THE BANK OF ITALY'S INTERVENTION POWER CONCERNING FINANCIAL INSTRUMENTS, STRUCTURED DEPOSITS AND RELATED FINANCIAL ACTIVITIES/PRACTICES: LEGAL, ANALYTICAL AND METHODOLOGICAL FRAMEWORK

(April 2024)

Contents

Introduction 2

1. Analysis and assessment of risks to financial stability arising from financial instruments 3

   1.1 The selection of potentially risky financial instruments (Module A) 3

   1.2 In-depth analyses of potentially risky financial instruments (Module B) 6

2. Survey on structured deposits offered by Italian banks 9

3. Market intelligence activities within the Bank of Italy 9

4. Control of the risks of money laundering and terrorist financing 10

5. The Bank of Italy's internal organization for performing analyses and adopting measures 11

Appendix A – European Commission Delegated Regulation (EU) 567/2017 of 18 May 2016 13

Appendix B – Glossary 17

Appendix C – Example of selection of financial instruments potentially risky to financial stability (Module A) 20

Appendix D – Example of an in-depth analysis of financial instruments potentially risky to financial stability (Module B) 26

Introduction

Regulation (EU) No 600/2014 (MiFIR), which entered into force on 3 January 2018, gave national supervisory authorities, and in some cases the European Securities and Markets Authority (ESMA) and the European Banking Authority (EBA), the power to prohibit or restrict:

(a) the marketing, distribution or sale of certain financial instruments or structured deposits; or

(b) a type of financial activity or practice.[1]

This 'product intervention power'[2] can be exercised if the analyses carried out by the competent authorities reveal significant risks to the protection of investors, the smooth functioning and integrity of financial and commodity markets, or the stability of the financial system or a part thereof. To guide the assessment of these risks, the legislation sets out a wide range of criteria.[3]

Before exercising intervention power, authorities are required to verify that it is not possible to address risks through other supervisory measures and that the measure is proportionate and non-discriminatory. The intervention power may be exercised through temporary or permanent measures (the latter allowed only for the national competent authorities) in respect of banks, investment firms and market operators.[4]

In Italy, Article 7-bis of the Italian Consolidated Law on Finance (TUF) has conferred on the Bank of Italy intervention power to safeguard the stability of the national financial system and on CONSOB as regards the protection of investors, the smooth functioning and integrity of the financial markets or the commodities markets. Each authority may exercise its intervention power after consulting the other. The TUF requires the two authorities to coordinate the exercise of their functions and to establish the procedures for cooperating and exchanging relevant information in a dedicated memorandum of understanding.[5]

The objective of the Bank of Italy's intervention power, i.e. the stability of the national financial system, is therefore different from its other powers to check the transparency of contractual conditions and the fairness of intermediaries' relations with customer. The latter two relate exclusively to banking and financial products and services (such as current accounts, deposits, financing, payment services) and not to those for investment purposes, which are subject to the supervision of CONSOB.

This document describes the procedures for carrying out the analyses and risk assessments by the Bank of Italy to support the possible exercise of its intervention power. It also provides, as examples, some results of such activities. For the most recent analyses and assessments, see the Bank of Italy's website: The Bank of Italy's intervention power concerning financial instruments structured deposits and related financial activities/practices.

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1 These relate, for example, to ways of placement, distribution strategies, incentive mechanisms related to the distribution of financial products.

2 Subsequently, for the sake of brevity, the term 'intervention power' is used.

3 For further details, see Article 21 of European Commission Delegated Regulation (EU) 2017/567, the text of which is set out in Appendix A.

4 Entities other than those specifically indicated by European legislation do not fall within the scope of the intervention power. Therefore, it is not possible to apply the intervention power to intermediaries supervised by the Bank of Italy other than banks and securities firms (SIMs), such as asset management companies (SGRs) and financial intermediaries included in the dedicated register provided for in Article 106 of the Italian Consolidated Law on Banking (TUB).

5 The Memorandum of Understanding, which is currently being negotiated, will cover in particular: (a) how the two authorities will exchange information; (b) the time limit in which each authority is required to issue its opinion in the event of a proposal to activate an intervention measure by the other; (c) the procedures for implementing and revising the Memorandum itself.

1. Analysis and assessment of risks to financial stability arising from financial instruments

The Bank of Italy has developed a methodological framework to identify and assess financial stability risk areas that may involve financial instruments traded, distributed or sold in Italy or from Italy. To this end, the relevant criteria for exercising the intervention power for financial stability purposes were first identified from the overall list of elements set out in the legislation. These criteria were then associated with appropriate metrics and methodologies for risk analysis and assessment. The analytical framework is constantly updated and refined to take into account, *inter alia*, new databases that may become available.

The analytical approach to identifying and assessing risks related to financial instruments is organized in two modules, performed sequentially: (a) in the first module (Module A) an automated procedure is used to produce an initial selection of the financial instruments potentially risky for the stability of the Italian financial system, based on an assessment of their complexity and amount outstanding; (b) the second module (Module B) provides for a detailed analysis of the risks posed by financial instruments identified in Module A or reported, for example, by market intelligence activities. Although it is based on quantitative elements, Module B is not fully automated, as at this stage it is possible to supplement quantitative analyses with discretionary assessments, for example regarding the extent to which the expected effects of the prohibition or limitations are adequate with respect to the risk identified.

The analysis based on the application of the two modules is carried out by the Bank of Italy at least twice a year and concludes with the preparation of a document summarizing the financial stability risks, which may include possible proposals for action measures. In addition to assessments of the specific risk typical of financial instruments, decisions on the use of the intervention power must also take into account considerations such as the existence of alternative intervention instruments and measures and the appropriateness of any measure to be taken in relation to the risks identified.[6]

1.1 The selection of potentially risky financial instruments (Module A)

For the first step of the analysis, a procedure with a high degree of automation was developed to identify financial instruments that, based on their complexity and the size of trading volumes, are assessed as potentially risky to financial stability and are selected for further analyses.

The types of financial instruments taken into account in Module A are based on the TUF's list,[7] which contains the following categories: (a) transferable securities; (b) money market instruments; (c) units in a collective investment undertaking; (s) options, futures, forwards and other derivatives contracts; (e) credit derivatives; (f) financial contracts for differences; (g) emission allowances.

To identify and analyse the above-mentioned financial instruments with reference to the Italian market, the Bank of Italy uses the statistical and supervisory reports that it receives from banks and other supervised intermediaries, the information from the Securities Database[8] and the reports received pursuant

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[6] MiFIR requires the competent authority, before exercising its intervention power, to verify that: (a) the existing regulatory requirements do not sufficiently address the risks identified; (b) the issue would not be better addressed by improved supervision (Article 42(2)(b) and (c). The legislation also requires that the measure be proportionate, for example in relation to the nature of the risks identified, the level of sophistication of investors and its likely impact.

[7] For further details, see Annex 1, Section C, of the TUF, implementing Annex 1, Section C of Directive 2014/65/EU on markets in financial instruments (MiFID2).

[8] Institutions' individual reports are used for the analyses, which are more detailed and complete than consolidated reports.

to Article 129 of the TUB.[9] Derivatives are instead analysed using the data collected by trade repositories under Regulation (EU) No 648/2012 (European Market Infrastructure Regulation, EMIR).[10]

Table 1 provides a detailed list of financial instruments considered, divided into securities and derivatives, together with the associated information sources. The proposed classification of the securities is more granular than that indicated by the TUF,[11] thanks to the integration of statistical and supervisory reporting with the Securities Database. As for derivatives, a more precise classification can be obtained by using the EMIR database than by drawing on supervisory reporting templates. The availability of a detailed list makes it possible to carry out analyses on specific market segments and to exercise intervention power in a targeted manner on any risks identified.

In Module A, a financial instrument is considered to be potentially risky if it is complex and if the notional value in circulation exceeds a specific threshold for each instrument. The selection criteria are applied as follows:

Complexity. – Each type of financial instrument is assigned a complexity indicator (0/1) based on the linearity of the payoff and the nature of any underlying assets. A financial instrument is considered complex if any of the following occurs:

a) the payoff is more structured than that of a plain vanilla option (e.g. some certificates);
b) the payoff or underlying reference asset is structured (e.g. structured bonds);
c) the underlying asset, if any, is represented by a derivative (i.e. the degree of derivation is equal to or greater than 2, e.g. swap options).

Table 1 shows the degree of complexity attributed to the different categories of financial instruments according to the above-mentioned criteria. These criteria are reviewed regularly to take into account changes that may affect the characteristics of new issues.

Volumes. – For each complex financial product class, the outstanding volumes of instruments (mainly nominal values for securities and notional values for derivatives) are analysed. More specifically, for securities, the time series of the value of the instrument is calculated taking the last five years into account, while a shorter time series is considered for derivatives given that EMIR data are available only as from January 2021. In both cases, the 90th percentile of the historical distribution is identified as the relevant threshold. Complex financial instruments with volumes above the threshold value are selected for analytical analysis in Module B.

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[9] For further details, see the Bank of Italy's final reporting provisions relating to the issue and offer of financial instruments.

[10] EMIR imposes a number of obligations on the counterparties to a derivatives contract in order to mitigate the risks associated with derivatives markets and improve their transparency. For more information, see the Bank of Italy's website: EMIR Regulation (content available only in Italian).

[11] Financial contracts for differences are an exception, as they are included in the list provided by the TUF but not in the classification provided by Bank of Italy Circular 154/1991. Granular information on this type of instrument is available in the EMIR data.

Table 1

Classification of financial instruments potentially subject to intervention power (1)

Macro-category	Complexity	Financial instruments	Data source
Securities	non-complex	self-securitizations (2) shares commercial paper covered bonds rights investment funds ordinary bonds foreign government securities Italian government securities other debt instruments (e.g. ETCs, ETNs,)	*Matrice dei conti* and Securities Database
	complex	securitizations certificates (3) structured bonds subordinated bonds additional tier 1 subordinated bonds (AT1)	*Matrice dei conti* , Securities Database and reporting under Article 129 of the Consolidated Law on Banking
Derivatives	non-complex	forwards futures forward rate agreements (FRA) plain vanilla options swaps other than CDSs	EMIR database
	complex	contracts for differences (CFD) credit default swaps (CDS) other options (non-plain vanilla) spread bets swaptions options, non-plain vanilla other derivatives contracts	EMIR database

(1) For definitions of individual financial instruments, see the Glossary in Appendix B. – (2) In self-securitization transactions, the originating bank buys all the securities issued by the special purpose vehicle (SPV) used for the transaction. The securities are held in portfolio in order to be used as collateral in central bank refinancing operations where necessary. The assets remain on the balance sheet, while the underlying securities are recorded off-balance sheet to avoid duplication of assets. – (3) Certificates include covered warrants and credit-linked notes.

Different databases are used to perform the complexity and volume analyses for both the securities and derivatives macro-categories listed in Table 1. With regard to securities, the information at the individual issue level is drawn from the supervisory reports of banks regulated by Bank of Italy Circular 272/2008 (*Matrice dei conti*). Using the ISIN code, the information from the above-mentioned databases is supplemented with information from the Securities Database and the reports under Article 129 of the Consolidated Law on Banking. At present, the scope of the analysis encompasses those debt securities deposited in Italy and those issued by resident entities. The availability of a rich and articulated information base makes it possible to analyse even more granular categories with regard to instruments classified as securities.

For derivatives, however, the data in the supervisory reporting templates are not sufficiently detailed.[12] The decisions was therefore made to exploit the EMIR database, which contains daily information on the

[12] In the supervisory reporting templates, the information is usually reported in an aggregate form, with reference not to the individual contract but to the broader type of instrument, the economic nature of the underlying instrument and the direction

individual transactions carried out by financial and non-financial counterparties (Italian entities or those with an Italian parent company). Use of the database also means that it is possible to more precisely classify complex derivatives and eliminate any overlap in those cases in which the same contract is reported by more than one party. The high granularity of the information available in the EMIR database, such as information on contract type, exercise type, type of underlying, CFI code (classification of financial instruments), type of evaluation (mark-to-market, mark-to-model, CCP methodology), makes it possible to identify the different types of exposures to derivatives, as well as to determine the degree of financial engineering of these instruments. The scope of the analysis is now broader in terms of the type of derivative, the nature and residence of the counterparties than it was when supervisory reports were used.

An example of the application of Module A is provided in Appendix C. For the most recent analyses and assessments, see the Bank of Italy website: The Bank of Italy's intervention power concerning on financial instruments, structured deposits and related financial activities/practices.

1.2 In-depth analyses of potentially risky financial instruments (Module B)

For the second stage of the analyses (Module B), a procedure was developed to assess the risks to financial stability posed by the financial instruments identified through automated selection of Module A or other ways (e.g. market intelligence). In Module B, the risks faced by holders of financial instruments (i.e. institutional or retail investors) and the risks to which issuers and dealers of financial instruments are exposed are combined.

Since the analyses seek to identify which instruments that pose a risk to systemic stability could trigger the intervention power, they have focused on the criteria set out in the Delegated Regulation that are relevant to financial stability (see the list in Annex A). Among the criteria to be assessed are those related to the instrument's complexity (criterion a), market size (criterion b), leverage characteristics (criterion e), risk and return factors (criterion f), and liquidity (criterion g). There is also a specific criterion regarding the distribution of a financial instrument as a source of funding for the issuer or financial institutions (criterion t). A further criterion refers to the possibility that a financial product or a related activity/practice may represent material risks to the market infrastructure or payment systems infrastructure (criterion u).

To help guide a more thorough evaluation, a taxonomy of risks to financial stability has been developed, including the related variables and indicators to be analysed for each financial instrument. Table 2 identifies the main areas to be considered, relating to: (a) complexity; (b) risk characteristics of the instrument; (c) characteristics of the target market; (d) the characteristics of the issuer; (e) market liquidity. For each of these macro-areas, the analysis focuses on some indicative variables (e.g. leverage ratios, price volatility indicators and underlying market/instrument indices, yield indices, volumes and concentration indices of the instruments held, liquidity indicators).

Module B proposes an open analytical framework, since the heterogeneity of the financial instruments potentially subject to attention does not allow the ex-ante construction of a single quantitative analysis model and is not prone to automated procedures. Specific methodologies for analysing and assessing the risks posed by specific financial instruments are then identified and designed ad hoc on a case-by-case basis by the experts involved in the analyses.

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of the position taken (e.g. 'long position in commodity options for hedging purposes'). Furthermore, the scope of analysis includes only contracts signed between resident banks and the level of aggregation of the information does not always allow the analysis of the historical volume series to be performed.

The Bank of Italy has a wide range of information available to conduct analyses of the riskiness of financial instruments. With regard to debt securities and capital, the data available through supervisory reporting – relating to Circulars 27/1991 (*Matrice dei conti*, banks), 189/1993 (harmonized funds), 148/1991 (SIM) and related reporting templates (Circular No 154/1991) – constitute a sufficiently rich information base, which is supplemented with data from the Securities Database, the reports under Article 129 of the TUB, and market data from the Bloomberg and Refinitiv platforms.

With regard to derivatives, however, the analysis exploits the data contained in the EMIR database available on the Bank's 'big data platform'.

An example of the application of Module B to certificates can be found in Appendix D. For the most recent analyses and assessments, see the Bank of Italy's website: The Bank of Italy's 'intervention power' concerning on financial instruments, structured deposits and related financial activities/practices.

Table 2

Indicators and variables to be analysed for possible types of risk

Type of risk	Indicators and variables	Data source
Complexity of the instrument	complexity	*Matrice dei conti*, Securities Database, reporting under Article 129 of the Consolidated Law on Banking and EMIR database (1)
	leverage ratio	Reporting under Article 129 and EMIR database (1)
	use of the instrument (speculation/hedging)	*Matrice dei conti*
	existence of the instrument on a regulated market (quoted/not quoted)	Securities Database, reporting under Article 129 of the Consolidated Law on Banking and EMIR database (1)
Riskiness of the instrument	volatility of the instrument underlying volatility percentage change in the price of the instrument over the past 6 months percentage change in the price of the underlying over the past 6 months issuer/counterparty credit rating credit rating of the underlying	Bloomberg and Refinitiv
	estimated yield at issue	Reporting under Article 129 of the Consolidated Law on Banking
	currency of instrument	Securities Database and EMIR database (1)
	level of collateralization presence of margins presence of central counterparties	EMIR database (1)
Characteristics of the market	volume at issue volume in circulation	*Matrice dei conti*, Securities Database, reporting under Article 129 of the Consolidated Law on Banking and EMIR database (1)
	market value of the instrument	Bloomberg, Refinitiv and EMIR database (1)
	concentration index (Gini/Herfindahl-Hirschman) average weight of the instrument in systemic intermediaries' portfolios number of intermediaries owning the instrument	*Matrice dei conti* and EMIR database (1)
Characteristics of the issuer	distance to default creditworthiness leverage return on equity (ROE) return on assets (ROA)	Bloomberg and Refinitiv
Market liquidity	instrument bid-ask spread bid-ask spread of the underlying average trading volume of the instrument average trading volume of the underlying	Bloomberg and Refinitiv
	redemption rates of the instrument (in case of early repayment)	*Matrice dei conti*, Securities Database and EMIR database (1)

(1) Data under EMIR.

2. Survey on structured deposits offered by Italian banks

As the information on structured deposits offered by Italian banks to their customers is currently not subject to supervisory reporting by banks,[13] a specific survey addressed to all banks was conducted in early 2021; the survey may be repeated in the future when deemed appropriate.

Structured deposits are defined in Article 1(6)-*decies* of the TUF as deposits whose return is linked to factors such as:

- an index or a combination of indices, except variable rate deposits whose return is directly linked to an interest rate such as EURIBOR or LIBOR;
- a financial instrument or a combination of financial instruments;
- a commodity or combination of commodities or other intangible goods, or
- an exchange rate or a combination of exchange rates.

The survey collected quantitative and qualitative information on structured deposits with reference to 30 September 2020.

With regard to quantitative information, intermediaries were asked for: (a) the nominal amounts of structured deposits underwritten by customers by type of structured deposit; and (b) the number of products with different characteristics. If the total subscribed amounts exceeded €5 million, their breakdown by type of customer and product was also required. Qualitative information included the possibility of early repayment, the presence of any associated penalties, and the structure of the return.

The questionnaire was addressed to all Italian banks and branches of foreign banks, included in the register referred to in Article 13 of the TUB, totalling 467 intermediaries. Some 390 banks responded to the questionnaire, accounting for 96 per cent per cent of total deposits as at 30 September 2020.[14]

According to the information received, only four banks offered their customers structured deposits, amounting to around €25 million in total. All other banks participating in the survey said that they had not offered such deposits to their customers in the period since 2018. Overall, structured deposits from Italian banks offering this type of product account for only 0.3 per cent per cent of their total deposits.

Given their small size, structured deposits do not currently represent a risk to financial stability. However, the Bank of Italy will continue to monitor market developments in order to assess possible interventions.

3. Market intelligence activities within the Bank of Italy

In order to gather information on potential areas of risk that are not easily identifiable by means of database analyses – such as risks relating to areas involving financial innovation or financial activities and practices, which are not explicitly defined in the legal provisions – the Bank of Italy regularly carries out a survey involving the internal structures engaged in market intelligence or other institutional activities – which may be useful for the possible exercise of product intervention power.[15]

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[13] In 2018 the EBA, as part of its activities to analyse the structured deposit market, conducted a survey via national supervisors to collect — for a representative sample of banks and Member States — information on outstanding volumes (see EBA, 'Report on cost and past performance of structured deposits', January 2019).

[14] 'Total deposits' means deposits and certificates of deposit.

[15] These activities include: the analysis of financial market structure and developments, the oversight of financial and credit intermediaries and market infrastructures, market operations and the analysis of portfolio risks.

The survey collects information from internal or external sources (e.g. news from specialist press releases, private analysts' newsletters, analysis and reports of investment companies) on cases that may merit further analysis for the possible use of product intervention powers, with particular reference to the potential impacts on financial stability.

The scope of the reporting includes financial instruments and financial activities/practices as defined below.

Financial instruments. — The detailed list of financial instruments is provided in Table 1. In identifying potentially relevant cases, the reporting structures take into account the following (non-exhaustive) characteristics of financial instruments: degree of complexity of the instrument, size of the reference market, leverage characteristics, risk-return profile, liquidity, the way in which the financial instrument is distributed as a source of funding to the issuer, the possibility that a financial product may pose material risks to markets, market infrastructures or a part of the financial system. For more details, see the list in Annex A (Article 21 of Commission Delegated Regulation (EU) 567/2017).

There is specific interest concerning the information that may be derived from the issuance plans for financial instruments that the supervisory structures should be aware of in the course of their regular supervision of credit and financial intermediaries.

Financial activities and practices. — The Regulation does not define the financial activities/practices that may be subject to an intervention measure. The reasons for the lack of a definition is that it is extremely difficult to identify *a priori* all the possibilities that could arise from financial innovation.

In this respect, the following cases are referred to when talking about financial activities/practices in the survey.

a) For the oversight of banking and financial intermediaries, the strategies and methods for placing potentially risky financial instruments are assessed, including in relation to the type of target customer.

   This profile is already envisaged by the product governance requirements, designed to ensure that the financial instrument is suitable given the characteristics and needs of the target customer, from the time of its creation until the time of its distribution.[16] However, there may be cases that do not fit this profile, for example relating to incentive mechanisms associated with the distribution of financial instruments or to the use of technological distribution channels.

b) For the oversight of markets, an assessment is made of behaviour that may expose intermediaries and market operators to contagion effects, leading to a concentration of risk in specific sectors or in intermediaries or market infrastructures.

   A potential concentration of risks in the financial system could also result from innovative financial activities/practices that, as such, are not yet recorded and regulated. In this case, the product intervention measure is applicable after verifying that these behaviours are not covered by the market abuse and short-selling regulations.

4. Control of the risks of money laundering and terrorist financing

One of the relevant criteria for applying the product intervention power for financial stability purposes is the possibility that a financial product may have characteristics that encourage its use for the

[16] CONSOB is responsible for overseeing these rules.

purposes of organized crime, money laundering or terrorist financing (see criterion p in Annex A). To take these aspects into account, a specific bi-directional collaboration has been established between the Unit responsible for the product intervention power and the Financial Intelligence Unit for Italy (UIF).

Through this cooperation, the Unit responsible may consult the UIF about aspects, within its competence, of specific financial instruments that its analyses have identified as potentially risky. Likewise, the UIF may also notify the Unit about financial instruments it comes across in performing financial and/or on-site analysis to uncover money laundering or terrorist financing transactions.

5. The Bank of Italy's internal organization for performing analyses and adopting measures

In order to exploit the Bank of Italy's existing analytical capabilities and procedures for assessing risks to financial stability, the exercise of product intervention powers has been allocated to the Financial Stability Directorate of the Directorate General for Economics, Statistics and Research. The Financial Stability Analysis and Coordination Division, which is responsible for the product intervention powers, centralizes and collects the information needed to perform the analyses and serves as contact points for interactions with other Bank and external structures.

The internal coordination mechanisms have been enhanced in view of the cross-cutting nature of the process and the need to systematically involve several functions. First, the Financial Stability Coordination Committee (FSCC) was given[17] the task of promoting the coordination of information and discussing analysis and possible intervention measures, in line with the tasks already allocated to implementing macroprudential measures. An inter-departmental working group was also set up, comprising representatives of various Bank directorates, with the aim of fine-tuning the analytical tools available and ensuring the inflow of the information needed to carry out the analyses; the group is also a forum for experts from different functions, which can be activated swiftly in case of urgency.

If the intervention power is exercised, the measure is adopted by taking the following steps:

1) assessment of the proposed action by the FSCC;
2) the preliminary assessment and the draft measure — to be adopted on an ordinary or urgent basis — is sent to the Governing Board, accompanied by an opinion from the FSCC;
3) prior consultation with CONSOB, ESMA, EBA and other relevant authorities pursuant to MiFIR;
4) public consultation on the intervention measure, where necessary;
5) following assessment of the opinions and any observations expressed by the authorities concerned, submission of the final adoption of the product intervention measure to the Governing Board.

If it is necessary to take urgent action (in accordance with Article 42(4) of MiFIR), only the first three steps (consultation with the European and other authorities concerned would be replaced by a notification) would be followed.[18]

In the event of the adoption of an intervention measure directed at a variety of recipients, the procedure laid down in the Bank of Italy Regulation of 9 July 2019 – implementing Article 23 of Law 262/2005 (Provisions for the protection of savings and the regulation of the financial markets) – which

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[17] The Financial Stability Coordination Committee acts as a liaison for internal and external analysis and documentation and for coordinating relations with relevant international fora in the area of financial stability. With reference to the activation of macroprudential measures and the product intervention power, it formulates assessments of proposals to activate those measures for subsequent adoption by the Governing Board; it can also at its own initiative launch the measures, involving the relevant structures in the process.

[18] Measures adopted under the urgent action procedure may last no longer than three months.

provides for the use of better regulatory tools, would be followed. Both a public consultation and an impact analysis would then be carried out in advance.

However, if the intervention measure are addressed to individual intermediaries, the rules laid down in the Bank of Italy Regulation of 21 July 2021 on administrative procedures, which provide, *inter alia*, for the right to participate in the proceedings of interested parties by submitting statements and documents concerning the measure, would be adopted.[19]

[19] For more details, see the Bank of Italy's website: Administrative proceedings and right of access.

Appendix A

European Commission Delegated Regulation (EU) 567/2017 of 18 May 2016

supplementing Regulation (EU) No 600/2014 of the European Parliament and of the Council with regard to definitions, transparency, portfolio compression and supervisory measures on product intervention and positions

Article 21

Criteria and factors to be taken into account by competent authorities for the purposes of product intervention powers (*the criteria relevant for financial stability assessments are highlighted in italics*)

1. For the purposes of Article 42(2)(a) of Regulation (EU) No 600/2014, competent authorities shall assess the relevance of all factors and criteria listed in paragraph 2, and take into consideration all relevant factors and criteria in determining when the marketing, distribution or sale of certain financial instruments or structured deposits or financial instruments or structured deposits with certain specified features or a type of financial activity or practice creates a significant investor protection concern or a threat to the orderly functioning and integrity of financial markets or commodity markets or to the stability of the whole or part of the financial system within at least one Member State.

   For the purposes of the first subparagraph, competent authorities may determine the existence of a significant investor protection concern or a threat to the orderly functioning and integrity of financial markets or commodity markets or to the stability of the whole or part of the financial system within at least one Member State based on one or more of those factors and criteria.

2. The factors and criteria to be assessed by competent authorities to determine whether there is a significant investor protection concern or a threat to the orderly functioning and integrity of financial markets or commodity markets or to the stability of the whole or part of the financial system within least one Member State shall include the following:

   a) the degree of complexity of the financial instrument or type of financial activity or practice in relation to the type of clients, ass assessed in accordance with point (c), involved in the financial activity or financial practice, or to whom the financial instrument or structured deposit is marketed or sold, taking into account, in particular:

   - *the type of underlying or reference assets and the degree of transparency of the underlying or reference assets;*
   - *the degree of transparency of costs and charges associated with the financial instrument, structured deposit, financial activity or financial practice, and, in particular, a lack of transparency resulting from multiple layers of costs and charges;*
   - *the complexity of the performance calculation, taking into account whether the return is dependent on the performance of one or more underlying or reference assets which are in turn affected by other factors or whether the return depends not only on the values of the underlying or reference assets at the initial and maturity dates, but also on the values during the lifetime of the product;*
   - *the nature and scale of any risks;*
   - *whether the product or service is bundled with other products or services;*
   - *the complexity of any terms and conditions;*

   b) the size of potential detrimental consequences, considering in particular:

   - *the notional value of the financial instrument or of an issuance of structured deposits;*
   - *the number of clients, investors or market participants involved;*
   - *the relative share of product in investors' portfolios;*

- *the probability, scale and nature of any detriment, including the amount of loss potentially suffered;*
- *the anticipated duration of the detrimental consequences;*
- *the volume of the issuance;*
- *the number of intermediaries involved;*
- *the growth of the market or sales;*
- *the average amount invested by each client in the financial instrument or structured deposit; or*
- *the coverage level defined in Directive 2014/49/EU, in the case of structured deposits;*

c) the type of clients involved in a financial activity or financial practice or to whom a financial instrument or structured deposit is marketed or sold, taking into account, in particular:

- whether the client is a retail client, a professional client or an eligible counterparty;
- clients' skills and abilities, including the level of education, experience with similar financial instruments or structured deposits or selling practices;
- clients' economic situation, including their income, and wealth;
- clients' core financial objectives, including pension saving and home ownership financing;
- whether the product or service is being sold to clients outside the intended target market or where the target market has not been adequately identified; or
- the eligibility for coverage by a deposit guarantee scheme, in the case of structured deposits;

d) the degree of transparency of the financial instrument, structured deposit or type of financial activity or practice, taking into account, in particular:

- the type and transparency of the underlying;
- any hidden costs and charges;
- the use of techniques drawing clients' attention but not necessarily reflecting the suitability or overall quality of the product, the financial activity or the financial practice;
- the nature of risks and transparency of risks;
- the use of product names or terminology or other information that is misleading by implying a greater level of security or return than those which are possible or likely, or which imply product features that do not exist; or
- in case of structured deposits, whether the identity of deposit takers which might be responsible for the clients' deposit is disclosed;

e) the particular features or components of the structured deposit, financial instrument, financial activity or financial practice, including any embedded leverage, taking into account, in particular:

- *the leverage inherent in the product;*
- *the leverage due to financing;*
- *the features of securities financing transactions; or*
- *the fact that the value of any underlying is no longer available or reliable;*

f) the existence and degree of disparity between the expected return or profit for investors and the risk of loss in relation to the financial instrument, structured deposit, financial activity or financial practice, taking into account, in particular:

- *the structuring costs of such financial instrument, structured deposit, financial activity or financial practice and other costs;*
- *the disparity in relation to the issuer's risk retained by the issuer; or*
- *the risk-return profile;*

g) the costs and ease with which investors are able to sell the relevant financial instrument or switch to another financial instrument, or exit a structured deposit, taking into account, in particular, where applicable depending on whether the product is a financial instrument or structured deposit:

- *the bid-ask spread;*
- *the frequency of trading availability;*
- *the issuance size and size of the secondary market;*
- *the presence or absence of liquidity providers or secondary market makers;*
- *the features of the trading system; or*
- *any other barriers to exit or the fact that early withdrawal is not allowed;*

h) the pricing and associated costs of the structured deposit, financial instrument, financial activity or financial practice, taking into account, in particular:

- *the use of hidden or secondary charges; or*
- *charges that do not reflect the level of service provided;*

i) the degree of innovation of a financial instrument or structured deposit, a financial activity or financial practice, taking into account, in particular:

- *the degree of innovation related to the structure of the financial instrument, structured deposit, financial activity or financial practice, including embedding and triggering;*
- *the degree of innovation relating to the distribution model or length of the intermediation chain;*
- *the extent of innovation diffusion, including whether the financial instrument, structured deposit, financial activity or financial practice is innovative for particular categories of clients;*
- *innovation involving leverage;*
- *the lack of transparency of the underlying; or*
- *the past experience of the market with similar financial instruments, structured deposits or selling practices;*

j) the selling practices associated with the financial instrument or structured deposit, taking into account, in particular:

- the communication and distribution channels used;
- the information, marketing or other promotional material associated with the investment;
- the assumed investment purposes; or
- whether the decision to buy is secondary or tertiary decision following an earlier purchase;

k) the financial and business situation of the issuer of a financial instrument or structured deposit, taking into account, in particular:

- *the financial situation of the issuer or any guarantor; or*
- *the transparency of the business situation of the issuer or guarantor;*

l) whether there is insufficient, or unreliable, information about a financial instrument or structured deposit, provided either by the manufacturer or the distributors, to enable market participants at whom it is targeted to make an informed decision, taking into account the nature and type of the financial instrument or structured deposit;

m) whether the financial instrument, structured deposit, financial activity or financial practice poses a high risk to the performance of transactions entered into by participants or investors in the relevant market;

n) whether the financial activity or financial practice would significantly compromise the integrity of the price formation process in the market concerned such that the price or value of the financial instrument or structured deposit in question

is no longer determined according to legitimate market forces of supply and demand, or such that market participants are no longer able to rely on the prices formed in that market or in the volumes of trading as a basis for their investment decisions;

o) whether a financial instrument, structured deposit, financial activity or financial practice would leave the national economy vulnerable to risks;

p) whether the characteristics of a financial instrument or structured deposit make it particularly susceptible to being used for the purposes of financial crime and, in particular, whether the characteristics could potentially encourage the use of the financial instrument or structured deposit for:

- *any fraud or dishonesty;*
- *misconduct in, or misuse of information, in relation to a financial market;*
- *handling the proceeds of crime;*
- *the financing of terrorism; or*
- *facilitating money laundering;*

q) whether a financial activity or financial practice poses a particularly high risk to the resilience or smooth operation of markets and their infrastructure;

r) whether a financial instrument, structured deposit, financial activity or financial practice could lead to a significant and artificial disparity between prices of a derivative and those in the underlying market;

s) whether the financial instrument, structured deposit, financial activity or financial practice poses a high risk of disruption to financial institutions deemed to be important to the financial system of the Member State of the relevant competent authority, in particular considering the hedging strategy pursued by financial institutions in relation to the issuance of the structured deposit, including the mispricing of the capital guarantee at maturity or reputational risks posed by the structured deposit or practice or activity to the financial institutions;

t) the relevance of the distribution of the financial instrument or structured deposit as a funding source for the issuer or financial institutions;

u) whether a financial instrument, structured deposit, financial activity or financial practice poses particular risks to the market or payment systems infrastructure, including trading, clearing and settlement systems; or

v) whether a financial instrument, structured deposit, financial activity or financial practice would threaten investors' confidence in the financial system.

Appendix B

Glossary

Additional tier 1 subordinated bonds (AT1, also known as contingent convertibles, CoCo). Subordinated debt securities eligible as Additional Tier 1 capital, as defined in Regulation (EU) No 575/2013, as amended by Regulation (EU) No 876/2019. These are hybrid financial instruments that, under certain trigger events, allow losses to be absorbed in a bank's business-as-usual situation by converting into equity, reducing all or part of the nominal value (write-down) or cancellation of one or more coupons.

Bonds. Debt securities which give the investor (bondholder) the right to receive, at predefined maturities, the repayment of the subscribed principal and a remuneration in the form of interest (the coupon). For the issuing entity, which may be a state or other public sector entity, a supranational institution, a bank or other corporation, the obligation is a debt. Some bonds give the holder the right to convert them into shares of the issuing company or other companies in accordance with the pre-agreed terms and procedures. For many bonds, there is a secondary market on which they are traded.

Certificates. Debt securities that include a derivative component and that are negotiable on the capital market. The certificates are divided into four main types: (a) fully or partially protected capital certificates, less risky products similar to structured bonds; (b) yield enhancement certificates, uncovered capital products that aim to generate a higher return than bond yields, with a risk comparable to the underlying assets in the event of adverse market conditions; (c) certificates of participation, unsecured capital products that replicate the performance of one or more underlying assets, they may present conditional protection in the event of adverse market conditions or leverage under favourable conditions; (d) leverage certificates, leveraged products used predominantly with speculative and short-term investment perspectives.

Commercial papers. Short-term financing instruments, generally of less than or equal to one year.

Contracts for difference (CFD). Derivative instruments (other than options, futures and swaps) whereby the buyer and the seller exchange the difference between the current value of a given underlying and the value of the same underlying when the contract was opened. Upon entering the contract, the buyer pays only a part of the amount needed to invest in the underlying ('margin') and, if necessary, this margin is increased based on the performance of the underlying. CFDs are complex, leveraged, over-the-counter products typically used for speculative purposes.

Covered bonds. Asset-backed bonds intended, in the event of the issuer's insolvency, to have priority over bondholders' rights. Although the rules differ from country to country, these instruments are characterized by the dual level of protection of the collateral portfolio and the redemption obligation of the issuer. The operational framework envisages the transfer of high credit quality assets (mortgage and general government loans) from a bank to a special purpose vehicle (SPV) and the issuance by a bank, including other than the originator, of covered bonds backed by the SPV based on the assets purchased and comprising a separate asset.

Covered warrants. Debt securities ('securitized' derivatives) that include a derivative component and are negotiable on the capital market. The value of these securities is linked to one or more underlying assets. They are issued by entities other than the issuers of the assets to which the derivatives component refers. They can therefore also refer to assets such as commodities or indices.

Credit default swaps (CDS). Swap-type derivative contracts that give the party making periodic

payments the right to sell a bond at nominal value if a credit event occurs for the issuer.

Credit-linked notes. Structured bonds whose derivative component is a credit derivative.

Equities. Financial instruments representing a fraction of a company's share capital and giving the investor the status of a shareholder, its associated payment rights (e.g. profit participation) and/or control rights (e.g. voting right in meetings). The return on the shares is linked to the financial performance of the issuing company. Shares may be traded on regulated markets.

Exchange-traded commodities (ETC). Debt securities issued against the direct investment by the issuer in commodity or commodity derivatives contracts.

Exchange-traded funds (ETF). Investment funds that replicate the performance of a given stock market index; unit certificates shall be admitted to trading on a regulated market.

Exchange-traded notes (ETN). Debt securities traded on the capital market.

Foreign government securities. Debt securities issued by foreign states.

Forwards. Derivatives contracts that are generally not standardized, similar to futures but traded over the counter.

Forward rate agreements (FRA). Forward contracts, usually traded on over-the-counter markets, with which the parties agree to receive (pay) the difference between the value calculated by applying a predetermined interest rate to the transaction amount and the value obtained on the basis of the level of a reference rate chosen by the parties.

Futures. Standardized contracts whereby the parties agree to exchange at a predetermined price on a future date, currencies, securities or commodities. They are traded on trading venues where their execution is ensured.

Interest rate swaps (IRS). Derivatives contracts to exchange fixed rate and variable rate interest calculated on the basis of the same notional principal.

Investment funds. Entities in the form of stand-alone assets raised by a variety of investors, divided into units, established and managed by a fund manager.

Italian government securities. Debt securities issued by the Italian Treasury. Currently they comprise loans from the Republic, issued on foreign markets, and the following types of securities issued on the domestic market: BOT, BTP, CCT and CTZ.

Other credit derivatives. Derivatives contracts other than credit default swaps, the final value of which depends on the creditworthiness of one or more entities.

Other derivatives contracts. Derivatives contracts other than those described elsewhere herein.

Other options. Options other than other types described elsewhere herein.

Other swaps. Swap-type derivative contracts other than those described elsewhere herein.

Plain vanilla options. Derivative contracts that give the right, but do not impose the obligation, to buy or sell a financial instrument at a specified price or at a specified future date.

Securitizations. Transactions whereby a corporation (the originator) transforms non-marketable financial or real assets (e.g. loans granted by a bank) into marketable debt securities. The transaction takes place either by selling the assets to a special purpose vehicle (SPV) or through the use of financial derivatives. The payment to be paid by the SPV to the originator is obtained by issuing debt securities. The assets owned by the SPV (e.g. loans acquired by the originator) are intended exclusively for the

realization of the rights and interests of security holders. In Italy, this is mainly governed by Law No 130/1999.

Self-securitizations. Securitizations issued by the special purpose vehicle (SPV) and bought back by the originator.

Spread bets. Leveraged derivative instruments, similar to contracts for difference, whereby the buyer bets on the direction of future market movements.

Structured bonds. Bonds that include a derivative component, which allows investors to receive a return linked to the performance of one or more underlying assets (e.g. shares, indices, commodities, currencies).

Subordinated bonds. Bonds that, in the event of the liquidation or bankruptcy of the issuer, are redeemed after the ordinary creditors are repaid.

Subscription rights. Shareholders' rights to subscribe new shares at a certain price on the occasion of a capital increase. They are negotiable on the capital market.

Swaptions. Options on swaps whereby the buyer has the right, but not the obligation, to enter into a given swap contract on a certain future date.

Appendix C

Example of selection of financial instruments potentially risky to financial stability (Module A)[21]

Module A is applied separately to debt securities and derivatives.

C.1 Complex securities

The analysis is conducted on monthly data for the period from December 2008 to September 2021. The securities considered here comprise the different types of bonds and securitized financial instruments with characteristics typical of derivative contracts, such as certificates and covered warrants.[22]

According to the latest available data, only 15 per cent of the total outstanding securities can be considered complex (the same percentage as in September 2020), owing to the high weight of government bonds among those included in the scope of analysis (Figure C.1).

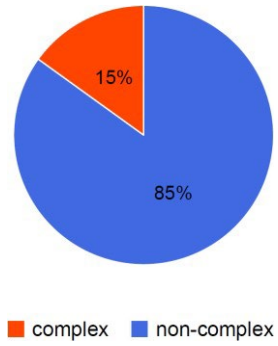
Among the complex securities, the most common at the end of September 2021 are securitizations, self-securitizations (26 per cent of the total in both cases), subordinated bonds (24 per cent) and certificates (11 per cent; figure C.2). These shares are almost unchanged compared with a year earlier.

The total value of the complex securities outstanding has remained broadly stable over the last five years, but there has been a contraction in structured bonds, offset by an expansion of the certificate market (Figure C.3). Market shares by holding sector have also remained stable over time, with Italian banks holding around one-third of the total value of the complex securities outstanding.

Figure C.1

Split between complex and non-complex securities (1)

(data as at 30 September 2021)



(1) Shares are calculated on the basis of the value of the instruments.

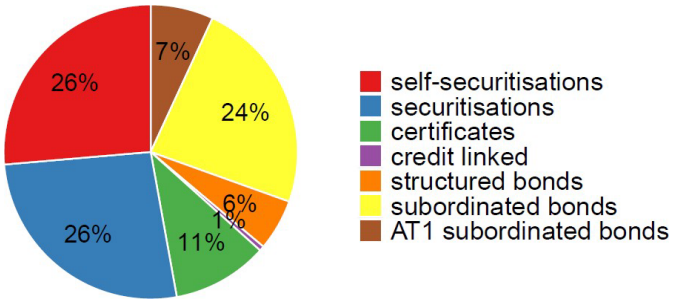
[21] For the most recent analyses and assessments, see the Bank of Italy's website: The Bank of Italy's intervention power concerning financial instruments, structured deposits and related financial activities/practices.

[22] The data reported in these analyses are different from those in the financial accounts because of both the different valuation criteria used (mainly at nominal value in this document and at market value in the financial accounts) and the amounts of debt securities considered (the part deposited in Italy and that included in the reports received pursuant to Article 129 of the TUB or in banks' balance sheets are considered in this document, excluding the Bank of Italy and intra-group operations; the financial accounts have a wider scope, which does not perform intra-group consolidations and includes securities held abroad and on the Bank of Italy's balance sheet).

Figure C.2

Breakdown of complex securities by type (1)

(data as at 30 September 2021)

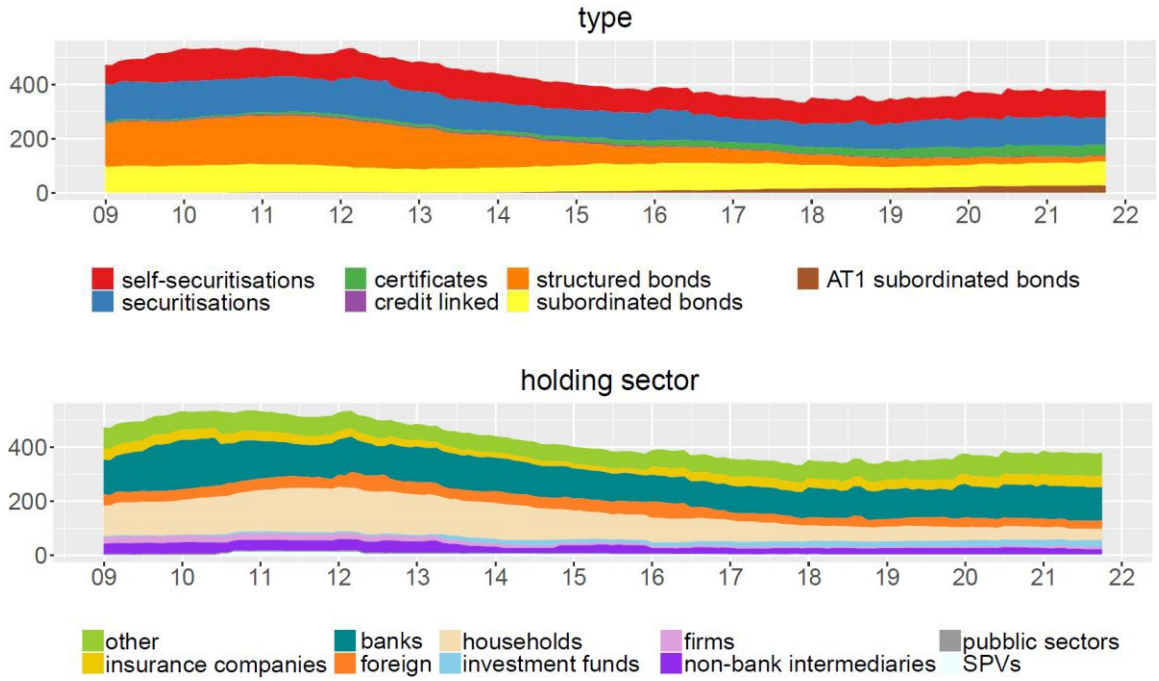


(1) Shares are calculated on the basis of the value of the instruments. For definitions of the financial instruments included in the legend, see the Glossary in Appendix B. Certificates include covered warrants; exchange-traded commodities and exchange-traded notes have been excluded from the analysis as they are negligible.

Figure C.3

Amounts of complex securities by type of instrument and by holding sector (1)

(billions of euros)



(1) For definitions of the financial instruments included in the legend, see the Glossary in Appendix B. Certificates include covered warrants; exchange-traded commodities and exchange-traded notes have been excluded from the analysis as they are negligible. The breakdown by holding sector represents the securities held directly by the members of the sector in question; indirect holdings of securities, e.g. through insurance policies or investment fund shares, are not taken into account. The item 'other' in the holder panel is a residual item that includes both the holding sectors other than those shown and where the holder sector is not available for the statistical and supervisory reporting used.

C.1.1 Composite securities held by households

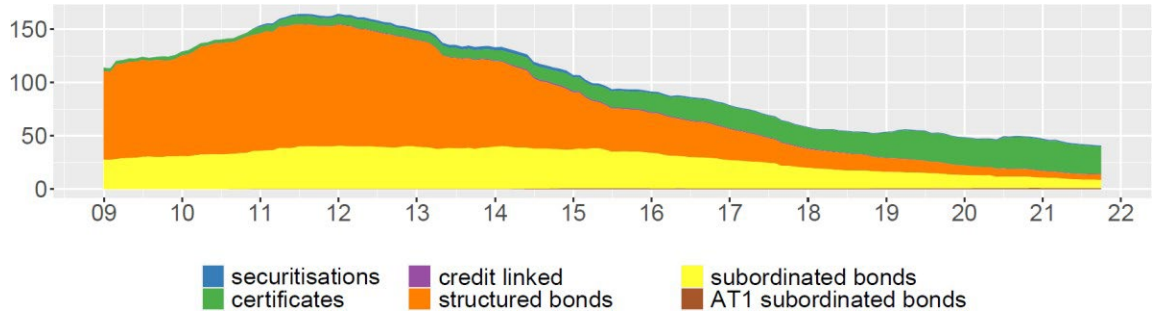
The securities held by households are particularly important for the assessments of risks to financial stability, because potential losses could either weaken the sector's ability to repay debt or create a crisis of confidence in the issuers (often financial intermediaries) or in the placement agents.

In September 2021, the amount of securities held by households stood at €207 billion, slightly lower than the figure observed at the same time in 2020. Non-complex securities accounted for around 80 per cent of the total, mostly Italian government bonds (€108 billion) or foreign bonds (€12 billion) and ordinary bonds (€26 billion). Of the 41 billion complex bonds, certificates represented the largest category of financial instrument (almost €26 billion), followed by subordinated bonds (€8 billion) and structured bonds (€5 billion; Figure C. 4).

Figure C.4

Amounts of deposited complex securities held by households by type of instrument (1)

(billions of euros)



(1) For definitions of the financial instruments included in the legend, see the Glossary in Appendix B. Certificates include covered warrants; exchange-traded commodities and exchange-traded notes have been excluded from the analysis as they are negligible. The breakdown represents the securities directly held by households; indirect holdings of securities, e.g. through insurance policies or investment fund shares, are not taken into account.

C.1.2 Information by security type

The threshold value that determines whether a category of securities requires further analysis is equal to the 90th percentile of the distribution of the monthly historical series of the outstanding amounts of each type of security over the last five years. Table C.1 summarizes the volumes of securities outstanding and the respective threshold values at the end of September 2021; data for the previous year are also reported for the former.

According to this evidence, only AT1 subordinated bonds have volumes above the warning threshold. For self-securitizations, securitizations and certificates, the outstanding amounts are slightly below the respective thresholds.

Table C.1

Amounts and threshold values for the different types of complex securities (1)

	30 September 2021			30 September 2020
	amount	threshold	test	amount
Self-securitizations	99.75	101.67	0	100.31
Securitizations	100.21	106.39	0	102.22
Certificates	39.76	40.35	0	40.31
Credit-linked notes	2.05	2.56	0	2.29
Structured bonds	21.31	47.94	0	24.43
Subordinated bonds	89.15	95.25	0	88.38
Subordinated bonds AT1	26.12	25.91	1	25.13

(1) Certificates include covered warrants; exchange-traded commodities and exchange-traded notes have been excluded from the analysis as they are negligible. The columns 'amount' and 'threshold' show figures in billions of euros. The column 'test' indicates whether the amount exceeds the threshold (marked with 1) or not (marked with 0).

C.2 Complex derivatives

In the analysis of complex derivatives, the focus is limited to those held by banks, the only ones for which information is currently available, using data from the *Matrice dei Conti*.[23] The use of the EMIR database should make it possible to both extend the scope of the analysis to other holding sectors and have more detailed information on these instruments going forward.

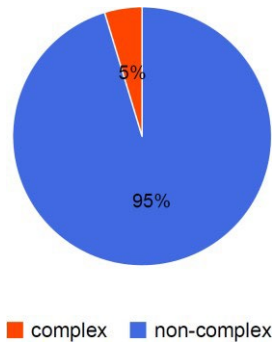
In September 2021, only 5 per cent of the derivatives reported by resident banks can be considered complex (Figure C.5), which is in line with the figure one year earlier. Among complex derivatives, CDSs dominate, while the shares of derivatives other than plain vanilla derivatives are low (other options, other derivatives, other credit derivatives; Figure C.6).

The total notional value of complex derivatives (i.e. the sum of long and short positions) over the past year has decreased by 15 per cent to €295 billion (Figure C. 7).

Figure C.5

Complex and non-complex derivatives on the balance sheets of Italian banks (1)

(data as at 30 September 2021)



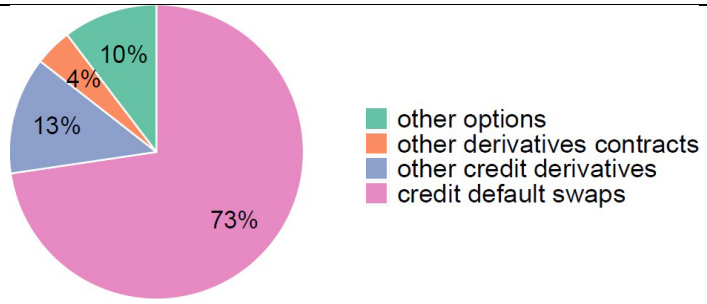
(1) Shares are calculated on the basis of the notional value of the instruments, which is the sum of the long and short positions.

[23] The items on derivatives in the *Matrice dei Conti* are reported quarterly, while the items used for debt securities (third-party securities held in custody, securities held among banks' assets and liabilities) are reported monthly.

Figure C.6

Complex derivatives on Italian banks' balance sheets by instrument (1)

(data as at 30 September 2021)

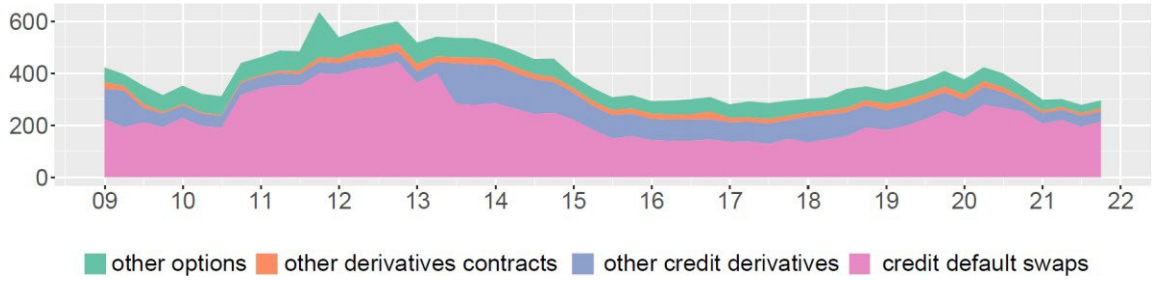


(1) Shares are calculated on the basis of the notional value of the instruments, which is the sum of the long and short positions. For definitions of the financial instruments included in the legend, see the Glossary in Appendix B.

Figure C.7

Notional values of complex derivatives on the balance sheets of Italian banks by instrument type (1)

(billions of euros)



(1) The notional value of the instruments is equal to the sum of long and short positions. For definitions of the financial instruments included in the legend, see the Glossary in Appendix B.

C.2.1 Information by instrument type

For derivatives, the threshold value that determines whether an instrument category needs to be analysed further is also the 90th percentile of the distribution of the quarterly historical series of outstanding amounts of each type of instrument over the last five years. Table C.2 summarizes the notional value of the derivatives in circulation and the respective threshold values at the end of September 2021; data for the previous year are also reported for the former.

Based on this evidence, no further analysis of derivatives contracts is currently needed. For all instrument categories, the amounts held by banks at the latest available date are well below historical attention levels.

Table C.2

Notionals and threshold values for the different types of complex derivatives (1)

	30 September 2021			30 September 2020
	notional	threshold	test	notional
Credit default swaps	295.28	400.64	0	351.08
Other credit derivatives	38.02	91.57	0	39.83
Other options	30.62	60.91	0	46.78
Other derivatives contracts	12.05	22.57	0	11.77

(1) The columns 'notional' and 'threshold' show figures in billions of euros. The column 'test' indicates whether the amount exceeds the threshold (marked with 1) or not (marked with 0).

Appendix D

Example of an in-depth analysis of financial instruments potentially risky to financial stability (Module B)[24]

This annex provides an example of an in-depth analysis of the risks to financial stability that may come from a particular asset class. The case of certificates, which have recorded high growth rates in recent years in terms of volumes issued and which are frequently purchased by the household sector, is considered. Data as at August 2020 are used in the exercise.[25]

D.1 Certificates

Certificates are securitized financial derivatives that replicate, with or without leverage, the performance of one or more underlying assets. They are traded on the markets or traded over the counter. In some cases they are placed through private placements.
The certificates are divided into four main types: (1) fully or partially protected capital certificates, which are less risky products similar to structured bonds; (2) yield enhancement certificates, non-guaranteed capital products that aim to generate a higher return than bond yields, with a risk comparable to that of the underlying assets in the event of adverse market conditions; (3) certificates of participation, non-guaranteed capital products that replicate the performance of one or more underlying assets, which may be subject to conditional protection in the event of adverse market conditions or leverage under favourable conditions; (4) Leverage certificates, leveraged products used predominantly with speculative and short-term investment perspectives. The outstanding amounts of leverage certificates are far lower than for other types and no information on market prices is currently available. For this reason, only the first three types of financial instrument are analysed below.

To analyse in detail the risk profiles of certificates in circulation, further investigation is carried out on: (a) issuers and holders; (b) complexity; (c) market risk.

D.1.1 Issuers and holders

In August 2020, after the first wave of COVID-19, the value of certificates recorded among the assets of Italian banks or deposited with them was around €34 billion, of which approximately two-thirds related to securities issued by Italian intermediaries; the certificates were held almost exclusively by households (Figure D.1).

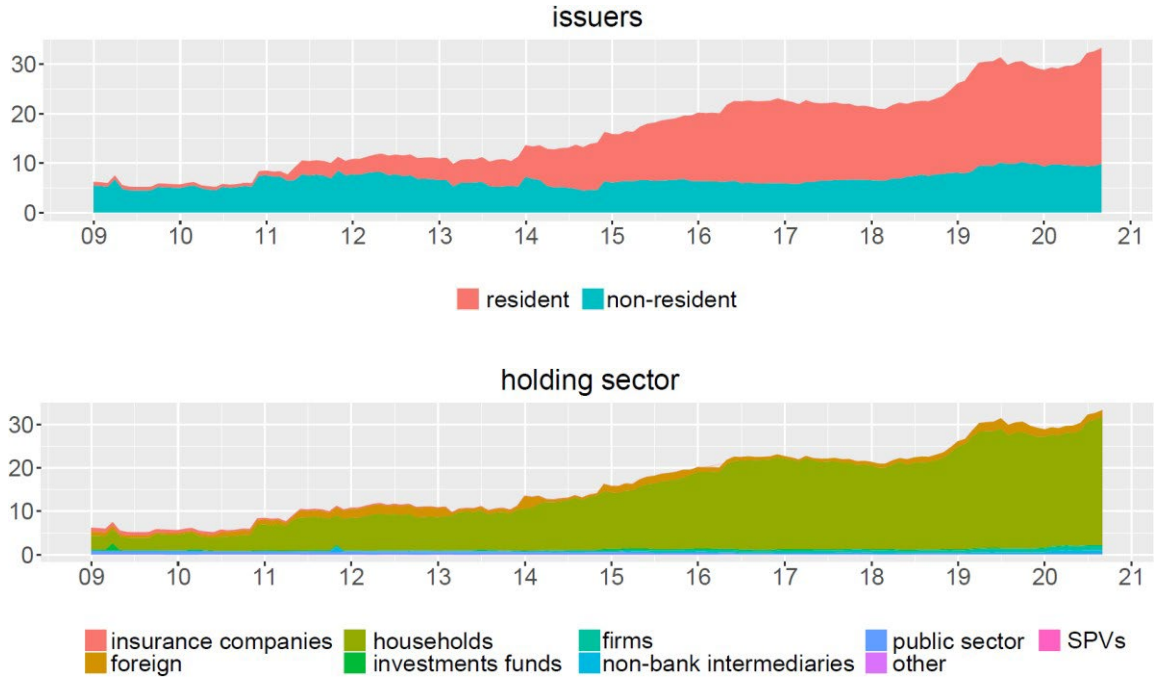
[24] For the most recent analyses and assessments, see the Bank of Italy's website: The Bank of Italy's intervention power concerning financial instruments, structured deposits and related financial activities/practices.

[25] Certificates held by Italian banks or deposited with them have been taken into account.

Figure D.1

Value of certificates by residency of the issuer and by holding sector (1)

(billions of euros)



(1) Instruments recorded among the assets of Italian banks or deposited with Italian banks. The breakdown by holding sector represents the securities held directly by the members of the sector in question; indirect holdings of securities, e.g. through insurance policies or investment fund shares, are not taken into account.

D.1.2 Complexity

The complexity of certificates is assessed by means of an indicator of the degree of financial engineering (DFE), which allocates a integer number to each individual instrument in circulation between 0 (low complexity) and 6 (high complexity) based on six contractual characteristics defined by binary variables:

(1) lack of guarantees on invested capital; (2) the existence of more than one underlying asset; (3) payoff path-dependent; (4) maximum leverage in absolute value greater than one; (5) reference currencies other than the euro; (6) unlisted. The value of the DFE is equal to the number of complexity characteristics present in the instrument. This indicator can only be calculated for securities reported pursuant to Article 129 of the TUB.

Table D.1 shows the distributions of notional values of certificates in circulation at the end of August 2020 by type of instrument based on the value taken by the DFE. Yield enhancement certificates and certificates of participation have an average DFE level of 3.2 and 3.3 respectively, which is more than double those found for protected equity securities, which have an average level of 1.5.

Table D.1

Degree of financial engineering of the various types of certificates (1)

(billions of euros and index; data as at 31 August 2020)

	Amount								Average degree
	step 0	step 1	step 2	step 3	step 4	step 5	step 6	total	
Protected capital (2)	0.0	9.5	3.7	2.3	0.0	0.0	0.0	15.6	1.5
Yield enhancement	0.0	0.0	3.8	4.8	4.8	1.2	0.0	14.6	3.2
Participation	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	3.3
Total	**0.0**	**9.5**	**7.5**	**7.2**	**4.8**	**1.2**	**0.0**	**30.3**	**2.4**

(1) Data on securities that are deposited and reported pursuant to Article 129 of the TUB. The average level is calculated using the values of the securities in circulation in each instrument category as weights. – (2) Securities with full or partial capital protection.

D.1.3 Market risk

Certificates are products that are heavily exposed to changes in the prices of the underlying assets. Their riskiness varies depending on the structure of output, leverage and capital guarantees. To assess the market risk of these products, a loss in value of securities to their holders is estimated in an adverse scenario of the same magnitude as the financial crisis caused by the pandemic in March 2020, when the average value of those instruments decreased by 22.6 per cent.

In order to assess the risk related to outstanding securities at a given date, the yield recorded in March 2020 can be applied to the value of each contract existing at the reference date. Table D.2 shows the values of certificates in circulation at the end of August 2020 before and after the shock, aggregated by category. Compared with a total amount of around €30.3 billion, following a shock similar to that recorded in March of that year, the value of certificates would have decreased by around €5.8 billion (or 19.3 per cent of the initial value). High DFE values tend to be associated with larger losses: in March 2020 the correlation between the DFE and the bond yield was -0.2. In the stress test exercise, fully or partially protected capital certificates suffer an average loss of 9.5 per cent, while the value of yield enhancement certificates decreases by more than 30 per cent.

Table D.2

Results of a stress test on certificates (1)

(billions of euros; data as at 31 August 2020)

	Initial amount	Amount after shock	Percentage impact
Protected capital (2)	15.6	14.0	–9.5
Yield enhancement	14.6	10.4	–30.5
Participation	0.1	0.1	–14.9
Total	**30.3**	**24.5**	**–19.3**

(1) Results of a stress test exercise under an adverse scenario comparable to that observed in March 2020. Instruments with a market price change of 0 per cent or above 100 per cent in March 2020 were not taken into account. – (2) Securities with full or partial capital protection.