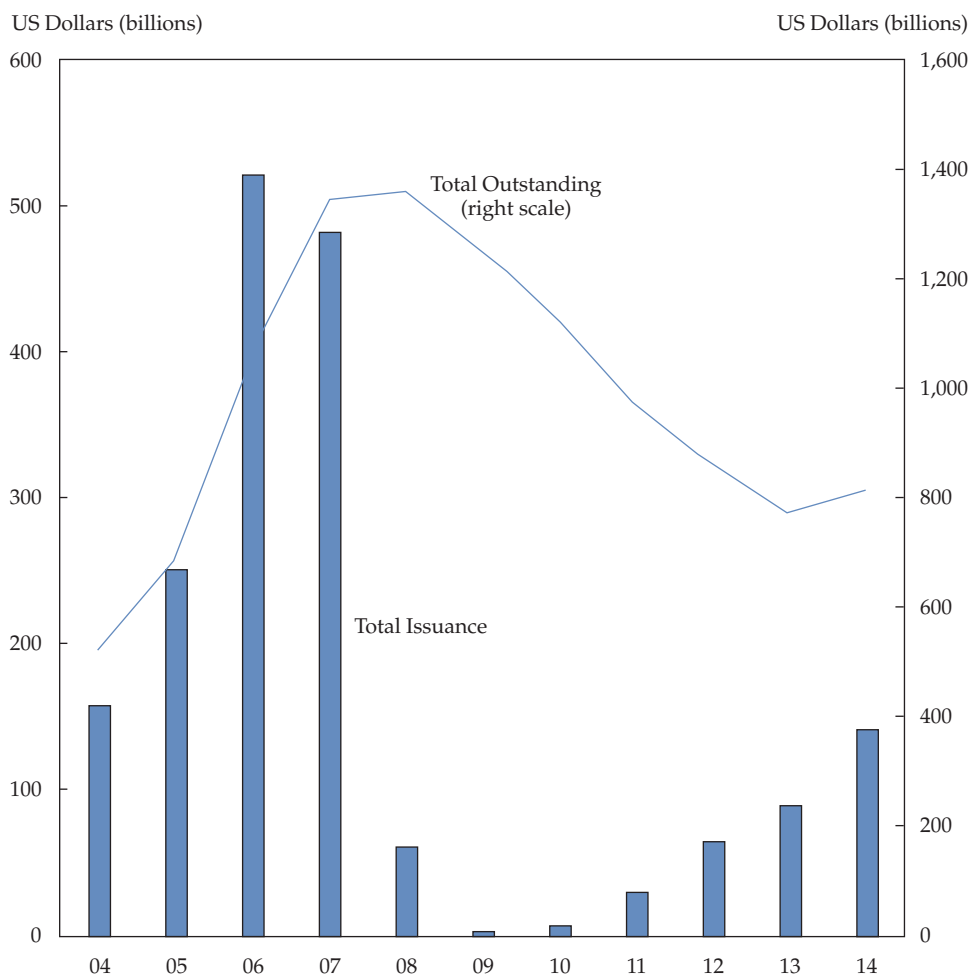
Sources: Based on data from AFME and SIFMA members, Bloomberg, Dealogic, Thomson Reuters, prospectus filings, Fitch Ratings, Moody's Investors Service, Standard & Poor's, AFME, and SIFMA.

Exhibit 8. US ABCP Outstanding, 1 January 2001 to 1 January 2015



Source: Based on data from the Federal Reserve Bank of St. Louis.

Exhibit 9. Global CDO Issuance and Total Outstanding, 2004–2014



Sources: Based on data from AFME and SIFMA members, Bloomberg, Dealogic, Thomson Reuters, prospectus filings, Fitch Ratings, Moody's Investors Service, Standard & Poor's, AFME, and SIFMA.

ABS transfer cash flows from the pool of credits (i.e., loan repayments) through to investors via interest (coupon) payments on the issued securities and the repayment of principal. ABS are typically structured and sold to investors in different tranches, each with different credit risk profiles. Consequently, securitisation transfers credit risk among investors (the holders of the different tranches).

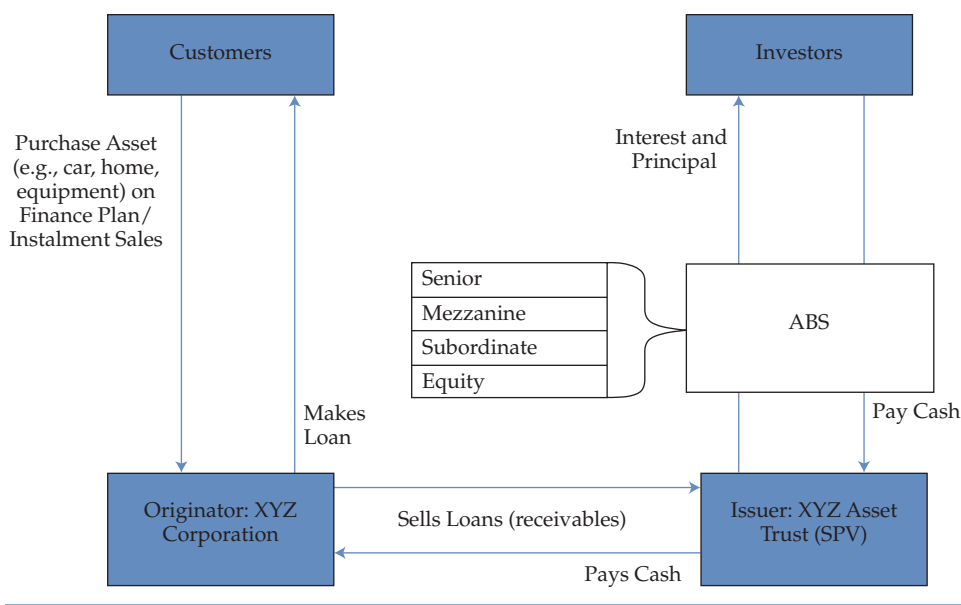
In a typical securitisation structure, there are three key participants: the originator of the loans (such as a corporation), the issuer of the securities, and the servicer that oversees the administration and servicing of the loans.¹⁰ In this structure, the loans or receivables (essentially an asset held on the originator's balance sheet) are sold to the issuer, which is typically a special purpose vehicle (SPV). The SPV then issues the securities and sells them to investors, and the proceeds from the sale of the ABS are then used to purchase the loans (i.e., the collateral pool) from the originator. The servicer, which may belong to the same group entity as the originator or be a third party, administers the receipt of cash flows (loan repayments) from the collateral pool, takes a servicing fee, and facilitates the payment of interest and principal to the holders of the ABS.

This structure is illustrated in **Exhibit 10**. The diagram is a simplified illustration not intended to represent any specific securitisation structure.

As noted before, ABS are issued in one or more tranches. The purpose of creating different tranches is to transform and redistribute the credit risk associated with the collateral. Specifically, the senior tranches, carrying the highest credit rating, will be the first to receive principal payments from the collateral pool, with the subordinate classes (including mezzanine) receiving principal payments only after the senior class has been fully repaid. Prepayment risk—the risk that the average life of the security will contract or extend as a result of loans being paid off early or loan delinquencies, respectively—is transferred to, and concentrated in, the subordinate tranches. In this “waterfall” structure, the subordinate classes provide loss absorbency for the senior classes; they are the first to absorb losses from loan defaults and thus carry the highest credit risk (and, therefore, the lowest credit ratings).

The process of loan origination and distribution, if conducted judiciously, can diversify risk in the financial system and support the channelling of funds through to the real economy. However, in complex or opaque structures, credit risk can be harder to assess, which obstructs the monitoring of exposures among counterparties. We return to the benefits and risks of securitisation, and how to address them, in Section 7.

¹⁰There are several other parties involved, such as lawyers, accountants, underwriters, credit rating agencies, and so forth. We focus here on the basic elements of the transaction.

Exhibit 10. Securitisation Illustration**2.1.5. Trust Companies**

Trust companies, such as real estate investment trusts (REITs) and other finance vehicles established as trusts, channel funds from investors into a pool of assets, such as residential and commercial real estate, infrastructure projects, and other assets (Chinese trust companies are considered separately in Section 3). Trust companies may also utilise leverage, which is common among REITs in particular. According to the FSB, the ratio of debt to total assets for a REIT is typically between 40% and 60%.¹¹

REITs receive special taxation treatment and may offer investors a relatively efficient and liquid method of investing in real estate. REITs have diverse characteristics in terms of their legal form in different jurisdictions, the assets purchased, their degree of leverage, and the extent of maturity transformation.

¹¹See FSB (2013b).

2.2. Activities

The main shadow banking activities undertaken by entities, such as leveraged investment funds, MMFs, and securities broker/dealers, include securities financing transactions. These transactions take place within and among shadow banks and banks. In addition, the collateral backing securities financing transactions may be reused or rehypothecated.¹²

Securities financing transactions comprise repo and securities lending, both of which involve the borrowing of cash or securities against collateral. In essence, securities financing transactions are short-term, over-collateralised loans. The collateral backing these short-term transactions may also be rehypothecated, reused, or recycled to support other secured lending or borrowing. Therefore, securities financing transactions and collateral reuse can be considered to constitute the process of collateral intermediation.

As with other shadow banking intermediation activities, the exchange of collateral for cash or other securities entails maturity and liquidity transformation and facilitates leverage. Collateral intermediation also increases the interconnectedness of financial institutions, particularly when collateral is reused several times in a chain of transactions.

2.2.1. Repos

Repos are a form of cash financing in which the borrower receives cash in exchange for securities that provide collateral for the loan. A haircut is applied to the transaction such that the value of the collateral (the securities repurchased when the repo expires) exceeds the value of the cash originally borrowed.

¹²According to the FSB (2013c), “‘Re-hypothecation’ and ‘re-use’ of securities are terms that are often used interchangeably. The FSB finds it useful to define ‘re-use’ as any use of securities delivered in one transaction in order to collateralise another transaction; and ‘re-hypothecation’ more narrowly as re-use of client assets” (p. 15). There is an important legal distinction between collateral reuse and rehypothecation in the repo market. In the case of rehypothecation, a party who receives a pledge of collateral against a transaction pledges the same collateral to a third party. According to the International Capital Market Association (ICMA), the legal title to the collateral pledged remains with the collateral giver. The collateral taker must obtain the right to rehypothecate the assets from the collateral giver; when this right is exercised, legal title to the collateral transfers to the third party to whom the collateral has been rehypothecated. The original collateral giver has a contractual right to the return of equivalent securities (not exact-same securities) but it is unsecured. In contrast, collateral reuse may refer to the outright sale of collateral, rather than the pledge. In a repo transaction, the buyer becomes the owner of the collateral at the start of the transaction and is at liberty to use or dispose of the collateral as he or she wishes. In other words, the buyer’s right of reuse is not a right granted by the seller; it is an automatic right arising from property ownership.

The main participants in the repo market are cash-rich entities, such as MMFs, pension funds, insurance companies, and some public companies, which are typically cash lenders seeking to earn a low-risk, short-term return on excess cash. Cash borrowers include banks and broker/dealers acting either as principals or as agents on behalf of other clients, such as hedge funds and other investment funds. Cash financing via repo is primarily used for liquidity management and balance sheet purposes or to finance purchases of securities and financial instruments (i.e., leveraged transactions).

Repo transactions may be collateralised by “general collateral” or specific securities (sometimes referred to as “specials”). General collateral comprises liquid, high-quality, and widely accepted securities—predominantly government securities. Specials refer to less liquid or widely accepted collateral (e.g., corporate debt); repo transactions backed by such collateral, therefore, carry a higher haircut. Data on repo collateral and haircuts are provided for the United States and Europe in **Exhibit 13** and **Exhibit 14**, respectively.

Repo transactions can be settled in three ways: bilateral repo, tri-party repo, and held-in-custody repo. The transaction type depends on the form of collateral and how it is managed.

In a bilateral repo, the two counterparties involved directly settle the transaction; possession of the cash and securities, respectively, is transferred from one party to the other. The collateral backing a bilateral repo is usually specific securities agreed between the counterparties. Bilateral repo transactions are often conducted among broker/dealers and facilitate borrowing of specific securities to cover short positions; taking yield curve positions; market making when there is an excess or shortage of specific securities held in inventory (i.e., inventory management); settlement needs; and other financing or hedging purposes, such as hedging interest rate risk.

Tri-party repo transactions are cleared and settled via a third-party clearinghouse that acts as a central counterparty (CCP) to the transaction. The CCP may apply a variation margin (that is, marks to market) and a haircut to the value of the collateral. These clearinghouses may be custodian banks or central securities depositaries.¹³ Central clearing of repo transactions offers increased operational efficiency through collateral management services provided by the tri-party agent that match cash financing needs against general collateral. Tri-party repo transactions are thus highly standardised and commoditised and are commonly overnight arrangements. They are the predominant form of repo transactions. Interdealer general collateral repo trading in the US, Eurozone, and UK repo markets is primarily conducted through electronic trading systems linked to CCPs. The interdealer repo market is also closely linked to central bank monetary policy operations and government debt management.

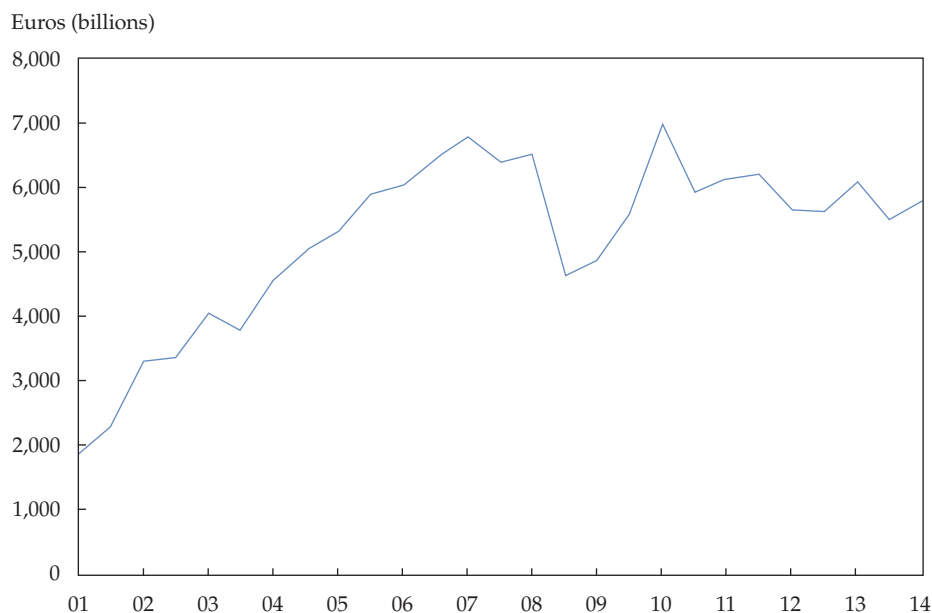
¹³In the United States, the designated clearinghouses for tri-party repo are JPMorgan Chase and Bank of New York Mellon.

Held-in-custody repo transactions involve the pledge, but not the delivery, of collateral to the lender (i.e., the collateral is held in custody by the borrower). This transaction type, therefore, carries the greatest credit risk and thus the highest repo rate and is the least commonly used type of repo transaction.

Overall, repos provide a highly liquid and standardised source of secured financing that supports a range of investor needs. They also typically benefit from favourable bankruptcy treatment (e.g., if one party defaults, the counterparty may be able to liquidate the collateral without needing to obtain legal consent). As such, repos are a key component of the smooth functioning of the financial system.

Data on the repo market are provided in **Exhibit 11** and **Exhibit 12**, which show the total value of outstanding repos and reverse repos in the United States and Europe. And as previously mentioned, Exhibits 13 and 14 list the types of collateral accepted and haircuts applied for tri-party repo transactions.

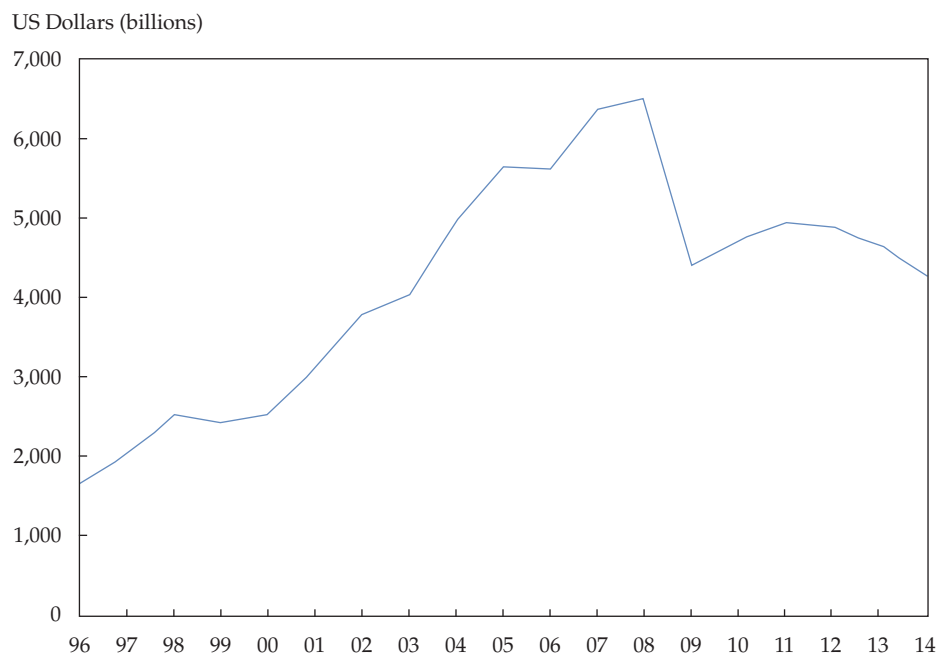
Exhibit 11. European Repos Total Value Outstanding, June 2001 to June 2014



Note: Data show total amount of repos and reverse repos outstanding as of the June 2014 ICMA repo market survey.

Source: ICMA (2014).

Exhibit 12. US Repos Primary Dealer Financing, Average Daily Amount Outstanding, 1996–2014



Notes: Primary dealer financing values include both tri-party and bilateral agreements. Exhibit covers financing involving US government, federal agency, corporate, and federal agency MBS securities. Beginning in April 2013, figures also include equity and other securities.

Sources: Based on data from the Federal Reserve Bank of New York and SIFMA.

Exhibit 13. European Tri-Party Repo Collateral and Haircuts, June 2014

Collateral Type	Proportion	Weighted-Average Haircut
Government securities	39.2%	2.5%
Public agencies/subnational governments	8.2	2.3
Supranational agencies	4.9	2.5
Corporate bonds	14.0	5.9
Covered bonds	8.1	2.9

(continued)

Exhibit 13. European Tri-Party Repo Collateral and Haircuts, June 2014 (continued)

Collateral Type	Proportion	Weighted-Average Haircut
Residential mortgage backed	1.4	10.3
Commercial mortgage backed	0.1	8.1
Other asset backed	0.9	7.0
CDO, CLN, CLO, etc.	0.3	6.3
Convertible bonds	0.1	17.0
Equity	22.2	6.4
Other	0.7	6.7

Note: CDO is collateralised debt obligation, CLN is credit linked note, and CLO is collateralised loan obligation.

Source: ICMA (2014).

Exhibit 14. US Tri-Party Repo Collateral and Haircuts, November 2014

Collateral Type	Proportion	Cash Investor Margin, Median
US Treasury securities	39.2%	2.0%
Agency MBS	28.8	2.0
Agency CMOs	5.0	3.0
Agency debentures and strips	4.8	2.0
Corporate bonds, investment grade	3.3	5.0
Corporate bonds, noninvestment grade	1.5	8.0
Private label CMOs	2.6	8.0
ABS, investment grade	1.2	5.0
ABS, noninvestment grade	1.6	8.0
Equity	9.7	8.0
Other	2.4	n/a

Note: CMOs are collateralized mortgage obligations.

Sources: Based on data from the Federal Reserve Bank of New York and SIFMA.

2.2.2. Securities Lending

Securities lending, like repos, is a form of collateralised borrowing. Whereas repos are primarily used to provide cash financing against high-quality fixed-income collateral, securities lending is primarily used to facilitate short selling of equity securities. As with repos, a haircut is applied to the transaction.

Short selling is commonly undertaken by hedge funds that can access pools of securities from the prime brokerage units of broker/dealers to sell short. The prime broker may directly lend the securities or act as an intermediary (i.e., a lending agent) on behalf of another lender, such as an institutional investor.

In addition to facilitating short selling, securities lending may be undertaken to generate additional revenue for the lender. Investment managers can generate income for their funds by lending securities held in the fund's portfolio to other entities, such as hedge funds. Securities are loaned in exchange for a payment (income to the fund). The fund management company may use a lending agent, such as a prime broker or a custodian bank, that serves as an intermediary between the fund (the lender) and the borrower.

Cash collateral received by the lender (or lending agent) may be reinvested in money market instruments to generate additional return and held in either segregated or commingled accounts, thereby extending the process of liquidity transformation. Securities collateral may be reused by the lending agent to support other lending, including via repo. This process thus increases the interconnectedness of entities and markets and lengthens the chain of collateral backing these transactions.

Securities lending, like repos, plays an important role in facilitating transactions, providing yield enhancement for lenders, and giving borrowers the ability to short sell securities, thereby supporting the efficient functioning of financial markets.

3. Shadow Banking in China

Shadow banking in China broadly encompasses a variety of funding pools and vehicles that intermediate credit mostly outside the perimeter of commercial bank regulation. Trust companies and wealth management products are the most notable entities. Shadow banking activities in China typically involve direct lending to the real economy, as opposed to the markets-based credit intermediation channels discussed in Section 2. Chinese shadow bank entities are also closely tied to commercial banks.

The growth of credit in China has been significant in recent years. According to the *Financial Times* (Anderlini 2014), in the five years since the financial crisis started in 2008, the amount of credit generated in China increased from \$10 trillion to \$25 trillion, a sizable part of which was considered to have come from the shadow banking sector. Over the same period, total debt to GDP in China's economy rose from 130% in 2008 to 220% in 2013.

The International Monetary Fund (IMF) estimates that shadow bank social financing is expanding at approximately twice the rate of bank credit.¹⁴ Additionally, in its latest global shadow banking monitoring report, the FSB estimated that the assets of Chinese nonbank financial intermediaries grew by more than 30% in 2013 (after controlling for exchange rate effects), the second-highest growth rate in the FSB's monitoring universe.¹⁵

The growth in China's shadow banking system reflects both the country's investment-driven growth model¹⁶ and its tightly controlled banking sector. To avoid breaching capital constraints, banks have increasingly set up alternative financing vehicles to facilitate capital formation in infrastructure and real estate. Moreover, with regulatory restrictions on deposit rates, these vehicles, such as trusts and wealth management products, have attracted funds because of the relatively high yields offered.

But despite high growth rates, the stock of shadow bank assets in China remains relatively small at the global level. According to the FSB (2014a), China accounts for 4% of the

¹⁴See IMF (2014). Total social financing (TSF) is calculated by the People's Bank of China and represents a broad measure of credit provided by the financial sector to the real economy. Shadow bank social financing comprises TSF minus bank loans, equity-like items, and bond issuance.

¹⁵See FSB (2014a). Argentina experienced the highest year-on-year growth rate; its nonbank financial intermediaries' assets grew by more than 50% in 2013.

¹⁶According to data from the World Bank, gross capital formation in China averaged 48.4% of GDP over 2009–2013.

FSB's monitoring universe of nonbank financial intermediation, a broad-based measure of shadow banking. This fact implies that, based on the FSB's estimate of global MUNFI assets of \$75.2 trillion as of the end of 2013, assets of nonbank financial intermediaries in China would amount to approximately \$3 trillion. In comparison, the United States and the euro area each account for approximately one-third of global MUNFI assets, or approximately \$25 trillion each.

3.1. Entities

Trust companies and wealth management products (WMPs) in China are typically set up by banks and are held off-balance-sheet as separate legal structures. Banks and state entities are typically the largest shareholders. These vehicles have been created primarily to channel funds to construction projects by developers or local governments that are unable to raise capital through traditional debt issuance.

In addition to trusts and WMPs, shadow banking in China comprises local government finance vehicles (LGFVs), collective trust programmes, credit guarantee companies, entrust loans, undiscounted banker's acceptances, and other types of loan provision. Large, state-owned companies may also use borrowed funds from banks to provide direct loans to SMEs. In addition to being connected to banks, shadow banks may be connected to one another; for example, LGFVs may also obtain loans from trust companies to facilitate their investment.

A notable area of growth in the Chinese shadow banking sector is peer-to-peer (P2P) lending. P2P lenders operate online platforms that enable individuals and small businesses to lend to and borrow from each other. Some P2P lenders have started to partner with microfinance companies to improve lending capabilities.

According to a report from Nomura Research Institute based on data from P2P portal site Wangdaizhijia, approximately ¥82 billion was borrowed from 443,600 investors at an average interest rate of 20.17% in the first six months of 2014 (Jingu 2014). P2P lending and the liberalised interest rates offered reflect part of a wider trend towards internet-based finance. The most prominent example (separate from P2P lending) is Yu'E Bao.¹⁷

P2P lending in China is largely unregulated. Consequently, although it may facilitate ease of credit for SMEs, P2P lending may also entail relatively high risks of fraud.

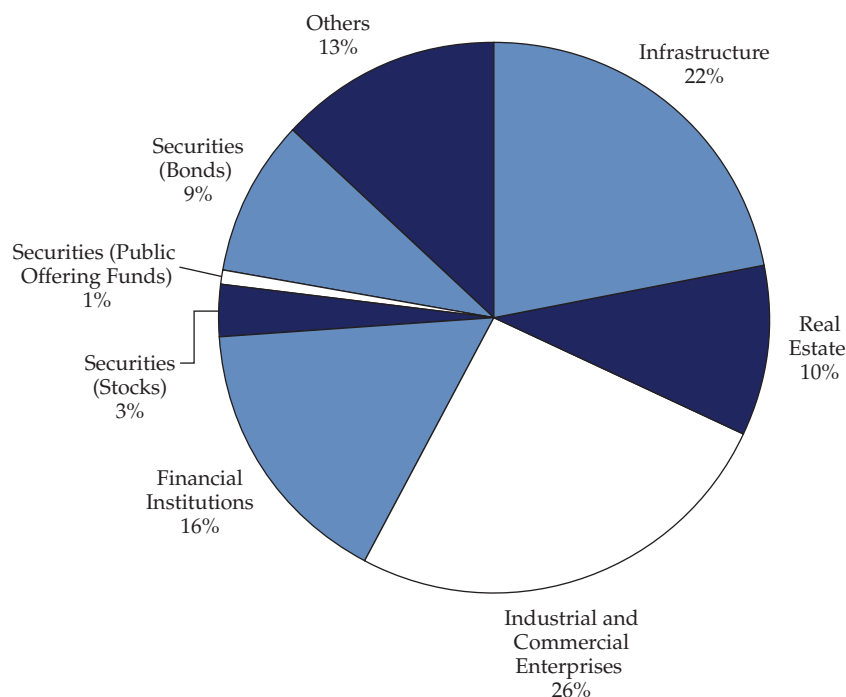
¹⁷Yu'E Bao is effectively a money market fund. Customers of Alipay, Alibaba's online payment service, can invest their idle account balances in Yu'E Bao.

Trusts

Trust companies undertake a variety of business activities, including lending, real estate investment, and investment in financial assets. According to data from the China Trustee Association, shown in **Exhibit 15** and **Exhibit 16**, approximately one-third of trust funds are invested in infrastructure and real estate and approximately one-quarter of funds are invested in industrial companies. The remainder of trust funds are invested in financial institutions (16%); stocks, bonds, and funds (13%); and others (13%). By type of investment, the majority of trust funds consist of loans (42%), followed by financial assets available for sale and held to maturity (21%).

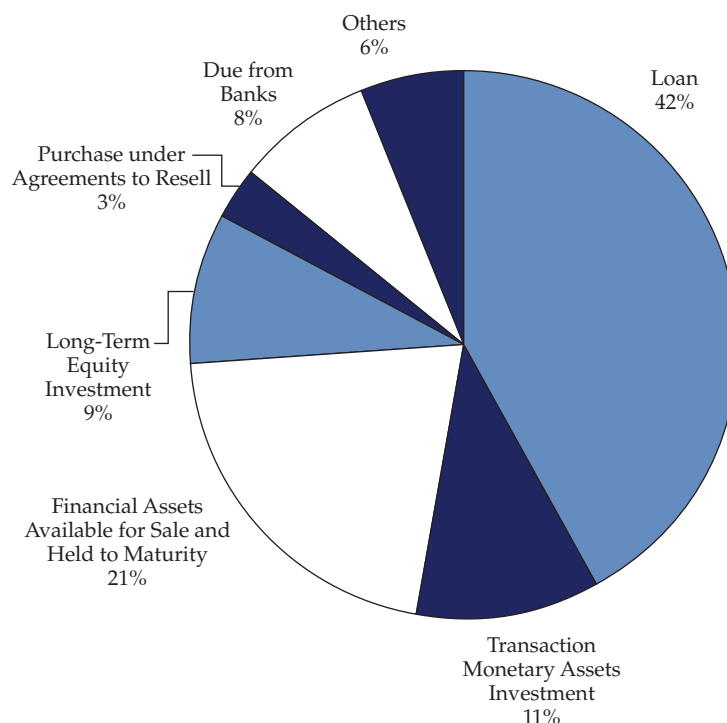
Trust companies are closely linked to banks. Historically, under the bank–trust cooperation model, banks made entrusted loans to trust companies, which, in turn, provided high-yielding loans to entities that would otherwise have difficulty obtaining bank loans.

Exhibit 15. Composition of Chinese Trusts by Sector, 3Q 2014



Source: Based on data from the China Trustee Association.

Exhibit 16. Composition of Chinese Trusts by Type of Funds, 3Q 2014



Source: Based on data from the China Trustee Association.

By outsourcing loan provision in this manner, banks were able to free up their balance sheets; however, such bank–trust cooperation has declined in recent years following regulatory tightening, as discussed in Section 3.2.

In addition to banks, state-owned enterprises, local governments, and financial institutions are large shareholders of trust companies. The ownership interests of 10 of the largest Chinese trusts are listed in **Exhibit 17**.

Exhibit 17. Ownership of Chinese Trusts

Name	Total Assets (¥ millions)	Total Equity (¥ millions)	CBRC Oversight	Largest Shareholder	Shareholding	Shareholder Type
Ping An Trust	73,897	31,472	N	Ping An Insurance	99.9%	Insurance
China Resources SZITIC Trust	11,947	10,173	N	China Resources (Holdings)	51.0	State-owned enterprise (central)
CITIC Trust	11,823	9,938	Y	CITIC Limited	80.0	State-owned enterprise (central)
China Credit Trust	11,770	10,097	Y	PICC	32.9	Insurance
Chongqing International Trust	9,872	8,273	N	Chongqing International Trust Investment Holdings	67.0	State-owned enterprise (local)
Shanghai International Trust	7,539	6,799	N	Shanghai International Group	66.3	State-owned enterprise (local)
Jiangsu International Trust	6,458	6,193	N	Jiangsu Guoxin Investment	80.0	State-owned enterprise (local)
Sichuan Trust	6,369	2,744	N	Sichuan Hongda Group	34.7	State-owned enterprise (local)
Zhongrong International Trust	6,226	4,843	N	Jingwei Textile Machinery	36.6	State-owned enterprise (central)
CCB Trust	5,528	5,319	Y	China Construction Bank	67.0	Banks

Notes: CBRC is the China Banking Regulatory Commission. PICC is the People's Insurance Company of China.

Source: Hu, Mahendran, and Li (2014), based on company reports for end of fiscal year 2012.

Wealth Management Products

Bank-issued WMPs are a large funding source for trust companies. More generally, WMP issuance has been a major driver of growth in shadow bank credit. According to Thomson Reuters Accelus (2014), WMPs are the largest source of shadow bank loans, with estimated issuance of ¥7.6 trillion (approximately \$1.24 trillion) as of the end of 2012—a 55% increase on 2011. In 2014, the IMF (2014) reported that WMP issuance had grown to approximately ¥12 trillion by early 2014, an increase of 50% since early 2013

and a threefold increase since early 2011. As of early 2014, WMP issuance accounted for approximately 25% of GDP.

WMPs may be marketed to investors as products that are exempt from restrictions on bank deposit rates; as such, WMPs offer relatively high yields. The underlying asset pools include liquid investments, such as money market funds and bond funds, but also illiquid investments, such as loans to SMEs, loans to local government finance vehicles, real estate loans, and others.

WMPs are typically short-maturity products; according to a report from HSBC (Hu, Mahendran, and Li 2014), the average maturity of bank-trust WMPs in 2013 was between 110 and 120 days. Because the underlying assets are typically of longer maturities, issuers must roll over WMPs on a continual basis to maintain positive cash flow. According to the Federal Reserve Bank of San Francisco (2013), “more than 60 percent of all bank-issued WMPs have no formal guarantee on either rate of return or principal payments. . .” (p. 3). Therefore, taken together, the implied maturity and liquidity transformation in WMPs, combined with a lack of formal guarantees, pose risks.

Indeed, concerns have been raised over the financial stability of these funding vehicles more generally. Rapid growth has led to overcapacity in property and infrastructure, with funds being channelled to some projects that are unlikely to deliver the returns needed to honour obligations to investors in trusts and WMPs, thus raising default risks. Furthermore, these vehicles lack transparency, and there is ambiguity regarding the extent of sponsor support (from banks or government). Although there is no formal deposit insurance system in China, bank deposits are often considered to be fully guaranteed by the government. Investors may also believe that bank-issued WMPs would be similarly guaranteed, which may result in a mispricing of risk.

However, some risk-mitigating factors are in place. According to the IMF (2014), for large banks a higher issuance of WMPs is associated with lower leverage, implying that these banks have larger capital buffers to absorb withdrawals. Also, the average WMP maturity is positively correlated with bank size, such that for large banks, liquidity and rollover risks are lower. Finally, to the extent that some of the underlying assets are loans to public sector entities, there may be a degree of implicit state guarantee to the asset pool, although this is difficult to observe or quantify given product opacity.

Further consideration of possible systemic risks posed by Chinese trusts and WMPs is provided in Section 6, which examines investor perspectives on shadow banking gathered through a survey.

3.2. Regulatory Developments

Since 2010, trust companies under the supervision of the CBRC have been subject to restrictions on leverage ratios and net capital requirements. However, in general, restrictions on trust companies are somewhat less stringent than for commercial banks.

In March 2011, the CBRC issued a notice on regulating the wealth management cooperation between banks and trust companies. Under the notice, commercial banks were required to move off-balance-sheet assets under bank–trust cooperation arrangements back on to their balance sheets, and bank–trust cooperation loan balances were to be reduced by at least 25% each quarter. Second, the CBRC notified banks that they should establish risk-based capital equal to 10.5% of the remaining outstanding off-balance-sheet bank–trust loans. Trust companies were also prohibited from paying dividends if trust compensation reserves fell to less than 150% of the nonperforming bank–trust loans or 2.5% of the total balance of bank–trust loans.

Furthermore, in 2013 the CBRC was reported to have asked banks to stop providing guarantees to LGFV bonds and to strengthen the calculation of total LGFV exposures. The CBRC also asked banks to limit the investment of WMP proceeds in credit-related assets and to not provide guarantees to nonstandardised credit assets (including trust loans, entrusted loans, bank acceptances, letters of credit, and others). More recently, in January 2015, the CBRC published a new supervisory framework for trusts involving increased onsite inspection of trust companies and strengthened risk supervision.

These measures, although not an exhaustive account of regulatory actions taken in China, illustrate a general policy tightening with regard to shadow banking and reflect the desire of authorities to contain financial sector risks.

To date, regulatory efforts have primarily focused on prudential aspects. This focus stems from the purview of the CBRC and the fact that many shadow banking products, such as WMPs, are retailed via banks. Looking ahead, a greater focus on conduct of business regulation in the Chinese shadow banking sector, including disclosure and suitability standards, would be appropriate to enhance investor protection.

4. Risks and Financial Stability

Shadow banking risks and their implications for financial stability stem from the core processes of maturity, liquidity, and credit transformation, as well as the build-up of leverage via securities financing. In this section, we consider how these processes translate into financial stability risks, which provides the necessary context for any examination of policy frameworks.

With regard to investment funds (considered separately from money market funds in this context), it is worth noting that the risks posed by asset management activities to financial stability are distinct from the risks that arise from bank and insurance activities. Investment funds do not guarantee the value of the principal invested or any measure of return to investors, who instead bear the market risk. End investors hold the ultimate ownership of fund assets, which are subject to segregation arrangements.

Asset segregation and the attribution of market risk to end investors mean that investment funds cannot fail in a way comparable with deposit-taking institutions or life insurers, which offer guarantees to depositors and policyholders. However, asset managers are subject to operational risks in the conduct of their activities in much the same way as any other business. For this reason, many regulatory frameworks around the world require asset managers to hold a minimum amount of operational capital. As for the operational risks in relation to the pools of assets (i.e., the funds run by the asset management firm), such as the loss of an asset, the responsibility to protect fund shareholders typically falls on the entity in charge of the segregation, such as the depositary or custodian.

Given the structural safeguards discussed, financial stability risks in relation to investment funds are indirect. Specifically, as noted earlier, they largely depend on the degree to which funds are reliant on wholesale funding (leverage) and liquidity transformation, which may create instability in times of severe market stress.

In the case of MMFs, the combination of deposit-like, redeemable-on-demand funding with investment in held-to-maturity debt securities also creates maturity transformation. Moreover, MMFs with CNAV pricing effectively guarantee the value of the principal invested and thus are more susceptible to bank-like “runs”.

4.1. Runs, Disorderly Liquidation, and Procyclicality

A mismatch between the redemption policy of a fund and the liquidity profile of the underlying assets represents a source of liquidity transformation, which, in turn, creates the conditions for potential runs.

On the asset side of the balance sheet, the liquidity profile of a fund is primarily determined by the liquidity of the portfolio of investments. On the liability side of the balance sheet, the liquidity profile depends on the redemption policy of the fund in normal market circumstances, any adaptations to the redemption policy in exceptional market circumstances, the existence of any borrowing (leverage) along with the nature and terms of such borrowing, and the impact of redemptions on the liquidity profile of the remaining assets.

In general, a mismatch between the liquidity of the assets and the liquidity of the liabilities, including shareholders' funds and borrowing via securities financing or leverage, creates liquidity risk.

Under normal market circumstances, such liquidity risk is not problematic; an asset manager should have enough resources to keep administering the fund and accepting redemption requests, which could be delivered in kind, if market conditions would not permit the immediate liquidation of assets.

However, under extreme market stress, if it appears that a fund will not be able to honour its obligations to all investors wanting to redeem, mass redemption requests may occur in a disorderly manner (a run). This risk is particularly acute in CNAV MMFs, in which there is a first-mover advantage to investors who redeem early (such investors secure their principal and increase the likelihood of losses being pushed on to remaining investors).

For an MMF of a significant size, a run could have detrimental and procyclical effects on markets by triggering fire sales to meet redemption requests, thereby depressing asset prices. Such a sequence of events could affect the solvency position of other financial institutions and counterparties, including banks and insurers, which, in turn, may fail to meet their obligations.

Leverage multiplies the exposure of funds to risk. Specifically, leverage increases the potential for, and extent of, liquidity mismatches and thus can amplify the aforementioned procyclicality risks. Sources of leverage, such as lending facilities provided by prime brokers and other agents, may dry out or not be rolled over in instances of market stress, thereby exacerbating fire sales and downward price pressures.

Under limited circumstances, asset management firms, including hedge funds and MMFs, may impose a variety of techniques to mitigate the aforementioned financial stability concerns, including gating structures, side pockets, liquidity fees, capital buffers, or other techniques to limit redemptions. Each of these measures seeks to reduce the extent to which the liquidity of the fund's shares diverges from the liquidity of the underlying investments, thus tackling the source of the risk.

Ultimately, financial markets are the transmission mechanism that could channel a negative contribution of asset management to financial stability, although it should be noted that the contagion of any market shock from investment funds or MMFs to other financial institutions depends on a number of factors, including, notably, the level of regulatory capital held by those institutions and the computation of asset values.

4.2. Interconnectedness, Collateral Chains, and Counterparty Risk

The flow of credit among shadow banking entities, and between those entities and banks, increases the interconnectedness of the financial system. Securities financing transactions create linkages among entities; the longer the chain of collateral underlying these transactions, the greater the interconnectedness of the system. In turn, interconnectedness increases the potential number of counterparties an entity is exposed to (indirectly), which increases the potential sources of counterparty risk (the risk that a financial counterparty fails to honour its obligations).

Securities financing transactions and collateral reuse are thus a propagation channel for counterparty risk. The higher the potential counterparty risk, the greater the risk to financial stability given the knock-on effects on other interconnected firms. Collateral reuse in a chain of securities financing transactions also increases system leverage.¹⁸

In instances of financial stress, market shocks can affect the value of collateral pledged against secured financing and can also affect the types of collateral accepted by market participants. For example, credit rating downgrades on bonds held as collateral could result in a decline in

¹⁸According to the FSB (2013b), “Even with relatively conservative assumptions, some configurations of repo transactions boost aggregate leverage alongside the stock of money-like liabilities and interconnectedness in ways that might materially increase systemic risk. For example, even with a relatively high collateral haircut of 10%, a three-investor chain can achieve a leverage multiplier of roughly 2–4, which is in the same ball park as the financial leverage of the hedge fund sector globally” (p. 35).

the prices of those bonds, leading to loans being under-collateralised. Furthermore, depending on the extent of the downgrade and the terms of the secured financing transaction, the downgraded bonds may not be subsequently accepted as eligible collateral.

In both cases, borrowers would need to liquidate other assets to meet margin calls (i.e., post more collateral against the loan), increasing the risk of fire sales and further price declines. When there are chains of collateral underlying securities financing transactions (i.e., the collateral pledged has been reused or recycled among different entities), the resulting interconnectedness increases the likelihood of a counterparty in the chain being unable to meet margin calls and defaulting. Furthermore, the aforementioned effects are amplified by the leverage created through the securities financing chain, thereby increasing the risks to financial stability.

With increased aversion to counterparty risk, provision of repo and securities lending may dry up, with knock-on implications for market liquidity. In essence, concerns over counterparty risk can result in an under-provision of credit, exacerbating market illiquidity and leading to financial instability.

Banks and insurers also may be exposed to risks in investment funds in which they sponsor a fund management business. In instances of market stress, banks and insurers may be required to provide support to a sponsored fund, including direct contributions and market interventions to stabilise NAVs by buying or selling securities.

To address the financial stability issues posed by interconnectedness and counterparty risk, authorities have introduced “large exposure” regimes and concentration limits to constrain exposures to individual counterparties or issuers (regulatory measures are discussed further in Section 5).

4.3. Opaqueness and Data Gaps

Opacity in the shadow banking sector may arise from a lack of adequate trade reporting and the inability to capture data relating to credit pools and flows. Such opacity may stem from product complexity (for example, in securitisation structures with multiple layers of credit transformation); deficiencies in market structure; weaknesses in regulatory reporting frameworks; or simply the inexistence or inadequacy of data collection facilities, such as warehouses, repositories, and other market infrastructures. More generally, corporate disclosures by banks and other financial institutions in relation to shadow banking activities and exposures may be limited.

Transparency in the shadow banking sector is necessary to support the investment decision-making process and the efficient pricing of risk by market participants, including the valuation of assets, loans, and collateral. Transparency is also essential to enable investors and regulators to monitor credit flows and to continually assess market developments and the monitoring of systemic risks. The absence of transparency thus presents a source of risk to financial stability because it can result in market mispricing, misallocation of funds, or inappropriate policy decisions.

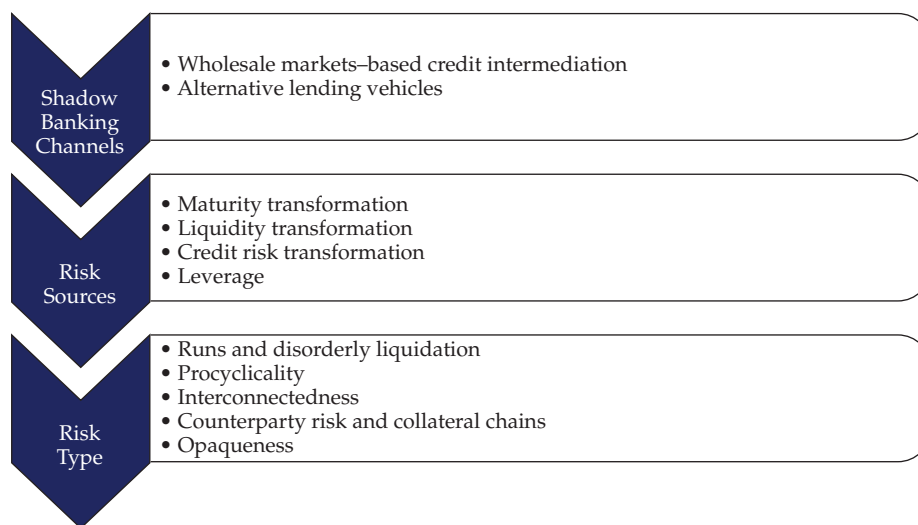
Furthermore, inadequate disclosures to investors by funds and securitisation vehicles regarding asset valuations, collateral pools and flows, and the nature and extent of securities financing and leverage may impair investors' due diligence and monitoring processes.

In the case of securities financing transactions, data on tri-party repo transactions may be accessible to the extent that the tri-party agent (CCP) acts as a trade repository. Although aggregated data on tri-party repos are available from industry associations (as shown in Section 2), data on bilateral repos (not centrally reported) are less readily available. Corporate reporting of securities financing transactions may also be limited, and the quality and extent of disclosures, as well as their treatment in the financial statements, may vary among banks and other financial institutions as well as across regions.

With regard to securitisation, insufficient rigour in collateral valuation practices and disclosures can pose risks. Moreover, insufficient granularity in data collection and data availability with regard to the collateral pools underlying securitisation vehicles can inhibit investors' due diligence and monitoring processes. Loan data warehouses have been established by some public authorities as well as by private sector bodies, yet the data remain imperfect.

Transparency in relation to shadow banking, particularly with regard to securities financing transactions and securitisation, is a key policy objective. Regulatory initiatives are addressed in Section 5.

A summary of the shadow banking risks outlined in this section is illustrated in **Exhibit 18**.

Exhibit 18. Shadow Banking Risks Conceptual Framework

5. Regulation and Policy Developments

There is a plethora of regulatory and policy initiatives related to shadow banking, reflecting the breadth, scale, and importance of shadow banking entities and activities in the financial sector.

Shadow banking regulation is most developed in the United States and the European Union. There are also several policy work streams at the international level under the coordination of the FSB.

A detailed analysis of shadow banking regulatory and policy initiatives in both the United States and the EU, as well as at the global level, is presented in **Appendix A** through **Appendix E**. The appendices are organised functionally and examine current and proposed policy measures related to investment funds (A), money market funds (B), securitisation (C), securities financing transactions (D), and other developments (E), respectively. Within each functional appendix, regulatory initiatives in the United States, Europe, and globally are compared.

In summary, regulation of retail investment funds is comprehensive, whereas hedge funds and private equity funds are subject to registration and certain reporting requirements. Regulatory requirements for US mutual funds are generally analogous to those in the EU under the UCITS directive. Both regulatory frameworks primarily address shadow banking risks by limiting leverage and prescribing liquidity risk management provisions. There are also detailed rules regarding portfolio composition and asset concentration limits, as detailed in **Appendix A**.

In the EU, hedge funds and private equity funds are also subject to detailed regulatory requirements under the AIFMD that are somewhat similar to the UCITS directive. In the United States, however, there is no analogous product-level regulatory framework for hedge funds and private equity funds. Instead, such private funds must register with the Securities and Exchange Commission (SEC), and fund advisers must abide by certain provisions.

Regulation of MMFs is undergoing reform in both the United States and Europe. Final rules regarding MMFs were adopted in the United States in 2014, whereas in the EU, regulatory proposals are under political negotiation. In both jurisdictions, MMF regulation

addresses maturity transformation via portfolio maturity limits and liquid asset requirements and tackles the risk of runs via limited redemption facilities and proposals to switch from CNAV to VNAV pricing. The specific provisions related to redemption policies and liquidity risk in the United States and Europe are discussed in **Appendix B**.

Regulatory measures related to securitisation seek to address the potential misalignment of interests between originators and investors along the chain from loan origination to issuance, as well as potential inadequate transparency over issuance structures and collateral. The key regulatory elements related to securitisation include (1) risk retention and due diligence requirements, (2) prudential rules, (3) prospectus and transparency frameworks, and (4) the identification of “quality” securitisation.

Details of each of these regulatory elements are provided in **Appendix C**. In summary, in the United States and in the EU, originators or sponsors must retain an economic interest of at least 5% of the securitisation. International prudential standards prescribed by the Basel Committee on Banking Supervision (BCBS) include capital and liquidity requirements in relation to holdings of securitised assets and are designed to ensure that firms have sufficient loss absorbency, and hold sufficient liquid assets, in the event of a significant decline in the value of securitised assets. Prospectus requirements regarding the issuance of securities are well developed in both the United States (under Regulation AB) and the EU (under, for example, the Prospectus Directive). Finally, policymakers in the United States and the EU have considered the concept of “quality securitisation” (or qualifying labels) that would apply to securitisations meeting certain criteria regarding standardisation, transparency, and other factors. Such “quality” or qualifying securitisations would be subject to reduced capital charges, thereby incentivising investment in such securitisations vis-à-vis other types of structures.

Currently, regulatory measures related to securities lending and repo markets, as well as collateral reuse and rehypothecation, are less extensive than for other aspects of the shadow banking system. However, a number of policy initiatives have been announced at the global level, led by the FSB. These initiatives seek to increase transparency and reporting over securities financing transactions and to provide greater consistency regarding the treatment, type, and amount of collateral held against certain transactions. Details are provided in **Appendix D**.

Amid the myriad of shadow banking policy initiatives, the challenge facing regulators is to achieve coherence in the implementation of these measures and to minimise both regulatory gaps and overlaps. Other challenges include ensuring regulatory consistency in the treatment of functionally similar activities and minimising cross-jurisdictional differences

in the application of policy frameworks. Strong supervision and enforcement of existing rules are also essential in order to protect investors and foster market integrity.

Moreover, despite the regulatory focus on risks, it should be emphasised that shadow banking also has the potential to deliver many benefits to financial markets and the real economy. We return to this concept in Section 7 in the context of securitisation.

6. Survey on Investor Perspectives

A survey was conducted of the CFA Institute membership in April 2014 to obtain the perspective of investment professionals on the risks and policy issues concerning shadow banking. The survey examined issues related to securitisation and securities financing transactions in particular, given their relevance to current shadow banking policy initiatives.

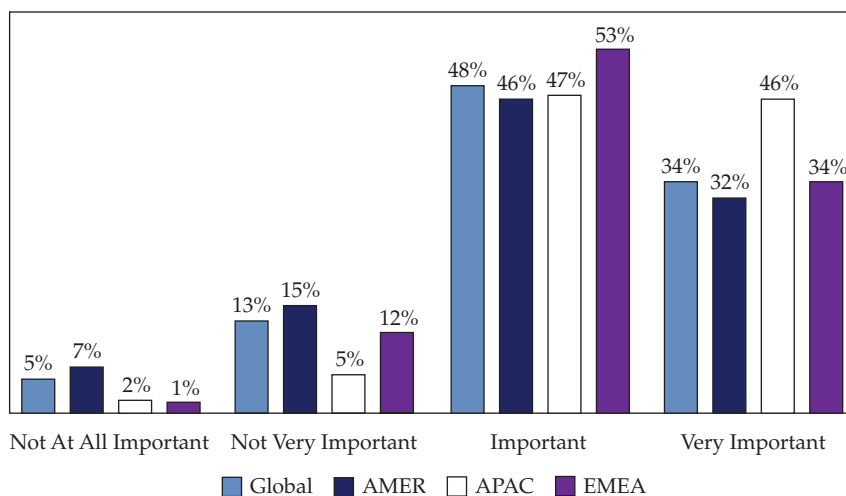
The CFA Institute membership includes more than 125,000 investment analysts, portfolio managers, investment advisers, and other investment professionals in 150 countries and territories. The survey was sent to a stratified sample of 36,000 members spanning three global regions: the Americas (AMER); Europe, the Middle East, and Africa (EMEA); and Asia Pacific (APAC). Approximately 625 responses were received;¹⁹ data on the profile of respondents are provided in **Appendix F**.

The results of the survey are presented and analysed in Section 6.1.

¹⁹The response rate was 1.7%. The confidence interval is $\pm 3.89\%$ at the 95% confidence level. Margin of error may vary according to the number responding to each question. Global results reflect the average of the respective regional results weighted according to the proportion of members in each region.

6.1. Results and Analysis

Q1: In principle, how important is it to regulate the shadow banking sector?



The results from Question 1 indicate that 82% of CFA Institute member respondents globally think in principle that it is either important or very important to regulate the shadow banking sector. This sentiment is strongest in Asia Pacific, where 93% of respondents indicated that regulation of shadow banking is either important or very important. Overall, the disposition of investment professionals towards regulation of shadow banking reflects an acknowledgement of the importance of this sector in the financial system and underlines the relevance of policy initiatives.

Q2: Which shadow banking issue poses the greatest systemic risk over the next two years?

	Global	AMER	APAC	EMEA
Potential default of Chinese trust and wealth management products	25%	20%	56%	24%
Collateral innovation (e.g., collateral transformation and reuse)	23	24	15	25
Synthetic exchange-traded products (ETPs) with leverage or inverted return features	13	14	7	13
Hedge fund leverage	12	12	7	15
Run on money market funds (e.g., with constant NAV pricing)	10	12	4	9
Other	8	11	2	3
Not sure	10	9	6	12

Question 2 shows that the biggest concern among survey respondents regarding systemic risks in the context of shadow banking is the potential default of Chinese trust and wealth management products. Perhaps not surprisingly, this sentiment is strongest in the Asia-Pacific region, where over half of respondents cited this risk as posing the greatest systemic risk.

As noted in Section 3, these shadow banking vehicles have primarily channelled funds into infrastructure and real estate development, which are experiencing overcapacity. Coupled with slowing economic growth in China and a more accommodative monetary policy environment, the ability of these products to offer high yields to investors going forward is in doubt. Moreover, given regulatory restrictions introduced by the CBRC over the guarantees provided by banks to these wealth management products and their investment activities, combined with a desire to reduce state involvement in the financial sector via subsidies and implicit guarantees, the possibility of default in the shadow banking sector is, by extension, higher. But given heightened attention on the shadow banking sector by public authorities in China and other stakeholders over the past year, the ability to manage or limit default risks may have improved.

The second-biggest systemic risk concern among survey respondents in the context of shadow banking is collateral innovation, cited by 23% of respondents globally. In the AMER and EMEA regions, collateral innovation is the biggest shadow banking systemic risk concern. The benefits and risks associated with collateral reuse, as well as the leverage

created through collateral chains in relation to securities financing transactions, have been documented in the previous sections. An additional factor to consider in relation to collateral that is of particular relevance to the United States and EU is the relative supply and demand dynamics of collateral. Both of these jurisdictions have implemented regulations that require central clearing of standardised over-the-counter (OTC) derivative transactions, along with higher margin and capital requirements for bilateral OTC derivatives (not centrally cleared). Consequently, the demand for collateral is likely to be higher in these jurisdictions to meet new regulatory requirements. As the supply of eligible collateral becomes scarcer relative to demand, the need for more innovative uses of collateral to meet client needs, including collateral transformation services, should increase. But as noted by regulatory bodies, including IOSCO and the European Securities and Markets Authority (ESMA), despite the risk of relative scarcity, there is not yet considered to be a collateral shortage.

Of relatively lower concern is a run on money market funds, identified by 12% of respondents in the Americas and 9% in EMEA as the biggest shadow banking systemic risk concern. These sentiments perhaps reflect an implicit recognition of the regulatory measures already proposed to address a run on MMFs in the United States and EU (as outlined in Section 5), although these measures are yet to be implemented.

Out of respondents globally, 8% cited the “other” category when considering which shadow banking issue poses the greatest systemic risk. A selection of these respondents’ comments is presented in **Box A**.

Box A. Investment Professionals’ Perspectives on Other Shadow Banking Issues That Pose Systemic Risks

“Collateral mis-specified. Example: Eurozone regulators [treating] Greek debt as equivalent to German debt for reserve purposes.”

“Bank SIVs [structured investment vehicles] and other entities that take risk off banks’ balance sheets.”

“Repo runs.”

“Shadow banking hinders the Fed’s ability to control the money supply.”

“Move of capital risk from bulge bracket institutions to hedge funds. The banks will lend to hedge funds, which will engage in proprietary trading. The banks then assume the similar risks hidden behind credit.”

“Lag of accounting practices and reporting requirements catching up with innovations.”

“Unregulated debt funds.”

Q3: How would you prioritise the following regulatory measures?

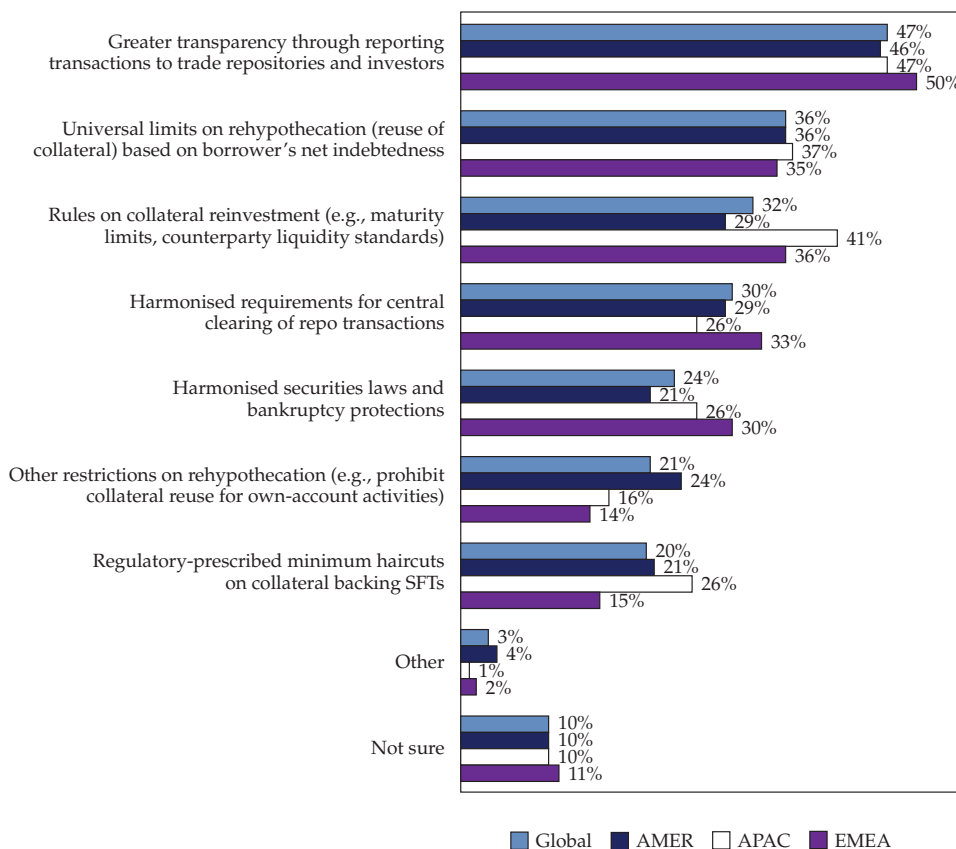
	Global	AMER	APAC	EMEA
Improved valuation and disclosure standards over shadow banking exposures	7.39	7.07	8.16	7.76
Improving securitisation standards to improve transparency and align originator incentives	7.36	7.18	7.90	7.52
Improving regulatory surveillance and data collection over shadow banking activities	7.12	6.85	7.72	7.49
Restrictions over use of collateral associated with shadow banking activities	6.75	6.63	7.08	6.89
Higher capital and liquidity requirements for nonbanks	6.60	6.34	7.26	6.90
Reform of money market funds	5.18	4.89	5.92	5.48

Notes: Respondents were asked to assess the listed regulatory measures on a scale from 1 to 10; a 1 means a very low level of priority for regulatory action and a 10 means a very high level of priority for regulatory action. The figures shown reflect the average rank.

The measure of improved valuation and disclosure standards over shadow banking exposures is identified by survey respondents in APAC and EMEA as the highest-ranking priority for regulatory action. In the Americas region, improving securitisation standards to improve transparency and align originator incentives ranked nominally higher (7.18) than valuation and disclosure (7.07) as a regulatory priority. However, it should be noted that apart from reform of money market funds (which, as noted previously, is the area of shadow banking that has received the most regulatory attention to date), there is little difference in the average rank among the remaining options—all of which score approximately a seven on the priority scale for regulatory action. Consequently, all of the aforementioned options can be considered of approximately equal priority.

With respect to the rankings of the different options across regions, it is notable that improving regulatory surveillance and data collection over shadow banking activities is a higher priority in the APAC and EMEA regions (with average rankings of 7.72 and 7.49, respectively) than in the Americas (average ranking of 6.85). This result suggests that shadow banking surveillance capabilities are perhaps less well developed in APAC and EMEA than in the Americas region. Equally, this result may be a reflection of the surveillance and data collection challenges posed by the number of heterogeneous markets and jurisdictions in APAC and EMEA compared with in the Americas.

Q4: Which of the following policy options would be most effective in addressing risks associated with securities financing transactions (SFTs), (i.e., repo, rehypothecation, and securities lending)?



Note: Respondents were asked to select up to three options.

CFA Institute member respondents identified greater transparency through reporting transactions to trade repositories and investors as the most effective policy option to address the risks associated with SFTs. This policy option was cited by approximately half of respondents globally and in each region.

As noted in Appendix D, the EU has proposed a regulation on SFTs that focuses on increasing transparency via reporting of transactions to trade repositories, as well as enhanced reporting to end investors of such activities. The results from Question 4 lend investor support to this policy initiative, which is currently under development (as of the time of this writing).

The next three most popular policy options with respect to SFTs—namely, limits on rehypothecation, rules on collateral reinvestment (such as restrictions on the maturity of reinvested assets and counterparty liquidity standards), and harmonised requirements for central clearing of repo transactions—all signal a desire among investment professionals for a more robust collateral framework.

Several of these policy options have been identified in the FSB’s framework for addressing shadow banking risks in securities lending and repos (see Appendix D). There are few regulations, however, that currently implement these measures at the national level. Consequently, at best, there is an inconsistent application of policy measures related to the treatment and use of collateral, suggesting the need for further regulatory attention.

Other comments provided in response to Question 4 are presented in **Box B**.

Box B. Investment Professionals' Other Comments on Policy Options to Address Risks Associated with SFTs

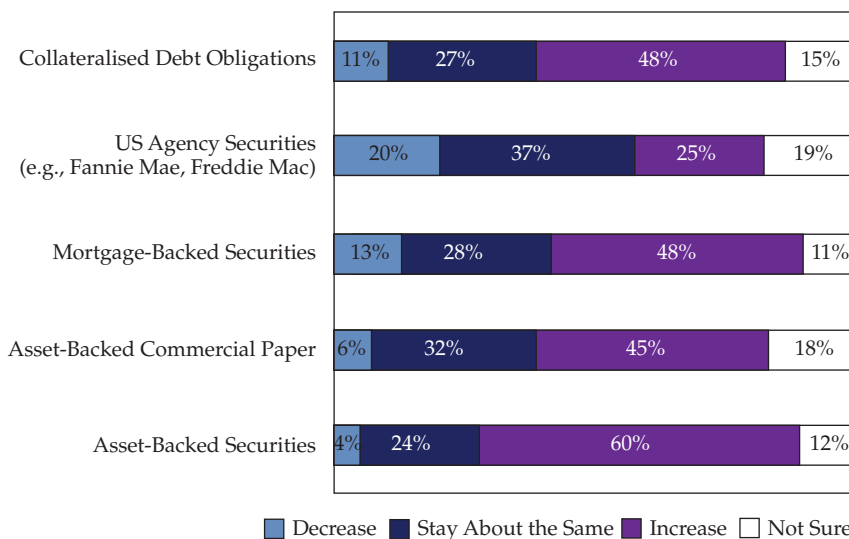
“No rehypothecation of collateral to extract net cash for general business purposes. Bank capital on collateral-backed positions [should be] assessed assuming significant market failure.”

“Strict limits on leverage in shadow banking vehicles.”

“Simplified/standardised investment products, limitations on re-packs [repackaged securities], and limitations on prospectus size as complexity limitation.”

“The market should manage these issues. Do not regulate the market to the point that participants abandon it for other structures.”

Q5: Compared to 2013, at the global level, what are your expectations on issuance for the following types of securitisation markets in 2014?



The results from Question 5 illustrate that investment professionals broadly perceived an increase in issuance in securitisation markets in 2014 and that issuance would mainly come from nonagency transactions. This result represents a significant shift in the market. The data presented in Section 2.1.4 (Exhibits 3–9) mostly validate these expectations: notably, total issuance of ABS and CDOs increased in 2014 compared with in 2013, whereas agency MBS issuance declined. The expectations for increased issuance of ABS coincided with renewed policy interest in this market, both at the international level (for example, the BCBS and IOSCO initiatives outlined in Appendix C) and at the European level (for example, via the European Central Bank’s monetary policy operations and asset purchase programme).

Q6: In your opinion, which of the following policy options would be most effective for achieving orderly and sustainable securitisation markets?

	Global	AMER	APAC	EMEA
Greater product standardisation and simplification of issuance structures	55%	55%	56%	56%
Exposure limits to other bank or nonbank entities	40	38	46	41
Greater legal certainty over backstops (e.g., by sponsors or by governments)	31	33	26	29
Continued regulatory focus on standards for credit rating agencies	31	28	41	32
Restrictions on maturity mismatches within securitisation vehicles	27	23	38	32
Recourse to central bank liquidity or public credit guarantees	13	12	17	15
Other	7	9	3	4
Not sure	5	5	3	6

Note: Respondents were asked to select up to three options.

More than half of the investment professionals surveyed identified greater product standardisation and simplification of issuance structures as the most effective policy option for achieving orderly and sustainable securitisation markets. This sentiment lends support to current policy initiatives in the EU related to quality or qualifying securitisations and, at the international level, via the work of the BCBS and IOSCO on simple, transparent, and comparable securitisations (see Appendix C for details).

The need for greater standardisation and simplification of issuance structures (as well as greater transparency) in securitisation markets is a necessary condition to stimulate investor interest in securitisations. Currently, investors face adverse selection risks in securitisation markets because of product complexity and insufficient transparency, which leads to information asymmetries between risk sellers and risk buyers. Moreover, there are costs to monitoring exposures, in terms of both asset-level data (static) and the evolution of credit pools and flows (dynamic).

Greater standardisation and simplification, combined with greater transparency, can facilitate investor due diligence, reduce monitoring costs, and make it easier for investors

to understand and evaluate the relative attractiveness of different securities. In essence, greater standardisation, simplification, and transparency are necessary to underpin investor participation in securitisation markets and thereby generate secondary market liquidity. With greater market liquidity, ABS should become a more viable investment option vis-à-vis other types of debt instruments. Further consideration of the desirable features of securitisation markets is provided in Section 7.

The second-most-cited option for achieving orderly and sustainable securitisation markets is exposure limits to other bank or nonbank entities (identified by 40% of respondents globally). This response reflects an acknowledgment of the interconnections between securitisation vehicles and financial institutions (whether they are originators, sponsors, or investors of securitisations) and the desirability of limiting contagion in the event of precipitous declines in the value of securitised assets.

Among other policy options presented, around one-third of respondents globally, and 41% in APAC, cited continued regulatory focus on standards for credit rating agencies as being needed for achieving orderly and sustainable securitisation markets. Much of the regulatory attention on credit rating agencies in the years since the financial crisis has centred on the United States and the EU; these results suggest that these efforts should continue, along with greater focus in APAC.

Other comments provided in response to Question 6 are presented in **Box C**.

Box C. Investment Professionals' Other Comments on Policy Options for Achieving Orderly and Sustainable Securitisation Markets

“Risk retention or requiring other forms of ‘skin-in-the-game’ for originators.”

“Elimination of CDOs built with CDOs (or CDO squared).”

“Close down the government intervention in US housing lending.”

“Manage conflicts of interest (i.e., make rating companies liable for their ratings [and] originators liable).”

“Greater consistency across regulatory bodies for capital treatment [of securitisations].”

“Focus should be on the incentive system that feeds the business: issuers should always disclose the reasons for a securitisation to take place and the potential advantages/risks (not just financially) for all stakeholders.”

“Greater transparency of trades and ease of information available to investors.”

“Transparency throughout the chain to track all layers and reduce possibility of pyramids and Ponzi schemes.”

The final question of the survey (Question 7) was open-ended for any additional comments on shadow banking risks or regulatory reforms. A broad range of views were expressed by respondents. A selection of these additional comments is provided in **Box D**. The country of the respective respondent is shown in parentheses.

Box D. Investment Professionals' Additional Comments on Shadow Banking Risks and Regulatory Reforms

“The explosion in shadow banking activities is directly tied to 15 years of excessively low interest rates and access to cheap funding by government-allied enterprises. Higher interest rates, reduced tax deductibility of debt, exposure limits, [and] derivatives regulation with actual teeth would profoundly benefit all capital market participants.” (United States)

“We are a shadow banker, and we perform a needed service to the economy, providing credit to home developers who are unable to obtain traditional financing from banks. Banks are unwilling and unable to meet the needs of these developers for a number of reasons, mainly because they are not able to meet the tight timelines that these developers require and administer construction draws. I see every day how our financing is putting people to work renovating houses. Without our financing, there simply would not be as much economic activity in this sector.” (United States)

“The issue is not in the shadow banks, but in the provision of services from banks to shadow banks. Restriction of the ability to provide ‘riskless’ financing from banks is required because it ignores the potential for contract or market failure; minimum capital requirements (risk weights), extra capital for long maturity transformation to cover the risk of provision of funds for term, [and] restrictions of the ability to net exposures are what is needed.” (United States)

“Effort needs to be globally coordinated to avoid regulatory shopping/relocation of activities.” (United States)

“The lack of a mechanism to quell runs in the shadow banking system, such as deposit insurance in the regulated commercial banking system, remains cause for concern. Regulatory reforms that target a specific asset class (such as securitised mortgage assets) do not address the inherent problems within the shadow banking system. A broad-based regulatory reform approach is needed to properly address the liquidity and solvency concerns that plague the shadow banking system.” (United States)

“The risks of the shadow banking system in China are different from in the United States. In China, the financial market is over-regulated overall [to the point that] the financial market becomes less effective. [Consequently], shadow banking has been growing through the unregulated arena with very limited transparency. In the United States, the financial market is deregulated, encouraging innovation. From time to time, this turns into over-innovation and beyond the scope of regulatory supervision. Thus, to solve the shadow banking issue in China, the key reform is to deregulate to support a free and effective market, while to solve the shadow banking issue in the United States, the key of regulatory reform is to set up more detailed rules in this segment and straighten regulatory supervision.” (China)

“I think the Chinese government should tighten its regulatory authorities on nonbank entities, such as internet and e-commerce companies seeking to tap into the financial system.” (Singapore)

“[The] China shadow banking issue is not only an economic matter but also a geopolitical one.” (Japan)

“The media and markets seem to be focused on the worst-case scenario (a shadow banking-led credit crisis). This is potentially priced into the valuation of Chinese banks (low price-to-earnings ratios). Due to their relative size, and the ability of other areas of the Chinese economy to absorb or financially cover any defaults of WMPs/trusts, defaults in isolation do not present a systemic risk to the financial system, in my opinion.” (Australia)

“The economy as a whole benefits from shadow banking as it fills the void left by banks withdrawing from lending.” (Netherlands)

“Securitisation is not where the next crash will come from, even if CLOs blow up. It was a large factor in the last crash, not the next one, which will be caused by overleverage caused by overly cheap money and widespread falling asset prices (debt and equity), quite possibly

including houses in some markets. Rehypothecation will become the breaking point in a world of [financial] tightening.” (United Kingdom)

“I used to structure CDOs. . . . The main issue is legacy: with complexity, people close to the transaction can fully understand it. It is others—say, shareholders, management, new employees, risk management and regulators—who do not have the same insight and find it hard to manage the risks when the initial people close to the transactions move on. The demand for credit growth and effective liquidity needs to be tempered with longer-term prudential management, and I believe we are failing again; just look at the new growth of capital relief trades (effectively, synthetic CDOs). But the world faces a decade of subpar growth that will present other problems.” (United Kingdom)

“Consider that especially in the EU (generally in the G–8), securitisation is heavily regulated and even tougher rules are on the way, although the source of the banking crisis was the US mortgage market. Bank-sponsored ABCP business was a valuable, robust, and—during the crisis—stable funding source for medium/large corporates in the EU, and especially Germany (as compared with SIV/CP [commercial paper] arbitrage vehicles). Due to existing and planned regulatory reforms (Capital Requirements Regulation and revision of securitisation capital requirements framework), the funding source will not be available for all clients anymore. Thus, any additional regulation (banking regulation or accounting rules—i.e., consolidation) must consider securitisation intent (risk trading versus client funding).” (Germany)

7. Building a Framework for Securitisation

As noted throughout this report, securitisation plays a central role in the shadow banking system and represents an important source of nonbank finance that can support real economic activity. Although securitisation vehicles, such as those that securitised subprime mortgage loans, transmitted systemic risks during the financial crisis, there is also widespread acceptance among policymakers that well-structured securitisation markets can help reinvigorate economic growth.

Against a backdrop of lower lending by banks undergoing the process of deleveraging and balance sheet repair, developing a robust framework for orderly and sustainable securitisation markets has become a key policy objective. In Europe, this objective has assumed greater prominence given the confluence of weak economic growth and a reduction in access to finance for small and medium-sized enterprises. The development of securitisation markets, which have generally performed well since 2008,²⁰ is a key pillar of European policymakers' plans to develop capital markets and provide a sustainable source of finance alongside bank lending.

A transparent, standardised, and well-functioning ABS market has the potential to provide similarly attractive investment opportunities as the corporate bond market, given its advantages of risk diversification (through the pool of credits). However, various obstacles currently impede ABS market liquidity. Specifically, ABS markets are highly fragmented across jurisdictions (particularly in Europe), making them difficult and expensive to analyse and monitor; moreover, some segments are too small and specialised to attract a broad investor base.

Against these considerations, it is necessary to consider the desirable characteristics of securitisation in order to lay the foundations for a well-functioning market and an appropriately calibrated policy framework.

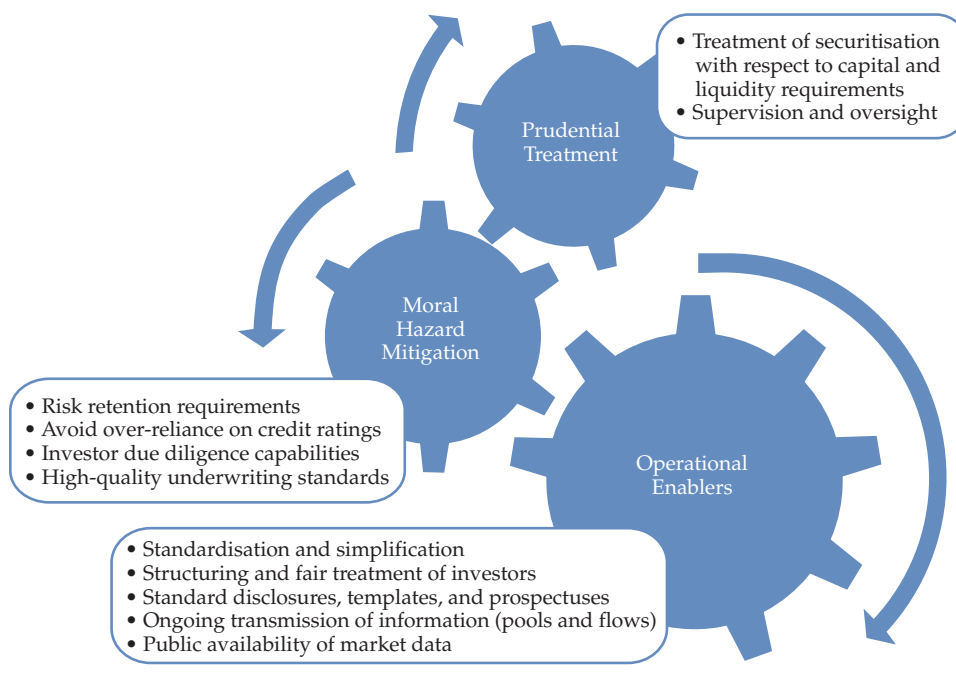
At a high level, a policy framework for securitisation should be anchored around the needs of investors. Absent sufficient investor demand, securitisation would be uneconomical. As noted in Section 6, investment professionals cite the need for greater

²⁰See Perraudin (2014).

standardisation and simplification of securitisation issuance structures, as well as enhanced transparency and improved valuation and disclosure standards generally over shadow banking activities and exposures. These investor considerations should be paramount in the development of policy initiatives.

Standardisation, simplification, and transparency should be considered, therefore, as the foundational enablers of robust securitisation markets. These and other elements are illustrated in **Exhibit 19** and developed further in the context of a desirable securitisation framework.

Exhibit 19. Components of a Desirable Securitisation Framework



7.1. Operational Enablers

The desirable elements of operational enablers include the following:

- *Standardisation and simplification.* Some degree of product standardisation can help increase the transparency and comparability of securitisations, as well as facilitate investor due diligence. There is potential for some level of standardisation in elements, such as (1) the structure of issuances, including the distribution of risks across tranches; (2) the structure of any credit enhancements or guarantees; (3) the legal terms applicable to relevant contracts, including pooling and servicing agreements;²¹ and (4) the conditions applicable to eligible assets, including whether the asset pool comprises real or synthetic loans and the underlying economic activity being supported. Full standardisation, however, may be neither achievable (given the diversity of funding sources and uses) nor desirable (given the diversity of investor needs). Efforts to achieve greater standardisation should, therefore, be focused on standardisation within asset classes and jurisdictions. Standardisation is closely related to the identification of “quality securitisation” by industry bodies (through labels) or regulators (by defining the types of securitised assets that might benefit from lower capital charges).
- *Structuring and fair treatment of investors in all tranches.* Investors’ interests should be more prominently taken into account. The BCBS acknowledges an emphasis on “the perspectives of originators and issuers or sponsors, with minimal investigation of the incentives driving investors” (Basel Committee on Banking Supervision 2011). Investors are attracted to these securities when they offer a reasonable yield in conjunction with sufficient credit quality. Portfolio diversification, asset/liability matching, prudential requirements, and client expectations also drive investor demand. Conversely, investors are deterred by opaque and complex transactions. In other words, investors need to know that securitisation products have been fairly structured across all tranches. A well-functioning securitisation market thus needs “full and clear disclosure of the nature of all risks being transferred, both at the asset-level and as a consequence of the structural characteristics of the securitisation’s terms” (Blackrock 2014).
- *Standardised disclosures, templates, and prospectuses.* Some level of standardisation of disclosure would benefit investors by facilitating both due diligence and comparison of the risk–reward profiles of different securitisation issuances. IOSCO considers that standard disclosure should at least cover core risk factors and fee structures, for both the structure and underlying assets, and should be guided by international principles but developed by industry bodies.²² Ultimately, investors require all underlying trans-

²¹See Basel Committee on Banking Supervision (2011).

²²See IOSCO (2012a).

action documents to be made available at issuance through prospectus requirements (as are currently in existence under US and EU regulation) and that asset-level disclosures be made available over the life of the security. It may be possible to standardise some of the elements of ongoing disclosure.

- *Ongoing transmission of information (pools and flows).* Ongoing disclosure to investors should mirror the obligation of issuers to conduct appropriate due diligence on creditors during the life of the securities. Investors need ongoing, sufficiently granular, loan-level information, including both static pool data and flow data. Loan-by-loan reporting is already required by the European Central Bank as part of its collateral eligibility requirements²³ and has also been proposed by the European Insurance and Occupational Pensions Authority (EIOPA) for “Type A” securitisations.²⁴ Disclosure should extend to material aspects, such as (1) how the securitised loans compare against the underwriting criteria,²⁵ (2) details on the number of loans that were rejected,²⁶ (3) results from stress tests and underlying assumptions,²⁷ and (4) the structure of the issuance and how risks were transformed and allocated across tranches.²⁸ But there is a balance to be struck between the abundance of information and its decision-usefulness. In addition, information should be distributed in formats that can be easily accessed and processed by investors. Furthermore, periodic disclosure should be complemented by event-based disclosure whenever relevant, as highlighted by the IOSCO principles of ongoing disclosure for ABS.²⁹ Disclosures should be made available through reliable and neutral platforms that are adequately resourced and sufficiently independent from issuers because of reported instances when service providers, owned by issuers, allegedly disregarded the interests of investors.³⁰
- *Public availability of market data.* Investors would also benefit from the availability of historical data on individual loans via a central repository, which should be accessible in each jurisdiction. The European Central Bank recently steered the creation of such a repository, called “European DataWarehouse”. This database is one of the most comprehensive centralised repositories of European ABS, with the mission of instilling confidence and trust in securitisation. It contains an expanding range of loan-level information on residential mortgage-backed securities (RMBS); SMEs; consumer finance; and leasing, auto, and credit card ABS. It also offers desktop applications

²³See European Central Bank (2013).

²⁴See EIOPA (2013).

²⁵See IOSCO (2012a).

²⁶See Segoviano, Jones, Lindner, and Blankenheim (2013).

²⁷See IOSCO (2012a).

²⁸See Basel Committee on Banking Supervision (2011).

²⁹See IOSCO (2012b).

³⁰See Segoviano et al. (2013).

to simplify submission, downloading, and analysis of loan-level performance data. Notwithstanding the benefits of the European DataWarehouse, investors would benefit from additional transparency beyond the scope of ABS captured by this repository. Investors would also benefit from transparency over transaction-level data; type of market participants; and aggregate data on market size, trends, and pricing. Such information may subsequently encourage more investor participation in securitisation markets and thus support market liquidity. Further specificity on investors' transparency needs is provided in Section 8 (policy considerations) and Box 1 in the executive summary. Facilitating the analysis of data is crucial; high volumes of poorly structured and discontinuous data impose information-processing costs on investors.

7.2. Moral Hazard Mitigation

The desirable elements of moral hazard mitigation include the following:

- *Risk retention requirements.* Securitisations issued under originate-to-distribute business models should be deterred via prudential charges. These business models are driven by the short-term gains from the fees charged for originating, underwriting, and structuring transactions. They have also been driven by inadequate prudential and financial reporting standards.³¹ G-20 leaders, meeting in Pittsburgh in 2009, agreed to the introduction of retention requirements to reduce moral hazard, encourage more prudent origination practices, and uphold investor interests. The European Union and the United States have implemented these requirements, as elaborated in Appendix C.
- *Avoidance of overreliance on credit ratings.* On the demand side, moral hazard can be mitigated by reducing the reliance of investors on credit ratings. In other words, investors should not substitute their own due diligence for the credit analyses of rating agencies, which are produced at the request of issuers. Although credit ratings may be a useful tool to help investors evaluate credit risk, there should be no mechanistic reliance on such ratings; rather, credit ratings may be one of several factors considered in investors' due diligence processes. The disclosure of rating methodologies and statistics on the *ex post* performance of ratings can also contribute to enhancing investor due diligence and promoting competition among agencies on the basis of the quality of their work.³²

³¹See Basel Committee on Banking Supervision (2011).

³²See IMF (2009).

Moreover, “ratings shopping”³³ should be deterred—for instance, by requiring issuers to disclose any preliminary assessments conducted by rating agencies.³⁴

- *Investor due diligence requirements.* A well-functioning securitisation market requires appropriate investor due diligence, which, in turn, necessitates informational inputs and processing capabilities (as discussed under operational enablers). Due diligence should be carried out under prudent assumptions; for example, following the 2008 financial crisis, the assumptions embedded in investor models often proved overly optimistic.³⁵
- *High-quality underwriting standards.* Originators should have sufficient incentives to conduct appropriate due diligence on creditors, both prior to issuance and during the life of the securities.³⁶ Risk retention requirements can play a central role in delivering these incentives, and the disclosure of underwriting standards to investors is also important. Each securitisation programme should have detailed “credit and investment guidelines”,³⁷ which should ensure the credit quality of underlying assets, and be sufficiently specific and abide by international principles, such as the ones developed by the FSB for the underwriting of residential mortgages.³⁸ Stress testing can also help determine the risk profile of the securitisation structure and underlying assets.³⁹

7.3. Prudential Treatment

Prudential regulation considerations with respect to securitisation include the following:

- *Treatment of securitisation with respect to regulatory capital and liquidity requirements.* In 2014, the BCBS revised its securitisation framework to address certain deficiencies under the Basel II regime. As noted in Appendix C, this framework includes a new hierarchy of approaches to calculating credit risk in the determination of risk-weighted assets, additional risk drivers to take account of the maturity of a securitisation’s tranche, and an increase in the minimum risk weight for securitisation exposures to 15%. The

³³Ratings shopping refers to the solicitation of an initial assessment by issuers from rating agencies before the issuer formally commits to engaging the agency to rate the issue. The IMF, the BCBS, and important institutional investors have acknowledged the existence of these practices prior to 2008.

³⁴See Segoviano et al. (2013).

³⁵See Segoviano et al. (2013).

³⁶See IMF (2009).

³⁷See Basel Committee on Banking Supervision (2014b).

³⁸See FSB (2012a). Sound practices include the verification of the financial situation of each borrower, the application of reasonable loan-to-value ratios and mortgage payments-to-income ratios, and the use of mortgage insurance.

³⁹See IOSCO (2012a).

Basel III liquidity framework also allows national authorities to include certain types of securitised assets within the definition of “high-quality liquid assets”. These standards should be implemented consistently by regulators to ensure a level playing field. Capital and liquidity standards are also central to the discussion of “quality” securitisation, to the extent that these standards may be calibrated to provide more favourable treatment to qualifying securitisations. Moreover, the asset allocation decisions of investors subject to prudential requirements, including life insurers and pension funds, are partly driven by the capital or solvency charges that apply to each category of assets. In this context, it is important to differentiate the capital charges that should fall on different forms of securitisation depending on their complexity and risk.

- *Supervision and oversight.* Supervisory authorities need to monitor market practices and conduct relevant inspections to ensure that all relevant stakeholders comply with applicable underwriting, due diligence, and disclosure requirements. The IMF also advises supervisors to limit the distribution of synthetic and complex securitisations to sophisticated investors with the ability to absorb losses.⁴⁰ In addition, supervisors should monitor maturity transformation, interconnectedness, unaccounted off-balance-sheet exposures, and leveraged investors.⁴¹ Innovations, such as the securitisation of insurance risks, also merit attention to ensure that credit flows are underpinned by a thorough understanding of risks by investors and adequate prudential treatment by issuers.

7.4. Alternatives to Securitisation

Alternatives to securitisation include (but are not limited to) direct access to capital markets—particularly by SMEs that may issue bonds or stock—and covered bonds, among other things. Covered bonds are debt obligations that are both guaranteed by the issuer and secured or “covered” by a portfolio of assets. Because the issuer guarantees the loan, the full risk stays on the balance sheet of the issuer, unlike in a securitisation. The issuance of covered bonds results in asset encumbrance and alters the order of preference of creditors in case of the liquidation of the issuer. The IMF has warned that authorities should balance any encouragement of covered bonds with the potential negative impact of related asset encumbrance on the resolution of failing banks and deposit guarantee schemes.⁴² The IMF also advises to better align the prudential treatment of covered bonds and comparable forms of securitisation to avoid artificial distortions in these markets.⁴³ Indeed, the European Central Bank and the Bank of England have alleged that the treatment

⁴⁰See Segoviano et al. (2013).

⁴¹See Segoviano et al. (2013).

⁴²See IMF (2009).

⁴³See Segoviano et al. (2013).

afforded to ABS by prudential regulation appears unduly conservative for investors, “relative to both the realised credit performance of European securitisations during the crisis and more particularly relative to other forms of long-term debt, such as covered bonds” (Bank of England and European Central Bank 2014).

7.5. Industry Initiatives

Industry initiatives have focused on increasing the level of transparency in securitisation markets, promoting standardisation, and identifying best practices in order to build labels of “quality securitisation” that would warrant more confidence from investors and potentially more moderate prudential treatment by regulators. In Europe, industry efforts have been led by the Prime Collateralised Securities (PCS) initiative established in 2012 under the steering of a number of banks, insurers, and service providers⁴⁴ and welcomed by the European Central Bank.⁴⁵

The PCS label is awarded to securitisation issuance that meets a number of criteria set by PCS. According to PCS, these criteria aim at (1) excluding securitisations issued under an originate-to-distribute business model, (2) excluding securitisations that involve creating highly rated tranches out of lower-rated securitisations, (3) ruling out securitisations that attempt to affect maturity transformation, and (4) requiring a high level of transparency.⁴⁶

PCS criteria refer to asset eligibility (only retail or SME underlying assets), structural eligibility (excludes re-securitisations and synthetic securitisations), and common eligibility (standards in regard to quality, transparency, simplicity, liquidity, and others). The PCS label also includes asset-specific and jurisdiction-specific criteria (for instance, specific criteria for SME loans or Dutch residential mortgages or general criteria for Germany).⁴⁷

⁴⁴See the full list of members of the PCS Association at <http://www.pcsmarket.org/our-membership/members>.

⁴⁵“The ECB welcomes the [PCS] initiative, which aims at increasing the attractiveness of asset backed securities among investors and originating banks.” Taken from the letter of Mario Draghi, President of the European Central Bank, to the European Financial Services Round Table (EFSRT) in June 2012.

⁴⁶See Perraudin (2014).

⁴⁷See PCS (2014).

8. Conclusions and Policy Considerations

Shadow banking is ubiquitous in the financial system. It represents a diverse ecosystem spanning wholesale markets-based credit intermediation and alternative lending channels and comprises a broad range of entities, activities, and interconnections among financial institutions.

The shadow banking sector provides a significant and valuable source of nonbank finance that can support real economic activity as well as improve the efficient functioning of financial markets. However, shadow banking can also pose risks to financial stability if not adequately structured, monitored, and supervised. These risks stem from the core processes of maturity, liquidity, and credit transformation, as well as the build-up of leverage via securities financing.

Significant parts of the shadow banking sector are well regulated. Regulation of investment funds marketed towards retail investors addresses liquidity transformation via liquidity risk management and redemption rules, as well as exposure risks via portfolio concentration limits, in addition to other measures. Regulation of hedge funds and private equity funds is generally less extensive but differs among jurisdictions. Other parts of the shadow banking sector are undergoing regulatory reform, such as MMFs. For MMFs, regulatory proposals address maturity transformation via portfolio maturity limits and liquid asset requirements and also address the risk of runs via limited redemption facilities and proposals to switch from CNAV to VNAV pricing. In other areas of the shadow banking sector, such as securitisation and securities financing transactions, international bodies, including the FSB, BCBS, and IOSCO, have been leading the development of international policy frameworks that may inform the design of future regulatory initiatives.

Within this context, investment professionals surveyed by CFA Institute identified the following areas of focus for policy and regulatory initiatives:

- Improving transparency and disclosures over shadow banking activities generally
- Increasing standardisation and simplification of issuance structures in securitisation markets

- Implementing a more robust collateral framework
- Strengthening data collection and monitoring capabilities over shadow banking activities and exposures

Accordingly, with regard to the perspectives of investment professionals and current policy initiatives identified in the EU, the United States, and internationally, we recommend the following policy considerations.

1. *Money market funds*

CFA Institute recognises the risks to financial stability posed by MMFs and supports regulatory actions to reduce these risks in a structural manner. In an October 2012 survey,⁴⁸ CFA Institute members supported MMFs' developing liquidity risk management mechanisms to help manage potential instances of mass redemptions; stronger disclosures about the risks of investing in MMFs (and the differences from bank deposits), especially with respect to funds that offer a constant NAV; and that any sponsors of MMFs that provide capital guarantees to investors be subject to capital requirements.

Ultimately, CFA Institute supports transitioning towards a VNAV model for all MMFs over an appropriate time period that should be long enough to allow investors and fund sponsors to adjust investment policies and mandates accordingly. Supervisors should also monitor flows to bank deposits and other possible alternatives to CNAV MMFs to ensure that potential risks are identified.

2. *Securitisation*

Overcoming issues related to product and market fragmentation, transparency, and illiquidity are central to improving the securitisation market. To that extent, policy initiatives should focus on increasing standardisation and simplification of issuance structures as well as improving transparency via initial and ongoing disclosures to investors.

Standardisation and simplification should focus on the following aspects:

- ▲ Issuance structures, including the distribution of risks across tranches
- ▲ Structure of any credit enhancements or guarantees

⁴⁸See http://www.cfainstitute.org/Survey/money_market_funds_survey_report.pdf.

- ▲ Legal terms applicable to relevant contracts, including pooling and servicing agreements
- ▲ Definition of eligible assets, including whether the asset pool comprises real or synthetic loans and the underlying economic activity being supported

Standardisation of legal frameworks across geographic markets is also desirable to improve the ease and certainty of enforcing ownership rights and creditor protections.

Transparency initiatives should focus on the collection of pertinent, standardised pool and flow data in central repositories. Existing data warehouses support this aim, and their scope should be expanded. Specifically, investors require access to information on

- ▲ the asset class being financed, including links to underlying loan-level data, such as that available in European DataWarehouse;
- ▲ the transaction's structure, including risk characteristics, scheduled and actual cash flows, subordination levels, servicing arrangements, and the nature and extent of risk transformation;
- ▲ the type of transaction participants (i.e., type of risk seller and risk buyer; individual participants may be anonymous);
- ▲ the aggregate market size, trends, and pricing data across asset classes and regions; and
- ▲ the transaction history, including details of any secondary market activity, such as post-trade data.

The ability to map a more holistic view of transaction data would improve market transparency, encourage investor participation, and thereby support liquidity in securitisation markets. Attention should also be given to regulatory compliance costs to avoid imposing undue burdens on suppliers and demanders of securitisations.

3. *Securities financing transactions and collateral*

A robust framework surrounding the reuse of collateral in relation to securities financing transactions is needed to mitigate the build-up of excessive leverage in the financial system and prevent associated financial stability risks. Key aspects of a robust collateral framework include the following:

- ▲ Restrictions on rehypothecation based on client net indebtedness

- ▲ Greater transparency for securities financing transactions via reporting transaction data to trade repositories and reporting to clients
- ▲ Rules on collateral reinvestment, such as restrictions on the maturity of reinvested assets and counterparty liquidity standards
- ▲ Harmonised requirements for central clearing of repo transactions

Moreover, the FSB's policy framework on securities financing transactions and collateral haircuts should be implemented consistently by national regulators.

A diverse and transparent shadow banking system can support a variety of investor needs, enhance the efficient functioning of the financial system, and underpin a range of economic activities. Implementation of the policy considerations set out herein, combined with appropriate supervision and enforcement of existing rules, would strengthen market integrity and contribute towards a more resilient and sustainable shadow banking ecosystem.

Appendix A: Regulatory Analysis— Investment Funds

Investment fund regulation and policy developments are examined in the context of shadow banking risks and are presented in the following sections.

A1. European Union

Alternative Investment Fund Managers Directive

The AIFMD applies to all managers of alternative investment funds (AIFs), which are defined as any fund structure that is not a UCITS (the product label for mutual funds marketed and sold in the EU). Investment funds captured under the AIFMD mostly include hedge funds and private equity funds.

The AIFMD addresses each of the potential sources of risk identified in Section 4. Specifically, the legislation requires managers to establish redemption policies that align with the liquidity of fund assets and to set up a separate risk and liquidity management function, thereby addressing the issues associated with liquidity risks. With regard to leverage, the AIFMD empowers national regulators in EU member states to set limits on leverage to ensure financial stability in exceptional circumstances. Funds using leverage on a systematic basis are required under the directive to disclose aggregate leverage and the main sources of leverage. These provisions are designed to mitigate the amplification of market risks and reduce interconnectivity among entities via securities financing and other borrowing.

The legislation also deals with transparency and investor protection concerns. It requires independent third-party valuation of assets, imposes reporting obligations on managers to investors and regulators, strengthens the obligations of depositaries with regard to the safekeeping of assets, and establishes conduct of business standards. Additionally, alternative investment fund managers are subject to regulatory authorisation and organisational requirements, including holding minimum levels of operational capital. **Exhibit A1** provides further details.

The provisions for the reporting of information to regulators are designed to facilitate the monitoring of risks. They require managers to disclose details of any special redemption arrangements, report the results of periodic stress tests, and outline the main instruments in which an AIF trades, along with the aforementioned disclosure obligations with respect to leverage.

Undertakings for Collective Investment in Transferable Securities Directive

The UCITS directive contains similar requirements for fund managers as the AIFMD, including conduct of business standards, transparency and reporting obligations, requirements regarding the valuation and safekeeping of assets, and other obligations for depositaries regarding scheme governance and the protection of investors.

In addition, the UCITS directive, given its application to retail funds, goes beyond the AIFMD and sets parameters for the portfolio composition of UCITS funds. These portfolio restrictions include limits to the range of eligible assets, investment limits on portfolio holdings (percentage of assets) individually and collectively for a given asset class, limits on counterparty exposures, restrictions on the use of derivatives, and restrictions on securities financing and the quality and use of collateral. With regard to leverage, UCITS funds cannot borrow except on a temporary basis, and such borrowing must not exceed 10% of assets. The “global exposure” to derivatives is limited to 100% of the net asset value; if repos or securities lending are used to generate additional leverage or exposure to market risk, these transactions must also be taken into consideration when calculating global exposure.

Counterparty risk is limited via the investment constraints prescribed in the UCITS directive. These limits specify that, in the case of an OTC derivative transaction, the risk exposure of a UCITS fund to a counterparty generally must not exceed 10% of assets. In calculating counterparty risk exposure, the UCITS manager may net the derivative positions with the same counterparty, provided that the manager is able to legally enforce netting agreements with the counterparty. UCITS managers may also reduce exposure to a counterparty of an OTC derivative transaction through the receipt of collateral, which must be sufficiently liquid.

Other Legislation

Regulation related to asset management in Europe is completed by the Markets in Financial Instruments Directive (MiFID), which regulates the activity of investment firms providing portfolio management services outside the AIFMD and UCITS frameworks. Under MiFID, investment firms need to comply with detailed conduct of business requirements, including the need for investment advisers to assess the suitability and appropriateness of investment products for retail clients, and adhere to certain disclosure and reporting obligations. MiFID II also draws a distinction between complex and noncomplex products and between retail and professional clients; conduct of business standards are applied proportionately according to these considerations. Under MiFID II, investment firms must also abide by minimum capital requirements and obligations regarding the safeguarding of client assets, among other obligations. Prudential rules for banks and insurers impose limits on exposures to investment funds, thus constraining counterparty risk. The Capital Requirements Regulation, or CRR (for banks), and the Solvency II directive (for insurers) also promote a high degree of transparency on underlying investments so that banks and insurers can aggregate exposures.

Exhibit A1. EU Regulatory Framework for Investment Funds

Risk	AIFMD	UCITS	Other Regulations
Liquidity transformation/disorderly liquidation	<ul style="list-style-type: none"> ■ Alignment of redemption policies with liquidity of underlying (under principle of fair treatment to investors). ■ Redemption policy in exceptional circumstances (gates and other restrictions, communicated to investors). ■ Qualitative and quantitative risk limits (including liquidity risks) set by manager. ■ Liquidity management system and procedures (within the risk management function, functionally and hierarchically separate from the portfolio management function). ■ Due diligence when investing in assets of limited liquidity. 	<ul style="list-style-type: none"> ■ Principle of redemptions on demand but alignment of redemption policies with liquidity of underlying. ■ Possibility to temporarily suspend redemptions (regulated at national level). ■ Liquidity of underlying and restrictions on eligible assets and investment limits. ■ Liquidity management procedures (within risk management policy). 	

(continued)

Exhibit A1. EU Regulatory Framework for Investment Funds (continued)

Risk	AIFMD	UCITS	Other Regulations
Leverage	<ul style="list-style-type: none"> ■ Managers set maximum level of leverage and extent of reuse of collateral. Leverage measured in terms of gross exposure. ■ Verification of leverage limit by depositary. ■ Reporting to supervisors when leverage is substantial. ■ Supervisory powers to intervene when leverage is substantial. 	<ul style="list-style-type: none"> ■ “Global exposure” through derivatives, securities lending, and repurchase transactions cannot exceed NAV. ■ Calculation of “global exposure” using commitment method or market-risk method (value at risk). ■ Limits to use of derivatives, securities lending, and repurchase agreements. ■ Collateral requirements. ■ Borrowing limited to specific purposes and limited to 10% of assets. 	<ul style="list-style-type: none"> ■ <i>Proposal for regulation on reporting and transparency of securities financing transactions</i>: Transparency by investment funds in periodic reports and pre-contractual documentation; prior consent from client to enter into securities financing transactions.
Counterparty risk exposures/ interconnectedness	<ul style="list-style-type: none"> ■ Reporting to supervisors of main instruments, principal exposures, and most important concentrations. ■ Power of supervisors to request additional information to monitor systemic risk. ■ Requirements regarding due diligence and management of conflicts of interest when an AIF manager appoints a prime broker or counterparty (including in regard to the reuse of assets). ■ Prime broker may not act as depositary unless functional and hierarchical separation. 	<ul style="list-style-type: none"> ■ Limits to counterparty risk exposures and issuer concentrations (ordinarily, 5% for transferable securities, 20% for deposits, 10% for OTC derivatives if counterparty is a credit institution, and 5% for OTC derivatives in other cases, as percentage of fund assets). 	<ul style="list-style-type: none"> ■ <i>CRR</i>: Exposures of credit institutions and investment firms to units or shares of investment funds.^a ■ <i>Solvency II</i>: Management of concentration risk by insurers.^b ■ <i>Regulation on OTC derivatives, central counterparties, and trade repositories (European Market Infrastructure Regulation)</i>: Central clearing of qualifying derivatives and reporting to trade repositories.^c

(continued)

Exhibit A1. EU Regulatory Framework for Investment Funds (continued)

Risk	AIFMD	UCITS	Other Regulations
Transparency and disclosure	<ul style="list-style-type: none"> ■ Initial disclosure to investors of strategy and types of assets in which an AIF may invest. ■ Periodic disclosure regarding risk profile. ■ Annual report and statement of assets and liabilities. ■ No look-through principle for derivatives. ■ Reporting to supervisors. 	<ul style="list-style-type: none"> ■ Standard pre-contractual disclosures to investors (key investor information). ■ Annual report and financial statements. ■ Reporting to supervisors. 	<ul style="list-style-type: none"> ■ <i>MiFID</i>: Reporting obligations with respect to portfolio management.^d ■ <i>Solvency II</i>: Look-through to the underlying of investment funds.^e ■ <i>CRR</i>: Look-through to the underlying of investment funds.^f
Other	<ul style="list-style-type: none"> ■ Operational capital and additional own funds or indemnity insurance. ■ Single depositary (custody, record keeping, oversight). 	<ul style="list-style-type: none"> ■ Operational capital. ■ Single depositary (custody, record keeping, oversight). 	<ul style="list-style-type: none"> ■ <i>MiFID</i>: Initial own capital in accordance with Regulation (EU) No 575/2013.^g ■ <i>MiFID</i>: Safeguarding of client assets, including in the event of firm insolvency and to prevent the use of client assets on own account without express consent.

^aSee, notably, Articles 128, 132, 152, and 348–350 of Regulation (EU) No 575/2013.

^bSee Article 132 of Directive 2009/38/EC. The precise application of any limits to concentration risks will depend on the implementation of the directive, as amended.

^cSee Regulation (EU) No 648/2012.

^dSee Articles 41–43 of Commission Directive 2006/73/EC.

^eSee Article 132 of Directive 2009/38/EC. The precise application of the look-through principle will depend on the implementation of the directive, as amended.

^fSee Articles 132.4, 152, and 418.2 of Regulation (EU) No 575/2013.

^gSee Article 15 of Directive 2014/65/EU and Regulation (EU) No 575/2013 on prudential requirements for credit institutions and investment firms.

A2. United States

In the United States, investment funds are typically structured as corporations or business trusts under the Investment Company Act of 1940. Investors have voting rights and appoint fund directors who are responsible for overseeing the execution of the fund strategy by investment advisers (fund managers). These advisers need to be registered with the SEC and comply with the Investment Advisers Act of 1940.

In 2010, the Dodd–Frank Wall Street Reform and Consumer Protection Act strengthened the regulation and oversight of hedge funds in the United States. Section IV of Dodd–Frank requires investment advisers of “private funds” (including hedge funds) to register with the SEC, thereby subjecting them to certain provisions of the Investment Advisers Act of 1940.⁴⁹ In addition, the Dodd–Frank Act obliges private advisers to keep records and report relevant data for the assessment of systemic risk to the SEC and the Financial Stability Oversight Council (FSOC).⁵⁰

Supervisory reporting by private advisers extends to (1) the amount of assets under management and use of leverage, (2) counterparty credit risk exposure, (3) trading and investment positions, (4) valuation policies and practices, (5) types of assets held, (6) any preferential terms for investors, and (7) trading practices. Moreover, the SEC is empowered to demand any additional information deemed necessary to the public interest or for the protection of investors.

The Investment Company Act of 1940, as amended, regulates primarily mutual funds. Notably, the legislation imposes the following obligations.

- *Initial capital.* The fund sponsor, typically the investment adviser, needs to provide seed capital of \$100,000 before offering the fund to other investors.
- *Transparency and disclosure.* Funds need to publish and continuously update a prospectus.⁵¹ They may also publish a summary prospectus with standardised key information.

⁴⁹See Section 403, Title IV, of the Dodd–Frank Wall Street Reform and Consumer Protection Act.

⁵⁰See Section 404, Title IV, of the Dodd–Frank Wall Street Reform and Consumer Protection Act.

⁵¹See Section 10.a of the Securities Act of 1933.

- *Investor protection.* A custodian, which typically must be a US-regulated bank, must be appointed for the safekeeping of fund assets.⁵² Funds must also appoint a compliance officer and have detailed compliance policies, procedures, and internal controls.
- *Liquidity management.* With regard to the portfolio, funds may not invest more than 15% of their assets in illiquid securities. With regard to shares in the fund, redemption payments may be delivered in kind or delayed for up to a maximum of seven days. In exceptional circumstances, however, funds may suspend redemptions for longer periods if the disposal of securities or the valuation of assets is not reasonably practicable. The SEC may also order the suspension of redemptions.⁵³
- *Leverage.* Funds are limited in their use of leverage. They may not issue debt, but they may borrow from a bank subject to a 300% asset coverage requirement on the amount borrowed.⁵⁴ Funds may use derivatives only if they segregate liquid assets having a value equal to the potential liability for the fund under the derivatives contract.⁵⁵
- *Portfolio diversification and issuer concentration.* Funds that describe themselves as “diversified” need to comply with requirements regarding eligible assets and concentration limits per type of instrument and industry group.

As this list implies, the requirements for US mutual funds are generally analogous to those in Europe under the UCITS directive. However, in the United States, there is no product-level regulatory framework for hedge funds and private equity funds, in contrast to the EU, which has the AIFMD.

A3. International Developments

IOSCO and the FSB have led the international work to improve the regulation and oversight of asset managers and investment funds. Most notably in 2009, IOSCO issued a number of principles for the regulation of hedge funds⁵⁶ following a request by the G-20. IOSCO defines hedge funds as investment schemes that display features, such as absence of regulatory limits to leverage; speculative use of derivatives; investments in relatively complex, exotic, or illiquid assets; periodic redemption windows; and significant perfor-

⁵²See Section 17.f of the Investment Company Act of 1940 and Section 223 of the Investment Advisers Act of 1940.

⁵³See Section 22.e of the Investment Company Act of 1940.

⁵⁴See Section 18.f of the Investment Company Act of 1940.

⁵⁵See Section 18 of the Investment Company Act of 1940. See also SEC (2011).

⁵⁶See IOSCO (2009).

mance fees. According to the IOSCO principles, hedge funds or their managers should be subject to mandatory registration, organisational and operational standards, prudential regulation, and disclosure requirements to investors and supervisory authorities.

The adoption of the AIFMD in the EU and of Title IV of the Dodd–Frank Act in the United States can be considered a response to the position of the G–20 regarding hedge fund oversight. Beyond hedge funds, the FSB and IOSCO are considering broader themes of financial stability in connection with asset management, such as the attributes of non-bank systemically important financial institutions (SIFIs) and the possible designation of certain asset management firms as SIFIs. In particular, policymakers are considering the range of characteristics that would (potentially) indicate that an asset manager could pose a significant risk to financial stability, in the case of distress or disorderly failure, and the principles that would lead to an effective resolution regime for asset managers and other nonbank financial institutions.⁵⁷

According to the FSB, relevant indicators for assessing the systemic importance of an investment fund include its size, interconnectedness, leverage, complexity, and substitutability. For instance, proposed indicators would measure in relative terms the gross notional exposure, credit exposure, exposure to globally systemically important banks and insurers, share of OTC derivatives trades, share of rehypothecated collateral, and the weighted-average liquidity of the portfolio relative to the liquidity of the fund's shares. An overview of these proposed indicators is provided in **Box A1**.

To build an effective framework for the resolution of asset managers, the FSB considers aspects such as (1) effective segregation and custody of client assets and collateral; (2) legal certainty around the shielding of client assets in case of failure of manager, counterparty, or custodian; (3) record keeping of transactions and reuse of assets; (4) resolution plans and arrangements to facilitate access to key information in case of resolution; (5) resolution authority with power to transfer client assets and contracts to another institution; and (6) mechanisms to deal *ex post* with client claims.

In effect, the segregation and custody of client assets, coupled with the other measures proposed by the FSB, would protect fund investors from any loss of assets in case of failure of the asset manager administering the fund. These elements are well embedded in the regulation of investment funds in Europe and the United States. Asset segregation and the attribution of market risk to end investors means that investment funds cannot fail in the same manner as banks or insurers.

⁵⁷See FSB (2013a).

Box A1. Proposed Indicators Developed by the FSB and IOSCO for Assessing the Systemic Importance of Investment Funds

Size of the fund:

- Assets under management (AUM) or NAV for the fund
- For leveraged funds, gross notional exposure (GNE) as an alternative indicator

Interconnectedness:

- Gross AUM of the fund or NAV of the fund
- For leveraged funds, GNE of the fund or NAV of the fund as an alternative indicator
- Total net counterparty credit exposure of the fund or net AUM (NAV) of the fund
- Total net counterparty credit exposure of the fund with globally systemically important banks and insurers (G-SIBs and G-SIIs, respectively)

Substitutability:

- Turnover of the fund related to a specific asset or daily volume traded regarding the same asset
- Total fund turnover versus total turnover of funds in the same category/classification
- Investment strategies (or asset classes) with less than 10 market players globally

Complexity:

- OTC derivatives trading volume or total trading volume of the fund
- Proportion of collateral posted by counterparties that has been rehypothecated by the fund
- Proportion of NAV managed using high-frequency trading strategies
- Weighted-average portfolio liquidity (in days) or weighted-average investor liquidity (in days)
- Ratio of unencumbered cash to gross notional exposure (or gross AUM)

Cross-jurisdictional activities (global activity):

- Number of jurisdictions in which the fund invests
- Number of jurisdictions in which the fund is sold/listed
- Counterparties established in different jurisdictions

Appendix B: Regulatory Analysis— Money Market Funds

Regulatory measures related to MMFs address many of the same issues and incorporate similar aspects as those described for investment funds. However, a key feature of MMFs is the bank-like maturity transformation they conduct via the mismatch between shareholders' funds (akin to deposits) and held-to-maturity investments in money market instruments.

Accordingly, MMF regulation, distinct from other investment fund regulation, generally seeks to constrain maturity transformation by prescribing limits on the duration of the portfolio and the average time to maturity of investments. Other key aspects of MMF regulation relate to the pricing structure of the fund's shares (CNAV or VNAV) and measures to mitigate the risk of disorderly liquidation.

In the United States, MMFs are regulated by the Investment Company Act of 1940 (Rule 2a-7), whereas in Europe, they are regulated at both the national and EU level. Most European MMFs operate under the UCITS framework (80% of assets), and guidelines from ESMA establish the framework for national regulation.⁵⁸

B1. Reforms on the Asset Side of the Balance Sheet

In 2009 and 2010, Europe and the United States adopted reforms to strengthen the quality of asset allocation by MMFs by limiting the range of eligible money market instruments and strengthening portfolio diversification, issuer concentration, and other requirements.

The ESMA guidelines introduced a common definition of MMFs for the first time in Europe. These guidelines indicate that, among other things, specific disclosure should be provided to investors to indicate the difference between a money market fund and an investment in a bank deposit, and that sufficient information should be provided to explain the impact of longer portfolio duration on the risk profile of the fund. The ESMA guidelines differentiate “short-term” MMFs from other types of MMFs. These short-term MMFs employ a short weighted-average maturity and weighted-average life, the limits for which are prescribed in the guidelines and summarised in **Exhibit B1**.

⁵⁸See ESMA (2010).

In 2013, the European Commission proposed bringing most of these ESMA guidelines, together with additional reforms, into a binding regulation.⁵⁹ On the asset side of the balance sheet, in addition to the aforementioned portfolio maturity limits, the EU regulatory proposal requires MMFs to hold at least 10% of their assets in money market instruments that mature on a daily basis and 20% of assets in instruments that mature within a week.

The maturity requirements on the asset side of the balance sheet for US MMFs, as prescribed under Rule 2a-7 of the Investment Company Act of 1940 (as amended by the SEC in 2010), are similar to those in Europe. Specifically, US MMFs are subject to similar portfolio maturity limits and liquid asset requirements as EU MMFs, including limits on weighted-average maturity and weighted-average life, as well as requirements for certain levels of assets that mature in a day and a week to be held for MMFs to be able to satisfy investor redemptions. Specifically, in the United States, 10% of assets for taxable MMFs must be held in cash and near-cash instruments that mature within a day and 30% of assets for all MMFs must be held in money market instruments that mature within a week.

The requirements regarding the maturity and liquidity of assets held by MMFs in both the United States and EU are summarised in Exhibit B1.

Exhibit B1. MMF Portfolio Maturity Limits and Liquid Asset Requirements

	Residual Maturity ^a	Weighted- Average Maturity ^b	Weighted- Average Life ^c	Proportion of Assets Maturing in 1 Day	Proportion of Assets Maturing in 1 Week	NAV Pricing
US MMFs	397 days	60 days	120 days	10%	30%	Mostly CNAV
EU: “short-term” MMFs	397 days	60 days	120 days	10%	20%	CNAV or VNAV
EU: “standard” MMFs	2 years ^d	6 months	12 months	10%	20%	VNAV only

^aResidual maturity is the remaining maturity to the legal redemption date.

^bWeighted-average maturity (WAM) is a measure of the average length of time to maturity of the investments weighted by the relative size of the portfolio holdings, assuming that the maturity of a floating-rate instrument is the time remaining until the next interest rate reset date. WAM is used to measure the sensitivity of an MMF to changing interest rates.

^cWeighted-average life (WAL) is a measure of the average length of time to maturity of the investments weighted by the relative size of the portfolio holdings based on the time until the principal is repaid in full (i.e., disregarding interest payments). WAL is used to measure credit risk and liquidity risk.

^dProvided that the time remaining until the next interest rate reset date is equal to or less than 397 days.

⁵⁹See European Commission (2013b).

B2. Reforms on the Liability Side of the Balance Sheet

Reforms to the liability side of the balance sheet for MMFs focus on the liquidity risks associated with CNAV structures. These reforms, which are considered separately for the United States and Europe, have not been implemented as of 2014.

United States

In June 2013, the SEC proposed two alternative reforms: (1) replacing the CNAV structure with VNAV for prime institutional MMFs that are offered to institutional investors and that are invested in securities issued by both financial and nonfinancial corporations (nongovernment issuers) or (2) allowing all MMFs to retain CNAV pricing but with the inclusion of liquidity fees and redemption gates that would be activated in times of stress to manage instances of mass redemptions.

Under the first option, MMFs offered to retail investors and/or invested in government securities would be allowed to maintain CNAV pricing. Institutional MMFs would have to show fluctuations in fund pricing rounded to four decimal places (e.g., \$1.0000). Government MMFs would need to hold at least 80% of their assets in cash, government securities, or repos collateralised with government securities. Retail MMFs would need to limit redemptions by each shareholder to \$1 million per business day.

Overall, the first option would lead to a greater proportion of funds with VNAV pricing. Such funds should more accurately reflect the interest rate risk (duration), credit risk, and liquidity risk of the underlying assets because market value fluctuations in those assets would be reflected in the fund's shares. Because these portfolio risks are passed explicitly through to investors, the risk of fund failure is alleviated. In essence, VNAV pricing means that end investors, rather than the fund sponsor (who otherwise would need to provide capital support to maintain the par value of redemptions), are exposed to losses, thereby removing the risk of a bank-like failure.

Under the second option proposed by the SEC, whenever the level of weekly liquid assets⁶⁰ falls to less than 15% of total assets, the fund would need to disclose this decline publicly and impose a 2% liquidity fee on all redemptions. The liquidity fee would take effect automatically, unless the fund's board of directors decides otherwise in the interest of investors. Second, once this weekly liquid asset threshold is breached, the fund's board could also

⁶⁰Weekly liquid assets include US Treasury securities, certain other government securities with remaining maturities of 60 days or less, and certain other securities that convert to cash within one week.

impose a redemption gate (i.e., suspend liquidations) for a period of time not to exceed 30 days within any 90-day period, provided the board decides it is in the fund's best interest.⁶¹

The fees and gates approach intends to curb the likelihood, and impact, of runs. It would also have the effect of spreading out redemption costs; the fees imposed on early redeemers would effectively go towards compensating those investors left behind and at risk of holding shares valued at less than \$1.00 per share. In essence, liquidity fees would provide stabilisation to the NAV.

The SEC also considered combining both reform options, which it proposed to complement with enhanced disclosure requirements, immediate reporting of portfolio holdings, improved reporting by fund advisers, stronger diversification requirements, and enhanced stress testing.

In July 2014, the SEC adopted its final rules for MMFs, which essentially incorporate both of the aforementioned options.⁶² Under the rules, institutional prime MMFs will have to allow their share prices to float, whereas MMFs for retail investors and funds investing in government securities can continue to offer CNAV pricing. In addition, the rules enable the boards of directors for institutional and retail MMFs to impose redemption gates and/or liquidity fees under stressed market conditions. The rules will come into effect over a two-year transition period and will be followed by rules from the US tax authorities to simplify the tax accounting treatment for investors in VNAV MMFs, which some stakeholders have cited as a significant burden for investors to transition from stable to floating NAV funds.

European Union

In September 2013, the European Commission issued a proposal for a regulation on MMFs that prohibits sponsor support unless approved by a national regulator. The regulatory proposal included the imposition of a capital buffer of at least 3% of AUM for funds offering CNAV pricing. The European Commission calibrated this buffer on the basis that sponsor support exceeded this threshold in only 3 out of the 153 cases of MMF sponsor support recorded in the United States following the 2008 financial crisis. Subsequent revisions to the European Commission's proposal by the European Parliament removed the capital buffer provision and allowed for the imposition of liquidity fees and redemption gates.

The regulation will apply in conjunction with the UCITS and AIFMD frameworks, depending on the fund's choice of incorporation. In addition, MMFs will have to

⁶¹Government MMFs would be exempted from these requirements but could opt into them.

⁶²See SEC (2014).

implement procedures to anticipate investor behaviour by looking at identifiable patterns of redemptions, risk aversion, and sophistication (know your customer policy).

The European Commission also proposed to prohibit MMFs from soliciting external credit ratings and advertising those to investors, to mitigate the potential for a run derived from a credit rating downgrade. In addition, the regulation contains detailed rules on eligible assets, diversification requirements and concentration limits (as noted previously), internal ratings, and valuation methodologies to fully harmonise the rules applicable to MMF portfolio composition across the EU.

International Developments

The proposals in Europe and the United States are broadly consistent with the recommendations of IOSCO and the FSB. In 2012, IOSCO published a report on policy recommendations for MMFs, which notably included the following recommendations:

- MMFs should comply with the general principle of fair value when valuing the securities held in their portfolios. The amortised cost valuation method should be used only in limited circumstances.
- Regulators should require, where workable, a conversion to VNAV pricing. Alternatively, safeguards should be introduced to reinforce the resilience of CNAV MMFs.
- MMFs should have tools in place to deal with exceptional market conditions and substantial redemption pressures, establish sound procedures to know their investors, hold a minimum amount of liquid assets, and periodically conduct stress testing.

The IOSCO recommendations on MMFs form the primary output of the FSB's work stream related to MMFs under its policy framework to strengthen oversight and regulation of shadow banking. Under the initiative of the FSB, IOSCO was tasked with conducting a peer review process in 2014 of the state of implementation of its MMF principles by national regulatory authorities. This work will inform the FSB's global monitoring work on shadow banking going forward.

Appendix C: Regulatory Analysis— Securitisation

As noted in Section 2, the process of securitisation involves the transfer of credit risk from the loan pool backing the securities to the investors in the different tranches issued. Notwithstanding the potential benefits from securitisation, including more diversity in credit provision and access to finance, securitisation carries certain risks associated with the credit risk transfer process. Accordingly, regulatory measures related to securitisation primarily seek to address the potential misalignment of interests between originators and investors along the chain from loan origination to issuance, as well as potential inadequate transparency over issuance structures and collateral.

Regulatory frameworks that affect securitisation are numerous and complex in formulation. Improving the coherence of the various regulatory measures related to securitisation is important; differences in regulation between Europe, the United States, and other jurisdictions may impose additional costs without corresponding benefits to financial stability or investor protection.⁶³ Moreover, a more unified set of rules would provide increased clarity and certainty for investors, thereby supporting demand.

The key regulatory elements related to securitisation in the context of shadow banking include (1) alignment of interests, risk retention, and due diligence requirements; (2) prudential rules; (3) prospectus and transparency frameworks; and (4) the identification of “quality securitisation”. These are considered in turn.

C1. Alignment of Interests, Risk Retention, and Due Diligence Requirements

The originate-to-distribute securitisation model revealed a number of structural weaknesses in the fallout from the financial crisis. Although the ability to originate loans and move them off-balance-sheet (by selling the pool of loans to an SPV) enabled and stimulated the provision of credit, it also created an asymmetry between risk and reward. By selling and not retaining any portion of the risk, the revenue generated from the sale of loans would accrue to the originator but the risk would be transferred (and in theory,

⁶³See IOSCO (2012a).

diversified) elsewhere. This scenario incentivized loan origination and created moral hazard that led to a relaxation of underwriting standards.

The misalignment of interests between loan originators and investors in structured credit, exacerbated by the ease with which these securities were afforded top-tier credit ratings, lay at the heart of the financial crisis. Consequently, regulators have focused attention on addressing the misalignment of interests via the introduction of risk retention requirements (also known as “skin in the game”).

The principle of securitisation risk retention was established by the G–20 at the 2009 G–20 Pittsburgh Summit. Since then, several jurisdictions have considered introducing a 5% risk retention requirement for originators or sponsors of securitisations.

Under the CRR in the EU, in order for a financial institution to acquire exposure to the credit risk of a securitisation, the originator must inform the financial institution that it will retain a material net economic interest of at least 5% in the securitisation. The 5% retention can be applied vertically (i.e., a 5% slice through each tranche of the securitisation) or horizontally (e.g., 5% of the first-loss tranche). Net economic interest must be measured at origination and maintained on an ongoing basis. In addition, the retained interest in the securitisation must not be subject to any credit risk mitigation, hedge, or short positions and cannot be sold.

Under the CRR, banks are also subject to due diligence requirements with respect to securitisation. They must have, and be able to demonstrate to supervisory authorities, a thorough and comprehensive understanding of the securitisation, including (but not limited to) factors such as the risk characteristics of the securitisation and underlying exposures and the methodologies surrounding the valuation of the collateral backing the securitisation. Banks must also conduct regular stress testing appropriate to their securitisation positions.

Similarly in Europe, alternative investment fund managers (under AIFMD) can only purchase ABS if the sponsor or originator explicitly discloses that it retains a material net economic interest of at least 5%. In addition, the manager must perform due diligence on the underwriting practices and on the ongoing administration and monitoring capabilities of the sponsor and originator. Alternative investment fund managers must also perform stress tests and constantly monitor performance information on the exposures underlying such securitisation positions.

Equivalent requirements with regard to securitisation exposures will also be introduced for UCITS managers, institutions for occupational retirement provision (IORPs), and life insurers (under Solvency II) before 2016.

In the United States, investors are not subject to equivalent regulatory measures on due diligence in regard to securitisation positions. But under the Dodd–Frank Act, sponsors are subject to similar risk retention requirements as in Europe to retain an economic interest of at least 5% of the securitisation. Sponsors may retain a 5% vertical slice of the securitisation (a fraction of every tranche), a horizontal slice of the first-loss tranche, or some combination of the two.

In August 2013, six US federal agencies issued a joint consultation on the implementation of risk retention requirements following the changes introduced to Section 15(g) of the Securities Exchange Act of 1934 by the Dodd–Frank Act.⁶⁴ The proposed rules would exempt from retention requirements certain securitisations of commercial loans, commercial mortgages, and automobile loans under a number of conditions aimed at identifying “quality securitisations” that involve low credit risk. (See Section C4 for further discussion on quality securitisation.)

C2. Prudential Rules

Prudential regulation applies to banks and insurers and sets capital and liquidity requirements in relation to holdings of securitised assets. These prudential standards ensure that firms have sufficient loss absorbency, and hold sufficient liquid assets, in the event of a significant decline in the value of securitised assets, thereby addressing potential systemic risks.

At the global level, prudential standards for banks are prescribed by the BCBS. Under the Basel III Accord, banks are required to hold minimum levels of capital against investments in securitisations. Furthermore, bank issuers are able to obtain capital relief on securitisations sold to third parties under certain conditions.

A revised securitisation framework was announced by the BCBS in December 2014.⁶⁵ The revisions to the Basel securitisation framework, which will take effect from January 2018, include a new hierarchy of approaches to calculating credit risk in the determination of risk-weighted assets. These revisions place the internal ratings-based approach (as opposed to

⁶⁴See OCC, FRS, FDIC, SEC, FHFA, and HUD (2013).

⁶⁵See Basel Committee on Banking Supervision (2014a).

external credit assessments) at the top of the hierarchy in order to reduce “mechanistic” or excessive reliance on external ratings that potentially existed under Basel II.

The revisions to the Basel securitisation framework also include additional risk drivers within each credit risk approach. These risk drivers include an adjustment to take into account the maturity of a securitisation’s tranche and are intended to address certain weaknesses under Basel II that, according to the BCBS, resulted in undercapitalisation of certain exposures. The maturity adjustment is designed to mitigate “cliff effects” in marginal capital charges that existed under Basel II.

The final element of the revisions to the Basel securitisation framework includes increases to the levels of regulatory capital that banks must hold in relation to their securitisation exposures. Under the revised framework, banks will be subject to a minimum 15% risk weight for securitisation exposures.

Basel III also prescribes liquidity requirements, including a liquidity coverage ratio and net stable funding ratio. The liquidity provisions require banks to hold an adequate level of unencumbered high-quality liquid assets to provide backup liquidity to securitisation conduits, such as ABCP. The Basel liquidity framework also allows national authorities to include certain types of securitised assets within the “high-quality liquid assets” definition for the calculation of the liquidity coverage ratio, provided such securitised assets are subject to certain haircuts.

In Europe, capital requirements for insurers are contained in the Solvency II directive. Under Solvency II, insurers are subject to capital requirements and risk management provisions that are designed to strengthen capital adequacy and thus increase protection for policyholders. Like the Basel prudential regime for banks (implemented in Europe via the Capital Requirements Regulation and Directive, or CRR/CRD IV), Solvency II requires insurers to hold minimum levels of capital against investments in securitisations. European authorities are considering lowering risk weights for certain types of long-term investments, including ABS, to the extent that such investments support economic growth via the channelling of funds to the real economy. (See Section C4 for further discussion.)

C3. Prospectus and Transparency Frameworks

Prospectus requirements are well developed in both the United States and Europe and apply to the issuance of securities to the public (not to private placements). A number of reforms to prospectus requirements have improved the quality of disclosure for ABS.

In the United States, Regulation AB prescribes registration, disclosure, and reporting requirements for issuers of ABS. The rules were first introduced in 2004 and were re-evaluated by the SEC in 2010 and 2011 following passage of the Dodd–Frank Act. In 2014, final rules for ABS disclosure and registration were published by the SEC. Under the amended rules, Regulation AB requires issuers to file prospectuses for public offerings of ABS and provide ongoing reports on detailed loan-level data from the underlying credit pools. The rules require such asset-level data to be provided in a standardised tagged data format to enable investors to extract and perform analysis on the asset pools. The revisions to Regulation AB in 2014 also extend the filing deadlines for ABS offerings to allow investors more time to evaluate the specific asset-level data provided. Finally, Regulation AB repeals the credit rating references in shelf eligibility criteria for ABS issuers as part of the wider policy drive to reduce reliance on credit ratings.

In the EU, the CRR requires financial institutions acting as originators, sponsors, or original lenders to disclose the level of the net economic interest retained in the securitisation and provide all materially relevant data on the credit quality and performance of the individual underlying exposures and collateral. This information must be provided to investors and prospective investors, both upon issuance and during the life of the security.

In addition, the implementing provisions for the Prospectus Directive in the EU⁶⁶ provide a number of detailed obligations for issuers of ABS. These prospectus requirements include information to be provided to investors on, among other things, details of the securitised assets and certain loan-level data, such as loan-to-value ratios or level of collateralisation; general characteristics and statistical data on the obligors; and details on the structure of the transaction, including the cash flows and waterfall.

Aside from the asset-level disclosures under the aforementioned prospectus frameworks, regulators have also undertaken initiatives to develop loan-level data warehouses to enable them to monitor developments and potential risks in relation to securitisations. The European Central Bank operates a loan data warehouse that provides asset-level information backing ABS accepted as collateral in the liquidity operations of the Eurosystem.

⁶⁶Regulation 486/2012 addresses the format and the content of the prospectus, the base prospectus, the summary, and other disclosure requirements.

Similarly, the Bank of England requires certain asset-level information to be provided when accepting ABS as collateral under its liquidity operations.

Loan-level data on certain types of securitisations are also accessible via third-party data vendors, which make the data available for a fee. These vendors may also provide modeling tools to enable investors to analyse the loan-level data in detail.

C4. Identification of "Quality Securitisation"

Recognising the potential benefits of securitisation in the diversification of credit provision and the channelling of funds to the real economy, policymakers in the EU and United States have considered the concept of "quality securitisation" that could qualify for reduced capital charges. By lowering the amount of capital that would need to be held against investments in such securitisation, banks and insurers would be incentivised to invest in such quality securitisations rather than other types of securitised assets.

At the global level, policy initiatives related to quality securitisation (or similar qualifying labels) are being led by the BCBS and IOSCO. In December 2014, alongside the BCBS revisions to the Basel securitisation framework, these international bodies issued a joint consultation paper that reviewed securitisation markets and identified factors that may be hindering the development of sustainable securitisation markets. In particular, the consultation focused on proposals to produce simpler, more transparent and comparable ABS (i.e., collateralised by homogeneous assets). Such qualifying ABS could benefit from lower capital requirements, whereas more complex ABS structures could see capital weights increased. In 2015, the BCBS will consider how to incorporate such criteria into the securitisation capital framework.

In a similar vein, the Bank of England and the European Central Bank published a joint discussion paper in May 2014 that examined the characteristics of a "qualifying securitisation". In the discussion paper, they proposed a set of principles regarding the quality of the assets, the structure of the securitisation, and transparency in relation to initial and ongoing data on the assets and loan pool.

In Europe, the European Commission announced in 2014 that it would work on the differentiation of quality securitisation and explore a possible preferential regulatory treatment compatible with prudential principles.⁶⁷ Previously, in 2012, the Commission had

⁶⁷See European Commission (2014).

asked EIOPA to examine whether the calibration and design of capital requirements for investment in securitisation positions necessitated any adjustment, particularly for insurers' investments in infrastructure and SMEs.

In 2013, EIOPA delivered its advice to the European Commission in which it defined a category of securitisations (Type A) that could benefit from a more favourable prudential treatment in comparison with investments by insurers in other forms of securitisation (Type B).⁶⁸ To define Type A securitisations, EIOPA provided a number of criteria, some of which were adapted from the requirements that the European Central Bank applies to the collateral posted by banks under its refinancing operations.

The criteria proposed by EIOPA include the seniority of the securitisation tranche; structural and legal features of the issuance; eligibility of the collateral, including the type of assets, cash flow characteristics, and the absence of credit impairments; transparency features, including listing and reporting requirements; and underwriting features, including the process for assessing creditworthiness.

In the United States, the proposed implementation of risk retention requirements also provides for some form of quality securitisation that would be exempted from such retentions. These securitisations would include qualifying commercial real estate (CRE) loans, commercial loans, auto loans, and ABS backed by qualified residential mortgages (QRMs). For instance, eligible QRMs would have to comply with limits on loan-to-valuation ratios, loan maturities, and maximum increases in interest rates. In addition, borrowers would have to satisfy credit checks and debt-to-income ratios, as well as provide significant own funds towards the purchase.⁶⁹

Overall, the heightened focus on securitisation and the slew of policy initiatives in recent times reflect an acknowledgment by authorities of the importance of securitisation and its role in the financial system, particularly against a backdrop of reduced bank lending and the cycle of economic recovery.

⁶⁸EIOPA proposed to apply a lower 4.30% charge for Type A securitisations and a higher 12.50% charge for Type B securitisations instead of a uniform 7% spread risk charge for AAA rated securitisations. See EIOPA (2013).

⁶⁹See IOSCO (2012a) and OCC et al. (2013).

Appendix D: Regulatory Analysis— Securities Financing Transactions

Currently, regulatory measures related to securities lending and repo markets, as well as collateral reuse and rehypothecation, are less extensive than for other aspects of the shadow banking system. However, a number of policy initiatives have been announced at the global level, led by the FSB. These initiatives seek to increase transparency and reporting over securities financing transactions as well as provide greater consistency regarding the treatment, type, and amount of collateral held against certain transactions. The measures are designed to limit systemic vulnerabilities associated with securities financing transactions, including excessive leverage, counterparty risks, and the potential for procyclical effects.

A detailed summary of existing regulations is provided in the FSB's market overview of securities lending and repos from 2012.⁷⁰ Under the Basel capital adequacy framework, banks are required to hold capital against any counterparty exposures net of the collateral received on the repo or securities lent. Netting of the collateral is permitted only if legally enforceable under applicable laws. Similarly, banks may net repo exposures when calculating their capital requirements and leverage ratio.

Additionally, banks and securities broker/dealers are subject to other requirements designed to enhance investor protection and risk management, including rules on rehypothecation. These rules vary across jurisdictions, in contrast to capital requirements under the Basel regime. In the United States, rehypothecation by a broker/dealer is subject to a 140% cap as a proportion of client indebtedness. In the United Kingdom, no such regulatory cap exists, although industry practices typically converge towards the US standard. Prime brokers must also establish an agreement with clients to rehypothecate securities and provide certain disclosures.

Notwithstanding new policy guidance from the FSB on collateral in relation to securities financing transactions (discussed subsequently), some jurisdictions already enforce minimum standards regarding collateral haircuts and cash collateral reinvestment. Generally, in the United States and Europe, reinvestment of cash collateral received under a securities financing transaction is restricted to near-cash equivalents, such as certain money market instruments with a similar maturity profile as the loan. These rules are designed

⁷⁰See FSB (2012b).

to minimise maturity and liquidity transformation (and the related risks) associated with the transaction.

Furthermore, there are restrictions on eligible counterparties for investment funds and MMFs engaging in securities financing transactions. Eligible counterparties may be specified according to the type of counterparty (e.g., registered investment firms or banks) and/or jurisdiction (e.g., those firms falling under the legal purview of the applicable regulatory authority). There are also counterparty exposure and concentration limits for investment funds and MMFs, as discussed in Appendix A and Appendix B, respectively.

In 2013, the FSB published a policy framework for addressing shadow banking risks in securities lending and repos.⁷¹ This framework was supplemented by the publication of a regulatory framework for haircuts on noncentrally cleared securities financing transactions in 2014. Key aspects of the FSB's policy frameworks on securities financing transactions, which serve as nonbinding guidance for regulatory authorities, include the following:

- *Transparency.* Improving transparency surrounding securities financing transactions, including enhanced data collection and aggregation, improved corporate disclosures by firms engaged in securities financing transactions, and improved reporting by fund managers to end investors.
- *Maturity and liquidity transformation with respect to cash collateral.* Regulatory limits regarding the maturity and liquidity of cash collateral reinvestment, including limits to the weighted-average maturity and weighted-average life of the financial instruments in which the cash has been invested. For cash collateral reinvestment in relation to securities lending, firms should establish guidelines to determine how requests for returning cash collateral could be met if the market for the assets in which the cash collateral has been invested becomes illiquid or if liquidating the assets could incur losses. These guidelines should be documented by the securities lender and subject to internal review and approval. Furthermore, assets held to meet cash collateral calls should be highly liquid, with transparent pricing and daily valuation. The securities lender and/or lending agent should stress test the ability to meet foreseeable and unexpected calls for return of cash collateral on an ongoing basis.
- *Collateral haircuts.* The FSB policy framework on collateral haircuts includes minimum qualitative standards on the methodologies for calculating haircuts and numerical haircut floors. These numerical floors establish a baseline for the cost of securities financing activity and are illustrated in **Exhibit D1**. The purpose of these standards

⁷¹See FSB (2013c).

is to mitigate the build-up of excessive leverage and ensure prudent risk management. The framework surrounding numerical haircut floors covers noncentrally cleared securities financing transactions in which one of the counterparties involved is not subject to prudential regulation and the collateral backing the transaction does not comprise government securities. Centrally cleared securities financing transactions and financing provided to banks and broker/dealers subject to adequate capital and liquidity regulation on a consolidated basis are excluded.

- *Rehypothecation.* The FSB framework proposes to restrict rehypothecation to counterparties subject to liquidity regulation (such as banks) in order to ensure prudent liquidity risk management of the collateral. The proposals would prohibit rehypothecation for financing of own-account activities of the intermediary. Limits to rehypothecation should be based on client net indebtedness. With regard to disclosures, the framework proposes that agents provide information to clients on rehypothecated assets, including which assets can or cannot be rehypothecated as well as regular information on the valuation of assets.
- *Market structure.* Structural aspects of the FSB framework include the availability and use of CCP clearing. The FSB encourages widespread use of CCP clearing for interdealer repos against government securities, although this tripartite arrangement is already standard practice. Given other regulatory initiatives that provide for lower capital charges against centrally cleared transactions, the FSB recognises that there are sufficient incentives for market participants to make use of CCPs in the interdealer repo market. Notwithstanding the desirability of CCP clearing for interdealer general collateral repos, the FSB acknowledges that it may not be desirable to encourage the use of CCPs in every case, particularly in the dealer-to-customer segment of the market, because central clearing concentrates risk in CCPs; thus, it is essential that the collateral accepted contain only liquid, high-quality securities that can be easily and readily valued. Such considerations ensure that the CCP can set appropriate margin requirements and practice prudent risk management.

In January 2014, the EU proposed a securities financing transaction regulation (SFTR). The SFTR follows the FSB policy framework in the area of transparency and disclosure and applies to all counterparties involved in securities financing transactions, investment funds as defined by the AIFMD and UCITS directive, and any counterparty engaging in collateral reuse.

There are three main elements to the proposed SFTR. First, securities financing transactions should be reported to trade repositories to enable regulators to obtain aggregate data on securities financing activity and to monitor potential risks. Second, firms, including

Exhibit D1. FSB Numerical Haircut Floors for Noncentrally Cleared Securities against Cash Financing Transactions

Residual Maturity of Collateral	Haircut Level	
	<i>Corporate and Other Issuers</i>	<i>Securitised Products</i>
≤1 year debt securities and floating rate notes (FRNs)	0.5%	1%
>1 year, ≤5 years debt securities	1.5%	4%
>5 years, ≤10 years debt securities	3%	6%
>10 years debt securities	4%	7%
Main index equities		6%
Other assets within the scope of the framework		10%

Note: When shares in mutual funds are used as collateral for securities financing transactions, they should be treated as “other assets”.

Source: FSB (2014b).

AIF and UCITS managers, must provide clients (end investors) with regular reports and disclosures surrounding securities financing, including the nature and extent of these activities. Third, investment firms engaging in collateral reuse must obtain prior consent for and express knowledge of the risks from the providing counterparty in a contractual agreement. The counterparty receiving financial instruments as collateral will be allowed to reuse them only after obtaining this consent and only after having transferred the financial instruments to its own account.

Additionally, in August 2014, ESMA published guidelines for regulators and UCITS management companies regarding the management of collateral with respect to OTC derivative transactions and efficient portfolio management techniques by UCITS funds.⁷² When a UCITS fund enters into such transactions, the collateral pledged to reduce counterparty risk exposure should comply with a list of criteria specified by ESMA. The criteria include (but are not limited to) the following:

- All noncash should be highly liquid and traded on a regulated market or multilateral trading facility with transparent pricing.

⁷²See ESMA (2014).

- Collateral received should be valued on at least a daily basis, and assets that exhibit high price volatility should not be accepted as collateral unless suitably conservative haircuts are in place.
- Collateral should be of high quality and sufficiently diversified in terms of countries, markets, and issuers. Furthermore, noncash collateral should not be sold, reinvested, or pledged.

Under the ESMA guidelines, cash collateral may be only

- placed on deposit with entities prescribed under the UCITS directive;
- invested in high-quality government bonds;
- used for the purpose of reverse repo transactions provided the transactions are with credit institutions subject to prudential supervision and the UCITS fund is able to recall at any time the full amount of cash on an accrued basis; or
- invested in short-term money market funds.

Appendix E: Regulatory Analysis— Other Developments

At the global level, the FSB’s policy framework on strengthening oversight and regulation of shadow banking comprises five work streams. These are (1) addressing risks in banks’ interactions with shadow banking entities (including consolidation of shadow banking entities and activities within the parent banking group for prudential purposes, large exposures regimes, and counterparty concentration limits, as well as limits on banks’ equity in investment funds); (2) reducing the susceptibility of MMFs to “runs” (examined in Appendix B); (3) improving transparency and aligning incentives in securitisation (examined in Appendix C); (4) dampening procyclicality and other financial stability risks in securities financing transactions (examined in Appendix D); and (5) assessing and mitigating financial stability risks posed by other shadow banking entities and activities.

The fifth work stream establishes a generic forward-looking policy framework that categorises shadow banking into five economic functions. These functions are (1) the management of collective investment schemes with features that make them susceptible to runs, (2) loan provision dependent on short-term funding, (3) intermediation of market activities dependent on short-term funding or secured funding of client assets (securities financing), (4) facilitation of credit creation, and (5) securitisation-based credit intermediation and funding of financial entities.

The framework applies a set of overarching policy principles to these economic functions and prescribes a set of policy tools to address the risks associated with each function. These tools largely comprise the various policy measures already described herein and are presented as a menu of possible policy options for regulatory authorities to use as appropriate (many of which are already in existence, as illustrated in Appendices A through D). The purpose of this framework is to promote a substance over form approach to regulation to ensure that innovations and mutations in shadow banking entities and activities are appropriately captured within the regulatory perimeter.

At the national level, there are a number of other regulatory initiatives or standards that are tangential to the discussion of shadow banking regulation but are outside the scope of this report. Most notably, these initiatives include the following:

- Regulation of credit rating agencies in both the United States and Europe and the removal of references to credit ratings in regulation, as identified previously (thereby affecting the economics of certain shadow banking activities)
- Bank structural reform in the United States under the “Volcker Rule”, which restricts bank ownership of hedge funds and private equity funds (and prohibits proprietary trading)
- Bank structural reform in the United Kingdom and Europe based on the separation of certain risky trading activities, such as market making, complex derivatives, and securitisation operations
- Reform of accounting standards under US Generally Accepted Accounting Principles (US GAAP) and under International Financial Reporting Standards (IFRS) related to, for example, consolidation of securitisations and enhanced disclosure requirements

Appendix F: Profile of Respondents to the CFA Institute Member Survey on Shadow Banking

The following data provide demographical information on CFA Institute members who responded to the survey on shadow banking.

Exhibit F1. Geographic Location of CFA Institute Member Respondents

Location	Percentage of Member Respondents
Europe	37%
North America	26
East Asia	13
Southeast Asia and Oceania	11
South Asia	6
Middle East	3
Africa	3
Latin America and the Caribbean	1

Exhibit F2. Occupation of CFA Institute Member Respondents

Occupation	Percentage of Member Respondents
Portfolio manager	17%
Research analyst	14
Consultant	8
Corporate financial analyst	7
Risk manager	7

Note: The chart displays the top five occupations.

Exhibit F3. Primary Investment Practice of CFA Institute Member Respondents

Investment Practice	Percentage of Member Respondents
Equities	27%
Fixed income	21
Private equity	5
Derivatives	4
Structured products	3
Foreign currency	2
Real estate	2
Commodities	1
Hedge funds	1
Indexed	1
Venture capital	1
Other	8
Not applicable	14
Not available	9

Exhibit F4. Years in the Industry of CFA Institute Member Respondents

Years in Industry	Percentage of Member Respondents
5 years or less	9%
6–10 years	43
11–15 years	15
16–20 years	13
Over 20 years	16

Note: The chart displays the top five categories.

References

- Anderlini, Jamil. 2014. “Into the Shadows: Risky Business, Global Threat.” *Financial Times* (15 June): <http://www.ft.com/intl/cms/s/2/a123375a-d774-11e3-a47c-00144feabdc0.html#axzz3QstuVqpS>.
- Bank of England and European Central Bank. 2014. “The Case for a Better Functioning Securitisation Market in the European Union” (May).
- Basel Committee on Banking Supervision. 2011. *Report on Asset Securitisation Incentives*. Bank for International Settlements (July).
- . 2014a. *Basel III Document: Revisions to the Securitisation Framework*. Bank for International Settlements (11 December).
- . 2014b. *Consultative Document: Revisions to the Securitisation Framework*. Bank for International Settlements (21 March).
- BlackRock. 2014. “Securitisation: A Tool for European Growth” (March).
- EIOPA. 2013. *Technical Report on Standard Formula Design and Calibration for Certain Long-Term Investments*. European Insurance and Occupational Pensions Authority (19 December).
- ESMA. 2010. *CESR’s Guidelines on a Common Definition of European Money Market Funds*. European Securities and Markets Authority, CESR/10-049 (19 May).
- . 2014. *Guidelines for Competent Authorities and UCITS Management Companies: Guidelines on ETFs and Other UCITS Issues*. European Securities and Markets Authority (1 August).
- European Central Bank. 2013. *Collateral Eligibility Requirements: A Comparative Study across Specific Frameworks* (July).
- European Commission. 2013a. “Impact Assessment Accompanying the Proposal for a Regulation on Money Market Funds.” Commission Staff Working Document SWD (2013) 315 final (4 September).
- . 2013b. “Proposal for a Regulation on Money Market Funds.” COM (2013) 615 final (4 September).
- . 2014. “Communication on the Long-Term Financing of the European Economy.” SWD (2014) 105 final (27 March).
- FCA. 2014. *Hedge Fund Survey*. Financial Conduct Authority (March).

Federal Reserve Bank of San Francisco. 2013. “Shadow Banking in China: Expanding Scale, Evolving Structure.” Country Analysis Unit (April).

FSB. 2011. *Shadow Banking: Strengthening Oversight and Regulation: Recommendations of the Financial Stability Board*. Financial Stability Board (27 October).

———. 2012a. *FSB Principles for Sound Residential Mortgage Underwriting Practices*. Financial Stability Board (April).

———. 2012b. *Securities Lending and Repos: Market Overview and Financial Stability Issues*. Financial Stability Board (27 April).

———. 2013a. *Application of the Key Attributes of Effective Resolution Regimes to Non-Bank Financial Institutions: Consultative Document*. Financial Stability Board (12 August).

———. 2013b. *Global Shadow Banking Monitoring Report 2013*. Financial Stability Board (November).

———. 2013c. *Strengthening Oversight and Regulation of Shadow Banking: Policy Framework for Addressing Shadow Banking Risks in Securities Lending and Repos*. Financial Stability Board (29 August).

———. 2014a. *Global Shadow Banking Monitoring Report 2014*. Financial Stability Board (4 November).

———. 2014b. *Strengthening Oversight and Regulation of Shadow Banking: Regulatory Framework for Haircuts on Non-Centrally Cleared Securities Financing Transactions*. Financial Stability Board (14 October).

Hu, Yi, Devendran Mahendran, and Christopher Li. 2014. “China’s Shadow Banking System: A Default Would Be Manageable.” HSBC Global Research (6 March).

ICMA. 2014. “European Repo Market Survey, Number 27.” International Capital Markets Association, survey conducted June 2014 (September).

IMF. 2009. “Restarting Securitization Markets: Policy Proposals and Pitfalls.” Chapter 2 in *Global Financial Stability Report: Navigating the Financial Challenges Ahead*. International Monetary Fund (October).

———. 2014. *Risk Taking, Liquidity, and Shadow Banking: Curbing Excess while Promoting Growth*. International Monetary Fund, Global Financial Stability Report (October).

IOSCO. 2009. *Hedge Funds Oversight: Final Report*. International Organization of Securities Commissions (June).

———. 2012a. *Global Developments in Securitization Regulation: Consultation Report*. International Organization of Securities Commissions (June).

- . 2012b. *Principles for Ongoing Disclosure for Asset-Backed Securities: Consultation Report*. International Organization of Securities Commissions (February).
- Jingu, Takeshi. 2014. “Risks and Opportunities in China’s Growing P2P Lending Market.” Nomura Research Institute, *Lakyara* vol. 202 (10 September).
- OCC, FRS, FDIC, SEC, FHFA, and HUD. 2013. *Credit Risk Retention*. Office of the Comptroller of the Currency of the Treasury, Federal Reserve System, Federal Deposit Insurance Corporation, Securities and Exchange Commission, Federal Housing Finance Agency, and Department of Housing and Urban Development (28 August).
- PCS. 2014. *Prime Collateralised Rule Book*. Version 8. Prime Collateralised Securities (12 November).
- Perraudin, W. 2014. “High Quality Securitisation: An Empirical Analysis of the PCS Definition.” Risk Control Limited (1 June).
- Pozsar, Z., T. Adrian, A. Ashcraft, and H. Boesky. 2010. *Shadow Banking*. Federal Reserve Bank of New York, Staff report no. 458 (July).
- SEC. 2011. “Use of Derivatives by Investment Companies under the Investment Company Act of 1940.” Securities and Exchange Commission, Concept Release No. IC-29776 (31 August).
- . 2014. “Money Market Fund Reform; Amendments to Form PF.” Securities and Exchange Commission, Release No. 33-9616 (23 July).
- Segoviano, Miguel, Bradley Jones, Peter Lindner, and Johannes Blankenheim. 2013. “Securitization: Lessons Learned and the Road Ahead.” International Monetary Fund working paper (November).
- Thomson Reuters Accelus. 2014. “Chinese Shadow Banking: Understanding KRIs and Risk Scenarios” (January).
- Veron, N. 2013. “Bank versus Non-Bank Credit in the United States, Europe and China.” Bruegel Policy Contribution, Issue 2013/07 (June).



CFA Institute

AUTHOR

Rhodri G. Preece, CFA
Head
Capital Markets Policy EMEA

CONTRIBUTORS

Kurt N. Schacht, JD, CFA
Managing Director
Standards and Financial Market Integrity

Robert W. Dannhauser, FRM, CAIA, CFA
Head
Global Capital Markets Policy

We would like to thank Mirzha de Manuel Aramendía, former director of capital markets policy at CFA Institute, for helping to develop this study and for contributing research. We also extend particular thanks to Tony Neoh from the CFA Institute Advisory Council for insightful comments and suggestions, and to Casey Campbell and Tamar Joulia-Paris from CreditUtility.eu for facilitating discussions with members of the CFA Institute Capital Markets Policy Council in London and for providing helpful review comments.

THE AMERICAS

(800) 247 8132 PHONE (USA and Canada)

+1 (434) 951 5499 PHONE

+1 (434) 951 5262 FAX

915 East High Street
Charlottesville, VA 22902
USA

477 Madison Avenue
21st Floor
New York, NY 10022
USA

ASIA PACIFIC

+852 2868 2700 PHONE

+852 8228 8820 INFO HOTLINE

+852 2868 9912 FAX

23/F, Man Yee Building
68 Des Voeux Road
Central, Hong Kong SAR

EUROPE

+44 (0) 20 7330 9500 PHONE

+44 (0) 20 7330 9501 FAX

131 Finsbury Pavement
7th Floor
London EC2A 1NT
United Kingdom

Square de Meeûs 38/40
1000 Brussels, Belgium

