The Deloitte Shadow Banking Index
Shedding light on banking's shadows

Deloitte Center for Financial Services

Contents

Executive summary

Shadow banking may help drive the day-to-day financial system, but it is a concept looking for a hard-and-fast definition.

Despite coming under intense scrutiny following the financial crisis, there have been disparate characterizations of what the shadow banking sector truly entails — with size estimates ranging from $10 to $60 trillion. At the same time, major regulatory efforts have either been enacted or are in the works to help reduce the size of this important sector, with no agreed-upon way to measure their effectiveness.

The purpose of the Deloitte[1] Shadow Banking Index is to define and quantify the sector over time, including its components. This ongoing effort is designed to more closely measure size, importance, effect of market, and impact of regulatory actions, as well as a way to assess the potential impact of shadow banking on regulated markets.

What is shadow banking really? We started by including a multitude of nonbanking entities and activities and then applied specific criteria. For example, we posit that money market mutual funds (MMMFs) are part of shadow banking as they possess the "money-like" attributes of bank deposits. But they do not have bank-like insurance, nor can they access a central bank for liquidity support.

After determining the components, we created the Deloitte Shadow Banking Index, beginning with data from 2004 set at a base value of 100. We chose this period due to data availability; while we elected to focus only on the U.S. in this initial iteration of the Index, we may include global information in the future.

[1] As used in this document, "Deloitte" means Deloitte Consulting LLP and Deloitte Services LP, which are separate subsidiaries of Deloitte LLP. Please see www.deloitte.com/us/about for a detailed description of the legal structure of Deloitte LLP and its subsidiaries. Certain services may not be available to attest clients under the rules and regulations of public accounting.

What the Index has found – unsurprisingly – is that there was a dramatic growth of the sector between late 2004 and late 2008, which even eclipsed the size of the traditional banking sector. Since then, there has been an abrupt decline – both in absolute terms and relative to the size of the traditional banking sector – amid a backdrop of economic crisis and volatility, increased regulation, and significant changes in the regular banking system. By our measure, the sector was some 25 percent smaller at the end of 2011 than at the end of 2004, totaling $9.53 trillion.

The shadow banking sector in the U.S. will likely remain suppressed in the near-term, though it is unlikely that it will cease to exist; repurchase agreements (repos) and securities lending, to name two components, are vital to the functioning of the modern financial system and will likely bounce back eventually.

Does this mean that the significance of the shadow banking system is overrated? No. The growth of shadow banking was fueled historically by financial innovation. A new activity not previously created could be categorized as shadow banking and could creep back into the system quickly. That new innovation might be but a distant notion at best in someone's mind today, but could pose a systemic risk concern in the future.

The Deloitte Shadow Banking Index shows dramatic changes in shadow banking over a few years. From a base of 100 in 2004, it reached a peak of 162.5 in Q1 2008, with the sector's assets growing to over $20 trillion. Since then, the Index has dropped steadily, primarily due to regulatory action and market conditions, reaching a value of 75 as of Q4 2011. Assets were then $9.53 trillion, over 50 percent below peak.

Shadow banking is an integral part of the financial system, rivaling the size of regular banking. We expect the shadow banking market and definition to continue to evolve. Perhaps the biggest change on the horizon is what the Financial Stability Board (FSB) will do concerning shadow banking globally when recommendations from G20 leaders are released by the end of this year. We will continue to track developments and consider what, if any, modifications should be made based on the FSB's moves.

We are committed to updating the components and value of the Deloitte Shadow Banking Index in the future as a way to help frame the market size, assess the impact on the economy, and offer insight regarding the regulatory debate about this important set of activities. The Index is designed to assess the answers to questions such as:

- What will shadow banking look like in a few years?
- How might regulatory developments affect shadow banking?
- Will new shadow banking activities emerge as a result of market change or regulatory action?

The Deloitte Shadow Banking Index is designed to facilitate greater understanding of this subject, and allow both market participants and regulators to assess the impact of their programs.

A primer: The ins and outs of shadow banking

It is generally agreed that shadow banking has grown to an imposing size over the last few years. For instance, the FSB estimated that assets in shadow banking were about $60 trillion in 2010, $24 trillion of which were in the U.S.[2] While the name "shadow banking" is likely to conjure an image of a strange and mysterious world and a "pejorative connotation,"[3] it is the generally accepted term for market-funded (rather than bank-funded) credit intermediation activities.

Growth has led shadow banking to be the focus of spirited commentary. Burgeoning interest by regulators, academics, and market participants caught the public's imagination in 2007[4] when it was coined to describe how the growth of financial market disintermediation outside the regulators' purview contributes to liquidity shocks.[5] Five years later, Treasury Secretary Timothy Geithner noted, "A large shadow banking system had developed without meaningful regulation, using trillions of dollars in short-term debt to fund inherently risky financial activity."[6] Echoing a similar sentiment, Federal Reserve Chairman Ben Bernanke recently suggested, "As became apparent during the crisis, a key vulnerability of the system was the heavy reliance of the shadow banking sector."[7]

The growth of shadow banking can be traced to multiple developments. Deregulation and competition encouraged commercial banks to enter higher-risk businesses. Financial innovations such as securitization contributed to an "originate-to-distribute" model, where loans were transformed into securities for sale, funded by financial markets rather than deposits. Other products, such as money market mutual funds (MMMFs), substituted for traditional deposits but generally were not insured or backed by a central bank. Some contend growth was fueled by regulatory arbitrage,[8] demand from institutional cash pools,[19] financial engineering,[10] and growth in financial market intermediation.[11]

Although the term shadow banking is relatively recent, most of its components are not.[12] Repurchase agreements have been in use since 1917; the first securitization transaction was executed in 1970; and the first MMMF was established in 1971.

So how did these legitimate activities become "shadow" in recent years? The answer may lie in the fact that they were implicated in the recent financial crisis. Starting in 2007, the liquidity in the U.S. repurchase agreement market contracted significantly. In 2008, a MMMF "broke the buck" and could not obtain financial support.[13]

The operating definition in use today puts divergent institutions, instruments, and markets into the same bucket and is considered an obstacle.[14] As Lord Adair Turner, the chairman of the Financial Services Authority (FSA) noted, "The difficulty starts with the definition – what exactly is shadow banking and how exactly did it contribute to financial instability?"[15]

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2 Financial Stability Board, "Shadow Banking: Strengthening Oversight and Regulation," October 2011.

3 Federal Reserve Bank of Minneapolis, The Region Magazine, Interview with Gary Gorton, December 1, 2010.

4 Our review shows that the term "shadow banks" had been used by others before 2007 but to mean different things.

5 Paul McCulley, "The Shadow Banking System and Hyman Minsky's Economic Journey," Global Central Bank Focus, PIMCO, May 2009.

6 Wall Street Journal, Op-Ed by Timothy Geithner, "Financial Crisis Amnesia," March 2, 2012.

7 Ben Bernanke, Russell Sage Foundation and the Century Foundation Conference on "Rethinking Finance," New York, April 13, 2012.

8 Steven L. Schwarcz, "Regulating Shadow Banking," Duke University School of Law, February 2012.

9 Zoltan Pozsar, "Institutional Cash Pools and the Triffin Dilemma of the U.S. Banking System," International Monetary Fund, 2011.

10 Steven L. Schwarcz, "Regulating Shadow Banking," Duke University School of Law, February 2012.

11 Gary Gorton, "The Panic of 2007," Maintaining Stability in a Changing Financial System, Proceedings of the 2008 Jackson Hole Conference, Federal Reserve Bank of Kansas City.

12 Gary Gorton and Andrew Metrick, "Regulating the Shadow Banking System," Yale University, September 2010.

13 New York Times, "Pride goeth before a fall," Floyd Norris, September 16, 2008.

14 Steven L. Schwarcz, "Regulating Shadow Banking," Duke University School of Law, February 2012.

15 Adair Turner, "Shadow Banking and Financial Stability," Lecture at the Cass Business School, March 14, 2012.

Exhibit 1 summarizes some of the definitions offered by others. Some prefer a narrow view and propose that only "money-like" instruments qualify.[16] Others adopt a more expansive view and add other forms of nonbanking activities.

Exhibit 1. Sampling of definitions[17]

Source	Definition offered
Financial Stability Board[18]	"A system of credit intermediation that involves entities and activities outside the regular banking system, and raises i) systemic risk concerns, in particular by maturity/liquidity transformation, leverage and flawed credit risk transfer, and/or ii) regulatory arbitrage concerns."
Pozsar, Adrian, Ashcraft and Boesky[19]	"Shadow banks are financial intermediaries that conduct maturity, credit, and liquidity transformation without access to central bank liquidity or public sector credit guarantees. Examples of shadow banks include finance companies, asset-backed commercial paper conduits, limited-purpose finance companies, structured investment vehicles, credit hedge funds, money market mutual funds, securities lenders, and government-sponsored enterprises."
Chairman Ben S. Bernanke, Federal Reserve[20]	"Shadow banking, as usually defined, comprises a diverse set of institutions and markets that, collectively, carry out traditional banking functions – but do so outside, or in ways only loosely linked to, the traditional system of regulated depository institutions. Examples of important components of the shadow banking system include securitization vehicles, asset-backed commercial paper (ABCP) conduits, money market mutual funds, markets for repurchase agreements (repos), investment banks, and mortgage companies."
Financial Crisis Inquiry Commission[21]	"Shadow banking refers to bank-like financial activities that are conducted outside the traditional commercial banking system, many of which are unregulated or lightly regulated. Many of the activities performed within the shadow banking system take funds from savers and investors and ultimately provide them to borrowers. Within this broad definition are investment banks, finance companies, money market funds, hedge funds, special purpose entities, and other vehicles that aggregate and hold financial assets."
Gary Gorton and Andrew Metrick, Yale School of Management[22]	"In its broadest definition, shadow banking includes familiar institutions as investment banks, money-market mutual funds, and mortgage brokers; rather old contracts, such as sale and repurchase agreements ("repo"); and more esoteric instruments such as asset-backed securities, collateralized-debt obligations, and asset-backed commercial paper."
Morgan Ricks, Harvard Law School[23]	"Shadow banking refers simply to maturity transformation—the funding of pools of longer-term financial assets with short-term (that is, money-market) liabilities—that takes place outside the terms of the banking social contract. A non-exhaustive list of shadow banking institutions would include: repo-financed dealer firms; securities lenders; structured investment vehicles (SIVs); asset-backed commercial paper conduits; some varieties of credit-oriented hedge funds; and, most importantly, money market mutual funds, which absorb other forms of short-term credit and transform them into true demand obligations."
Erik F. Gerding, University of Colorado Law School[24]	"The shadow banking system describes a web of financial instruments (asset-backed securities, credit derivatives, money market mutual funds, repurchase agreements) that connected commercial and household borrowers to investors in capital markets."

[16] Morgan Ricks, "Regulating Money Creation After the Crisis," Harvard Law School, June 2010.

[17] Please note that this list is not meant to be comprehensive; we highlight a few of the more widely referenced sources.

[18] Financial Stability Board, "Shadow Banking: Strengthening Oversight and Regulation," October 2011.

[19] Zoltan Pozsar, Tobias Adrian, Adam Ashcraft and Hayley Boesky, "Shadow Banking," Staff report no. 458, Federal Reserve Bank of New York, July 2010.

[20] Chairman Ben Bernanke, Russell Sage Foundation and the Century Foundation Conference on "Rethinking Finance," New York, April 13, 2012.

[21] Financial Crisis Inquiry Commission, "Shadow Banking and the Financial Crisis," May 4, 2010.

[22] Gary Gorton and Andrew Metrick, "Regulating the Shadow Banking System," Yale School of Management, September 2010.

[23] Morgan Ricks, "Shadow Banking and Financial Regulation," Harvard Law School, September 2010.

[24] Erik F. Gerding, "The Shadow Banking System and its Legal Origins," University of Colorado Law School, August 2011

Characteristics of shadow banking

Despite the multiplicity of views, there is a general agreement on shadow banking characteristics:

- **Credit intermediation**, raising short-term funds from financial markets to deploy elsewhere, including maturity and/or liquidity transformation. Shadow banking relies on financial markets, not bank deposits, as the source of funds.
- **Funds raised are not guaranteed**, in that there is no explicit government insurance for their safe return to investors in the event of an organizational/asset value/entity failure.
- **No access to a central bank** in the event of a liquidity/funding problem.

However, there is disagreement on some characteristics:

- **Leverage** is regularly highlighted as a noted shadow banking characteristic. While some activities in shadow banking rely on leverage to increase returns, this is not a unique characteristic. Hedge funds, private equity firms, and banks use leverage as a normal tool in their business.
- **Off-balance sheet treatment** was also a noted characteristic of the special purpose entities that played a role in the growth of the sector before 2008. With new accounting treatments issued in 2009, many such entities are now consolidated.[25] As a result, off-balance sheet treatment by itself is not a necessary feature of a shadow banking component.

Excluding hedge funds from shadow banking

Some consider hedge funds, particularly credit hedge funds, to be part of shadow banking. But as a recent report by the Alternative Investment Management Association notes, hedge funds "do not engage in any significant sense in credit, liquidity or maturity transformation, so their activity is not 'bank-like'."[26] Management should consider: A hedge fund's source of funds, investor capital, generally matches liquidity and maturity constraints of the underlying investments. This is not a banking surrogate.

Given that the regular banking system is carefully regulated to reduce risks to depositors and to financial markets, critics of shadow banking argue it has the potential to create risks in the broader financial system. This view has been exacerbated by the perceived role of shadow banking in the recent financial crisis. The risks are thought to include:

- Opportunities for regulatory arbitrage
- Build-up of leverage outside the regulated banking system
- Uncertainty and stress, for direct surrogates of regular bank deposits, which may lead to "runs"

The shadow banking sector is not just about complexity and risks, however. It provides an enormous benefit to the U.S. economy[27] by broadening the availability of investment options and, as a result, channels credit more efficiently, enabling risk diversification and financial innovation.[28]

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[25] Financial Accounting Standards Board, Financial Accounting Statements No. 166, Accounting for Transfers of Financial Assets, and No. 167, Amendments to FASB Interpretation No. 46(R).

[26] Alternative Investment Management Association, "The Role of Credit Hedge Funds in the Financial System: Asset Managers, Not Shadow Banks," March 2012.

[27] European Commission, "Green Paper – Shadow Banking," COM (2012), 102/2, March 2012.

[28] Steven L. Schwarcz, "Regulating Shadow Banking," Duke University School of Law, February 2012

The Deloitte Shadow Banking Index

Based on the characteristics noted in the marketplace, below is a proposed definition for shadow banking activities:

> Shadow banking is a market-funded, credit intermediation system involving maturity and/or liquidity transformation through securitization and secured-funding mechanisms. It exists at least partly outside of the traditional banking system and does not have government guarantees in the form of insurance or access to the central bank.

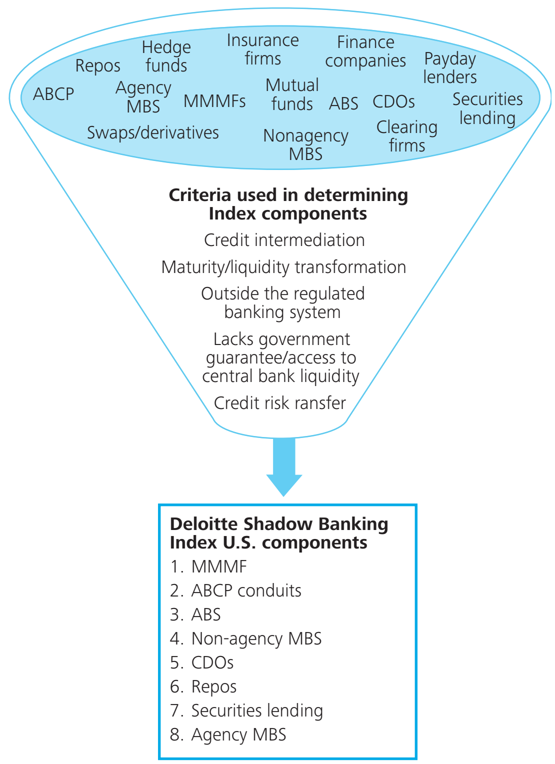
To build the Index, this definition was used to identify the activities to be included. The criteria were applied to a wide list of nonbanking functions to determine those that truly qualified as shadow banking (Exhibit 2). The result is a final list that is narrower and perhaps more concrete than what has been previously suggested.

The entities and activities included in Deloitte's definition are:[29] money market mutual funds (MMMF), asset backed commercial paper (ABCP) conduits, asset-backed securities (ABS), non-agency mortgage-backed securities, collateralized debt obligations (CDOs), repurchase agreements (repos), securities lending, and agency mortgage backed securities.[31] In light of the criteria above, we have excluded hedge funds, non-money market mutual funds, financial companies, insurance firms, and activities such as swaps/derivatives and clearing. This allows us to reasonably estimate the total size of the marketplace.

The Deloitte Shadow Banking Index is designed to track the size and changes in shadow banking. We have calculated the Index based on information going back to 2004 and anticipate updating it in the future on a quarterly basis. Shadow banking is not a constant, and is considered to be immune to the effects of global economic forces and regulations. Instead it is directly affected by regulations and actions of the financial services industry. The Deloitte Shadow Banking Index is a reference tool to define, size, and frame the debate about this complex and dynamic subject.

At this point, the Deloitte Shadow Banking Index is limited to U.S. markets. Future studies may include major markets outside the U.S.

Exhibit 2. Determination of shadow banking components in the U.S.



Agency mortgage-backed securities were removed from the Deloitte Shadow Banking Index as of Q4 2008 when the GSEs went into government conservatorship.

[29] Auction rate securities are not included in the Deloitte Shadow Banking Index due to lack of data even though they conform to the Deloitte Shadow Banking Index' definition of the shadow banking system. The Index includes collateralized loan obligations (CLOs) and other structured credit products in its CDO category.

[30] Non-agency MBS includes commercial mortgage-backed securities (CMBS).

[31] Agency MBS includes MBS and CMOs (collateralized mortgage obligations) from Fannie Mae, Freddie Mac and Ginnie Mae.

Index methodology

After components of the Index were identified, the steps taken to create the Deloitte Shadow Banking Index include the following:

- Historical time series data (as measured by the dollar value of outstanding assets) were gathered as of Q4 2004 for each of the Index's individual components. Exhibit 9 presents more detail on the data sets. To a large extent, this choice of Q4 2004 was born from practicality[32] – data prior to 2004 were not readily available. In fact, this is a fundamental problem in measuring shadow banking, as pointed out by the FSB.[33]
- The dollar value of outstanding assets of components was used to arrive at the aggregate gross size of the U.S. shadow banking sector in each time period from Q4 2004 to Q4 2011 (Exhibit 3).[34]
- The Index was computed by setting its value for the base period (Q4 2004) at 100, which represents the total dollar value ($12.8 trillion) of the shadow banking sector in Q4 2004. For subsequent periods, the dollar value of assets was converted to an Index value. For instance, in Q4 2006, the Index value was 136 ($13.3 trillion), rising from 100 in Q4 2004. Currently, the Deloitte Shadow Banking Index is unweighted. In the future, a weighting approach using one or a combination of variables such as risk, volatility, momentum, liquidity characteristics, or concentration may be adopted.
- The components of the Index are not constant. Some have been removed at various periods due to regulatory or government action. New components will likely be added if and when new activities fitting the characteristics of shadow banking emerge.

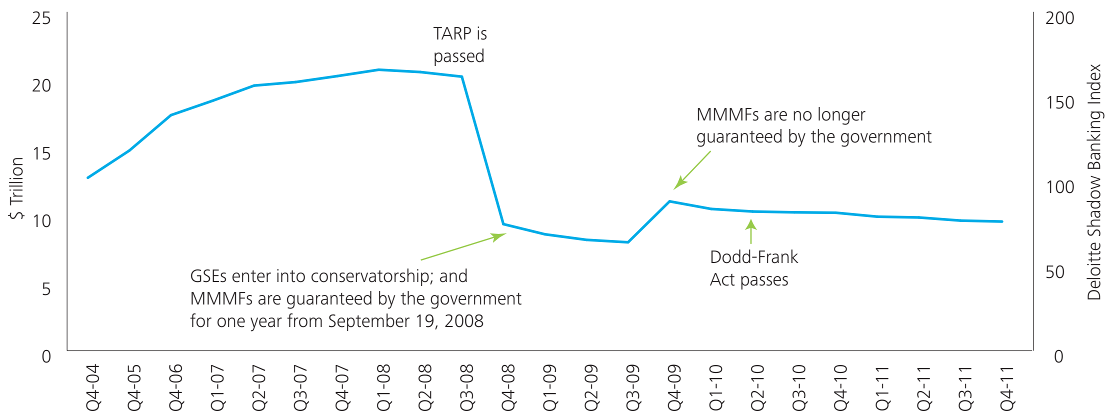
[32] One thing we learned in building the Deloitte Shadow Banking Index is that data, especially historical time series, is lacking in many instances. This is a point that the FSB has emphasized in its recommendations to better monitor the shadow banking system.

[33] Financial Stability Board, "Shadow Banking: Strengthening Oversight and Regulation," October 2011.

[34] It is useful to think of the data presented here as gross numbers, due to potential double-counting of assets in securitization transactions and repos/securities lending.

Shadow banking comparisons and components

Exhibit 3. Deloitte Shadow Banking Index (Q4 2004–Q4 2011)



Data sources: SIFMA, Federal Reserve Bank of New York, Federal Reserve Flow of Funds, Haver Analytics, and Data Explorers

Notes: 1. Agency mortgage-backed securities were removed from the Deloitte Shadow Banking Index from 4Q 2008 due to the fact that GSEs went into government conservatorship in September 2008. Until then government guarantee was implicit. The conservatorship made the guarantee explicit and provided access to government backup funding. This conversion is an example of government action removing a shadow banking component. 2. Money market mutual funds were also removed from the Deloitte Shadow Banking Index from 4Q 2008 to 3Q 2009 – roughly the one-year period when the Treasury implemented "a plan to protect shareholders of participating money market funds from losses if their funds are unable to maintain a $1.00 net asset value (break the dollar)."[35] This was in place from September 19, 2008, to September 18, 2009

The Deloitte Shadow Banking Index shows that, as we have defined it, shadow banking in the U.S. reached a peak Index value of 162.5 in Q1 2008, when total assets stood at $20.73 trillion (Exhibit 3). The growth from Q4 2004 to Q1 2008 was abrupt, increasing 62.5 percent from the Q4 2004 base period. Since the beginning of 2008, the Index has dropped steadily, reaching a value of 75 as of Q4 2011. The total size of the sector was $9.53 trillion at the end of 2011, 25 percent lower than what it was at the end of 2004.

[35] Investment Company Institute, "Frequently Asked Questions About the Treasury's Temporary Guarantee Plan for Money Market Mutual Funds," September 29, 2008.

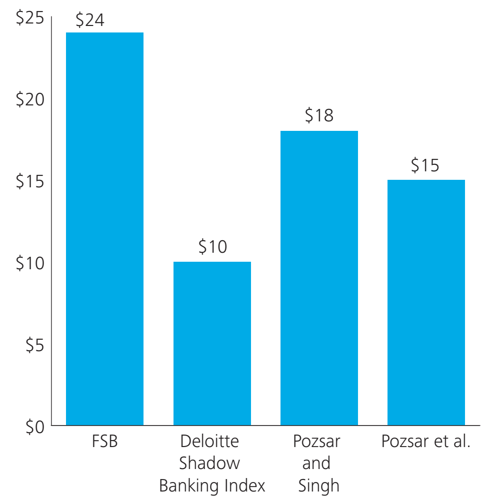
Comparison to other estimates

The Deloitte Shadow Banking Index value differs from other market estimates. For instance, we estimate that shadow banking assets were over $10 trillion in 2010 (Exhibit 4), compared to the $24 trillion estimated by the FSB.

The FSB estimate differs greatly from Deloitte's estimates. Most importantly, the FSB's use of "other financial intermediaries" as a proxy for shadow banking includes activities that are not contained in our definition, including non-MMMF investment funds, finance companies, and "others."[36]

Other estimates vary as well. For example, researchers at the Federal Reserve Bank of New York (Pozsar, et al.)[37], puts the size of the U.S. shadow banking system at $20 trillion in 2008 and $15 trillion in 2010. Similarly researchers at the International Monetary Fund (IMF) opined that the shadow banking liabilities in the U.S. were as high as $18 trillion in 2010.[38]

Exhibit 4. Estimates of the size of the U.S. shadow banking sector in 2010 (in $trillions)



Note: Pozsar, et al. (2010) and Pozsar and Singh (2011) measure liabilities while the FSB measures assets.

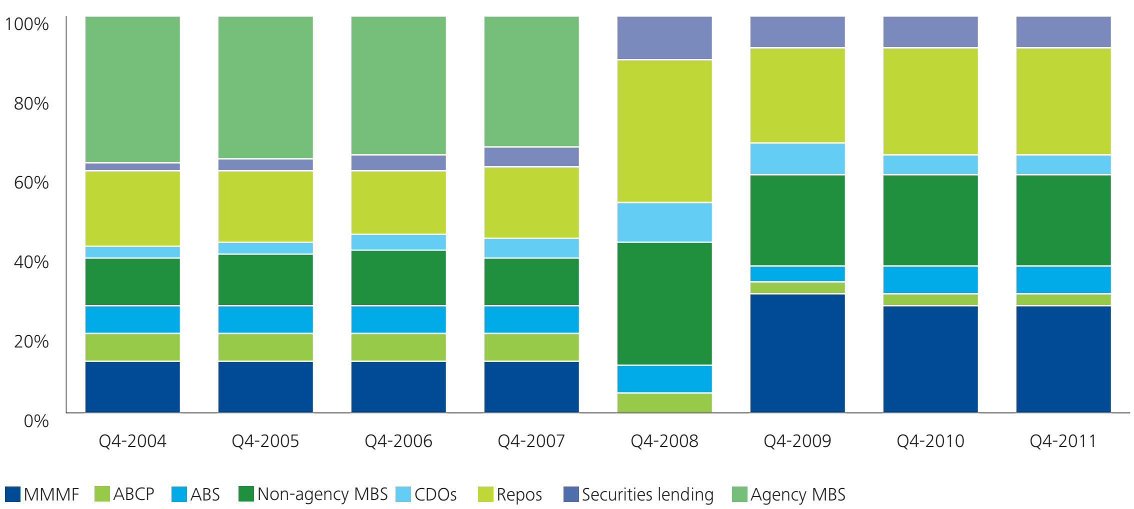
Sources: Financial Stability Board, Pozsar and Singh (2011), Pozsar, et al. (2010), and Deloitte Center for Financial Services.

[36] Financial Stability Board, *"Shadow Banking: Strengthening Oversight and Regulation,"* October 2011.

[37] Zoltan Pozsar, Tobias Adrian, Adam Ashcraft and Hayley Boesky, "Shadow Banking," Staff report no. 458, Federal Reserve Bank of New York, July 2010.

[38] Zoltan Pozsar and Manmohan Singh, "The Nonbank-Bank Nexus and the Shadow Banking System," International Monetary Fund Wp/11/289, December 2011.

Exhibit 5. Percent share of each component in the total U.S. shadow banking sector, 2004–2011



Sources: SIFMA, Federal Reserve Bank of New York, Federal Reserve Flow of Funds, Haver Analytics, and Data Explorers

Components and changes over time

Exhibit 5 shows the relative share of each component over the 2004-2011 time period. Until their exclusion from the shadow banking sector, agency MBS were the largest component, followed by repos, MMMFs, and non-agency MBS. As of Q4 2011, repos' share of the U.S. shadow banking sector stood at 29 percent, while MMMFs accounted for 28 percent. Securitization vehicles (ABS, non-agency MBS and CDOs) contributed about 34 percent, a slight drop from their peak of 39 percent in Q1 2010.

In addition to market effects (e.g., some components have declined), there have been dramatic changes to two of the components that are worth highlighting.

Money market mutual funds

From modest beginnings in 1971, MMMFs grew to a peak of $3.8 trillion in 2008. This growth was fueled by investor desire for an alternative to bank deposits. The chief attraction of MMMFs was capital preservation and liquidity. Due to their risk and liquidity profile, MMMFs were considered safe investments, with implicit guarantees.

However, in 2008 a failure in one fund led to a "run" on MMMFs. In response, the U.S. government guaranteed asset values for most investors for one year. Based on our definition of shadow banking, at that time, the MMMFs exited shadow banking, and when the guarantee expired, rejoined.

[39] Russ Wermers, "Runs on Money Market Mutual Funds," Department of Finance, Smith School of Business, University of Maryland, September 2011.

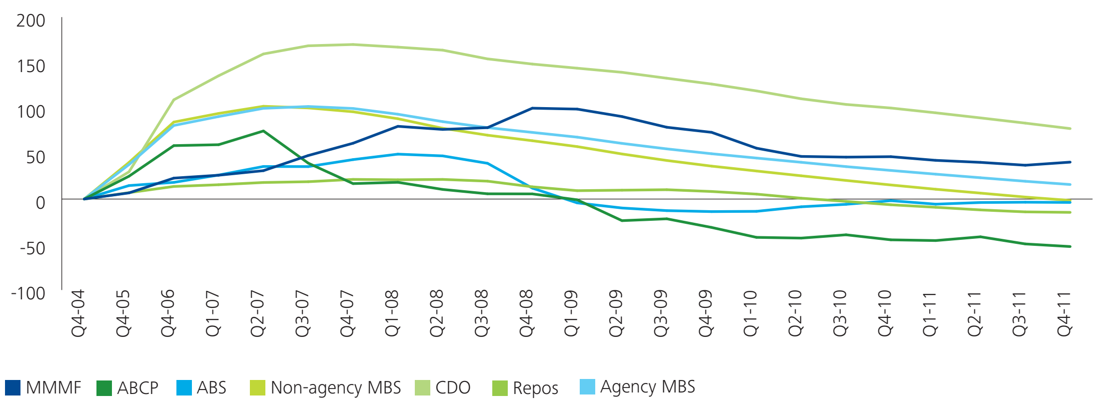
[40] Department of the Treasury, "Treasury Announces Temporary Guarantee Program for Money Market Funds," September 29, 2008.

Government-sponsored entities (GSEs)

The activities of the GSEs have long been considered a component of shadow banking.[41] An important criterion leading to that conclusion was the lack of GSE access to the central bank. With the government moving the GSEs into conservatorship in 2008, an explicit guarantee relationship was created, and we removed GSE activities from the Deloitte Shadow Banking Index as a result.

As for the relative growth of the different components in the Deloitte Shadow Banking Index, each activity shows a decline from its individual peak (Exhibit 6A). This is particularly the case for ABCP, ABS and repos. Securities lending is the only activity that continues at twice the volume as during the Q4 2004 period (Exhibit 6B).

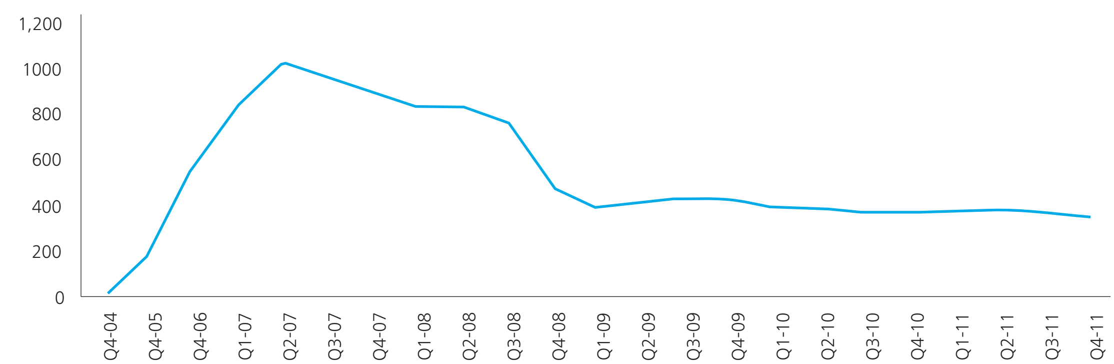
Exhibit 6A. Relative growth of each component (percent), Q4 2004-Q4 2011



Note: For reference purposes only, this chart shows the growth trends of MMMFs and agency MBS over the period of our analysis, even though these items were excluded from the Deloitte Shadow Banking Index due to government support.

Sources: SIFMA, Federal Reserve Bank of New York, Federal Reserve Flow of Funds, and Haver Analytics

Exhibit 6B. Growth of securities lending (percent), Q4 2004–Q4 2011



Source: Data Explorers

[41] Gary Gorton and Andrew Metrick, "Regulating the Shadow Banking System," Yale School of Management, September 2010.

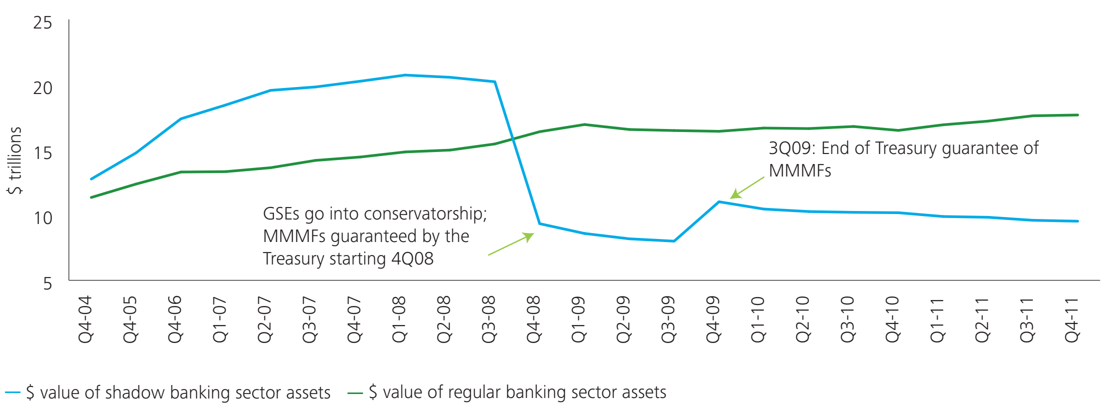
Comparison to regular banking

From Q4 2004 to Q3 2008, shadow banking substantially exceeded regular banking (Exhibits 7A and 7B). When shadow banking hit its peak in Q1 2008 at almost $21 trillion, regular banking assets were roughly $15 trillion.[42]

As of Q4 2011, the situation had reversed, with assets in regular banking $8 trillion higher than shadow banking. Despite this decline, shadow banking remains huge and accounts for a significant portion of the total financial system in the U.S.

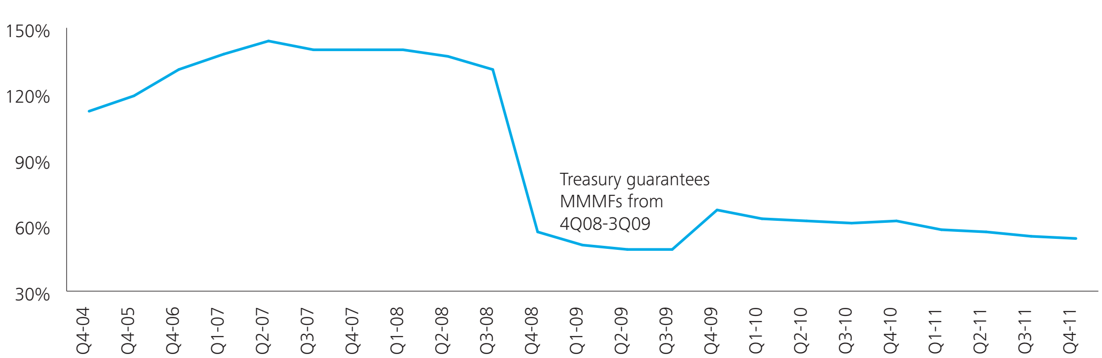
An important point to note is that a large portion of shadow banking exists within the bank holding companies and banking institutions that are regulated by the Federal Reserve. This has implications on the relative safety of components sponsored by "banks" that may be forced to support shadow banking activities in the event of a liquidity or funding issue. An example would be structured investment vehicles (SIVs), many of which were absorbed on the balance sheets of their parent banks during the financial crisis.

Exhibit 7A. Shadow banking versus traditional banking sector assets (U.S.), 2004–2011



Sources: SIFMA, Federal Reserve Bank of New York, Federal Reserve Flow of Funds, Haver Analytics, and Data Explorers

Exhibit 7B. Ratio of the shadow banking sector to the regular banking industry in the U.S., Q4 2004–Q4 2011



Sources: SIFMA, Federal Reserve Bank of New York, Federal Reserve Flow of Funds, Haver Analytics, and Data Explorers

[42] It should be noted that the assets in the regular banking system and the shadow banking world are not mutually exclusive.

Regulatory drivers affecting shadow banking

The presence and absence of regulation is a key feature of shadow banking. However, the absence of regulation does not mean a lack of concern. As Federal Reserve Chairman Ben Bernanke pointed out, shadow banking has the potential to be the source of systemic risk and propagate shocks through the financial system and the economy.[43] Similarly, Lord Adair Turner, chairman of the Financial Services Authority in the U.K., who is heading the FSB's global regulatory review, warned that shadow banking "continue[s] to pose a major threat to financial stability … [and] we should not take the decline in some specific indicators of shadow activity ... as suggesting that the risks have gone away." He further cautioned that "any system this complex will defy complete understanding."[44]

Numerous efforts have been made in the past few years to increase regulation over shadow banking (Exhibit 8).

Exhibit 8. Highlights of regulatory drivers affecting shadow banking components

Shadow banking component	Recent regulatory changes and proposals
Money market mutual funds	• Adoption of new SEC rules amending rule 2a-7 in 2010. These rules require MMMFs to improve liquidity, invest in higher credit quality securities, maintain portfolios with shorter maturity limits, prepare for and anticipate large redemptions, engage in periodic stress tests, conduct greater due diligence ("look through") on repo counterparties, use only cash or government securities as collateral, and to conduct independent credit analysis of each security purchased, etc. • Proposed new regulations requiring money market funds to adopt a floating net asset value (NAV), impose capital requirements, and restrict redemptions
Asset-backed commercial paper conduits	• ASC 810 (FAS 167 Amendments to FASB Interpretation No. 46(R)) rules related to accounting consolidation • Basel III will increase capital and liquidity requirements for ABCP conduits sponsored by banks • Dodd-Frank Act: – The Volcker Rule prohibits banks from sponsoring private funds, which may include ABCP conduits – Greater restrictions on transactions between banks and ABCP conduits ("affiliates") through the expansion of Sections 23A and 23B of the Federal Reserve Act to ABCP conduits – Risk retention rules requiring sponsors to retain a minimum level of risk (five percent) in securitization transactions – Registration of ABCP conduit sponsors as investment advisers – Removal of references to ratings and the need to develop alternate creditworthiness standards
Private-label securitization (ABS, MBS and CDOs)	• ASC 810 rules related to accounting consolidation • SEC's Regulation AB II proposed rules requiring new disclosure requirements in securitization transactions • Basel II/III: Increased capital and liquidity requirements, including securitization exposures in the trading book • Dodd-Frank Act: – Risk retention rules requiring sponsors to retain a minimum level of risk (five percent) in securitization transactions – Removal of references to ratings and the need to develop alternate creditworthiness standards – Prohibiting sponsors of asset-backed securities to engage in transactions for a year following the issuance of ABS that would involve or result in a material conflict of interest with an investor

[43] Ben Bernanke, 2012 Federal Reserve Bank of Atlanta Financial Markets Conference, Stone Mountain, Ga., April 9, 2012.

[44] Adair Turner, "Shadow Banking and Financial Stability," Lecture at the Cass Business School, March 14, 2012.

Shadow banking component	Recent regulatory changes and proposals
Repos and securities lending	• The Task Force on Tri-Party Repo Infrastructure formed in September 2009 to address potential systemic risk from the infrastructure supporting the tri-party repo market laid out a "target state vision." These recommendations include: – Reducing demand and supply for intra-day credit – Shortening the window for the daily unwind – Increasing transparency – Speeding settlement finality • The FSB has established a task force to examine the regulation of repos and securities lending from a financial stability perspective. An interim report is expected to be published shortly.
Agency MBS (GSEs)	• It is unclear at this time what role the GSEs will play in the future or whether they will stay under government control. The Treasury released a paper in February 2011 saying, "The Administration will work with the Federal Housing Finance Agency ("FHFA") to develop a plan to responsibly reduce the role of the Federal National Mortgage Association ("Fannie Mae") and the Federal Home Loan Mortgage Corporation ("Freddie Mac") in the mortgage market and, ultimately, wind down both institutions."

Sources: 1. Securities and Exchange Commission (SEC), "SEC Approves Money Market Fund Reforms to Better Protect Investors," Press Release, January 27, 2010. 2. Tobias Adrian and Adam B. Ashcraft, "Shadow Banking Regulation," Staff Report No. 559, April 2012, Federal Reserve Bank of New York. 3. Chapman and Cutler LLP, "Dodd-Frank: Impact on ABCP Conduits." 4. Task Force on Tri-Party Repo Infrastructure Payments Risk Committee, Final Report, February 15, 2012. 5. Financial Stability Board "Shadow Banking: Strengthening Oversight and Regulation," October 2011. 6. The U.S. Department of the Treasury, "Reforming America's Housing Finance Market – A Report to Congress," February 2011.

Recognizing the scale of the shadow banking sector and the potential systemic risk it poses through its interconnectedness with traditional banking, the FSB and the European Commission have also outlined a variety of proposals to regulate different aspects of shadow banking.

- **The Financial Stability Board** outlined recommendations to promote enhanced regulation of banks' interactions with shadow banking entities.[45] The FSB is expected to produce a comprehensive analysis of the risks and regulatory responses before the end of 2012.
- **The European Commission** announced it is planning to propose new regulations to "rein in risky financial activities that take place outside the regular banking system."[46] They have issued a consultative paper seeking commentary on the need for new regulations. One example is a call for tougher collateral rules for repurchase agreements.[47]

Some believe that the Volcker Rule (as well as other pieces of Dodd-Frank) and Basel III will in fact accelerate the growth of shadow banking,[48] while others think more needs to be done.[49]

Given the multitude of regulatory restrictions, we speculate that shadow banking in the U.S. will likely remain stagnant for the near term. However, financial innovation continues and it is possible new shadow markets will emerge.

It is clear that shadow banking cannot be eliminated completely because many of its components, including repurchase agreements and securities lending, are vital to the functioning of the financial system. The challenge to regulators is to ensure that the positive contributions of shadow banking are cultivated while its potentially negative attributes are minimized through appropriate regulation, monitoring, and/or management.

[45] Financial Stability Board "Shadow Banking: Strengthening Oversight and Regulation," October 2011.

[46] Jim Brunsden, Bloomberg, "EU considers tougher collateral rules on repo agreements to rein in risks," March 6, 2012.

[47] European Commission, "Green Paper – Shadow Banking," COM (2012), 102/2, March 2012.

[48] Zoltan Pozsar and Manmohan Singh, "The Non-Bank-Bank Nexus and the Shadow Banking System," IMF, December 2011.

[49] Brooke Masters, Financial Times, "Turner calls for radical action on shadow banking," March 14, 2012.

The future of shadow banking

It is unlikely that the debate about the shadow banking system will subside anytime soon, but how the system will evolve remains a highly pertinent question. Regulatory headwinds against the shadow banking system will likely be the primary influencer of changes that affect the Index's growth (or decline). Also factoring into this will likely be the possible re-emergence of several core components of the Index and innovations that we can only begin to guess at.

Take money market mutual funds, for instance. As of Q4 2011, MMMFs made up nearly 28 percent of the total shadow banking assets in the U.S., with assets of $2.64 trillion. The SEC has proposed substantial changes to how the MMMF industry operates in the future, including the notion of a floating NAV. If MMMFs were required to use a floating NAV they would be far less like bank deposits. Would this change mean that MMMFs are no longer shadow banking entities? Probably. Will this happen? We're not sure, given recent headlines.

Likewise, new regulations from Dodd-Frank and Basel III may weigh down the securitization industry for the foreseeable future. Dodd-Frank proposes a myriad of rules in the form of risk-retention requirements, additional disclosure, limits on transactions between banks and their affiliates (for ABCP conduits, for instance), and new rules for the use of credit ratings. Basel III imposes additional pressure on banks through higher capital buffers and more stringent liquidity requirements. In total, these global regulatory developments add to the uncertainty in securitization, which may impact its future role in shadow banking.

The shadow banking sector in the U.S. is likely to remain suppressed — but it's also likely that new shadow banking activities will emerge in the future. Such innovations in regulatory arbitrage may once again result in some explosive growth, possibly posing increased systemic risk to the financial system. It is precisely for this reason that the evolution of shadow banking deserves continued vigilance.

Appendix

Exhibit 9. Data sources used in the Deloitte Shadow Banking Index

Data type	Source	Description/notes
Money market mutual funds	Federal Reserve Flow of Funds/Haver Analytics	Includes both retail and institutional money market funds
ABCP (asset-backed commercial paper)	Federal Reserve Flow of Funds/Haver Analytics	Includes ABCP conduits
ABS (asset-backed securities)	SIFMA	Includes securitization of debt from credit cards, student loans, manufactured housing, etc.
Agency MBS (mortgage-backed securities)	SIFMA	Includes mortgage-backed securities and CMOs issued by Fannie Mae, Freddie Mac and Ginnie Mae
Non-agency MBS (mortgage-backed securities)	SIFMA	Includes both commercial and residential mortgage backed securities, including home equity
CDOs (collateralized debt obligations)/ structured credit	SIFMA	Includes CLOs and other forms of structured credit
Repurchase agreements	Federal Reserve Bank of New York – Primary Dealer Survey	Includes overnight, continuing and term repurchase agreements
Securities lending	Data Explorers	Includes total value of assets (all securities) on loan by U.S. domiciled lenders

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