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SHADOW BANKING OUT OF THE SHADOWS: NON-BANK INTERMEDIATION AND THE ITALIAN REGULATORY FRAMEWORK

by Carlo Gola*, Marco Burroni*, Francesco Columba**, Antonio Ilari*,
Giorgio Nuzzo** and Onofrio Panzarino***

Abstract

Shadow banking is the creation or transfer – by banks and non-bank intermediaries – of bank-like risks outside the banking system. In Italy the shadow banking system is fully regulated, mostly following the principle of same business-same rules or 'bank-equivalent regulation'. After an overview of the topic, we describe the Italian shadow banking system and the related regulatory and supervisory framework in place before the financial crisis and the subsequent enhancements. A quantitative representation of Italian shadow banking is also provided. The paper argues that through a wide and consistent regulatory perimeter, based on the principle of 'bank-equivalent regulation', it is possible to setup a well-balanced prudential framework, where both bank and non-bank regulation contribute to reducing systemic risks and regulatory arbitrage.

JEL Classification: E44, E58, G00, G01, G21, G23, G28.
Keywords: shadow banking system, financial stability, macro-prudential regulation, non-bank financial intermediaries, market-based finance.

Contents

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Executive Summary

- Shadow banking consists of the creation or transfer – by bank and non-bank intermediaries – of bank-like risks outside the banking system. Shadow banking can be a valid alternative to the traditional bank credit channel to support the real economy. However, if not well managed, the interaction between different types of shadow banking risks (namely liquidity, credit and counterparty risks), often driven by regulatory arbitrage, mispricing of risks and distortive incentive structures, can give rise to a systemic crisis. Shadow banking is not equivalent to market-based finance: the former includes risks generated and transferred by banks, while the latter is not necessarily a source of bank-like risks. The paper, after a brief overview of the international shadow banking system and its role in the financial crisis, describes Italian shadow banking's intermediation activity and the related regulatory and supervisory framework.

- In order to assess and mitigate shadow banking risks, the Financial Stability Board (FSB) has adopted a 'function-based' approach, which allows policy makers to focus on shadow banking activities and on the potential risks they might pose. In Italy, this approach, whose aim is to be flexible in detecting new forms of shadow banking risks, is fully integrated with the 'entity-based' approach which focuses on financial institutions rather than activities.

- A shadow banking system can be unregulated, partially regulated or fully regulated. In Italy it is fully regulated, mostly following the principle of 'bank-equivalent regulation'. The transposition of the European directives is adopted to the highest standard. Rigorous prudential consolidation rules for SPVs reduce the 'step-in risks' for sponsoring banks. Constant Net Asset Value Money Market Funds (MMFs) are not allowed to operate. Prudential regulation for non-bank entities reduces bank-like risks outside the banking sector and the securitization law limits the creation of complex and opaque structures. The Central Counterparty (CCP) supports repo transactions.

- The broad legal mandate set out by two consolidated laws on banking and finance (the TUB and TUF) provides the Italian authorities with the power to enforce prudential and supervisory rules regardless of the type of banking or financial business. The Italian authorities supervise non-bank intermediaries through off-site analysis based on extensive regulatory reporting and onsite visits, with particular attention to sound and prudent management. The supervision is risk-based and implemented taking into consideration the size, complexity and specific risks of intermediaries following the proportionality criterion. The wide prudential regulatory perimeter has enabled the system to cope relatively well with the effects of the global shadow banking crisis (2007-2009).

- Following the multi-step approach suggested by the FSB for monitoring and assessing the shadow banking system, the paper offers both a macro (system-wide) and a micro (entity-based) description of the Italian shadow banking system. The Italian shadow banking system (narrow definition) amounted to about €673 billion as of end 2015 (41 per cent of GDP) against €3,506 billion for Italian banks (214 per cent of GDP), excluding foreign entities consolidated in banking groups.

Acronyms

ABCP	Asset-Backed Commercial Paper
ABS	Asset-Backed Securities
AIF	Alternative Investment Fund
AMC	Asset Management Company
BCBS	Basel Committee on Banking Supervision
BoE	Bank of England
CCP	Central Counterparty
CDO	Collateralized Debt Obligation
CDP	Cassa Depositi e Prestiti
CF	Credit Funds (Fondi di credito)
CIS	Collective Investment Scheme
CONSOB	Commissione Nazionale per le Società e la Borsa (Italian Securities and Exchange Commission)
COVIP	Commissione di Vigilanza sui Fondi Pensione (Italian Supervision Commission for Pension Funds)
CNAV	Constant Net Asset Value
CRA	Credit Rating Agency
CRD IV	Capital Requirements Directive
CRR	Capital Requirements Regulation
CSSF	Comitato per la Salvaguardia della Stabilità Finanziaria (Committee for the Safeguard of Financial Stability)
ECB	European Central Bank
EIB	European Investment Bank
EIF	European Investment Fund
EMIR	European Market Infrastructure Regulation
ESCB	European System of Central Banks
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
FG	Fondo di Garanzia (Guarantee Fund)
FRBNY	Federal Reserve Bank of New York
FSB	Financial Stability Board
FSR	Financial Stability Report
G20	Group of Twenty
GDP	Gross Domestic Product
IAIS	International Association of Insurance Supervisors
IASB	International Accounting Standards Board
IAS/IFRS	International Accounting Standards/International Financial Reporting Standards
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
IVASS	Istituto per la Vigilanza sulle Assicurazioni (Italian Insurance Supervisory Authority)
LGC	Loan Guarantee Consortium
MEF	Ministero dell'Economia e delle Finanze (Ministry of Economy and Finance)
MMF	Money Market Fund

MTS	Mercato dei Titoli di Stato (Government Securities Market)
NPLs	Non-Performing Loans
OAM	Organismo degli Agenti e dei Mediatori Creditizi (Credit Brokers and Intermediaries Institution)
PFMI	Principles for Financial Market Infrastructures
PGS	Public Guarantee Scheme
SACE	Istituto per i Servizi Assicurativi del Commercio Estero (Institute for Foreign Trade Insurance)
SICAV	Società di Investimento a Capitale Variabile (Open-Ended Investment Companies)
SFT	Securities Financing Transaction
SGR	Società di Gestione del Risparmio (Asset Management Companies)
SIM	Società di Intermediazione Mobiliare (Real-Estate Brokers)
SMEs	Small and Medium Enterprises
SREP	Supervisory Review and Evaluation Process
SPV	Special Purpose Vehicle
TUB	Testo Unico Bancario (Consolidated Law on Banking)
TUF	Testo Unico della Finanza (Consolidated Law on Finance)
UCITS	Undertakings for the collective investment in transferable securities

1. Introduction[2]

The term 'shadow banking system' emerged for the first time in August 2007, at the Fed's annual symposium in Jackson Hole, although some of the key vulnerabilities had been already identified by Rajan (2005). The definition was attributed to Paul McCulley, who defined 'shadow banks' as a variety of leveraged non-bank investment conduits, vehicles and structures. He noticed that '[u]nlike regulated real banks, who fund themselves with insured deposits, backstopped by access to the Fed's discount window, unregulated shadow banks fund themselves with uninsured commercial paper, which may or may not be backstopped by liquidity lines from real banks. Thus, the shadow banking system is particularly vulnerable to runs – commercial paper investors refusing to re-up when their paper matures, leaving the shadow banks with a liquidity crisis – a need to tap their back-up lines of credit with real banks and/or to liquidate assets at fire sale prices', (McCulley, 2007).

Subsequently, the term "shadow banking" has been widely used both in academia and by policy makers. In a seminal paper, Pozsar, Adrian, Ashcraft and Boesky (2010) proposed a comprehensive view of shadow banking. They showed how the rapid growth of the market-based financial system since the mid-1980s has changed the nature of financial intermediation, where funding flows of the shadow banking system performed maturity, credit and liquidity transformation, without explicit access to central bank liquidity or public sector credit guarantees. Shleifer and Vishny (2010) investigated how banks responded to the demand for contingent claims with financial innovation, creating tail risks for the banking sector. Stein (2010) and Adrian and Shin (2010) highlighted the vulnerabilities injected into the financial system by the fragility of the short-term funding supporting securitization and the repo markets. Perotti (2013) returned to this point showing the creation by banks of a variant of demandable debt not subject to capital requirements and credibly backed by some direct claim in the form of liquidity.

Other influential authors have focused on the role of non-banks in the creation of money-like claims in the private sector and the extant risks. Gorton and Metrick (2011, 2012) underlined the role in money creation, which occurs primarily in the commercial paper and the repo markets, and through money market funds. Martin, Skeie and von Thadden (2011) provided a model for a run in repo markets that takes into account the empirical facts of the Bear Stearns and Lehman crises. They showed that runs on repos occurred both in the bilateral repo market (characterized by a sharp increase in haircuts) and in the tri-party repo market (Begalle *et al.* (2013). Copeland, Martin and Walker (2014) showed that in this market the level of margins and the amount of funding remained stable for most borrowers during the crisis. However, they documented a sharp decline in the tri-party repo funding of Lehman in September 2008. On the role of collateral re-use in supporting liquidity, but having potential pro-cyclical effects see Baranova, Liu, Noss (2016). On a related issue, Singh (2016) drew attention to the role of the velocity of pledged collateral and the need to enhance market liquidity.

Acharya, Schnabl and Suarez (2013) underlined the aspect of regulatory arbitrage. In particular, they showed that the majority of guarantees were structured as liquidity-enhancing guarantees

[2] The authors would like to thank Carmelo Barbagallo, Andrea Pilati and Andrea Generale for their useful suggestions and comments. The authors acknowledge the helpful contributions of Diana Capone, Mariano Loddo and Monica Mesce during the early stages of this project. Fabrizio Borselli, Fiorentino Cioppa, Carmine De Vito, Angela Di Pumpo, Fulvia Focker, Giovanni Di Iasio, Michele Lanotte, Marco Marinucci, Gaetano Marseglia, Giuseppe Napoletano, Dario Portioli, Antonio Schifino and Gianluca Sisinni provided invaluable inputs. The paper also benefited from comments and contributions from Simona Serio (Consob), Francesco Mauro, Stefano Pasqualini and Silvia Sacco (IVASS), Stefania Buonanno and Elisabetta Giacomel (Covip), Eduardo Maqui (Central Bank of Ireland), Nicola Cetorelli (FED), and Manmohan Singh (IMF). The authors alone are responsible for the content and writing of the paper.

aimed at minimizing regulatory capital, instead of credit guarantees, and that the majority of conduits were supported by commercial banks subject to the most stringent capital requirements. Cetorelli (2012) focuses on the role of bank holding companies and their control of a relevant share of assets of the largest insurance companies, money market mutual funds and broker-dealers. He also shows that very few securities lending and related cash collateral reinvestments take place without the services provided by the main custodian banks. Moreover he introduces the concept of hybrid intermediaries (financial conglomerates that control a multiplicity of entity types active in the 'assembly line' process of modern financial intermediation) arguing that 'non-bank' can easily evolve into conglomerates with similar organizational structures, thus acquiring the capability to engage in financial intermediation (Cetorelli 2014). Alworth and Arachi (2012) examined how tax policies contributed to the financial crisis and how taxation can play a role in the reform efforts under way to establish a sounder and safer financial system.

This short overview of the economic literature on the topic suggests different definitions and characterizations of shadow banking;[3] while not mutually exclusive, they all capture essential aspects of the phenomenon. From a policy standpoint, however, they have very different implications. For instance, some definitions are focused on the type of entity involved, while others emphasise the functions performed, the risks generated or the absence of direct and explicit public support. Moreover, some consider the regulatory regime (regulated vs unregulated) as a discriminating factor, while others do not. In view of the fact that the FSB, under the impulse of the G20, took the lead in promoting a number of initiatives aimed at defining and assessing the shadow banking system, in this paper we adopt the FSB definition: 'a system of credit intermediation that involves entities and activities (fully or partially) outside the regular banking system' (FSB, 2011).

The paper is organized as follows. Section 2 provides a summary of the FSB's role in developing recommendations on shadow banking. Section 3 describes some stylized facts of the global shadow banking crisis (2007-2009). Section 4 describes the characteristics of the Italian shadow banking system and its supervisory and regulatory framework. Section 5 offers an overview of the size and recent evolution of the Italian shadow banking system. Section 6 concludes the paper.[4]

2. The role of the FSB and its regulatory approach to the shadow banking system

At the November 2010 Seoul Summit, the G20 leaders pointed out that, with the completion of new regulatory standards for banks, potential regulatory gaps might emerge in the shadow banking system and therefore requested that the FSB, in collaboration with other standard setters, develop recommendations in order to strengthen the oversight and regulation of the shadow banking system. In response to the G20 request, the FSB decided to set up a task force in December 2010. From the very beginning it was clear that the first difficult task was to find a workable definition of 'shadow

[3] For a more comprehensive overview of the literature on shadow banking see: Adrian and Ashcraft (2012), Adrian, Ashcraft, Cetorelli (2013), Adrian (2014), IMF (2014), Claessens *et al.* (2015), Grillet-Aubert *et al.* (2016).

[4] Before proceeding, an important methodological *caveat* is needed. As is widely acknowledged, there are two distinct phases in the great financial crisis: the first started with the sub-prime real estate crisis in the USA and the sudden downgrading of ABSs and other securitization products (February-June 2007), followed by the liquidity crisis in the wholesale inter-banking sector (calling for the liquidity facilities and extension of quality of collaterals by various central banks (August 2007). The peak and most dramatic moment of this phase occurred in October 2008, with the money market funds and Lehman Brothers' crisis, followed by a stream of massive public interventions by both the US and the European authorities. The second, and more prolonged phase, was characterized by the double-dip global recession leading to the European sovereign crisis, with its inevitable side effects on the banking system. The ECB's outright monetary transactions (OMT) programme, announced by Mario Draghi (25 July 2012) ('*Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough'.*) marked its turning point. In describing the crisis, the timeframe we have considered refers to the first phase.

banking system', with which to set out a feasible monitoring process and possible regulatory measures.

After extensive discussion, the FSB task force adopted a two-step approach: it was decided that the authorities, starting from the suggested broad definition ('*a system of credit intermediation that involves entities and activities outside the regular banking system*') should then narrow it down to focus on '*bank-like risks generated by the shadow banking system: maturity and liquidity transformation, excessive leverage, flawed credit risk transfer and regulatory arbitrage concerns*' (FSB, April 2011). It is important to underline that this definition does not specify the regulatory regime adopted ('pre-mitigant' approach). At the outbreak of the financial crisis, only in a few jurisdictions was the shadow banking system regulated; in most cases it was either lightly regulated or not regulated at all. In order to map shadow banking risks, the FSB started developing a comprehensive monitoring exercise, using both macro (system-wide) and micro (entity/activity-based) information (FSB, October 2011). In 2015 the FSB updated the G20 Shadow Banking Roadmap[5] and conducted the fifth integrated annual shadow banking monitoring exercise.[6] From a regulatory standpoint, since early 2011 the FSB has started promoting, in cooperation with other standard setters (mainly the Basel Committee on Banking Supervision-BCBS and the International Organisation of Securities Commissions-IOSCO), five workstreams, covering both indirect regulation (i.e. via traditional banks) and direct regulation of shadow banking entities and activities (see Box 1).

Box 1 – The FSB workstreams on shadow banking

Workstream 1 (indirect regulation): this workstream, chaired by the BCBS, reviewed the prudential rules governing banks' links to shadow banking. In particular: 1) the capital requirements applicable to banks' investment in equity funds held in the banking book (for instance using the look-through approach); 2) measures aimed at tightening the large exposure regulations (against shadow banking entities) currently in force in most BCBS jurisdictions; 3) cross-jurisdictional differences within the scope of consolidation for prudential regulatory purposes, taking into account the different approaches followed for accounting and regulatory purposes in the EU, the US and Japan; removing inconsistencies, particularly in the treatment of securitization vehicles and other shadow banking entities. In this context, in December 2015 the BCBS issued the consultative document '*Identification and measurement of step-in risk*', aimed at mitigating potential spillover effects from the shadow banking system to banks. Such a proposal would form the basis of an approach for identifying, assessing and addressing step-in risk potentially embedded in banks' relationships with shadow banking entities.

Workstream 2 (MMFs): based on the general consensus that MMFs, and in particular the CNAV money market funds, are potentially exposed to runs or sudden redemptions, this work stream, chaired by IOSCO, issued several recommendations. Some of these recommendations regarded the accounting methods, the disclosure and information-sharing process, the adoption of NAV buffers or the mandatory conversion of CNAV into variable NAV funds.

Workstream 3 (Shadow banking entities other than MMFs): this workstream reviewed the full range of institutions (apart from banks and MMFs) which might be considered part of the shadow banking system. It aimed at (i) ensuring that all types of entities falling within the adopted definition of shadow banking are considered, (ii) ensuring that the potential risks are measured and assessed and (iii) defining the range of possible regulatory responses. In 2015 the FSB also started to assess potential structural vulnerabilities associated with asset management activities and develop policy measures to mitigate these vulnerabilities in the following areas: (1) liquidity mismatch between fund investment assets and fund units, and associated run risk (2) leverage within investment funds and (3) operational risks and challenges in transferring investment mandates.

Workstream 4: this IOSCO-led workstream on securitization looked at the adequacy and international consistency of the rules on risk retention ('skin-in-the-game'), fostering transparency and standardization. Currently the IOSCO, the BCBS, the International Association of Insurance Supervisors (IAIS) and other important groups, such as the International Accounting Standard Board (IASB), are working together to promote sound and robust securitization markets.

[5] See https://g20.org/wp-content/uploads/2014/12/updated_g20_roadmap_strengthened_oversight_regulation_2015.pdf.
[6] The FSB's Global Shadow Banking Monitoring Report 2015 was published in November and is available at http://www.financialstabilityboard.org/2015/11/global-shadow-banking-monitoring-report-2015/.

Workstream 5 (SFTs): this workstream promotes policies to mitigate the potential systemic risks associated with Securities Financing Transactions (SFT), a broad definition that includes a variety of secured transactions with similar economic effects, such as lending or borrowing securities, repurchase or reverse repurchase agreements (repo) and margin lending transactions. The main policy responses to the risks arising from those markets includes initiatives to: (i) limit the build-up of excessive leverage outside the banking system and reduce the pro-cyclicality of that leverage, (ii) enhance transparency and regulation of securities financing markets, (iii) develop quantitative indicators to monitor collateral re-use and (iv) examine possible harmonization of regulatory approaches to re-hypothecation of client assets.

3. The shadow banking crisis: some stylized facts

The aim of this section is to describe, using a few stylized facts, the main elements of the shadow banking intermediation process, and the interconnections between different type of entities and activities. It does not intend to provide a full description of the global financial crisis, but only a comprehensive (albeit synthetic) representation of the shadow banking system. Moreover, subsequent to the financial crisis, several jurisdictions initiated a vast process of reforms which reshaped both the banking and non-banking regulatory and supervisory framework.

The following map (see Chart 1) illustrates, in a very simplified manner, the flow of funds from the household sector to the non-financial corporation sector of a hypothetical country. The banking sector, once at the core of the intermediation process, now plays a smaller role. Banks are prudentially regulated (red circle) but able to set up highly leveraged positions by sponsoring special purpose (securitization) vehicles. The shadow banking intermediation is based both on independent (solo) companies and bank holding companies, controlling several entities, such as investment firms, mutual funds, trusts, financial vehicles, most of which are without a direct and explicit liquidity put (see 'Financial vehicles', Appendix).

A major role is played by securitizations. In the chart, the loans (for instance mortgages) originated by banks are transformed into tradable asset-backed securities (ABSs) and sold to a shadow banking entity, such as a mutual fund manager or broker-dealers. The high quality tranches of the ABS are then sold as part of diversified saving products, such as mutual funds, to households.[7] Through this process the original long-term illiquid loans are transformed into short-term, liquid assets. Often the loan is warehoused in a special vehicle and transformed into a securities by a broker-dealer, who would also play a crucial role in further rounds of securitization activities. The process is normally funded by investment funds, insurance companies and pension funds (see Cetorelli 2014). A simpler and more direct intermediation process is the case in which the 'originator' is a finance company (for instance a consumer credit financial entity or an automobile leasing provider) which extends credit to households, funded by issuing ABSs (see 'Securitization', Appendix).

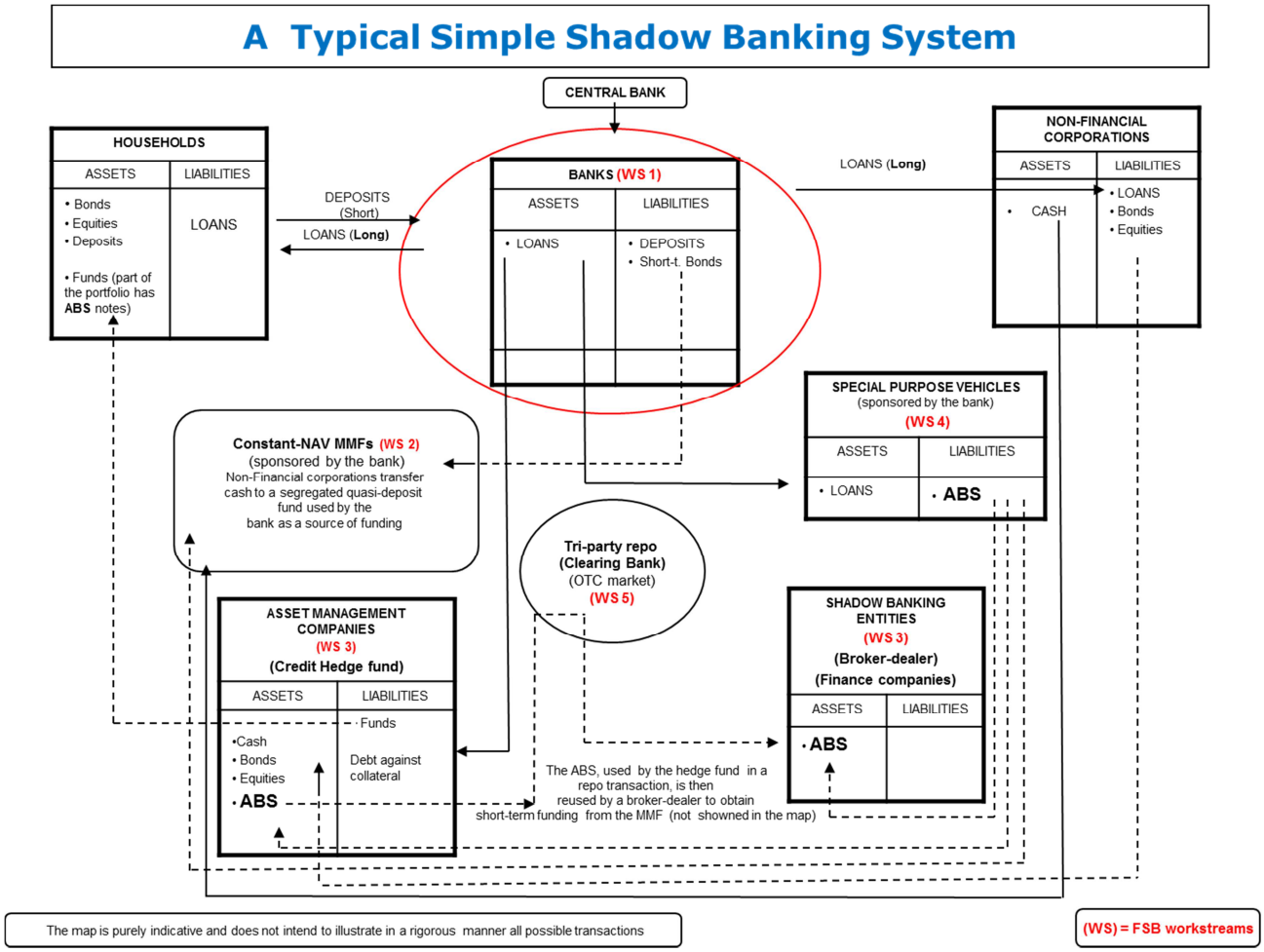
Securitization conduits (SPVs) characterized by a significant liquidity and maturity transformation are used by banks to obtain short-term funding more easily and in larger volumes than with traditional funding, such as deposits.[8] This creates a 'customer funding gap' (i.e. the difference between customer loans and deposits) where, instead of a more stable funding base, banks rely on cheaper but more volatile sources of funding.[9]

[7] Another route (not depicted in the map) would be to sell the high-rated tranches to another bank (based in a different country) willing to use such 'safe and liquid' assets to enhance its slim profit margin, in a low interest rate environment, due to a very accommodative monetary policy.

[8] For a definition of 'maturity and liquidity transformation' see Appendix.

[9] The report published by the Bank of England and the Financial Conduct Authority (2015), 'The failure of HBOS plc (HBOS)' is particularly interesting on this subject; see in particular Chapter 2.8 'Funding and Liquidity'.

Chart 1



Explicit or implicit contingent liquidity lines are extended by banks to support the sponsored vehicles. This 'liquidity put' is needed because of the important maturity transformation, for instance if a vehicle is funded by issuing short-term asset-backed commercial papers (ABCPs).[10] Furthermore, during the financial crisis, non-contractual financial supports were extended by banks for reputational reasons not only to ABCP vehicles, but also to other kinds of entities, such as money market funds, mortgage companies and financial firms (see: 'Sponsorship', 'Reputational risk', 'Step-in risk', in Appendix).[11]

A second layer of intermediation is superimposed onto this simple intermediation process as a sort of high-powered shadow banking system, able to create a multiplicative effect on leverage; this is usually done by means of collateral intermediation. A typical case is a broker-dealer that obtains cash from a bank to finance a leveraged position against a collateral (often illiquid assets, such as ABSs). The pledged collateral comes, for instance, from a hedge fund (as shown in the map), or from another broker-dealer. The broker-dealer reuses the collateral to obtain liquidity from an MMF through a repo market transaction. This process connects banks with other entities or intermediaries

[10] For a definition of ABCPs, and 'Financial vehicles', see Appendix.
[11] For simplicity Chart 1 does not show the role of government- sponsored enterprises and other financial guarantors active both in the repo and securitizations markets.

operating in the shadow banking system. Note that, in addition to the tri-party repo, a network of OTC repo transactions is also performed bilaterally by several shadow banking entities (not shown in the map).[12]

More broadly, not only broker-dealers, but also other intermediaries borrow a security (directly or through a custodian bank or a tri-party specialist) for a short period of time from other entities (banks, pension funds, insurance companies, hedge funds and so on).[13] The borrower of the security delivers a collateral at an agreed haircut or margin, which can increase depending on the day-to-day valuation of the collateral. Typically, broker-dealers are intermediate lenders, by extending cash at a high collateral haircut, and then rehypothecating the collateral at a lower haircut (a collateral transformation).[14] In stressed market conditions, however, a sharp increase in the haircuts can be a source of pro-cyclicality and adverse chain effects.[15]

An additional aspect is the indemnification. In this case, broker-dealers or asset manager firms provide a guarantee. If the borrower defaults and the collateral is insufficient, they extend an indemnity. This process introduces further complexity in the intermediation process (see 'Indemnification' in Appendix). In particular, agent lenders through sponsored cash collateral reinvestment vehicles, provide indemnification to third parties (other broker-dealers active in repo or securities lending transactions, for instance with MMFs or ETFs). In some cases these entities and vehicles are part of a large 'hybrid intermediary', where various type of entities are connected through the same holding company (Cetorelli 2014)[16].

A specific form of reuse of collateral is rehypothecation, which refers only to the use of the client's assets. In this case the client's assets are removed from the prime broker's client account and the client's proprietary interest in the assets is replaced with a contractual claim to redelivery of equivalent securities. If the prime broker becomes insolvent before the securities are returned, the client must enter a claim as an unsecured creditor for an amount equal to the value of the re-hypothecated securities. When Lehman Brothers' crisis started, clients of Lehman's prime brokerage business, which had allowed Lehman to rehypothecate securities positions to obtain funding, were deemed unsecured creditors and found themselves without access to their positions after Lehman declared bankruptcy (see Box 2).[17] In order to prevent this situation, after the financial crisis, many hedge funds placed contractual limits on the extent to which prime brokers can rehypothecate their assets (see 'Reuse of collateral and Rehypothecation' in Appendix).

[12] See 'Asset encumbrance', 'Securities Financing Transactions', 'Procyclicality in the repo market', 'Safe harbor provision', and 'Tri-party repo', in Appendix)

[13] See Cetorelli, N., B. H. Mandel and L. Molineaux (2012), for a more detailed analysis of these aspects.

[14] This process increases market liquidity (see Muley (2016).

[15] A typical bilateral repo is traded over the counter between a hedge fund and a broker-dealer, while an MMF enters into a repo contract with a broker- dealer through an arrangement intermediated by a 'tri-party', which holds the collateral on behalf of the MMF.

[16] Indemnification is also offered by banks. For instance, in 2013, five large banks provided indemnification for about $900 billion of securities on loans (Cetorelli 2014, p. 17).

[17] See ESRB (2014), pp. 55-56.

Box 2 – The Lehman Brothers' crisis and the use of repo markets

On January 29, 2008, Lehman Brothers Holdings Inc. ('LBHI') reported record revenues of nearly $60 billion and record earnings in excess of $4 billion for its fiscal year ending November 30, 2007. During January 2008, Lehman's stock traded as high as $65.73 per share and averaged in the high to mid-fifties, implying a market capitalization of over $30 billion. Less than eight months later, on September 12, 2008, Lehman's stock closed at under $4, a decline of nearly 95% from its January 2008 value. On September 15, 2008, at 1:45 a.m., LBHI sought protection for bankruptcy. On November 30, 2007, the fair value of securities received as collateral that were permitted to sell or repledge was approximately $798 billion; on the same date, the fair value of securities received as collateral that were sold or repledged was approximately $725 billion.[18]

In his extensive report for the US Bankruptcy Court, the examiner Anton Valukas[19] observed that 'Lehman's business model was not unique; all of the major investment banks that existed at the time followed some variation of a high-risk, high-leverage model that required the confidence of counterparties to sustain. Lehman maintained approximately $700 billion of assets, and corresponding liabilities, on capital of approximately $25 billion. But the assets were predominantly long-term, while the liabilities were largely short-term. Lehman funded itself through the short-term repo markets and had to borrow tens or hundreds of billions of dollars in those markets each day from counterparties to be able to open for business. Confidence was critical. The moment that repo counterparties were to lose confidence in Lehman and decline to roll over its daily funding, Lehman would be unable to fund itself and continue to operate'.

At the outset of the subprime crisis, Lehman's primary mortgage origination subsidiaries, BNC Mortgage Inc. ('BNC') and Aurora Loan Services, LLC ('Aurora'), continued to originate subprime and other non-prime mortgages which increased the volume of illiquid assets on Lehman's balance sheet – albeit unintentionally – because Lehman became unable to securitize and distribute these mortgages to third parties (see A. Valukas, 2010, p. 45).[20]

With 209 registered subsidiaries in twenty-one countries, Lehman's bankruptcy under US legislation (Chapter 11) was one of the largest and most complex in history. Creditors filed about $1.2 trillion of claims against the Lehman estate (LBHI, 'The State of the Estate', September 22, 2010), which was party to more than 900,000 derivatives contracts at the time of bankruptcy (Fleming and Sarkar, 2014, p. 175). The Lehman bankruptcy was particularly complex because the institution did not plan sufficiently for the possibility of bankruptcy (Fleming and Sarkar, 2014, p. 179). Moreover, Lehman consciously avoided bankruptcy planning owing to continuing interest from strategic partners and its belief that such planning would be a self-fulfilling prophecy (Valukas, 2010, p. 718).

Prior to bankruptcy, Lehman's global derivatives position was estimated at $35 trillion in notional value, accounting for about 5 percent of derivatives transactions globally (Fleming and Sarkar, 2014, p. 182). More than 90 percent of LBI's assets had been composed of reverse repos, stock borrowing agreements, and financial instruments owned. Reverse repos and securities loans had declined since May 2008. Tri-party repo funding in particular had dropped from $80 billion on May 31, 2008, to $650 million on September 19, 2008. Failed transactions and the failure of counterparties to return margin posted by LBHI harmed its cash position. Finally, customer and prime broker accounts moved to other broker-dealers, while clearing firms required additional collateral, deposits and margins (Fleming and Sarkar, 2014, p. 180).

[18] See, Singh (2016), p. 70.

[19] See Valukas, A., 2010, p. 3.

[20] Valukas also noted that '[i]n 2006, Lehman made the deliberate decision to embark upon an aggressive growth strategy, to take on significantly greater risk, and to substantially increase leverage on its capital. In 2007, as the sub-prime residential mortgage business progressed from problem to crisis, Lehman was slow to recognize the developing storm and its spillover effect upon commercial real estate and other business lines. Rather than pull back, Lehman made the conscious decision to 'double down', hoping to profit from a counter-cyclical strategy. As it did so, Lehman significantly and repeatedly exceeded its own internal risk limits and controls. So at the end of the second quarter of 2008, as Lehman was forced to announce a quarterly loss of $2.8 billion – resulting from a combination of write-downs on assets, sales of assets at losses, decreasing revenues, and losses on hedges – it sought to cushion the bad news by trumpeting that it had significantly reduced its net leverage ratio to less than 12.5, that it had reduced the net assets on its balance sheet by $50 billion, and that it had a strong and robust liquidity pool. Lehman did not disclose, however, that it had been using an accounting device (known within Lehman as 'Repo 105') to manage its balance sheet – by temporarily removing approximately $50 billion of assets from the balance sheet at the end of the first and second quarters of 2008' (see, A. Valukas, 2010, p. 6).

The reuse of collateral generally reduces transaction and liquidity costs. Rehypothecation decreases the (net) demand for collateral and the funding liquidity requirements of traders, since a given pool of collateral assets can be reused to support more than one transaction. In the repo market, participants would not be able to cover short positions without the ability to reuse collateral.[21] However, while rehypothecation of client assets can be beneficial to market functioning, it may increase system interconnectedness with procyclical implications in stressful market conditions;[22] indeed market participants become more sensitive to counterparty risk and more reluctant to allow the reuse of their collateral, thereby putting additional strain on already tight liquidity conditions.[23]

As mentioned before, money market funds (MMFs) play an important role in the shadow banking system and in the repo market. MMFs are open-ended, short-term funds, specialized in offering daily liquidity, market-based yields, diversification and safety of principal to a broad range of both retail and institutional cash investors. They are a source of funding for several institutions, including banks, as major buyers of short-term commercial and government debt and are very active in the repo market. MMFs, which at the global level account for about three trillion dollars of assets, are a particularly attractive instrument for non-financial corporations keen to deposit large amounts of money (above the threshold of the deposit insurance) in segregated accounts offering safety and remuneration; most European MMFs are located in Ireland and Luxembourg, mainly for fiscal reasons.[24]

During the crisis, the negative interaction between broker-dealers and money market funds reached its peak in the spring of 2008, when the events surrounding the Bear Stearns crisis showed the broader risks in the tri-party repo market – prompting the Federal Reserve to create the Primary Dealer Credit Facility in March 2008 – and during the Lehman Brothers' crisis, in September of the same year. As noticed by the US Treasury, '[i]n the days after Lehman Brothers failed and the Reserve Primary Fund, a $62 billion prime MMF, 'broke the buck', investors redeemed more than $300 billion from prime MMFs. Commercial paper markets shut down for even the highest quality issuers. Only the Treasury's guarantee of more than $3 trillion of MMF shares, a series of liquidity programs by the Federal Reserve and support from many fund sponsors stopped the run and helped MMFs meet their shareholders' redemption requests in a timely manner'.[25]

To conclude this section, three fundamental aspects seem to emerge from the stylized description of the crisis:

1. **Pro-cyclicality and cliff effects** - Market-based credit intermediation, transforming illiquid assets - such as loans - into tradable liquid assets, is exposed to abrupt re-pricing of risks, sharp rises in collateral haircuts and 'fire-sales', triggering a pro-cyclical effect. Massive dislocations of assets generate clusters of volatility or 'cliff effects', creating sudden and severe liquidity shortages (a phenomenon called 'liquidity illusion'). The erosion of eligible collaterals amongst institutional borrowers further worsens financial conditions and market stability. Institutional cash pools, such as Constant-NAV money market funds, are exposed to 'runs' driven by the 'first-mover advantage' effect;

[21] BIS (2013), p. 17.
[22] According to Singh (2016), the reuse of collateral or the rehypothecation of a security is similar to the money creation that takes place in commercial banking through the process of accepting deposits and making loans. The haircuts and overcollateralization play a role similar to that of prudential capital in banking.
[23] See Singh (2011).
[24] For a discussion on MMFs, and in particular the Constant-NAV market segment, see: 'Money market fund' in Appendix. For proposals of reforms in the EU and the new class of Low-Volatility NAV (LV-NAV) MMFs, see: Council of the European Union (2014).
[25] See Department of the Treasury (2012).

2. **Interconnectedness**: systemic vulnerabilities can arise through different forms of contagion which emerge as a complex interaction of counterparty risk, liquidity risk and credit risk.[26] Moreover, while large entities are always systemic, small intermediaries are sometimes important 'nodes' in the intermediation process as well. Not only liquidity, but also any operational, legal and reputational risks incurred by interconnected entities, can have systemic consequences. Long and complex chains of implicit or explicit supports, liquidity contingency lines and financial guarantee schemes increase the interconnections between financial entities not supported by central bank backstops. The institutional and legal complexity is exacerbated when the activities have a cross-border dimension;

3. **Incentive structures**: incentive misalignments, particularly in the credit risk transfer process, produce poor screening and monitoring of risks, and mispricing of securitized assets. The complex cross-sectoral and cross-border configuration of the shadow banking network of entities and activities increases information asymmetries, while different regulatory regimes amongst jurisdictions and entity types facilitate regulatory arbitrage.

At the macro level the shadow banking system made it possible, using relatively modest prudential capital and liquidity buffers, on the one hand to finance a large volume of loans, and on the other hand to inflate the value of the underlining collaterals (real estate prices), creating the illusion of a self-sustainable economic expansion. Flawed credit risk transfer, the use of money market funds, as well as of repo market and securities lending – though useful financial instruments for diversifying banking activities, channelling financial resources, enhancing credit rating and optimizing liquidity management – can be sources of systemic risks if they are not well regulated. The higher the mispricing generated in the credit intermediation process (i.e. the misalignment between the fair value of assets and market prices), the wider the market correction. Ultimately, the second-round effects on the real economy and the financial market may be severe and particularly persistent.

4. The Italian shadow banking system: characteristics and regulatory framework

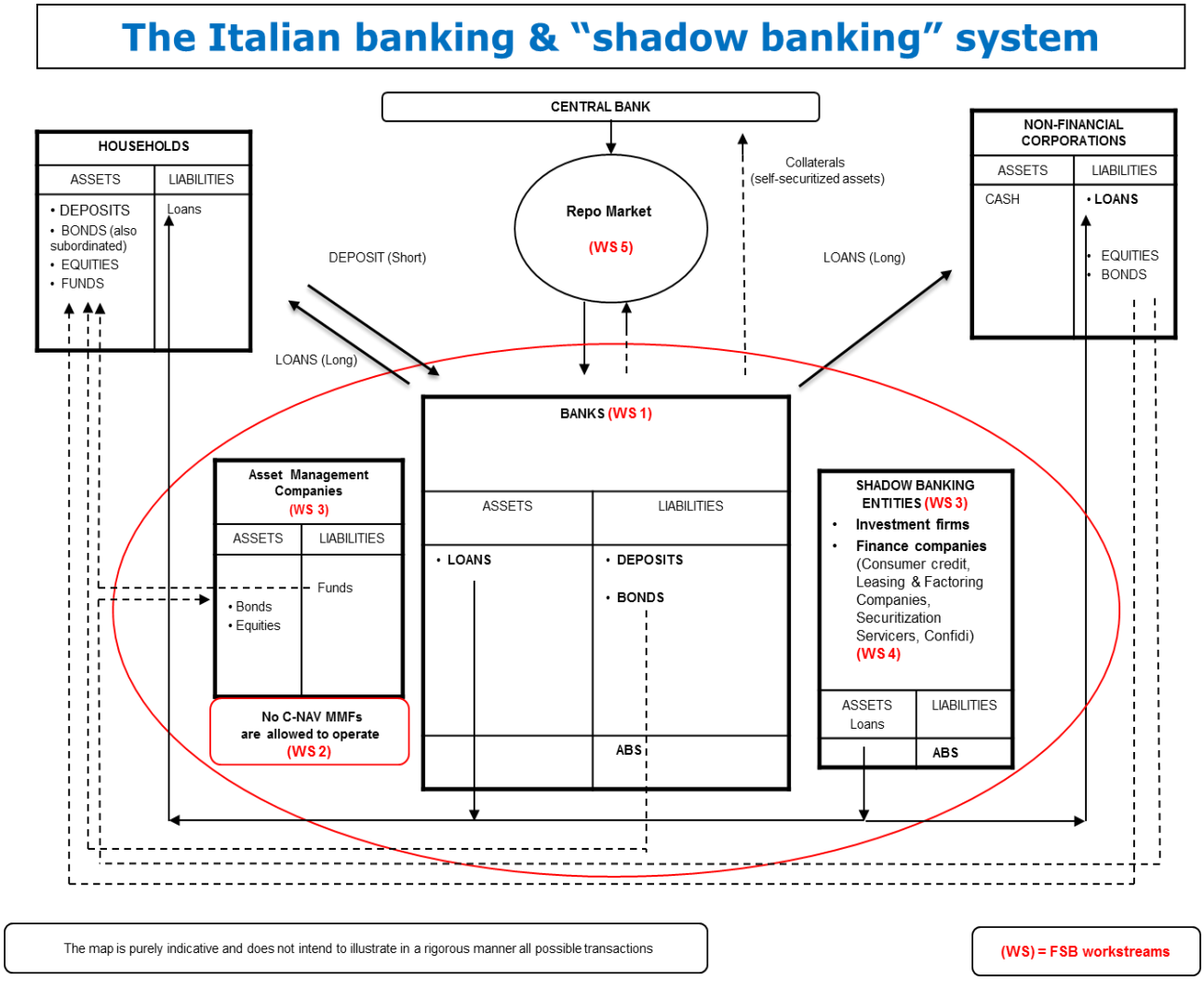
Since mid-90s, the perimeter of the Italian prudential regulatory regime has been very wide. It includes, in addition to banks (i.e. deposit takers), various non-banking institutions and instruments (in particular securitizations). The oversight practice is supported by off-site assessment based on extensive regulatory reporting and on-site visits. These specific features of the Italian regulatory and supervisory framework helped to shield the system from the most devastating effects of the financial crisis.[27] In particular, as we will see extensively hereafter, the TUB and the TUF provided the authorities with adequate supervisory tools to fulfil their objectives through a prudent oversight on various entities and activities.

[26] For a formal analysis of these aspects, see Brigo D., Morini, M. and Pallavicini, A. (2013).

[27] The financial need for government bailouts in the euro area has been estimated by the ECB at 5.1 % of GDP for the period 2008-2013: Ireland (37.3%), Greece (24%), Slovenia (14.2%), Cyprus (10.5%), Portugal (10.4%), Germany (8.8%), the UK (6.3%), the Netherlands (6.1%), Luxembourg (5.7%), Latvia (5.0%), Spain (4.9%) Belgium (3.9%) and Austria (3.1%). France and Italy conducted relatively minor interventions (less than 0.2% of GDP), (see: Maurer, H., and Grussenmeyer, P. (2015), p. 19). See also IMF (2012) and ECB (2015). As for the case of Italy, besides the obvious need to limit the impact on public finances, most of the difficulties in the banking sectors emerged subsequently and were not related to the necessity to face 'shadow banking risks' but rather to dealing with the much more traditional effects of the long and extraordinarily deep recession.

After the financial crisis, the regulatory and supervisory framework was further improved, also as a result of the vast set of reforms promoted by several standard setters and international bodies, including the EBA, the ESMA, the ESRB, the Basel Committee and the European Commission. From a supervisory perspective, in Italy there is currently no substantial difference between 'traditional' commercial banks, investment banks, investment firms and finance companies, in terms of prudential requirements and regulatory tools. The consolidation rules are enforced by leveraging on a precise legal definition of 'banking group' (see: 'Consolidation rules', Appendix).

Chart 2



The Italian banking sector is characterized by the central role of commercial banks, supported by a wide network of branches. This configuration is the result of a long process of consolidation started at the beginning of the '90s with the denationalization of several banks. During this process, which reshaped the Italian banking system, the authorities, while promoting aggregations of banks, were mindful of avoiding excessive concentration.[28] In Italy, non-bank credit intermediaries, such as leasing, factoring and consumer credit entities, started developing in the early '80s, as a reaction to a monetary policy based on the ceiling on the growth in bank lending, combined with the development of alternative forms of credit. Non-bank credit intermediaries were regulated by Law 52/1991 and 197/1991 and subsequently by the TUB. The sector has also been regulated for anti-

[28] See P.L. Ciocca (2005), pp. 80-81.

money-laundering purposes. The map abovereported shows a stylized representation of the Italian banking and shadow banking intermediation (see Chart 2).

4.1 The 'activity-based' approach and the 'entity-based' approach

In order to measure and assess shadow banking risks, the FSB has adopted an activity-based approach.[29] The rationale of this approach is twofold. First, it allows policy makers to focus on the activities of shadow banking entities and on their potential risks, and second it accurately measures shadow banking excluding non-bank financial entities that are not involved in significant maturity and liquidity transformation or excessive leverage and that are not part of a credit intermediation chain.

Table 1

Classification by Economic Functions

Economic Function	Definition	Italian entity types
EF1	Management of collective investment vehicles with features that make them susceptible to runs	Asset management companies (*Società di Gestione del Risparmio*)
EF2	Loan provision that is dependent on short-term funding	Finance companies, leasing companies, factoring companies, consumer credit companies (*Finanziarie*)
EF3	Intermediation of market activities that is dependent on short-term funding or on secured funding of client assets	Broker-dealers, investment firms (*Società di Intermediazione Mobiliare*)
EF4	Facilitation of credit creation	Loan guarantee consortiums (*Confidi*)
EF5	Securitization-based credit intermediation and funding of financial entities	Securitization servicers and securitization vehicles (*Società veicolo per la cartolarizzazione*)

The FSB process is based on two steps: in the first step FSB members share information on non-bank financial entities identified by the authorities as 'shadow', based on five economic functions, as described in Table 1.[30] This step also requires the provision of risk indicators (i.e. metrics regarding leverage, maturity transformation and so on) for each entity type classified in one of the five economic functions, for instance, consumer credit finance companies,[31] whose total financial assets are more than a given threshold, (for instance 1% or 3% of domestic financial assets). In the

[29] See *Policy Framework for Strengthening Oversight and Regulation of Shadow Banking Entities*, published in August 2013. See also FSB (2015).
[30] According to FSB methodology, each authority should refer to these five economic functions (EFs) for determining whether non-bank financial entities are involved in non-bank credit intermediation.
[31] See: 'Finance companies'; 'Broker-dealers', in Appendix.

second step, FSB members provide information about the policy tools adopted by the relevant authority to cope with the risk arising from the entities classified as shadow banks.[32]

The activity-based approach, whose aim is to be flexible enough to detect new forms of shadow banking risks, is not new and in Italy it is integrated with the entity-based approach. Indeed, in the implementation of the European Directive 89/646, the Italian legislator tried to promote a more competitive, efficient and sound banking system by 'reducing the discretionality of credit authorities maintaining, however, a sufficiently wide margin of action so as to allow a constant adaptation of the supervisory activity to the rapid evolution of financial markets'.[33] As we explain in the next section, the very broad legal mandate given to the Italian authorities by the TUB and the TUF provides them with the power to enforce prudential rules and supervisory practices, regardless of the type of banking or financial business. Therefore, irrespective of the legal nature of the financial product, entity and type of distribution channel, if a specific banking or financial activity is performed, then the same set of rule applies.

Shadow banking activities are often conducted under the umbrella of a bank holding company. Besides the legal name and corporate structure (either as part of a banking group or as a single company), it is possible to identify five broad classes of shadow entities: asset management companies, finance companies, investment firms and broker-dealers, loan guarantee consortiums (confidi) and financial vehicles.

To dispel ambiguities, it is important to specify further what is *not* considered part of shadow banking. First, the entity is not a 'bank', where 'bank' means an intermediary specialized in collecting deposits and granting credit.[34] Second, all market activities not supporting credit facilitation are outside the scope of shadow banking: equity funds, closed-end unleveraged funds and traditional insurance provisions are not included. A non-equity fund exposed to 'runs' due to the 'first-mover advantage' is clearly within the scope. In some circumstances, classification is not easy, and some judgement is needed; for example, a closed-end highly leveraged real estate mutual fund could be considered by the authority as part of shadow banking.

4.2 The two pillars of the Italian regulatory framework: the TUB and the TUF

In Italy, banking and financial supervision follows a consolidated approach, which considers banking and financial groups as a whole.[35] Supervision is risk-based and implemented taking into consideration the size, complexity and specific risks of intermediaries. The legal mandate and powers of the authorities for the regulation and supervision of financial entities, including non-bank financial entities, are laid down by the TUB[36] and the TUF.[37] The former provides the Bank of Italy with supervisory powers over banks, investment firms, banking groups, groups of financial intermediaries, financial intermediaries (leasing, factoring, consumer credit entities, loan guarantee consortiums and securitization servicers), asset management companies, payment institutions and

[32] This information includes the name of the agency responsible for the oversight of the classified entity types, and the description of the policy tools adopted by authorities from the menu of policies set out in the framework.
[33] See Paolo Barile (1996), p. 6. (our translation).
[34] For a definition of 'Bank' see Appendix.
[35] Law 218/1990 and Legislative Decree 356/1990 introduced the notion of a banking group into Italian law. This concept was intended to render supervision neutral with regard to the choice of performing banking-related activities under a single legal umbrella or through entities legally separate from the bank. The body of primary legislation approved between 1990 and 1992 was brought together in the TUB.
[36] http://www.bancaditalia.it/compiti/vigilanza/intermediari/TUB_giugno_2015.pdf .
[37] http://www.consob.it/mainen/documenti/english/laws/fr_decree58_1998.htm .

electronic money institutions; the latter provides the Bank of Italy and Consob with supervisory powers over investment firms, asset management companies and financial market infrastructures.

The Bank of Italy ensures that banks and financial intermediaries are managed soundly and prudently. The Bank of Italy monitors the transparency and correctness of banking and financial transactions and services. Consob monitors, among other things, the transparency and correctness of investment firms and asset management companies, and the orderly functioning of the markets. Consob has sole responsibility, among other things, for regulated markets – other than wholesale markets for government securities for which the Bank of Italy is the main supervisor – and issuers.

4.3 The regulation of insurance companies and pension funds[38]

The involvement of Italian insurance companies and pension funds in shadow banking intermediation is negligible. However, for the sake of completeness, we provide some relevant information.

The insurance sector is regulated by the Istituto per la Vigilanza sulle Assicurazioni (IVASS).[39] The scope of supervision includes not only undertakings (solo and groups) involved in insurance or reinsurance in Italy but also any subject, entity or organization which in any form performs functions partly included in the operational cycle of insurance or reinsurance undertakings. IVASS supervises the insurance sector by exercising its powers of an enabling, prescriptive, investigative, protective and repressive nature, as set out by the Code of Private Insurance.

IVASS recently extended the list of assets eligible to cover reserves by rewriting existing regulations. In particular, Decree Law 145/2013 aims at fostering investment by insurance companies in financial instruments issued by small and medium-sized enterprises. Under the new rules, insurance companies can invest in 'mini-bonds' and in non-investment grade securitization bonds as long as they comply with the characteristics specified in the decree. For each of the two new categories of eligible bonds, there is a limit set at 3 per cent of the technical reserves. As regards investment funds specializing in the new types of securities, the limit on investment concentration in a single fund has been raised from 1 to 3 per cent of total coverage assets.

In 2014 the regulation extended the categories of financial intermediaries eligible to grant loans to firms, allowing insurance companies to lend directly to firms (except micro-businesses) provided that they work in conjunction with a bank or with an authorized financial intermediary, which selects the borrowers and maintains an interest in the operation. If the insurance companies wish to act alone, they must obtain special authorization from IVASS. In both cases, the insurance company must be sufficiently capitalized, and have adequate risk management systems in place. The law also allows investment funds to set up 'credit funds', which are collective investment undertakings able to disburse loans directly by drawing on investors' subscriptions.

[38] This section was mainly written by Stefano Pasqualini (Covip) and Elisabetta Giacomel (IVASS).

[39] The Code of Private Insurance (Legislative Decree 209/2005) states that the purpose of supervision is the sound and prudent management of insurance and reinsurance undertakings and transparency and fairness in the behaviour of undertakings, intermediaries and other insurance market participants with regard to the stability, efficiency, competitiveness and smooth operation of the insurance system, to the protection of policyholders and of those entitled to insurance benefits, and to consumer information and protection.
The primary legislation in question can be consulted on the IVASS webpage:
http://www.IVASS.it/IVASS/imprese_jsp/PageDocumentiNormativaRiferimento.jsp?nomeSezione=NORMATIVA&ObjId=190612

Finally, it is worth mentioning that pension funds are regulated and supervised by a dedicated authority, the COVIP (Supervisory Authority for Pension Funds).[40] Pension funds are not allowed to borrow or to grant loans or to act as guarantor on behalf of third parties.[41] However, transactions such as repurchase agreements and securities lending are allowed if performed in a standardized clearing system, or concluded with sound and reliable counterparties, supervised by public authorities (Treasury Decree 166/2014 Article 4 paragraphs 2 and 3).

4.4 The regulatory perimeter and the principle of 'bank-equivalent' regulation[42]

The TUF contains a number of general principles defining the objectives of the securities regulation regime that guides Consob and Bank of Italy in exercizing their regulatory discretions.[43] The Italian regulatory regime takes due account of the need to avoid regulatory arbitrage, which is particularly relevant in the area of shadow banking, in order to ensure that the same rules apply regardless of the legal nature of the product, entity and the type of distribution channel, and that there are no unregulated, unsupervised activities.

In line with the 'same business, same rules' principle guiding the two laws (TUB and TUF), banks authorized by the Bank of Italy that provide investment services are subject to the same rules for those services as investment firms authorized by Consob; Asset Management Companies (AMCs) that provide individual portfolio management services are subject to the same rules that apply to investment services providers and banks offering the same services. Consob has regulatory responsibility under Law 262/2005 for both the disclosure and conduct of business obligations in relation to insurance products (unit-linked products) with investment characteristics.[44]

Italian banking law has recently been updated in order to bring the regulatory framework for finance companies, investment firms and other non-bank finance intermediaries more in line with

[40] Legislative Decree 252/2005 governs pension funds and the duties and powers of COVIP. A set of secondary regulations (Ministry decrees and COVIP regulations) apply to the different aspects of the pension fund activities. In particular, the investment activities of pension funds are regulated by Article 6 of Legislative Decree 252/2005 and Treasury Decree 166/2014.

[41] Legislative Decree 252/2005 Article 6(13) – consistent with Article 18(2) of Directive 2003/41/EC).

[42] This section also benefited from the contribution of Simona Serio (Consob).

[43] For example, Article 5(1) of the TUF states that the aims of supervision are:

- the safeguarding of trust in the financial system;
- the protection of investors;
- the stability and proper functioning of the financial system;
- the competitiveness of the financial system;
- compliance with financial provisions.

[44] The Bank of Italy has the legislative power to collect information and to carry out supervision and inspection of regulated entities on a wide range of supervised non-bank intermediaries, such as: financial (non-bank) intermediaries, agents and intermediaries in the financial sector, investment firms and asset management companies. Statistical, supervisory and accounting reports are compulsory and provided on a regular basis. If deemed necessary, specific or additional information may be required by the competent supervisory division from the class of entities or the whole system (for instance through ad hoc questionnaires to all regulated entities). Consob has broad powers to gather information from entities engaging in securities market activities as well as entities that, while not engaging in regulated activities, are linked to an Italian investment firm or management company by a shareholding relationship; market management companies; central depositories and persons who administer clearing, settlement and guarantee systems; issuers of securities traded on regulated markets or that are widely held by the public, persons who control them and companies controlled by them, corporate officers, external auditors, and significant shareholders and parties to shareholder agreements; persons who make public offers or require the admission of securities to trading, persons who control them and companies controlled by them, corporate officers, external auditors and intermediaries entrusted with the placement; persons who make public offers to buy or exchange financial instruments.

the regime applicable to banks. The rationale behind this reform was, inter alia, to avoid new forms of potential regulatory arbitrage stemming from the differences in the regulatory frameworks for institutions with similar types of business. With regard to this aim, the reform defined a set of rules consistent with the risks posed by the diversified activities of financial intermediaries. Even if the main activity of these companies is to grant credit (also in the form of guarantees), the reform allows them to provide - subject to specific authorization - other financial services such as investment services, payment services and electronic money issuance. The new set of rules entered into force in July 2015.[45] In doing so, the Italian legislature took into account the need to balance marginal costs and benefits, so as not to burden the market with unnecessary regulation; the reform was therefore guided by the principle of proportionality.[46] For instance, a lighter regulatory regime is outlined for microcredit providers and smaller 'Confidi' or loan guarantee consortiums.

According to the TUB the granting of credit in any form to the public is restricted to financial intermediaries authorized by the Bank of Italy. These financial intermediaries must comply with a set of prudential requirements (regarding, among other things, capital adequacy, limitation of risk, risk assessment and internal controls) and are subject to Bank of Italy supervision.

The provisions relating to ownership of financial intermediaries are aligned with the requirements of Directive 2007/44/EC, relating to the acquisition of qualifying holdings in banks, investment firms, insurance companies and management companies as amended by the CRD IV. As to prudential rules, the CRDIV/CRR package shall be applied to them with some limited exemptions by virtue of specific national rules.

Moreover, financial intermediaries are subject to the same rules as banks as regards shareholdings that these entities may hold in other firms. All financial intermediaries are required to comply with prudential requirements on both an individual and a consolidated basis. In addition, where a financial intermediary is controlled by a financial holding company – not itself regulated – if this financial holding company qualifies as a parent company, it shall comply with prudential requirements on a consolidated basis. Clearly, where the financial intermediaries are included in a banking group, the full CRDIV/CRR framework applies directly. The rules establishing the levels of consolidation are the ones used for banks (based on IAS/IFRS and the CRR framework).

4.5 Consolidation[47]

From a regulatory standpoint, already before the breakout of the financial crisis, the definition of control provided in the Italian Consolidated Law on Banking (TUB) – encompassing also the notion of 'de facto control'- required the inclusion in the regulatory scope of consolidation of those financial institutions, for which there is a 'dominant influence', pursuant to a shareholders' agreement or to a provision in its memorandum or articles of association. Furthermore, in 2014 the Bank of Italy revised the Circular 285, 'Regulatory provisions for banks', in order to take into account, among other things, of the most recent international standards on banking supervision issued by the BCBS, the international guidelines on shadow banking and the amendments to the IFRS accounting framework, related to the issue of a new set of accounting standards on

[45] The reform is based on Legislative Decree 141/2010, which amended the TUB; it was completed by Ministerial Decree 53/2015, which identified the activities subject to reserve. Supervisory regulations for financial intermediaries and groups of financial intermediaries are set out in Bank of Italy Circular No. 288 of 3 April 2015.
[46] See 'proportionality criterion', Appendix.
[47] This section was written by Antonio Schifino.

consolidation, including IFRS 10 "*Consolidated financial statements*" [48]. In this context, by revising Circular 285 in 2014, Bank of Italy clarified that in the case of SPVs, for regulatory purposes, control in the form of dominant influence is deemed to exist regardless of the related accounting treatment, in the presence of organizational and financial relations,[49] thereby attributing in substance to the banking group the majority of the risks and/or benefits stemming from their activities.[50] This provision aims at including in the regulatory scope of consolidation those vehicles that pose risks to the banking group even where they do not meet the definition of control provided in IFRS 10, and, as a consequence, are excluded from the accounting scope of consolidation.[51] The Italian regulatory framework also provides specific rules to identify and monitor other entities carrying out activities relevant from a financial perspective.[52]

4.6 Securitizations

The Italian Securitization Law, adopted in 1999, regulates securitization transactions with the aim of containing shadow banking risks: the regulations introduced market standards based on non-deposit funded credit, with modest leverage, liquidity and maturity transformation. SPVs regulated by the law are entities that segregate collateral for the benefit of noteholders. (see 'Securitization: accounting and monitoring aspects in Italy' in Appendix).

The key principles of the Italian Securitization Law are:

- the object of the securitization must consist only of credits. As a consequence, neither future cash flows, nor synthetic transactions (with the exception of 'tranche covered' ones) are allowed;

- the protection of note-holders, through the principle of destination (i.e. debtors' payments must be applied only to satisfy asset-backed notes and in payment of transaction costs), and the principle of segregation (i.e. the collateral pool of a specific transaction constitutes assets that are segregated from those of the originator and from those of any other transaction);

- the 'status' of the SPV: the vehicle has restrictions on its goals and powers; it is in essence an instrument to segregate the collateral for the issuing of ABSs. All the

[48] In particular, under IFRS 10, an investor controls an investee when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. To this extent, IFRS 10 states that an investor shall consider all relevant facts and circumstances when assessing whether it controls an investee.

[49] E.g. legal, contractual, statutory mechanisms.

[50] The legal notion of 'group' is crucial here. See Bank of Italy, Circular 285 s.23, as amended, Bollettino di Vigilanza, No. 5 May 2014) .

[51] This may happen, for instance, in the case of certain "autopilot" vehicles, which have no substantive decision making process, thus implying that no investor would control such entities for accounting purposes.

[52] In particular: i) trust companies, fulfilling specific requirements, are subject to a licensing process and supervised directly by the competent national authority for anti-money laundering purposes; ii) special purpose vehicles are entered in an *ad hoc* register and subject to reporting requirements for statistical purposes; iii) microcredit companies are entered in a specific register and subject to information requirements on shareholders and managers and reporting requirements on the carrying out of their business; iv) entities specialized in providing guarantees in the context of mutual guarantee schemes, which do not fall under the 'financial intermediaries' category, are entered in a specific register and subject to the monitoring of a specific body, the Organismo degli agenti e dei mediatori creditizi (OAM). Italian prudential regulation distinguishes between 'small' loan guarantee consortiums – based on some defined thresholds – and 'large' ones that are registered pursuant to Article 106 of the TUB.

operative tasks, such as the collection and management of borrowers' payments, are carried out by servicers;

- the role of the servicer: in addition to the operational tasks the servicers have a legislative duty to check the compliance of the securitizations with the provisions of the Securitization Law and with the prospectus. Servicers must necessarily be banks or financial intermediaries supervised by the Bank of Italy;

- disclosure requirements: the purchaser - or the company issuing the securities if the two are different entities - must draft a prospectus. Moreover, if the securities are offered to professional investors, the prospectus must contain a detailed set of information.[53]

4.6.1 The role of the servicers - Securitization servicers must be authorized by the Bank of Italy as financial intermediaries and as such they are subject to the set of rules described above (Circular No. 288/2015)[54] and to the prudential supervision of the Bank of Italy. Servicers play a key role in transactions: they are in charge of collecting borrowers' payments and transferring them to the appropriate parties. These activities can be delegated (totally or in part) to sub-servicers, under servicers' responsibility in compliance with the law.

A recent amendment to the Italian Securitization Law has enabled SPVs to grant credit directly to borrowers with the exclusion of natural persons and micro-enterprises.[55] The amendment was adopted by the Italian Parliament as part of a legislative package aimed at fostering direct access to credit for enterprises. The law establishes some conditions in order to avoid an excessive risk-taking expansion of shadow banking: i) the selection of the subjects to be financed shall be performed either by a bank or by a financial intermediary subject to the prudential supervision of the Bank of Italy and ii) the notes issued by an SPV shall be subscribed only by qualifying investors (i.e. investors like banks, investment firms, pension funds, insurance companies and other entities and persons with technical expertise in financial instruments). The bank or financial intermediary performing the selection of debtors must retain a significant net economic interest in the securitization, in accordance with the provisions issued by the Bank of Italy.

[53] In particular: (a) the seller and the purchaser, and the main features of the transaction, with regard to both receivables and the securities issued to finance the transaction (b) the arranging and placement agent (c) the collecting and paying agent (d) the conditions which permit the purchaser to assign the receivables, for the benefit of the holders of the securities (e) the conditions allowing the purchaser to re-invest (in other financial investments) the funds deriving from the management of the receivables which are not immediately utilized to satisfy the rights of the securities holders (f) any ancillary financial transactions executed to complete the securitization (g) the key terms and conditions of the notes and how the prospectus will be publicized in order to make it easily available to the securities holders (h) the transaction costs and the conditions allowing the purchaser to deduct them from the sums paid by the debtor(s), as well as an indication of the anticipated profits of the entire transaction and of who will receive those profits and (i) any shareholding between the seller and the purchaser.

[54] http://www.bancaditalia.it/compiti/vigilanza/normativa/archivio-norme/circolari/c288/index.html

[55] See Legislative Decree 91/2014 converted into Law 116/2014. The Bank of Italy in March 2016 issued the rules on retention and the organizational requirements for banks and financial intermediaries in selecting borrowers. As regards the retention rules the same rules as provided by the CRR are applicable.

4.7 Financial guarantors

Confidi - The Italian Confidi or Loan Guarantee Consortiums (LGCs) can engage exclusively in providing collective guarantees on loans and instrumental services in favour of their members, mainly SMEs as provided for by the Ministry of Economy and Finance. LGCs are funded entirely or in part by the member undertaking the mutual and entrepreneurial provision of guarantees in order to facilitate the granting of loans by banks. SMEs affiliated to LGCs enjoy more favourable credit conditions.[56] LGCs also provide guarantees using funds provided by the Government and hence they are involved in the 'tranched cover' sector. LGCs set up 'tranched cover' positions that are created when a bank transfers a portion of the risk of a pool of loans on the banking book (usually loans to SMEs), in tranches to a protection seller (LGC) and retains some of the loans' risk. The risk transferred and the risk retained are of different seniority and banks usually obtain credit protection for the junior tranche or first loss. LGCs with business volumes equal to or greater than €150 million are entered in a register provided for by Article 106 of the new Banking Law (TUB); small Consortiums are entered in the section of the General register.[57]

Cassa Depositi e Prestiti - As in other countries, Italy has a state-owned entity (Cassa Depositi e Prestiti S.p.A – CDP a joint-stock company controlled by the MEF) which aims at supporting growth and long-run/term investments[58]. Areas of intervention include the public administration, financing investments and real estate assets. It also acts as a catalyst for the growth of Italian infrastructure, assists businesses in their export activity and internationalization process, with Venture Capital funds and by investing - as a long-term partner - in important Italian companies. Cassa Depositi e Prestiti, parent company of CDP Group, is classified outside the perimeter of central government. In this regard, considering that the main source of funding for CDP – postal savings products (postal bonds and passbook accounts) – is guaranteed by the Italian State in the event of issuer default, CDP must ensure organizational and accounting separation between the activities of general economic interest (under the 'Separate Account') and the other activities performed by the company (under the 'Ordinary Account'), in order to comply with EU regulations regarding state aid and domestic competition.

Among the activities carried out in the context of the Separate Account, CDP enhances the ability of Italian banks to lend to SMEs through 'soft lending' thanks to funding with convenient conditions. CDP manages this goal by using several tools, with different characteristics in terms of conditions. For instance, as for the 'SME Plafond', the credit (based on the corresponding banks' funding from the CDP) is supported by the loans passed by banks to CDP. The mechanism allows the 'soft lending' to pass-through to the final beneficiaries (the SMEs) without credit risk for the CDP (which only keeps the counterparty risk). Moreover, credit may be supported either by public or private financial guarantees (for example granted by a Confidi or by the Guarantee Fund).

The Guarantee Fund - The Guarantee Fund (Fondo Centrale di Garanzia - FCG) is a public guarantee scheme (PGS) aimed at supporting firms' access to bank credit by providing publicly funded guarantees. Compared to other types of programs (such as direct lending, co-funding and interest rate subsidies), PGSs allow public agencies to increase bank financing to the private sector

[56] See F. Columba, L. Gambacorta, P. E. Mistrulli (2010), Mutual Guarantee Institutions and Small Business Finance, Journal of Financial Stability, Vol. 6, pp. 45-54.

[57] Pursuant to Article 155, paragraph 4 of the old TUB, pending the creation of a special body provided for by Article 112-bis of the new Banking Law.

[58] The CDP is subject to the legal provisions concerning supervision of non-bank financial intermediaries, taking account of the characteristics of the entity and the special rules that govern the Separate Account. The company is also subject to the oversight of a special Parliamentary Supervisory Committee and the State Audit Court.

by using relatively few resources. In case of default of its obligor, the financing institution can request that the GF meet its obligation ('first demand guarantee'). Moreover, when a guarantee is provided by FCG, SACE or ISMEA[59] - directly or in the form of a counter-guarantee supplied to a Confidi – the bank benefits from the 'zero weight' for credit risk capital requirements. The bank has to verify the eligibility of the firm for the scheme through a scoring system provided by the GF. The GF started operating in 2000, reaching €54 billion in financial guarantees to eligible firms by the end of 2014.

4.8 Asset management companies and collective investment schemes

As mentioned before, Italian law establishes a distribution of powers amongst competent authorities following the principle of supervision for functions: the Bank of Italy is responsible for matters regarding authorization of funds, risk limitation, sound and prudent management and the financial stability of funds and asset management companies. Consob has authority for matters regarding the transparent and proper business conduct of fund operators and funds' public offerings. Therefore, in addition to the usual policy tools adopted in most jurisdictions and aimed at preserving a transparent and proper conduct of Collective Investment Schemes (CISs), Asset Management Companies (AMCs) are prudentially regulated in Italy, with a set of rules resembling the requirements adopted for other intermediaries.

The rationale of the approach adopted in Italy is that, while the regulator recognizes that the assets of AMCs are segregated and risks are held by the investors, important residual risks can nevertheless affect asset management companies: operational, legal and reputational risks need appropriate mitigation. We share the view that the asset manager is an 'agent', not a 'principal' of transactions; he or she acts as advisor to the agent on behalf of clients; and does not normally perform clearance, custody or related functions. However, there are functions – such as indemnifications or securities financing transactions – where the asset management firm acts as a principal, taking specific risks. Therefore, and especially for large and sophisticated asset managers, our approach recognizes that prudential regulation and supervision of the asset management firms are needed. It is particularly important for the competent authorities to have the regulatory power to collect all the necessary information, to assess all internal processes and systems through onsite visits, and to check how risks are managed. In addition, the regulator should have the possibility to carry out stress testing, when necessary, and to assess the establishment of appropriate business continuity plans, as well as to request prompt corrective actions[60].

4.9 Money Market Funds and Credit Funds

In Italy, Money Market Funds (MMFs) and the other open-end harmonized funds have been regulated since 1983. Constant-NAV MMFs are not allowed to operate in Italy.[61] Regarding the variable-NAV MMFs, the Italian authorities have enforced the European rules on eligible assets in the most stringent manner in order to prevent possible liquidity mismatching in case of massive redemptions by subscribers. Alternative funds (hedge funds, real estate funds) have been regulated since 2000 with criteria similar to those of mutual funds and are subject to the same level of enforcement. Open-ended real estate funds are not allowed to operate since they are typically exposed to potential liquidity runs.

[59] SACE is the Italian export credit agency; ISMEA is a public entity specialized in providing services and financial guarantees to agricultural firms.

[60] See: Bianchi, M.L., Chiabrera, A. (2012). The paper develops an innovative methodology for mutual fund stress testing as a supervisory policy tool.

[61] A new class of MMFs (called Low volatility-NAV MMFs) will be introduced in the EU. On the rationale of this new type of MMF, proposed by the Council under the Italian Precedency, see 'Money Market Funds', Appendix.

In 2014 a law amended the TUF by introducing the possibility of establishing 'credit funds', by enabling collective investment organisms to grant loans directly out of the available funds collected from investors (origination funds) in addition to loans granted by third parties (participation funds). These funds can be marketed to both retail and professional investors. Subsequently, the Bank of Italy issued provisions setting out the prudential regulation of credit funds, in order to introduce a set of provisions so as to reduce the risk of shadow banking. The provisions are mainly aimed at avoiding regulatory arbitrage or maturity transformation and the excessive expansion of assets through the use of leverage.

The credit funds regulation includes the following provisions:

1) Closed-end structure – The regulation requires that credit funds are established as 'closed-end structures': investors' redemption of units or shares is not allowed before the end of a fund's life in order to prevent maturity and liquidity transformation.
2) Quantitative requirements – Credit funds marketed to retail customers are subject to a leverage limit of 130%; those marketed to professional investors are subject to a leverage limit of 150%.[62] Furthermore, credit funds can enter into derivative contracts exclusively for hedging purposes (limits on leverage). The maturity of the credit granted by a fund cannot exceed the maturity of the fund itself.
3) Qualitative requirements – As far as internal controls are concerned, asset managers are required to define, within the risk management system, a specific process for credit risk management, with particular regard to i) risk measurement ii) risk diversification iii) credit monitoring iv) classification of risk positions and v) assessment and management of impaired loans (risk management).
4) Concentration limits - Both retail and professional credit funds shall limit the exposure to a single client at 10 per cent of the total assets of the fund.

As part of the transposition of the AIFM Directive, the prudential regulations place limits on the concentration of assets, the duration of loans, and financial leverage; the funds are also required to adopt suitable organizational and governance mechanisms to manage credit risk and to deliver statistical and supervisory reporting to the supervisory authorities, including the reporting of exposures to the Central Credit Register.

4.10 Repo markets and the re-use of collaterals

Repos and buy-sell back transactions are widely used by Italian financial institutions. These instruments allow market participants to access secured funding and play a crucial role in supporting price discovery and secondary market liquidity of the assets used as collateral. According to available data, the repo activity conducted by shadow banking entities is negligible in Italy, especially in comparison with the overall inter-bank activity. Almost 80 per cent of repos conducted by the Italian banking system are backed by government bonds, and roughly 60 per cent are centrally cleared by CCPs (see section 5.6).

In most cases repos are traded electronically and across several trading venues. The MTS Repo platform covers a prominent share of repo transactions backed by Italian collateral. MTS is a regulated trading venue subject to the oversight of Bank of Italy and Consob. The MTS repo is an

[62] Limits are calculated as the ratio between the total assets and the total net value of the fund.

order-driven market, where market participants can enter, buy and sell orders. There are two segments: General Collateral and Special Repo. While in the latter the parties to a transaction agree to a specific financial instrument, in the former, the securities posted as collateral are selected after the trade and from a basket of eligible assets. Two CCPs linked by an interoperability agreement[63] are active on the market (CC&G and LCH: Clearnet SA) and, despite the fact that the use of central counterparty services is not mandatory, in 2015 almost 94 percent of transactions exchanged on MTS repo were cleared centrally (Bank of Italy, 2016).

Following the financial crisis and along with the increased preference for secured transactions documented in the euro area (ECB, 2014), this market experienced a huge growth. At the beginning of 2007, the volume of unsecured interbank deposits trading on the electronic platform e-MID was twice that of the repo transactions in the MTS General Collateral segment. Since then, the proportion has declined, reaching one fifth in 2010 and a low of one ninth more recently.[64] In this period, recourse to central counterparty services in the repo market has increased progressively. Repos conducted by market participants usually allow for the reuse and rehypothecation of the assets posted as collateral. These market practices refer to any use of the assets received through a secured transaction and, in the case of rehypothecation, directly from the clients (see: 'reuse of collateral and rehypothecation', Appendix).

In Italy a comprehensive regulatory framework for the rehypothecation of client assets is in place, and appears to adequately cover the FSB principles (see Appendix 'Securities Financing Transactions'). Under existing regulatory requirements, financial intermediaries should provide (at least annually) account statements to clients regarding all assets held (financial instruments and cash) and showing to what extent clients' assets have been the object of financing transactions and the relative benefits produced. Moreover, the intermediary shall keep evidence of any transactions executed with a client's assets and should keep track of relevant information in order to be able to state with certainty each client's position at any point in time. Intermediaries are prohibited from making use of client assets on their behalf or on behalf of third parties unless the client has given specific consent, and this may happen only after an intermediary provides the client with clear and comprehensive information on the obligations and liabilities involved and any potential risk.

Finally, central depositories are required to open separate own and customer accounts for each intermediary, and intermediaries should operate, within one day of the registration day and on a

[63] LCH.Clearnet SA and Cassa di Compensazione e Garanzia S.p.A. (CC&G) are two central counterparties, established respectively in France and in Italy. The interoperability link, activated in August 2004, covers the clearing of outright and repo transactions on Italian government bonds; it enables market participants to benefit from common CCP services without participating simultaneously in the two CCPs. From a risk management perspective, the two CCPs share the same margining system, are part of the same network and regularly exchange margins on the basis of their reciprocal exposures. Since the link was activated, the share of MTS transactions cleared through the link has been rising regularly, reaching one half of the total transactions in 2016. The link also facilitates cross-border transactions even during particularly acute phases of market tension, as happened during the sovereign debt crisis (Bank of Italy, 2016). From 2012 the two CCPs decided to develop and adopt the joint Sovereign Risk Framework too, in order to evaluate the creditworthiness of euro- area countries in such a way as to avoid pro-cyclical effects and other unwanted consequences in margin calculation. In the post-crisis period several policy responses were developed at both global (PFMIs) and EU level (EMIR) that progressively contribute to a material change in the CCP regulatory framework. More recently two assessment were conducted at EU level to investigate the potential systemic risks associated with the interoperability arrangements (ESRB, 2016) and to evaluate the potential pro-cyclical implications of CCPs' decisions in terms of their collateral management practices (ESRB, 2015); in both cases, the conclusions of the assessment were positive.

[64] Unsecured daily trades on e-MID and on the OTC market were on average €2.2 and €0.8 billion respectively in 2014. In the same period the average daily turnover on MTS General Collateral accounted for more than 27 billion (Bank of Italy 2015b).

regular basis, a reconciliation between their own balances and those of their clients. Moreover the SFT Regulation (see 'Securities Financing Transactions Regulation', Appendix) will introduce strict and harmonized information rules for counterparties on collateral reuse in Europe. More specifically, any use of financial instruments received under a collateral arrangement will require the providing counterparty to be duly informed about the risks and consequences entailed in the reuse transaction and in any case this may only happen with prior consent.

4.11 Updating the regulatory perimeter

In line with the 'better regulation' principle, established by Law 262/2005, any change to the current legal and regulatory framework is subject to an in-depth reflection on its potential consequences and impact on the market, including a cost-benefit analysis. In particular the competent authorities shall periodically review the contents of their regulations in order to ensure that they are properly updated to take into account the latest market developments and investors' interests. As a result, this review process takes into consideration whether there is a need to expand the perimeter of regulation to unregulated products, markets, market participants and activities. The review must take place at least every three years.

The regulatory framework is constantly updated to capture new forms of shadow banking risks; these are particularly relevant as regards shadow banking, since the phenomenon is constantly evolving. Moreover, the regulator may also require the assistance of consultative panels, representing both consumers and intermediaries. In practice, the process described above has been integrated into the periodic organizational plans, and takes into account the outcomes of the ongoing offsite and onsite supervision. The regulator performs an assessment ex-post of the effects of the application of new regulations by monitoring the implementation of their underlying objectives on an ongoing basis.

More recently, competent authorities are drawing attention to a new class of activities – known as FinTech – promoted by innovative start-ups as well by global players. FinTech includes lending and equity crowdfunding, virtual currencies, 'robo advisors' (platforms offering financial advice or recommendations to consumers without human intervention, relying instead on computer-based algorithms and decision trees), 'big data' (the massive and rapid uses of micro data), and 'smart securities' (based on the automation, outsourcing, and remote execution of some functions, in particular post-trading, without using a trusted third party). The main technologies underpinning these new forms of financial innovation are the extensive use of digitalization, cloud computing, and distributed ledgers (such as Blockchain), both in the permissionless or permissioned configuration (the latter is restricted to authorized members). These technologies, currently still at a very early stage of development, should allow traditional intermediaries to decentralize important processes and new entrants to disintermediate banking and financial functions (see Box 3).

Box 3 – Is FinTech part of shadow banking?

To answer this question, first we need a precise and workable definition of FinTech, and then we must assess to what extent FinTech entities or activities are sources of bank-like risks. In order to do so, at the outset we need to define 'financial innovation'. We define financial innovation as 'the creation and development of new financial products or processes supporting the financial needs of consumers or producers'. From a regulatory standpoint, it is important to distinguish between product and process innovation: the former points our attention to the characteristics of the product (and therefore mainly to transparency and conduct of business aspects); the latter is related more to the underlying process, which includes appropriate risk management, internal governance, and organizational setting.[65] Financial innovation requires a combination of advanced quantitative finance, legal engineering, and information technology. Moreover, it is important to distinguish between incremental innovation - built upon existing knowledge and simple product differentiation - and radical innovation, which refers to a major technological change or the supply of previously inexistent products or services.

FinTech is a subset of "financial innovation"; it is defined by the FSB as "technologically enabled financial innovation that can result in new business models, applications, processes, products, or services with an associated material effect on financial markets and institutions and the provision of financial services". It is characterized by the intensive use of digitalization and cloud computing, supporting decentralized forms of intermediation (peer-to-peer transactions, internet platforms, and outsourcing).

FinTech is a new phenomenon and it is difficult to form a conclusive opinion on these developments. We nevertheless think that the following classes of risks deserve close scrutiny: i) 'strategic risks' (i.e. a possible disruptive contraction of market shares and profitability, or disintermediation); ii) pro-cyclicality ('cliff-effects', or 'volatility clusters') due to extensive use of automation; iii) operational, integrity and cyber risks; iv) conduct risks, due to oversimplified screening and monitoring or, from the demand side, of poor incentives to enhance the level of risk awareness; and v) forms of regulatory arbitrage (blurring between regulated and unregulated intermediation).

How to distinguish which FinTech instruments or processes are part of the shadow banking system, is not an easy task. For instance, virtual currencies, if combined with others financial instruments such as derivative contracts can be part of shadow banking[66]; a lending crowdfunding platform which transfers the loans to a dedicated fund or vehicle funded by a bank, is clearly part of shadow banking intermediation.

In the Italian legislation, the ownership of FinTech companies operated by banks comes under the general framework that regulates the possibility for banks to own participations in other companies. There is no specific distinction made in the regulatory framework in the case of Fintech companies' ownership. If a regulated entity intends to outsource important operational functions, the Bank of Italy must be informed by the involved banks and can, within 60 days, ban the outsourcing project. Equity crowdfunding has been regulated by Consob since June 2013, while the Bank of Italy recently issued a consultation document on social lending. Companies that are not banks but want to deliver payment services, must get a licence; banks, as well as 'payment institutions' and 'electronic money institutions' can deliver payment services. Only payment institutions are authorized for every payment service they want to provide (in line with the Payment Services Directive, 64/2007/CE). Generally, banks and e-money institutions do not need formal approval for the offering of new products or services. Only in some cases do banks have to make a formal

[65] For a comprehensive analysis of possible regulatory approaches to financial innovation, see Gola and Ilari (2013). See also the Office of the Comptroller of the Currency (2016), and the Financial Conduct Authority (2015).

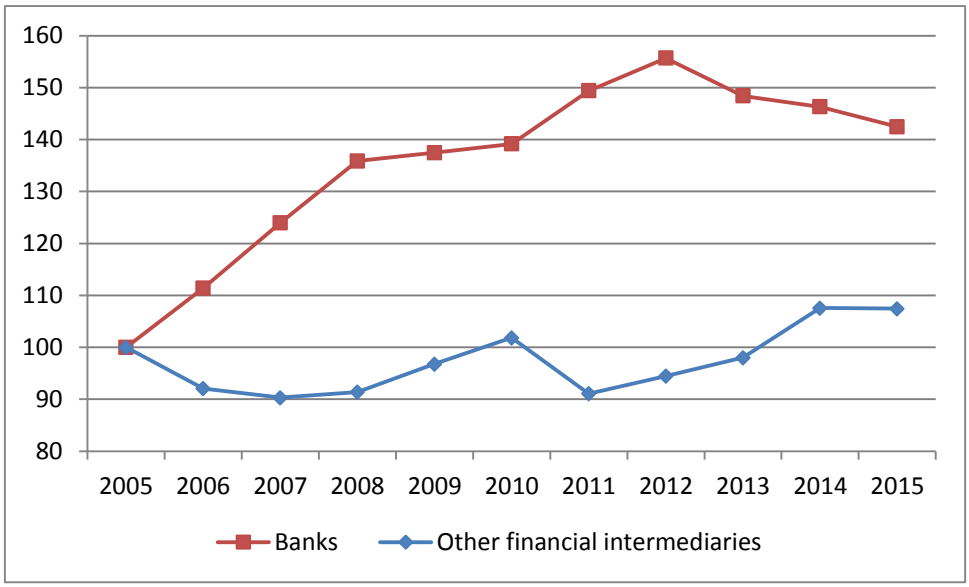
[66] There is currently no EU legislation on virtual currencies; in Italy there is no specific regulation either. However, in January 2015, the Bank of Italy and the UIF (Financial Intelligence Unit) issued a warning to consumers and an official communication to intermediaries on virtual currencies. The policy stance is in line with the European Banking Authority (EBA) *Opinion on 'virtual currencies*' (4 July 2014). In this communication, the Bank of Italy discourages banks and other supervised institutions from buying, holding or selling virtual currencies. The supervised institutions have been encouraged by the Bank of Italy to carefully evaluate the risks originated by virtual currencies, as outlined by the EBA. Banks and other supervised institutions shall make clients, individuals or legal entities, operating in the sector of virtual currencies aware of this approach, before starting any activity with them. Banks and other supervised institutions may continue to provide authorized financial services to individuals or legal entities that operate in the sector of virtual currencies, provided they operate in compliance with the regulations concerning the prevention of money laundering and terrorist financing.

communication to the Bank of Italy. Currently, in Italy there is no specific legislation on crowdfunding lending.

5. The Italian 'shadow banking system': size and recent developments[67]

In Italy banks play a central role in the financial system. This reflects the fact that the Italian economy hinges on the important role of SMEs which rely mainly on traditional banks for their financial needs. As of the end of 2015, the total assets of Italian banks were about €3.500 billion, representing 23 per cent of the stock of total Italian financial assets and 214 per cent of GDP. The aggregate of non-bank financial intermediaries as defined in the FSB methodology accounts for around €977 billion, representing 6 per cent of total financial assets and 60 per cent of GDP. The non-bank intermediaries have been much less cyclical than the banking sector, and their growth has been modest over the last decade (see Figure 1).

Figure 1 – Evolution of bank and non-bank assets
(index: 2005 = 100)



Source: Bank of Italy – Flow of funds.

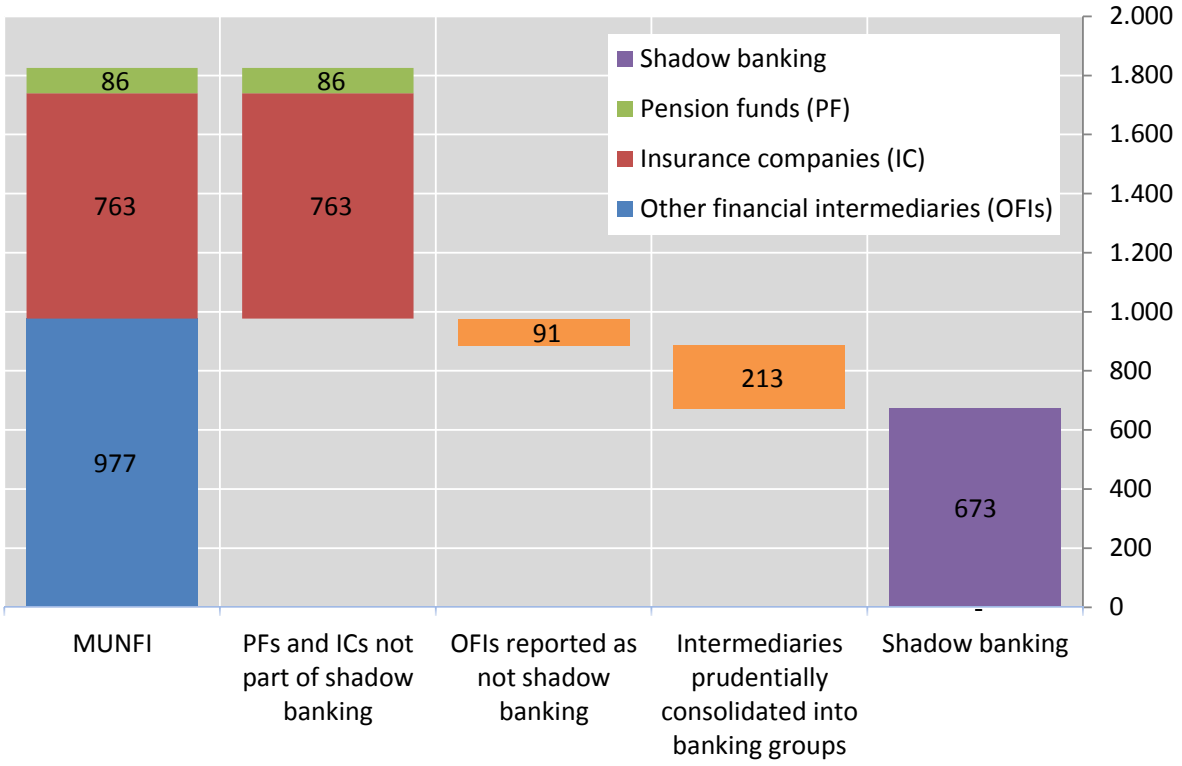
In accordance with FSB guidance[68], the Bank of Italy has conducted a macro-mapping exercise based on financial accounts (flow of funds) and supervisory data to scan and map the scale of non-bank credit financial intermediation in Italy[69]. In particular, the FSB provides a methodology aimed at monitoring the universe of non-bank financial intermediation (MUNFI) and measuring shadow banking assets after a narrowing down process. MUNFI is defined as the sum of insurance and pension funds companies, other non-financial intermediaries and investment funds. The figure for MUNFI in Italy was €1,825 billion at the end of 2015. Starting from this aggregate, the methodology obtains a 'narrow measure' of shadow banking as proposed by the FSB. This is

[67] The data reported in this section may not correspond to the financial accounts statistics published by the Bank of Italy.
[68] See FSB (2015) http://www.fsb.org/2015/11/global-shadow-banking-monitoring-report-2015/
[69] The traditional entity-based prudential regulation and supervision in some cases has been complemented with a systemwide 'what-if' analysis on some type of entities or activities (real-estate funds, finance companies, investment firms). These analyses aim at increasing the awareness of new risks and enhancing the monitoring process.

obtained by subtracting from MUNFI: a) assets of insurance and pension funds not related to credit intermediation, b) entities and activities not directly involved in credit intermediation, mainly equity and real estate investment funds and c) intermediaries prudentially consolidated into banking groups (see Figure 2). The Italian shadow banking system consistent with this definition accounted for around €673 billion at the end of 2015 (41 per cent of GDP), a small amount compared with other European jurisdictions: at the end of 2014, narrow shadow banking amounted to 147 per cent of GDP in UK, 73 per cent in Germany, 61 per cent in France, and 21 per cent in Spain.[70] Over the last year, the narrow measure of shadow banking in Italy has been quite stable.

Figure 2- Non-bank assets and activities

(Assets at the end of 2015; billions of euros)



Source: Bank of Italy - Supervisory data.

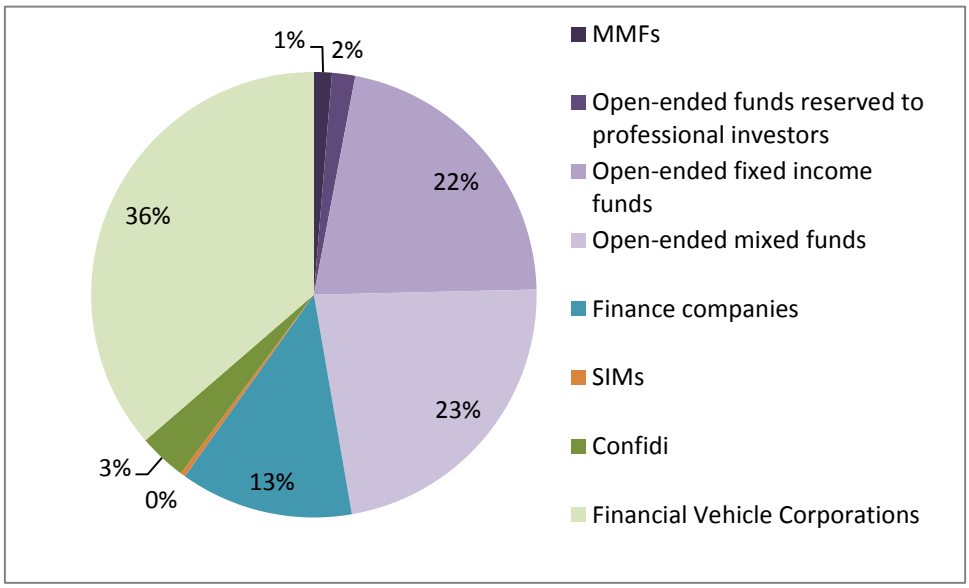
Figure 3 shows the composition of the shadow banking 'narrow measure' obtained following the FSB methodology; it is mainly made up of assets of investment funds, finance companies and special purpose vehicles.

5.1 Finance companies - Finance companies in Italy include consumer credit, leasing and factoring companies, as well as Loan Guarantee Consortiums ('Confidi') and other minor entities; in the last few years there has been a contraction in the total assets of these sectors, reflecting the moderate growth of Italian economic activity and internal demand since 2010. A further contraction in 2014 was, however, due to some of these entities being transformed into banks. It is worth noting that Italian finance companies are often consolidated into a banking group. In 2015, the loans of finance companies (entered in a special register) – including those consolidated in a banking group – fell by 5.0 per cent (against -2.9 in 2014). The asset quality improved compared with the previous

[70] See FSB (2015) http://www.fsb.org/2015/11/global-shadow-banking-monitoring-report-2015/

year; the incidence of bad loans declined to 17.2 per cent, a decrease of 0.2 percentage points with respect to the previous year. Capital adequacy grew during the year, due to an increase in capital availability (+3.3 per cent) and to a decrease of risk weighted assets (-6.0 per cent); on average, total capital ratio is around 12.5 per cent, well above the minimum requirements.

Figure 3 – Composition of Italian shadow banking according to FSB methodology



Source: Bank of Italy - Supervisory data.

5.2 Confidi - In 2015 the guarantees issued by loan guarantee consortiums (LGCs) amounted to €13 billion (1 per cent of GDP), a significant contraction compared with 2014 (-10.5 per cent). At the same time, non-performing exposures increased, with their incidence reaching 35.6 per cent of the overall amount of guarantees extended. The deterioration in credit quality affected the profitability of the sector, which recorded a loss of €102 million; however, the total capital ratio on average improved to 16.3 per cent. In the last few years, the Bank of Italy has start signalling weaknesses of LGCs, as characterized by 'growing risks, weak profitability and some critical cases of insufficient capital'. It also underscored high operating costs and low productivity. Moreover, on-site inspections showed frequent cases of poor governance and internal controls as well as the 'tendency to support access to credit for member companies even when they were facing significant difficulties'.[71] For these reasons the Bank has promoted a process of consolidation and higher prudential standards in the sector.

5.3 Insurance and Pension funds' involvement in shadow banking intermediation - At the end of 2015 the total assets of the insurance companies were about €762 billion (47 per cent of GDP), while pension fund sector assets amounted to around €86 billion (5 per cent of GDP). The extension of credit and the use of repo markets by these two sectors were negligible, limiting the role of the Italian insurance and pension funds companies in shadow banking intermediation. According to IVASS, the provision of direct credit by insurance companies is limited; at the end of 2015 it amounted to about €364 million; other forms of credit are also not significant: secured financial transactions amounted to €130 million, while investments in other instruments similar to credit derivatives are negligible. Indirect lending to the economy through the purchase of securities is also moderate: at September 2015, investment in SME bonds was around €100 million.

[71] See Barbagallo, C. (2013).

Table 2 - Non-bank domestic entities and activities: main sectors

(December 2015)

	total assets *(billions of euro)*	as a share of total financial assets	as a share of GDP
Finance companies	132,7	2,4%	8,1%
Confidi*	16,0	0,3%	1,0%
Open-ended investment funds	231,5	4,2%	14,2%
equity	*21,4*	*0,4%*	1,3%
fixed income	*99,7*	*1,8%*	6,1%
other	*104,4*	*1,9%*	6,4%
MMFs	*6,0*	*0,1%*	0,4%
Closed-ended investment funds	77,2	1,4%	4,7%
private equity	*9,1*	*0,2%*	0,6%
hedge funds	*7,8*	*0,1%*	0,5%
real estate	*60,3*	*1,1%*	3,7%
Securitizations	305,4	5,6%	18,7%
Investment firms	2,1	*0,0%*	0,1%
Total	**764,8**	**14,0%**	**46,8%**

**It includes off-balance sheet guarantees*

Source: Bank of Italy - Supervisory data. Securitizations are gross of assets not derecognized by banks.

5.4 Asset management companies - In Italy, the risks to financial stability posed by asset managements are quite limited by reason of the industry's small size, the investment strategies pursued and supervisory arrangements. This is reflected in a modest leverage, liquidity and maturity transformation (see Box 4). Alternative investment funds, whose assets are on average riskier than those of harmonized funds and which can leverage their investments, account for about 6 per cent of total managed assets. Investment in closed-end funds specializing in SME debt instruments (mini-bond funds and credit funds, both introduced recently) is limited (about €2 billion as of June 2015). All Italian real estate funds are closed-end funds, whose main risks consist in possible deteriorations in asset values and poor operating profitability. These factors could have some impact on the funds' ability to service their debt. However, the direct exposure of banks and other intermediaries to this segment is quite limited (around €20 billion at June 2015). The industry's problems have to do mainly with real-estate reserved funds, which are more highly leveraged than the funds marketed to retail investors.[72]

[72] See Bank of Italy (2015a), Financial Stability Report, No.2, November, pp. 51-52. On Italian real estate investment funds, see Bianchi, M.L. and Chiabrera, A. (2012).

Box 4 - Leverage, Liquidity and Maturity transformation of Italian mutual funds

Leverage

Fixed income: The vast majority of Italian fixed income funds are authorized according to the 2009/65/UE Directive (UCITS IV). Therefore, the maximum leverage ratio is de facto limited to 200% of NAV (exposures through derivatives should be lower than the NAV of the fund). Observed risk metrics show that the average use of leverage for bond funds The main policy responses to the risks arising from those markets includes initiatives to: (i) **Hedge funds** do not have specific limits in terms of leverage. Therefore, the risk level associated with leverage can potentially be high. However, according to supervisory data and observed fund rules, leverage for hedge funds is somewhat low (generally below the threshold of 300%). GNE/AUM is only 1.34[73]. Since most Italian hedge funds are 'funds of funds', we are not able to calculate the leverage on the underlining assets using the 'look-through' methodology.

Liquidity transformation

Fixed income funds are open-ended vehicles that offer day-to-day liquidity; therefore, when they invest in illiquid assets, liquidity transformation might become a concern. However, the current regulation requires that funds willing to invest more than a certain percent (10% in Italy) of their assets in illiquid asset classes (such as 'unlisted financial instruments' and 'bank loans') should be obliged to take them in closed-end form. Therefore, liquidity transformation for bond funds is assessed as being 'somewhat low'.
Hedge funds do not have specific limits in terms of liquidity transformation. However, in the case of massive redemptions the fund managers can intervene with measures such as suspension of redemptions or side pockets.

Maturity transformation

Fixed income Maturity transformation is not a characteristic of fixed income funds. Such funds are allowed to take short term loans of up to 10% of NAV, but the use of such flexibility is generally low, based on observed risk metrics.
Hedge funds can get funding through short-term loans in order to invest in longer-term assets; however, based on supervisory assessment and fund rules, the maturity transformation is considered to be, on average, somewhat low.

5.5 The securitization market - The Italian securitization market has historically been one of the most important in Europe: according to data provided by the Securities Industries and Financial Markets Association (SIFMA) on securitization issuance by country of collateral, in the period 2001 - 2007 the average annual amount issued was around $40 billion for Italy (around 10 per cent for the total of all European countries). In 2008-2009 the average annual amount topped $115 billion (13 per cent of the total of all European countries), essentially due to 'self-securitizations', where the ABSs are entirely subscribed by the originator itself for refinancing operations with the central bank. The large majority of the transactions (excluding those originated by the public sector) are simple residential mortgage-backed securities (RMBSs) and asset-backed securities (ABSs) backed by leasing, factoring and consumer finance receivables. Asset-Backed Commercial Papers (ABCPs) have not developed in Italy, also due to unfavourable fiscal treatment for short-term securities; similarly, synthetic Collateralized-Debt Obligations (CDOs) are not issued by Italian SPVs, because the national law only allows cash transactions. The substantial retrenching of this market at the global level also affected the Italian market; the average Italian issuance in 2013-2014 was around $30 billion (11 per cent of total issuance in European countries). More recently, securitizations are renewing their appeal as a tool for banks to sell non-performing loans to entities specialized in

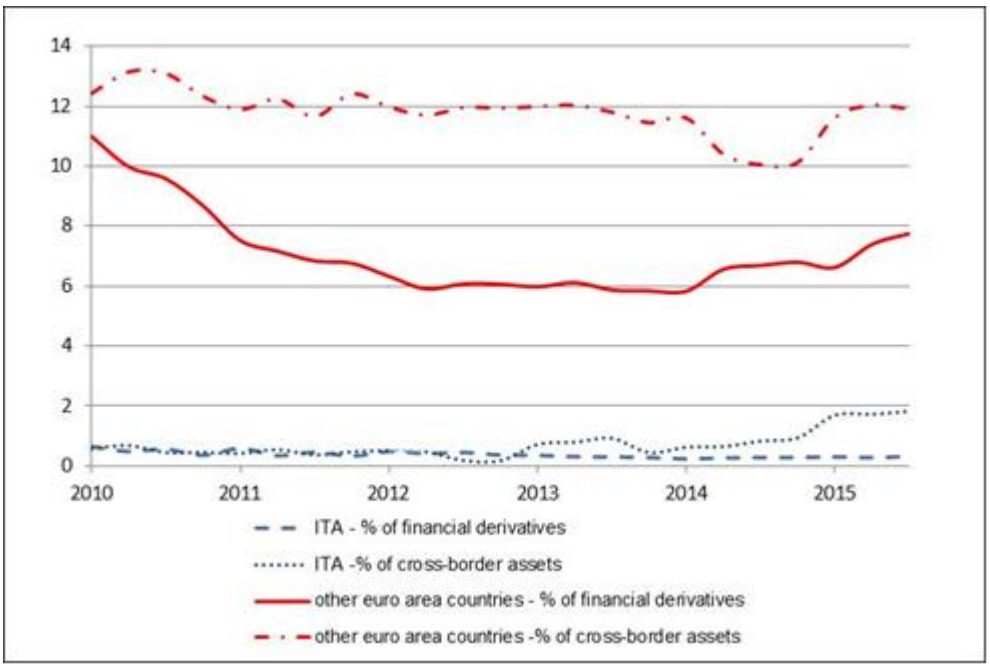
[73] Gross notional exposure (GNE) is the absolute sum of all long and short positions, including gross notional value (delta-adjusted where applicable) for derivatives. It provides a better appreciation of the leverage employed by a fund to gain market exposure, incorporating both financial leverage and synthetic leverage. GNE does not directly represent an amount of money (or value) that is at risk in a fund. Instead, it is a conservative measure of the economic or market exposure of the fund positions by looking through to the underlying assets. The gross leverage ratio is usualy presented as the proportion of GNE to NAV (see IOSCO (2015), p. 27).

maximizing the residual value of these assets. A new law on public guarantees that is fully operative since June 2016 is expected to revitalize the securitization market in Italy.

Currently, securitizations contribute to the Italian shadow banking system with around €168 billion (end of 2015 data), against €183 billion at the end of 2010. This figure is obtained by subtracting the securitized loans which are not derecognized from banks' balance sheets (€138 billion) from the SPVs assets (€305 billion). Moreover, in order to have a more accurate measure of the role of the securitization market in credit intermediation, a further adjustment is necessary that takes into account the market value of securitized assets. Using nominal values of securitized assets would overestimate the phenomenon, given that in a typical securitization structure, Financial Vehicle Corporations (FVCs) issue debt securities at a value in line with the acquisition value of the assets, which, in the case of NPLs, is substantially lower. The difference between the nominal value and the purchase price is included in FVC balance sheets under 'remaining liabilities'. For Italian FVCs the ratio of 'remaining liabilities' to total securitized assets was, at December 2015, about 33 per cent against 16 per cent in other euro-area countries. Once this adjustment is performed, the contribution of Italian securitizations to credit intermediation and hence to shadow banking is reduced to €41 billion.

The maturity mismatching of the Italian securitizations is modest. An analysis conducted on Italian FVCs shows that, at the end of 2015, no securities with a maturity of under one year had been issued, while for other euro-area countries, about 5 per cent of securities had an original maturity of less than 1 year (it was 3 per cent at December 2009). At the same date, the share of deposits with an original maturity of less than one year was 25 per cent, while this share was 31 per cent for other euro-area FVCs. To sum up, mismatch risk seems negligible for Italian securitizations.

Figure 4 – Financial Vehicle Corporations: use of financial derivatives and cross-border assets
(% of total assets of FVCs)



Source: Authors' elaborations on ECB data.

Italian FVCs are also characterized by the negligible use of financial derivatives and by limited valume of cross-border assets, comparison to FVCs resident in other euro-area countries. Figure 4 shows two indicators: the first is calculated as the percentage ratio of synthetic securitization plus financial derivatives in traditional securitization on total FVC assets; the second is the percentage ratio of cross-border activities (securities held by FVC and issued in non- euro-area countries plus loan claims to non- euro- area banks plus loans securitized originated in non-euro- area countries) on total FVC assets.

5.6 The Italian repo market - In Italy, the Securities Financial Transactions (SFT) conducted by 'shadow intermediaries' appear to be modest, presumably reflecting the regulatory regime previously described. Supervisory data provide a full picture of the repo transactions conducted in Italy among banks and between banks and non-bank entities (Table 3). Repo transactions are shown in the table, including cross-border activity and excluding all trades conducted with central banks. Repos backed by sovereign bond collateral are by far the most exchanged through the Italian banking system and account for 79.2 per cent of the total activity. The rest of the market is covered by securitized products (10 per cent) and assets issued by other institutions (10.8 per cent).

Table 3. Repo activity in the Italian banking system (assets side)

year	*Tot (mln)*	*Counterparty sector*				*Collateral type*		
		CCPs	*non-banks financial*	*banks*	*other*	*government bonds*	*securitization*	*other*
2008	132,986	*9,305*	*3,926*	*86,984*	*32,771*	*66,189*	*8,873*	*57,924*
2009	112,917	*16,587*	*5,576*	*65,791*	*24,963*	*53,056*	*17,503*	*42,358*
2010	112,499	*34,038*	*7,191*	*53,301*	*17,969*	*65,322*	*18,937*	*28,240*
2011	133,767	*32,115*	*7,450*	*66,672*	*27,530*	*71,328*	*27,488*	*34,951*
2012	152,895	*44,688*	*9,817*	*67,608*	*30,782*	*96,710*	*25,738*	*30,447*
2013	162,703	*68,802*	*7,965*	*58,103*	*27,833*	*126,520*	*19,329*	*16,854*
2014	142,830	*59,550*	*3,163*	*52,772*	*27,345*	*112,719*	*13,596*	*16,515*
2015	130,586	*61,605*	*2,009*	*40,267*	*26,705*	*103,582*	*13,045*	*13,959*

Source: Bank of Italy - Supervisory data.

According to available data, repos for which funding is provided by banks to non-bank entities appear to be modest, especially in comparison with overall inter-bank activity. More precisely, in 2015 the repos directly intermediated from banks to other banks account for €40 billion, while €89 billion is the stock traded against non-bank entities. Even if bank to non-banks covers most of the Italian repo market, some aspects need to be considered. Firstly, a large share of non-bank activity is presumably conducted by other supervised Italian financial institutions such as insurance companies, pension funds, money market funds and credit funds. Moreover it must also be pointed out that 68.5 per cent of overall non-bank activity takes place through a CCP. In Europe central counterparties are regulated and supervised entities that need to meet strict organizational and prudential requirements. Moreover, participation in CCP services is subject to established eligibility requirements and, although it potentially includes all market participants, members are mostly

banks or other highly regulated entities.[74] Therefore, if centrally cleared transactions are also included in overall interbank activity, the Italian bank sector alone covers 75 per cent of the whole market and it has been quite stable in the last few years (around €100 billion, ranging from 72 per cent in 2008 to 78 per cent in 2015).

6. Final remarks

To conclude our overview on shadow banking and the Italian regulatory framework, in this section we provide some final remarks.

First, it is important to achieve a higher level of consistency in the regulatory framework at global level. The crisis showed that regulatory arbitrage emerges and prospers in the presence of inconsistent regulation in various market segments, and where international supervisory rules and enforcements are uneven. This is even more important in an environment where cross-border interlinkages between banking and financial entities and activities are increasingly important. Financial stability is a global public good, and even the most rigorous policy framework in one country does not shield the system from negative externalities, if it is not adopted and enforced uniformly in all jurisdictions.

A second fundamental point concerns the regulatory perimeter. In Italy, the wide regulatory perimeter has proved very useful in containing shadow banking risks. We believe it is essential to integrate the activity-based approach (particularly for monitoring risks) with the entity-based approach (particularly for enforcing regulation). On the one hand, 'shadow activities' continuously mutate as the market and regulatory environment changes; on the other hand intermediaries are ultimately the 'entry point' to enforce regulation. In drawing the regulatory perimeter, the authorities should balance marginal costs and benefits carefully, so as not to overload the market with unnecessary regulation.

On the limited size of the Italian shadow banking intermediation, both supply and demand factors are important. While we cannot rule out that the stringent Italian regulatory framework have in some cases curbed market developments more than is desirable, we are convinced that demand factors play a decisive role. They are deeply rooted in some distinctive features of the Italian economic model, based on SMEs that are keener to use banking loans than other sources of funding in particular risk capital. Institutional and fiscal factors, as well as a model of corporate governance based on family-controlled ownership plays a decisive role.

Finally, we should recognize that regulators often lag behind market developments, despite the never-ending efforts by national and international standard setters to update the regulatory and supervisory framework in order to keep pace with the ever-evolving economic and financial environment. It is therefore difficult to combat and foresee new forms of systemic risk. In order to contain these risks, shadow banking entities should have sound and well-formalized internal controls as well as good corporate governance and incentive structures aimed at minimizing moral hazard, excessive risk taking and unaccountability.

[74] In Italy only one central counterparty is authorized, which is the Cassa di Compensazione e Garanzia S.p.A. (CC&G) that covers a broad range of trading platforms and financial instruments including all Italian government securities traded on MTS, EuroMTS and BrokerTec.

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Appendix

Asset Backed Commercial Paper (ABCP) – see Financial Vehicles.

Asset encumbrance – An asset is treated as encumbered if it has been pledged or if it is subject to any form of arrangement to secure, collateralize or credit enhance any transaction from which it cannot be freely withdrawn (for example, repo transactions, collateral placed for the market value of derivatives transactions; financial guarantees that are collateralized; collateral placed at clearing systems, CCPs and other infrastructure institutions as a condition for access to service central bank facilities; underlying assets from securitization structures, where the financial assets have not been derecognized from the institution's financial assets; assets in cover pools used for covered bond issuance)[75].

The greater reliance of collateralized funding after the crisis (and, consequently, the increase of asset encumbrance) was driven by the increased awareness of the counterparty credit risk as well as regulatory reforms, in particular the OTC derivatives market reform and the new Principles for Financial Market Infrastructures. As observed by the Committee on the Global Financial System, endogenous private sector responses, such as collateral transformation activities, will help to address supply-demand imbalances if and when they emerge. While this will mitigate collateral scarcity, these activities are likely to come at the cost of increased interconnectedness, procyclicality and financial system opacity as well as higher operational, funding and rollover risks[76].

Bank - In general terms a bank is an entity that collects deposits and extends credit. In Europe (to restrict our discussion), the Capital Requirements Regulation (CRR) clarifies that 'credit institution means an undertaking the business of which is to take deposits or other repayable funds from the public and to grant credits for its own account'.[77] Note that this definition excludes some entities (for instance certain types of finance companies which extend credit but are not funded as described by the CRR) currently licensed as 'banks' in some jurisdictions. Moreover, there are differences in the application of the terms 'deposit', 'other repayable funds', 'granting credit' and so on. In addition, there are firms that, despite falling nominally within the current CRR definition and while respecting some prudential requirements, have been exempted from the full set of the prudential requirements established in 2013, under Article 2(5) of the CRD IV.[78] Similarly, there are lenders (not deposit-takers) not subject to prudential rules.

Broker-dealer - A broker-dealer is an investment firm which receives, transmits or executes orders in financial instruments on behalf of third parties or on its own account. In Italy broker-dealers (or investment firms) are regulated under the MIFID and therefore subject to the capital requirements defined in CRD (2006/49) except for firms specialized in commodities or exclusively trading on their own account.

Consolidation rules: international reforms - Following the 2007 global financial crisis, the G20 leaders recommended the International Accounting Standard Board (IASB) to review and improve

[75] See: European Banking Authority, (2015), p. 7.
[76] See: Committee on the Global inancial System (2013), p. 5.
[77] See Regulation (EU) No. 575/2013 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012, Article 4(1) No 1 (OJ L 176, 27.6.2013, p. 1).
[78] Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC (OJ L 176, 27.6.2013, p. 338).

the accounting standards for off-balance sheet exposures. One of the main reasons of this initiative was related to the high level of losses resulting from off-balance sheet activities of banks in the wake of the financial crisis. Indeed, the financial crisis highlighted a substantial lack of transparency about the risks to which investors were exposed from their involvement with some off-balance sheet vehicles, including those they had set up or sponsored. As a matter of fact, many SPVs which had not been consolidated prior to the crisis were subsequently consolidated on the basis of the sponsoring bank's involvement, since, for reputational reasons, banks preferred to step-in and in some cases to take control of such vehicles, instead of allowing them to fail whilst they had no contractual obligations to do that.

In response to the G20's recommendation, in 2011 the IASB issued a new set of accounting standards on consolidation, including IFRS 10 "*Consolidated financial statements*" and IFRS 12 "*Disclosure of interest in other entities*" [79]. The latter aimed, among others, at introducing specific disclosure requirements for unconsolidated structured entities, as for instance SPVs.
IFRS 10 introduces a single consolidation model that identifies control as the basis for consolidation for all types of entities, including structured entities. In particular, under the definition of control provided by IFRS 10 an investor controls an investee when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee[80]. To this extent, IFRS 10 states that an investor shall consider all relevant facts and circumstances when assessing whether it controls an investee.

The provisions of the IFRS standard aim at enhancing the accounting requirements for consolidation. Nevertheless, their application requires a high degree of judgment by management and could potentially result, under certain circumstances, in the exclusion of some special purpose vehicles from the scope of accounting consolidation on the basis of the lack of any legal or contractual right conferring power to steer their relevant activities of the vehicle. That could happen even whether the bank is exposed to the majority of the risk and rewards stemming from the activities of the unconsolidated entity, as a consequence of other types of links such as guarantees, financial relationships or reputational concerns. This may happen, for instance, in the case of certain "autopilot" vehicles, where there is no substantive decision making process, thus it could result that no investor would control such entities for accounting purposes, even if the investor sponsored or designed the unconsolidated structured entity.

Finance companies - Finance companies are non-deposit-taking institutions which provide credit and credit institutions (as per the CRD definition) directly exempted from the CRD by Article 2 of Directive 2006/48. They are classified into two categories: i) mortgage finance companies which provide credit used to purchase a residential property (FSB definition) and ii) non-mortgage finance companies, which are the remaining institutions such as specialized financing companies, for example automobile loan providers.

Financial vehicles - Financial vehicles are entities usually sponsored (see 'Sponsorship') by another entity (typically a bank or a financial firm) insulated from the bankruptcy standpoint (i.e. the vehicle is 'bankruptcy remote'). There are various definitions of financial vehicles:

[79] IFRS 10 replaced IAS 27 *Consolidated and Separate Financial Statements* and Interpretation 12 of the Standing Interpretations Committee (SIC) *Consolidation—Special Purpose Entities* (SIC-12). In the EU, the adoption of IFRS 10 and IFRS 12 has been mandatory for annual periods beginning on or after 1 January 2014.
[80] In particular, under IFRS 10 an investor controls an investee if and only if the investor has: (a) power over the investee; (b) exposure, or rights, to variable returns from its involvement with the investee; and (c) the ability to use its power over the investee to affect the amount of the investor's returns.

Asset Backed Commercial Paper (ABCP) conduits. An ABCP conduit issues commercial paper, a form of short-term debt, in order to finance longer-term liabilities. They first appeared in the mid-1980s and were initially used by commercial banks as a means of financing the trade receivables of corporate customers. These conduits seek to benefit from the difference between short-term funding costs and (usually highly-rated) longer-term asset returns. These programs deliver a regulatory capital benefit by allowing a bank to hold assets off the balance sheet. ABCP conduits are generally supported by liquidity lines and contingent funding obligations from one or several sponsors to deal with any mismatch in their asset/liability cash flows. The sponsor of an ABCP conduit has two roles: to manage the assets and to provide liquidity. The sponsor typically covers 'roll-over' risks (the risk that a conduit cannot finance maturing commercial paper) and the full or partial credit risk of the assets financed by the conduit. A conduit may not be able to refinance itself because of a deterioration of its underlining assets. In that case, the sponsor has to assume the losses from lower asset values, because under the guarantee a sponsor is required to repurchase assets at par. In exchange for assuming this risk, the sponsor receives the conduit profits (see 'Sponsorship');

Special Investment Vehicles (SIVs) - Special investment vehicles (SIVs) are specialized financial institutions that conduct shadow maturity transformation. On the asset side of SIVs are securitized assets such as ABS, MBS, CDOs, CLOs, CMOs, or financial sector debt. These assets are funded through issuance of ABCP, medium-term notes, or long-term notes. In order to achieve a credit rating on their liabilities, SIVs obtain backup lines of credit from commercial banks. SIVs were first created in 1988, effectively moving the financing of ABS from the balance sheet of Citigroup to an off-balance-sheet SIV. While some SIVs are closely associated with particular financial institutions, others operate independently of any particular institution. Since the financial crisis of 2007-09, SIVs have stopped operating. SIVs resemble commercial banks in many ways, but both assets and liabilities are tradable, and liquidity and credit backstops are provided by private institutions (Adrian and Ashcraft (2012).

Special Purpose Vehicles (SPVs) - SPVs are entities which are used as financial vehicles to perform functions other than investing and funding in the securitization process, such as warehousing bank loans.

Financial Vehicle Corporations (FVCs) – VFCs (ECB definition)[81] are entities whose principal activity meets both of the following criteria:

- it carries out securitization transactions and its structure is intended to segregate the payment obligations of the undertaking from those of the originator, or the insurance or reinsurance undertaking (in the case of insurance-linked securitizations);
- it issues debt securities, other debt instruments, securitization fund units, and/or financial derivatives and/or legally or economically owns assets underlying the issue of these financing instruments that are offered for sale to the public or sold on the basis of private placements.

Indemnification - It is a practice used in securities lending markets against counterparty risk. If the borrower defaults and the collateral received is insufficient to cover the repurchase price of the lent securities, the shortfall (i.e. the difference between the market value of the purchase of replacement securities and the market value of the underlying collateral) is taken by the indemnification provider (for insistence a broker-dealer or an asset management company). If the indemnification provider is unable to cover a shortfall, the loss would be borne by the client. Indemnification is therefore

[81] See ECB/2013/40.

similar to a credit guarantees provided by banks. Bank-affiliated asset managers subject to consolidated prudential rules are subject to Basel capital requirements for losses due to indemnifications. Asset managers and other entities not affiliated with banks do not face capital requirements related to their indemnification exposure.

Investment funds – In the context of shadow banking the following classes of investment funds are relevant:

- **MMFs** are open-ended pooled investment vehicles that invest across a broad range of short-term and high quality securities. There are two types of MMFs: (i) MMFs which promise a constant or stable net value of their investment assets **(CNAV)** and (ii) MMFs where the net value of assets is variable and thus fluctuates in line with the assets in which the MMF is invested (**VNAV**).
- **Credit hedge funds** are collective investment funds that, regardless of the legal structure, have relatively unconstrained investment strategies for investing mostly in debt securities or equivalent products.
- **Exchange Traded Funds** (ETFs) are passive investment funds traded on a stock exchange or regulated market that replicate market indices.
- **Leveraged Real Estate Investment Funds** are collective investment undertakings that use leverage to invest mainly in real estate. The legal structure can vary between jurisdictions and they can be either open-ended or close-ended.

Liquidity and maturity transformation. - By liquidity transformation we mean the transformation of an illiquid and untradeable asset (a 'loan') into a liquid and 'tradable security'. Under financial distress, a liquid asset can become illiquid. Liquidity risk is twofold and involves the possibility that the intermediary, although technically solvent, cannot generate sufficient cash resources to meet its payment obligations at a certain moment in time ('funding liquidity risk'). Moreover, in some circumstances, a bank can provide liquidity only at materially disadvantageous terms ('market liquidity risk'). By maturity transformation we mean acquisition of short-term liabilities matched by long-term assets. Typically, a bank performs both functions, accepting short-term, liquid deposits and making longer-term, illiquid loans. The two aspects are intertwined: for instance, in stressful market condition, a short-term security can be less liquid (measured using bid-ask spreads) than a medium term instrument.

Money Market Funds - In normal market conditions, Constant-NAV MMFs are able to maintain a stable Net Asset Value (NAV) because the difference between the market prices of the assets they hold and the value of the fund's shares is small. MMFs are required to track the price of shares using the market values of underlying securities to ensure that the deviation between this price and the amortized cost value is less than US$0.005/share. If the deviation is larger than this, the fund 'breaks the buck' (i.e. its NAV is below 99.5 cents/share or above 100.5 cents/share). C-NAV funds are more exposed to 'runs' than variable-NAV MMFs because investors expect the fund to 'break the buck'; in the case of a tail risk, there is a strong incentive to redeem before other investors (i.e. 'first mover advantage'). V-NAV MMFs are also affected by massive redemptions, but the phenomenon is smoothed out by the progressive price adjustment, reflecting the valuation of the underlining assets in a more transparent manner. In Italy, MMFs and other open-ended harmonized funds have been regulated since 1983. All MMFs' assets are valued at *fair value* and their unit NAV changes accordingly, so no C-NAV MMFs are allowed to operate. Moreover, in order to prevent possible liquidity mismatching due to requests for redemptions by subscribers, the Italian authorities have enforced the European rules on the eligible assets in the most stringent manner. The Committee of European Securities Regulators (CESR), the predecessor of the ESMA, issued

specific guidelines in 2010. The International Organization of Securities Commissions (IOSCO) issued recommendations in October 2012,[82] which were subsequently endorsed by the FSB. In the US, the Securities and Exchange Commission (SEC) adopted amendments to the rules that govern MMFs in July 2014. The new rules required a floating NAV for prime MMFs with institutional investors and provided the boards of directors of non-government MMFs solely owned by retail investors with new tools, including liquidity fees and redemption gates, to manage redemption pressures.[83] The new rules also included enhanced diversification, disclosure and stress testing requirements, as well as updated reporting requirements for all MMFs. A two-year transition period has been set for the principal reforms to give both funds and investors time to fully adjust their systems, operations and investing practices.

In the EU, the European Commission issued a proposal for MMF regulatory reforms in September 2013.[84] The proposal included a 3% capital buffer for constant NAV funds, asset diversification requirements, daily and weekly liquidity requirements, as well as a number of other requirements relating to eligible assets, valuation methods, use of external credit ratings, transparency and reporting.[85] The European Parliament, taking stock of the Italian Presidency's proposal, introduced the creation of a new type of MMF called the Low-Volatility NAV MMF which may continue to use a stable NAV in more limited conditions[86]. In conceiving the LV-NAV MMFs we were inspired by the literature on flexible exchange rates versus credible target zones and fixed exchange rate regimes. The rationale of LV-NAV is to allow only a limited volatility for the underlying assets, while removing (or at least limiting) the cliff effect typical of the C-NAV MMFs. After long negotiations between the Commission, Council and Parliament (the 'trilogue') on November 2016, a provisional agreement has been reached.

Procyclicality in the repo market - In the context of repo market transactions, by procyclicality, we mean a self-sustaining negative spiral in asset and collateral pricing. When gross balance sheets are reduced through deleveraging finance market liquidity tends to dry-up. The procyclical behaviour of securities financing markets depends, in addition to changes in counterparty credit limits, on three underlying factors: (i) the value of collateral securities available and accepted by market participants (ii) the haircuts applied on those collateral securities and (iii) the rate at which collateral is reused. Protracted periods of low volatility, if combined with market exuberance and underestimation of risks, can set the stage for sudden market corrections. This, in turn, can cause market participants to exclude entire classes of collateral from their transactions, creating a vicious circle. The process of securities financing in the banking system is a traditional activity aimed at optimizing liquidity management. This activity, however, may also pose risks for the stability of financial systems. The FSB (2013) and European Systemic Risk Board (ESRB) (2013) highlighted the extent to which the use of securities financing increases interconnectedness among market participants and contributes to the build-up of leverage, both inside and outside of the banking system. Haircuts levels, and in particular, haircuts methodologies for collateral management in the repo market may exacerbate the pro-cyclicality of such leverage, specifically by the extent to which they decline in benign market environments (for example characterized by low market volatility and rising asset prices) and increase in periods of markets stress.

[82] See policy recommendations for money market funds, Final Report, FR07/12, 9 October 2012 (hereinafter the 'IOSCO recommendations'), available on the IOSCO's website at www.iosco.org.
[83] http://www.sec.gov/rules/final/2014/33-9616.pdf
[84] http://ec.europa.eu/internal_market/investment/docs/money-market-funds/130904_mmfs-regulation_en.pdf
[85] http://www.europarl.europa.eu/news/en/news-room/content/20150424IPR45829/html/Making-money-market-funds-more-resilient-to-financial-crises
[86] On the proposal of introducing the Low-Volatility MMFs (LV-NAV), see: Council of the European Union, (2014).

Proportionality criterion – The propoportionality criterion is intended as the exercise of the regulatory power suited to achieving the purpose, taking into consideration the size, specialization and organizational features of the intermediary. In practical terms, this means a difficult balance between the necessity to preserve the role of small intermediaries but also reaching the minimum operative scale so to preserve the "sound and prudent management" as well as the capacity of containing strategic risks (such as serious erosion of profitability or market shares) in adverse market conditions.

Repo and reverse repo (see 'Securities Financing Transactions').

Reputational risk - In 2009 the BCBS defined reputational risk as 'the risk arising from negative perception on the part of customers, counterparties, shareholders, investors, debt-holders, market analysts and other relevant parties or regulators that can adversely affect a bank's ability to maintain existing, or establish new, business relationships and continued access to sources of funding (e.g. through interbank or securitization markets).' (See BCBS, July 2009, *Enhancements to the Basel II framework, paragraph 47 and 'Implicit support'*).

Reuse of collateral and rehypothecation -The reuse of collateral broadly includes 'any use of assets received as collateral in a transaction by an intermediary or other collateral taker' (see 'Securities Financing transactions'). For example, in a repurchase transaction (repo), a dealer needing short-term cash to finance its inventory or proprietary trading positions may provide its counterparty with securities (collateral) and a commitment to repurchase the same type of collateral in the future at a fixed price in exchange for cash. Where permitted by the regulatory regime and/or legal contracts, the cash lender (i.e. collateral taker) may then reuse such securities, among other things, to pledge as collateral in a separate transaction with a third party. Collateral that is reused may be received in a variety of transactions (e.g. reverse repos, securities lending, margin lending and OTC derivatives).

Rehypothecation is a special case of re-use of collateral, restricted to the case where the intermediary uses the client's assets. In a typical rehypothecation transaction, securities that serve as collateral for a secured borrowing (e.g. a margin loan extended to a hedge fund) are further utilized by the dealer or bank making the loan. Frequently, the collateral taker in the first transaction either pledges the securities to one or more third parties to obtain financing to fund the margin loan or uses them to facilitate other transactions for clients (e.g. short sales). In some instances, where permitted by the relevant regulatory regime, financial intermediaries may use the securities to finance other activities not directly related to clients, including inventory or proprietary trading positions.

Safe harbor provision – When a firm files for bankruptcy, a stay goes into effect immediately and automatically. The stay prohibits a creditor from seizing or selling collateral, from starting or continuing litigation against the debtor, or taking other action to collect what the creditor is owed. In general, the stay has the purpose of giving the debtor breathing space and halting the destructive 'grab race' that might otherwise ensue as creditors seek to collect what they are owed before the debtor's assets are exhausted (Duffie and Skeel, 2012). In the U.S.A, since the enactment of the Bankruptcy Amendments and Federal Judgeship Act of 1984, repos on Treasury, federal agency securities, bank certificates of deposits, and bankers' acceptances have been exempted from the automatic stay in bankruptcy. The bankruptcy exception ensured the liquidity of the repo market by assuring lenders that they would get speedy access to their collateral in the event of a dealer default. In 2005, the safe harbor provision was expanded to repos written on broader collateral classes, including certain mortgage-backed securities. This broadening of acceptable collateral for the exemption from the automatic stay for repos allowed the repo market to fund credit collateral—and

thus directly fund the shadow banking system (Adrian and Ashcraft, 2012). For a discussion of this legal aspect, which played a critical role in the shadow banking system, see Duffie and Skeel, 2012).

Securities Financing Transactions (SFTs) - Securities financing transactions (SFTs) consist of any transaction that uses assets belonging to the counterparty to generate financing means. This mostly includes lending or borrowing securities and commodities, and repurchase (repo) or reverse repurchase transactions. Securities lending is a transaction in which an institution lends securities against appropriate collateral, subject to a commitment that the borrower will return equivalent securities at some future date or when requested to do so by the transferor. A repurchase agreement (repo) is an arrangement whereby an asset is sold while the seller simultaneously obtains the right and obligation to repurchase it at a specific price at a future date or on demand. The same transaction is called a reverse repo for the buyer of the asset. Repos are over-collateralized, and the difference between the value of the collateral and the sale price is called the repo haircut. [87]

Repos and reverse repos are generally motivated by the need to borrow or lend cash in a secure way, while the securities lending market is primarily driven by the demand for specific securities and is used, for instance, for short selling or settlement purposes. The SFT market plays a central role in the modern financial ecosystem: it represents a key channel for the monetary policy transmission mechanism and is crucial for market-making activities in order to support price discovery and secondary market liquidity for a variety of securities. However, such transactions can also be used by market participants to take on leverage as well as to engage in liquidity and maturity transformation.

In a typical repo transaction, the legal ownership of the collateral is therefore transferred from the cash borrower to the cash lender, except for the economic benefits associated with ownership, such as dividends and coupons, which instead are paid back to the original owner of the collateral. This means that the cash lender, who is the legal owner of the collateral securities is entitled to sell the securities or post them as collateral in another transaction during the life of the repo transaction, usually a very short period of time. A bank or broker-dealer may finance a reverse repo with cash received in a repo against the same type of collateral. In other words, the securities collateral received from the reverse repo transaction is reused to collateralize the repo cash borrowing. Alternatively, the bank or broker-dealer could reuse the collateral received from the original reverse repo to collateralize a different type of transaction entirely. For example, it could use the collateral as initial margin in connection with an OTC derivative transaction. Similarly, it could reuse the collateral for short-selling purposes (e.g. a broker-dealer might lend out the securities received as collateral to another broker-dealer who needs them to complete a short sale). Another example of reuse in this context is the rehypothecation of assets that have been used by clients to collateralize margin loans. A broker-dealer usually finances such margin lending through various funding sources, such as by using customers' free credit balances or by entering into a subsequent transaction with a third party (e.g. it reuses the securities collateral it has received from its client to generate cash via a repo transaction). (see 'Reuse of collateral and rehypothecation').

Securities Financing Transactions Regulation (SFTR) - Under the impulse of the G-20 and of FSB, the European Parliament and the Council formally adopted a Regulation (SFTR) on the reporting and transparency of securities financing transactions in the EU area.[88] The regulation

[87] See also: International Capital Market Association (2013).

[88] Regulation (EU) 2015/2365 of the European Parliament and of the Council published in the EU Official Journal on 23 December 2015.

mainly requires all SFTs to be reported to central databases known as trade repositories (TRs), ensuring that all relevant EU competent authorities have direct access to such information in order to enable them to fulfil their respective responsibilities and mandates. Direct access to TRs should also be guaranteed to the ESRB and the ESCB so that they can pursue their mandates (e.g. financial stability, monetary policy and oversight of financial market infrastructures).

The FSB also issued a Regulatory framework for haircuts on non-centrally cleared securities financing transactions (FSB, 2015a), aimed at limiting the build-up of excessive leverage and reducing the procyclicality of such leverage outside the banking system. The document sets out qualitative standards for methodologies used by market participants to calculate proper haircuts on the collateral received against the provision of secured funding and includes a detailed framework of numerical haircut floors that will apply to non-centrally cleared securities financing transactions in which financing against collateral, other than government securities, is provided to non-banks. Haircut methodologies should be designed to limit potential procyclical fluctuations in haircuts by moderating the extent to which they decline in benign market environments and by mitigating their potential increase in volatile periods. Moreover, through the introduction of a numerical haircut floor framework (that establishes possible haircut levels for securitized products, non-sovereign bonds and main equity indexes) for the abovementioned transactions, it is possible to set an upper limit on the amounts that non-banks can borrow against different categories of securities. This measure is not intended to dictate market haircuts, which instead must be directly determined by market participants in the most granular way and in accordance with the abovementioned methodologies, but it should function primarily as a backstop in a benign market environment by limiting the possible build-up of excessive leveraged positions.

Securities lending (see 'Securities Financing Transactions').

Securitization - Securitization is a financial technique in which the credit risk inherent in a pool of assets (typically illiquid, such as mortgage loans, credit card or lease receivables) held by a special purpose vehicle (SPV) is transferred through negotiable securities (asset-backed securities - ABSs[89]) to the final investors. A key characteristic of this process is 'tranching': an issue of ABSs is 'tranched' into different subordination levels, so that the 'lower' tranches absorb the losses in the collateral pool until the corresponding notional is completely eroded. Furthermore, the running cash flows from the underlying assets are distributed across the classes of notes according to a fixed priority order, giving preference to the 'higher' tranches. (see 'Financial vehicles' in this Appendix).

Securitizations: accounting and monitoring aspects in Italy

Accounting aspects - The accounting and prudential framework set up for the securitization scheme aimed at reducing incentives to regulatory arbitrage (i.e.: the reductions in the capital requirement not justified by a corresponding transfer of credit risk to third parties). In particular, any credit enhancement mechanism provided by the originator to the SPV is weighted as junior or mezzanine tranches: this provision has not enabled the derecognition of securitized assets from banks/originators' balance sheets in the absence of effective risk transfer. As part of its effective supervision of the originators (banks or other financial intermediaries), the Bank of Italy makes a special effort to assess, at the origination and on an ongoing basis, the existence of explicit and implicit credit enhancement. As for the maturity/liquidity mismatch in the securitization structures, the development of short-term securities (asset-backed commercial papers - ABCP) has been

[89] We use the term 'ABS' for all the securities deriving from securitization transactions (e.g. RMBS, CMBS, CDO and so on). In other contexts 'ABS' only refer to notes, different from CDOs, collateralized by assets other than mortgages.

hampered in Italy by penalizing/unfavourable fiscal treatment. Some Italian banking groups have set up ABCP vehicles in foreign jurisdictions; however their relevance has been quite limited, also before the crisis.

Monitoring aspects - Securitization data are obtainable from external market vendors and supervisory reports. They provide basic information regarding securities listed on stock exchanges or securities with ratings from major rating agencies. The principal providers offer information especially regarding the issuing, tranches the main entities involved and so on. Since the data and information from market providers only cover the basic characteristics of the main securitizations, the set of information for Italy is complemented by a centralized register that is called the '*Anagrafe Titoli'*. This archive is based on two data sets which, for convenience, we call General Anagrafe Titoli (GAT) and Specific Anagrafe Titoli (SAT). Since the Bank of Italy is the national entity responsible for assigning the international code for the issuing of all financial instruments (ISIN code), it is in charge of setting up and maintaining the Anagrafe Titoli data set. In addition, statistics on FVC balance sheet items are collected by the Bank of Italy under the Regulation ECB/2013/40. Banks' reports on loan sales for securitization and servicers (banks and non- financial intermediaries) provide information on outstanding amounts on securitized and derecognized loans originated by banks.

Securitizations: international reforms - The Basel Committee published the revised prudential securitization framework in December 2014, which aims to address a number of shortcomings in the old framework, such as a mechanistic reliance on external ratings (i.e. the automatic application of a capital charge based on the rating assigned to an asset-backed-security by an external rating agency). The revised framework will be more risk-sensitive and more prudent because in the calculation of the capital charges related to securitization exposures it will make use of the best and most diverse information available to banks (i.e. not only external ratings assigned by rating agencies). Overall capital requirements have been significantly increased and capital requirements of senior securitization exposures backed by good quality pools will be subject to risk weights as low as 15% (the floor).

In July 2015 the Basel Committee and the International Organization of Securities Commissions issued a paper setting out the criteria for identifying simple, transparent and comparable (STC) securitizations in order to identify and assist the financial industry's development of simple and transparent term securitization structures with the final goal of revamping/overhauling the market. These criteria will help transaction parties – including originators and investors – to assess the risks of a particular securitization across similar products. The Basel Committee has decided to supplement the July 2015 criteria with additional specifications for the purpose of differentiating the capital charges between these transactions (labelled STC) and other transactions (labelled non-STC). Exposures in STC securitizations will be subject to lower capital requirements compared with non-STC exposures.

At European level a similar proposal has been made with reference to term securitizations; in addition, a proposal on 'tranched cover' will extend a lower capital charge to the 'senior positions in SME securitizations' which are related to the LGC type of business (see: Loan Guarantee Consortiums). A 'tranched cover' is a junior exposure coming from the tranching of a pool of underlying assets that is divided into at least two tranches (junior and senior). Usually the junior tranche (or tranched cover) is covered by a cash collateral posted directly with the originator and funded by public initiatives (e.g. regional funds). The senior tranche of such a transaction is subject to lower capital requirements.

Sponsorship - According to the Basel framework, a bank would generally be considered a sponsor and, in turn, an originator if it, in fact or in substance, manages or advises the programme, places securities into the market, or provides liquidity and/or credit enhancements. This definition was introduced into the Basel framework for securitization purposes and is used in this document in the broader context of shadow banking entities.

Step-in risk – This is need for banks or other entities to provide financial support beyond or in the absence of any contractual obligations to do so. The main reason for 'step-in risk' is reputational risk. The financial crisis provided clear evidence that banks have incentives beyond contractual exposures or ownership to 'step-in' to support entities to which they are connected, but do not consolidate under the applicable accounting standards. Prominent examples are the liquidity support to Conduit, SIVs and MMFs. Implicit support typically exceeds banks' contractual obligations, as it involves considerations such as a bank's brand protection or preservation of client relationships that are perceived as critical. Implicit support increases banks' exposure to credit, market, liquidity and legal risks (see 'Reputational risk').

Tri-party repo - Practices of collateral reuse may also depend on the type of infrastructure used, such as third-party custodians or central counterparties. The tri-party structure ensures that both the borrower and the lender are protected against the default of the other, as the collateral resides with a third party. A securities financing transaction (SFT) can be cleared through a central clearing system before being settled (this is particularly true for repos and OTC derivatives). During the entire life of the transaction, market participants can outsource the management of the collateral provided or received to a collateral manager, such as a triparty service provider. Triparty service providers allow their clients to optimize the use of collateral residing within a triparty system. Within a triparty platform, a client's collateral can be reused almost infinitely (on a title transfer basis). Depending on the type of market participants and products, bilateral or triparty repo arrangements are in place in different markets. For example, triparty repo arrangements are in place mostly in the US broker-dealer markets as well as in the EU, for certain types of collateral such as securitized products and main index equities.

During the financial crisis, as shown by the Federal Reserve Bank of New York (2010) white paper, the three critical sources of instability associated with practices in the triparty repo market were (1) the market's excessive reliance on intraday credit from clearing banks to broker-dealers (2) weaknesses in the liquidity and credit risk management practices of cash lenders and clearing banks that left them vulnerable to stress environments and (3) the lack of a mechanism or process for liquidating collateral during periods of stress in a manner that did not destabilize other segments of the financial system. When fire sales start, the transmission of instability typically occurs as a consequence of increased margin calls and mark-to-market losses that strain firms' liquidity and capital positions, putting additional pressure on firms to deleverage further. A repo central counterparty clearing house (CCP) with the ability to liquidate collateral in an orderly manner in case of default is a possible solution; however, some shadow banking entities (such as money market funds) are not allowed to enter into the typical loss-sharing agreements organized by CCPs.[90] Subsequently, these problems led to a wide range of reforms by the competent authorities.

[90] See Piggott (2014) and Dudley (2013).