BANCA D'ITALIA
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# Financial Stability Report

2 | 2022

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Number 2 / 2022
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## SYMBOLS AND CONVENTIONS

Unless otherwise specified, Bank of Italy calculations; for Bank of Italy data, the source is omitted.

In the tables:

- – the phenomenon does not exist;
- .... the phenomenon exists but its value is not known;
- .. the value is nil or less than half of the final digit shown;
- :: not statistically significant;
- () provisional.

In the figures with different right- and left-hand scales, the right-hand scale is identified in the notes.

For the abbreviations of the names of countries used in this publication please refer to the EU's *Interinstitutional Style Guide* (http://publications.europa.eu/code/en/en-000100.htm).

# OVERVIEW

***Global economic activity slowed over the summer and growth estimates in the leading economies have been revised downwards for next year.*** *The global economic cycle remains heavily influenced by high inflation, the energy and food supply difficulties caused by the continuing conflict in Ukraine, the latter exacerbated by drought conditions, as well as by the slowdown in the Chinese economy. The central banks of several countries are continuing to normalize their monetary policies in order to counter inflationary pressures.*

***Conditions on the global financial markets have worsened since the spring.*** *At a time when economic activity is gradually losing momentum and long-term interest rates are rising rapidly, there have been episodes of high volatility and deteriorating liquidity in the main advanced economies, on government bond markets too. The tensions in the commodities segment, ongoing for nearly one year now, have led to difficulties for some financial intermediaries and several energy companies operating in the commodity derivatives market. Tensions could still emerge, even though some countries have intervened to limit critical issues.*

***The risks to financial stability have increased in Italy too, although the banking system, households and firms are sounder overall than during past episodes of turmoil.*** *As in other euro-area countries, the increase in risks is mainly due to the persisting geopolitical instability, rising energy commodity prices, inflationary pressures and worsening growth prospects, revised downwards for 2023.*

***Public finance conditions benefited from the economic recovery in 2021 and in the first nine months of 2022.*** *To consolidate the reduction in the ratio of net borrowing and public debt to GDP, keeping public spending under control and achieving a stable increase in growth potential will be key, including by leveraging the effective and timely implementation of the National Recovery and Resilience Plan (NRRP). Following a significant widening over the last few months, the yield spread between Italian and German government securities has returned to the levels recorded last spring.*

***The real estate market continues to recover.*** *Prices in the residential sector have risen faster than in 2021, but less so than in other euro-area countries and compared with the simultaneous rise in inflation. The decline in prices has slowed in the non-residential sector.*

***The risks to financial stability linked to the situation for households remain low.*** *After a positive trend in disposable income in the first part of the year, the outlook has worsened in the second half because of persistently high inflation. Indebtedness nevertheless remains stable and low by international standards. The average cost of outstanding loans has risen slightly, but remains at very low levels. The effects of the withdrawal of monetary policy accommodation are being passed through to the cost of new loans, although debt servicing costs are not exposed to significant risks of a rise.*

***The financial condition of firms is being affected by the slowdown in economic activity, rising energy prices and higher interest rates.*** *However, debt servicing capacity remains high. Indebtedness rose during the summer, especially that of large firms, while lending to smaller firms declined. In the second half of the year, deteriorating market conditions have adversely affected the cost of bond funding.*

***Banks are in solid shape overall****, but weakening macroeconomic conditions, inflationary pressures and some of the effects of rising interest rates could impact their balance sheets. In the third quarter, asset quality continued to be good and the new non-performing loan ratio remained at historically low levels. Profitability improved in the first half of the year, mainly due to the increase in net interest income. Capitalization is still higher than that observed prior to the pandemic, although it declined as a result both of share buybacks and of the fall in the* *market value of portfolio securities. Going forward, the higher cost of debt could affect the capacity of households and firms to repay their loans, with potential repercussions for credit quality. There may also be upward pressures on the cost of funding, partly as a result of the need to replace the funds acquired through the Eurosystem's third targeted longer-term refinancing operations (TLTRO III) and to issue instruments that satisfy the minimum requirement for own funds and eligible liabilities (MREL). However, the level of system capitalization should still be adequate overall, even if the macroeconomic situation proves to be worse than expected, matching the adverse scenario published in last October's Economic Bulletin.*

***The capitalization of the insurance sector has recorded a moderate decline, although it remains high****. In the first half of 2022, profitability was negative in the life sector due to losses on portfolio securities. The sector's liquidity position is stable and high by European standards. In the life sector, however, there is a gradual increase in the ratio of surrenders to premium income.*

***The positive trend in net subscriptions of Italian investment funds has continued****, with a shift in flows from bond funds to equity and money market funds. The degree of liquidity improved further and is still high by historical standards. The risks facing the sector remain modest.*

# 1 MACROECONOMIC, FINANCIAL AND SECTORAL RISKS

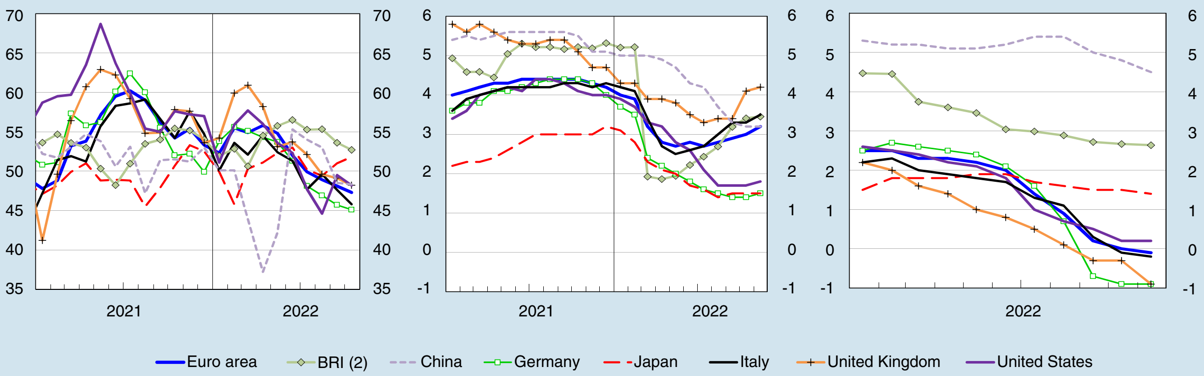
## 1.1 GLOBAL RISKS AND EURO-AREA RISKS

Global economic activity slowed down during the summer (Figure 1.1.a) and the growth estimates for the main countries have been revised downwards, both for the current year (Figure 1.1.b) and, especially, for 2023 (Figure 1.1.c). The economic cycle has been affected by a number of factors that will continue to have an impact in the coming months: high inflation and restrictive monetary policy in many jurisdictions; energy and food supply difficulties linked to the ongoing conflict in Ukraine and exacerbated by drought conditions; slower growth in China due to pandemic containment measures and the crisis in the real estate sector; and the strengthening dollar, which is causing financial conditions to tighten in an environment of rising uncertainty and market volatility.

**Figure 1.1**

**PMIs and growth expectations**
*(monthly data)*

(a) Composite PMIs (1) *(diffusion indices)* | (b) GDP growth forecasts for 2022 *(per cent)* | (a) GDP growth forecasts for 2023 *(per cent)*




Sources: Based on data from Consensus Economics, ISM, Markit and Refinitiv.
(1) Composite diffusion indices of economic activity in the various sectors based on purchasing managers' assessments (PMI). Values above (below) 50 are compatible with an expansion (contraction) in activity compared with the previous month. – (2) Average of the forecasts for Brazil, Russia and India (BRI), weighted on the basis of each country's GDP (IMF, World Economic Outlook Database, October 2022).

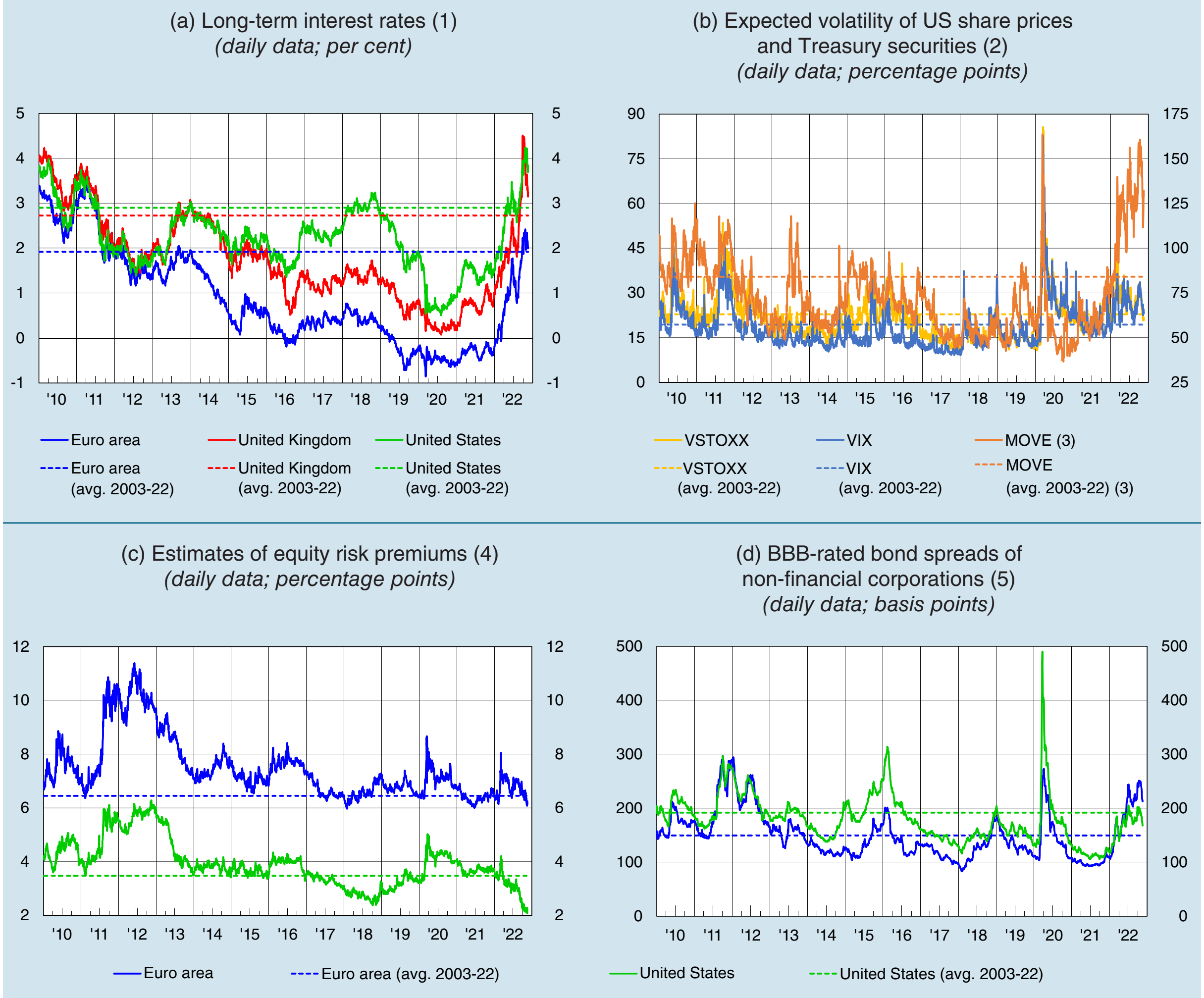
Inflationary pressures remain high both in the United States, where they are affected by rising wages and real estate rental prices, and in Europe, owing to the energy shock despite the recent moderation in the price of gas, for which the storage targets have been met and exceeded. Inflation expectations in the medium term have remained close to central banks' targets thanks to monetary policy moves, which have raised interest rates faster than initially expected. The main financial analysts expect that withdrawal of monetary policy accommodation, which has been particularly pronounced in the United States, will extend at least until the start of next year.

Global financial market conditions have deteriorated markedly since late spring, with a temporary rebound over the summer. Progressive signs of a slowdown in economic activity have led to severe declines in financial asset prices, which however returned to growth in October.

The increase in monetary policy rates and the expectation that the central banks of the major advanced economies will reduce their asset purchases sparked strong growth in long-term interest rates (Figure 1.2.a), especially in the real interest rate component.[1] These developments led to

**Figure 1.2**

**Interest rates, volatility and risk premiums**




Sources: Bank of America Merrill Lynch (BofAML), Bloomberg, ICE and Refinitiv.
(1) Yields on the German 10-year Bund for the euro area, on the US 10-year Treasury and on the UK 10-year Gilt. – (2) Indices of the implied volatility in the prices of options on the stock market indices (VSTOXX for the euro area and VIX for the United States) and on the government securities (MOVE for the United States). The latter is a weighted index of the implied volatilities of 1-month options on US interest rates of various maturities. – (3) Right-hand scale. – (4) For S&P 500 (United States) and Datastream EMU Total Market (euro area), the ratio of the 10-year moving average of average earnings per share to the value of the stock index (both at constant prices) was taken. We deduct from the resulting ratio, which is an estimate of the expected real return on the shares, the real return on inflation-indexed 10-year government bonds to obtain an estimate of the equity risk premium. – (5) Spreads refer to BBB-rated bonds issued by non-financial corporations.

[1] The 10-year real interest rate is calculated as the spread between the nominal rate derived from overnight index swaps and the expected interest rate implied by inflation swaps of like maturity.

bouts of tension on government securities markets (see Section 1.3), with lower liquidity and higher volatility, which in some cases reached the peaks observed at the outbreak of the pandemic (Figure 1.2.b). Further rapid upward movements in long-term interest rates could lead to new volatility and liquidity spirals for public sector securities, amplifying financial tensions and destabilizing government bond markets.

At the end of September, the announcement by the United Kingdom's government of a highly expansionary four-year fiscal plan sparked a jump in UK Gilt yields and a significant depreciation in the pound sterling (see *Economic Bulletin*, 4, 2022). The tensions were transmitted to the financial markets of the major economies. The situation subsequently improved thanks to the measures taken by the Bank of England, and to the decision to cancel announced fiscal policy measures and to form a new government. This led to a significant decline in yields and volatility and an appreciation in the pound sterling.

The stock market indices have experienced sharp fluctuations at the global level, showing largely a downward trend, albeit to a different extent for each market. However, equity risk premiums have fallen in the main advanced countries, owing to the increase in real long-term interest rates (Figure 1.2.c), reaching particularly low levels in view of the multiple headwinds. This could indicate the possibility of new downward corrections in share prices, especially in the sectors most exposed to rising interest rates, to slower economic growth and to the energy crisis connected with the conflict in Ukraine.

Corporate bond spreads in the major currency areas have increased modestly. The gap between euro-area and US risk premiums has widened further (Figure 1.2.d), due in part to the euro area's greater exposure to the energy crisis. Although the corporate default rate has risen modestly, the major rating agencies expect a significant increase in the coming months, especially if there is a substantial deterioration in financing and profitability conditions. The riskiest firms are those in the high yield sector and those that are investment grade but have low ratings and are at risk of being downgraded, while the latter are particularly sensitive to expectations of a withdrawal of monetary policy accommodation[2] (see Section 1.5).

Tensions in commodity markets, which had already emerged prior to the invasion of Ukraine, have intensified as the energy crisis has worsened. This has created difficulty for some financial intermediaries operating in these markets as they have had to pay large margins to hedge their derivatives positions, against a backdrop of high and extremely volatile energy prices. These pressures have also affected non-financial corporations that use commodity derivatives to hedge risks and not for speculative purposes. Some countries, including Italy, have already taken steps to prevent a liquidity crisis from turning into a solvency crisis. However, the exposures of Italian counterparties are limited (see the box 'Energy derivatives exposures of Italian counterparties').

## ENERGY DERIVATIVES EXPOSURES OF ITALIAN COUNTERPARTIES[1]

The extraordinarily strong growth and heightened volatility in energy prices have pushed up the margin calls on the global energy commodity derivatives markets (mostly futures). In some countries, the increased liquidity risk for operators active in these markets has prompted the authorities to

[1] By Fadi Hassan and Dario Ruzzi.

[2] See V.V. Acharya, R. Banerjee, M. Crosignani, T. Eisert and R. Spigt, 'Exorbitant privilege? Quantitative Easing and the Bond Market Subsidy of Prospective Fallen Angels', BIS Working Papers, 1002, 2022.

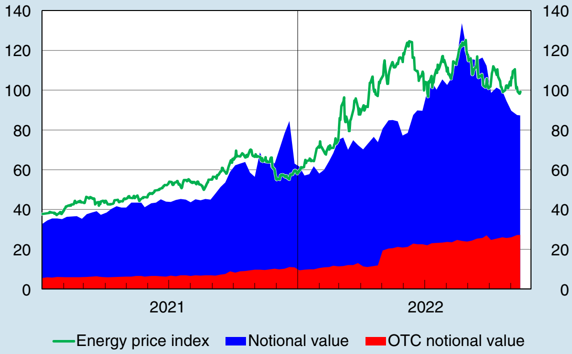
intervene by offering liquidity guarantees, as in Finland and Sweden,[2] or by setting up safety nets, including those not strictly connected to activity in derivatives, as in Germany and Switzerland.[3] In Italy, access to SACE guarantees has been extended to firms to cover liquidity needs connected with the collateral requirements for trading in the energy market.[4]

Analysis of energy derivatives positions shows that Italian banks' exposure is very limited, while that of energy firms is higher: at mid-November, the total gross notional value held amounted to €87 billion, up sharply compared with €60 billion the previous year.[5] The increase partly reflects the rise in underlying energy prices (Figure A).

Figure A

**Gross notional value of energy derivatives exposures and energy price index** (1)

*(billions of euros and index )*




Sources: Based on data from EMIR and Refinitiv.
(1) Weekly gross notional values of exposures of Italian counterparties on the energy derivatives market and daily values of the Bloomberg Energy Subindex Total Return index denominated in euros.

There are more than 200 active Italian counterparties,[6] of which the top 20 hold over 95 per cent of the gross notional value. Over the last year, the number of counterparties has risen by around 50 per cent, largely due to the entry of non-financial corporations driven by a greater need to hedge risk. However, these new operators only account for 2 per cent of the annual increase in the gross notional value of energy derivatives.

Over two thirds of gross exposures are cleared with a central counterparty (CCP). Compared with last year, the share of centrally cleared transactions has fallen by 16 percentage points while the gross notional value traded over-the-counter (OTC) has increased. OTC derivatives,[7] which carry higher risk than those cleared with a CCP, largely consist of commodity swaps; these are usually contracts signed between a bank and non-financial corporation to enable the latter to pay just the variation margins and not the initial margins, thereby reducing their liquidity needs. OTC contracts account for 36 per cent of the annual increase in the gross notional value of energy derivatives.

Italian banks represent at least one of the two counterparties involved in 40 per cent of the contracts in terms of gross notional value; centrally cleared positions mainly refer to intermediating non-financial corporations with CCPs. The portfolio of energy derivatives held by banks is well

2 These countries have offered $33 billion in guarantees to companies operating in the Nasdaq Nordic energy derivatives market to meet margin calls and prevent a crisis in the clearing system.

3 Germany recapitalized the energy company Uniper with €15 billion and, in Switzerland, a CHF 10 billion public fund was created to offer emergency credit lines to firms in the energy sector.

4 Article 3(5) of Decree Law 144/2022 ('Support-*ter*' decree).

5 Data available under Regulation EU/2012/648 (European Market Infrastructure Regulation; EMIR). The gross notional value sums the values – adjusted to eliminate duplication (i.e. a contract reported by both counterparties is counted only once) – of the long and short positions consolidated at group level, in cases where the Group parent resides in Italy. Consolidation is based on the information reported by the Global Legal Entity Identifier Foundation (GLEIF) established by the Financial Stability Board (FSB) in June 2014, to foster the widespread use of identifiers for legal persons.

6 Including 8 banks, 5 non-bank financial institutions and 203 non-financial corporations.

7 OTC contracts are those that are not traded on a trading platform, whether it is a regulated market, a multilateral trading facility (MTF) or an organized trading facility (OTF).

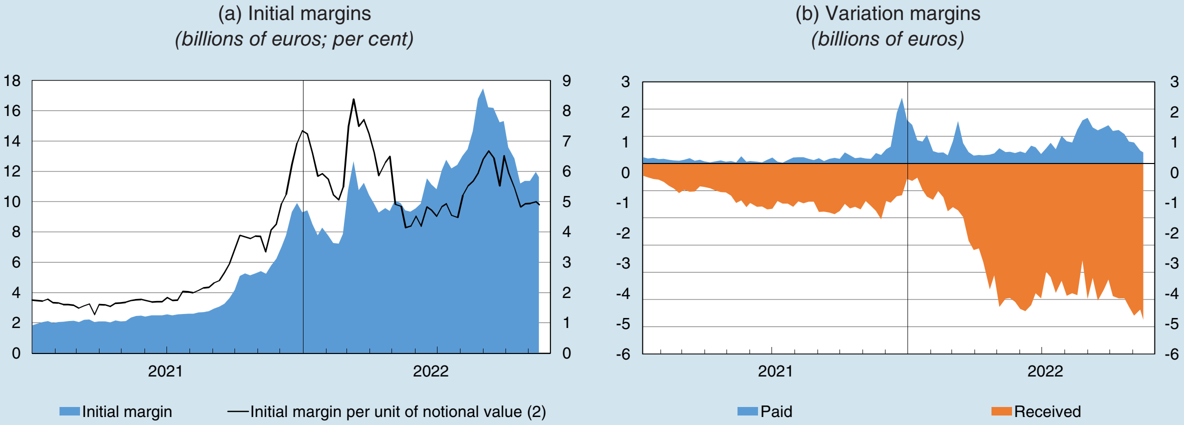
balanced overall between long and short positions and represents only 0.3 per cent of their derivatives exposures.

Italian non-financial corporations are a counterparty for 66 per cent of the total gross notional value of outstanding contracts,[8] almost all of which involve companies that operate in the energy market. On average, the gross notional value of the firms involved is equal to 30 per cent of the revenues recorded at the end of 2021 for energy companies and 7 per cent for other firms.

The initial margin calls for the opening of derivatives positions rose in the aggregate in 2022, reaching €12 billion and 5 per cent of the notional value, compared with €5 billion and 3.8 per cent a year earlier (see panel (a) of Figure B).[9] The variation margins received and paid daily based on the value of derivatives contracts also rose and became more volatile, contributing to a higher liquidity risk in the management of derivatives portfolios (panel (b) of Figure B). Amounts received exceed those paid, on the whole reflecting operators' hedges against rising energy prices.

**Figure B**

**Margins hedging energy derivatives positions** (1)




Source: Based on EMIR data.
(1) Weekly aggregate values of the initial margin paid and the variation margins paid and received by the top 20 Italian counterparties by gross notional value of energy derivatives exposures in mid-November 2022. Margins are reported at collateral portfolio level. For the purposes of the analysis, collateral portfolios that include at least one energy derivatives contract are included. – (2) Percentage ratio of the initial margin paid to the gross notional of the derivatives contracts included in the collateral portfolios used in the analysis. Right-hand scale.

Given the pressures in the energy derivatives market, the Economic and Financial Affairs Council (ECOFIN) invited the European Commission to formulate a proposal on regulatory changes to preserve the orderly functioning of this market. At the request of the Commission, the European Securities and Markets Authority (ESMA) reiterated the validity of the centralized clearing

[8] A derivatives contract between a bank and a firm is counted both in this 66 per cent figure and in the 40 per cent attributable to banks.

[9] The EMIR provides that margins are received and posted in respect of the net positions of a collateral portfolio, not necessarily relating to a single financial asset class. As the margin data are reported at an aggregate level and not by individual derivatives contract, the collateral portfolios that include at least one energy derivatives contract are considered for the purposes of the analysis.

regulatory framework and supported the possibility of introducing temporary mechanisms for the suspension of trading in energy derivatives in the event of significant price changes, in order to contain the peaks in volatility. The European Banking Authority (EBA) took the view that a relaxation of the prudential framework could increase risks to financial stability and stressed that banks are already providing a wide range of support to energy companies through credit lines and the conversion of guarantees.

## 1.2 MACROFINANCIAL CONDITIONS IN ITALY

The risks to financial stability have increased in Italy in recent months, mainly owing to persistent geopolitical instability, rising inflationary pressures and worsening growth prospects.

While banks, households and firms are stronger overall compared with previous episodes of turbulence, the financial conditions index has been very high since the beginning of the year because of the high volatility of markets (see Section 1.3), which are affected by a particularly tense international conjuncture (Figure 1.3.a; see Sections 1.1 and *Economic Bulletin*, 4, 2022).

In the medium term, the overall outlook is still influenced by the potential developments in these instability factors. Furthermore, problems linked to the sizeable public debt and to the risk of returning to structurally low growth persist.

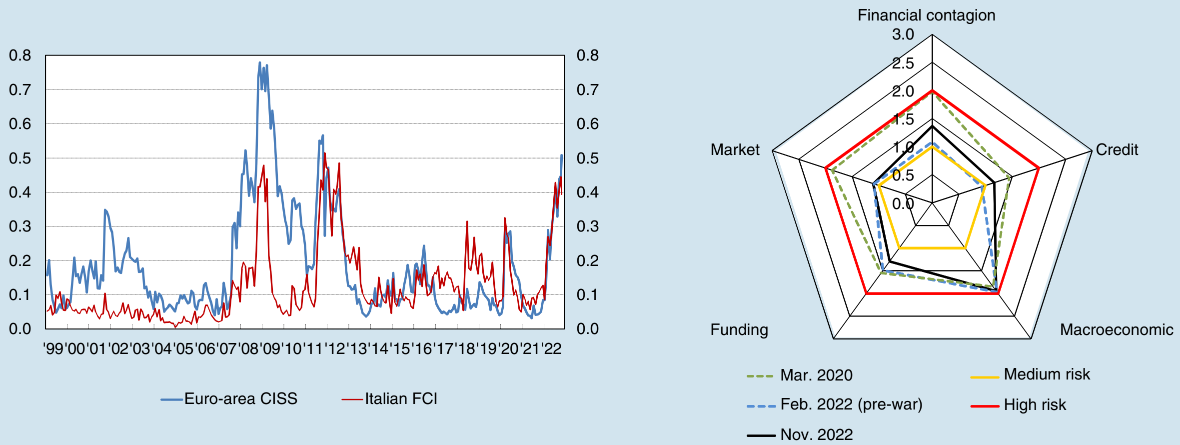
The cyclical deterioration is reflected in the growth expected for the next two years. According to our latest projections, GDP will increase by 0.3 per cent in 2023 and 1.4 per cent in 2024, a sharp decline

**Figure 1.3**

**Synthetic indicators of risks for financial stability**

(a) Italian financial condition index and euro-area composite indicator of systemic stress (1)
*(monthly data; diffusion indices)*

(b) Aggregate indicators of risk (2)
*(points on a scale of 0 to 3)*




Sources: ECB, based on Refinitiv and Bank of Italy data.
(1) The index ranges from 0 (minimum risk) to 1 (maximum risk). The two indicators are comparable as they are based on the same estimation methodology. For further details on the Italian financial condition index (FCI), see A. Miglietta and F. Venditti, 'An indicator of macro-financial stress for Italy', Banca d'Italia, Questioni di Economia e Finanza (Occasional Papers), 497, 2019. For further details on the euro-area composite indicator of systemic stress (CISS), see D. Holló, M. Kremer and M. Lo Duca, 'CISS – A composite indicator of systemic stress in the financial system', European Central Bank, Working Paper Series, 1426, 2012. – (2) The aggregate indicators are based on the analytical framework for assessing risks described in F. Venditti, F. Columba and A.M. Sorrentino, 'A risk dashboard for the Italian economy', Banca d'Italia, Questioni di Economia e Finanza (Occasional Papers), 425, 2018. Values between 0 and 1 indicate low risk, between 1 and 2 medium risk, and between 2 and 3 high risk. The data for February 2022 precede the start of the conflict in Ukraine.

compared with the forecasts for 2022.[3] These estimates do not differ significantly from those contained in the Update to the 2022 Economic and Financial Document (NADEF 2022) published in early November (0.3 per cent in 2023 and 1.8 per cent in 2024) and those of other leading analysts.

The public finance projections in the 2022 NADEF show that both government net borrowing and debt will decline to 5.6 per cent and 145.7 per cent of GDP respectively, despite the deterioration in macroeconomic conditions and the introduction of support measures (around €71 billion, equal to 3.7 per cent of GDP) to counter the effects of rising energy prices.[4]

The funding of additional support measures for households and firms that are more exposed to higher energy costs expected in the next budgetary package will lead to an increase in net borrowing of 1.1 percentage points in 2023 compared with the current legislation framework (in the following two years, its impact on the deficit will be negligible).

The debt-to-GDP ratio is expected to contract further over the next three years too, though at a more moderate pace, reaching 141.2 per cent in 2025. Overall, the decline is likely to be almost entirely driven by the favourable gap between nominal GDP growth and the cost of the debt (4.3 per cent and 3 per cent respectively on average).

To consolidate this trend in the coming years, achieving a significant and stable increase in growth potential in a climate of prudent fiscal policies will be key, including by leveraging the effective and timely implementation of the National Recovery and Resilience Plan (NRRP), for which the NADEF 2022 estimates investment of around €15 billion for 2022, just over half of what was planned.

## 1.3 THE FINANCIAL MARKETS

### *The secondary market for government securities*

Since late April, the spread between Italian and German government bonds has gradually increased to around 250 basis points in the summer (Figure 1.4.a), close to the level reached at the beginning of the pandemic and in the months following the 2018 general elections, but still far from the one recorded during the sovereign debt crisis. Since mid-October, the spread has gradually narrowed to below 190 basis points. The default risk premium and the ISDA basis in the credit default swap (CDS) market followed a similar trend (Figure 1.4.b).

In June, the prospects for a less accommodative monetary policy led to an increase in the cost required to insure against price variations, measured by implied volatility (Figure 1.5.a); the risk reversal indicator also recorded marked fluctuations (Figure 1.5.b). The tensions abated following the announcement of the European Central Bank's (ECB) Transmission Protection Instrument (TPI).[5]

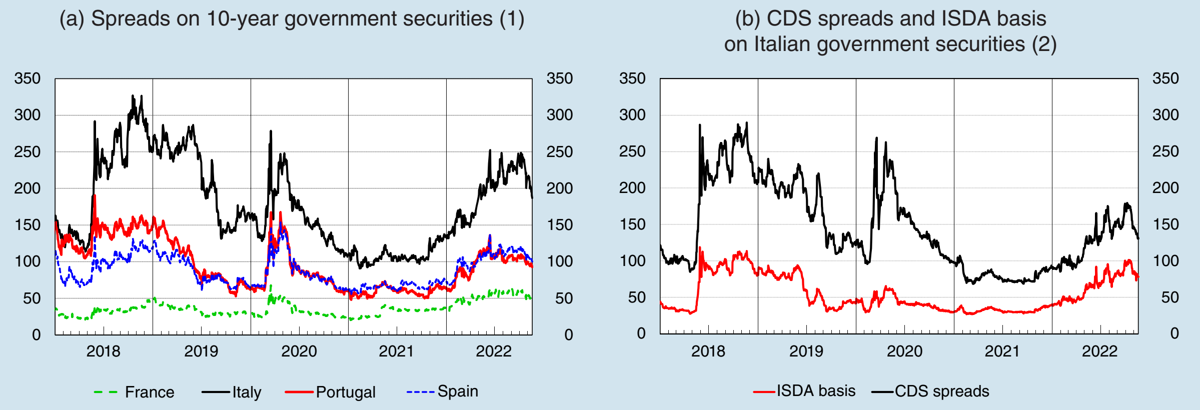
3 Bank of Italy, 'Macroeconomic projections for the Italian economy', 13 October 2022. These estimates do not include the higher than expected GDP for the third quarter (up by 0.5 per cent), which would result in a slight upward revision of the forecasts for 2023.

4 Report by the Bank of Italy prepared for the Special Committee for the examination of urgent act submitted by the government, 'Fact-finding survey on the Update to the 2022 Economic and Finance Document', 9 November 2022 (only in Italian), Senate of the Republic, Rome, 9 November 2022.

5 ECB, 'Statement after the ad hoc meeting of the ECB Governing Council', press release, 15 June 2022.

Figure 1.4

**Risk premiums on government securities**
*(daily data; basis points)*



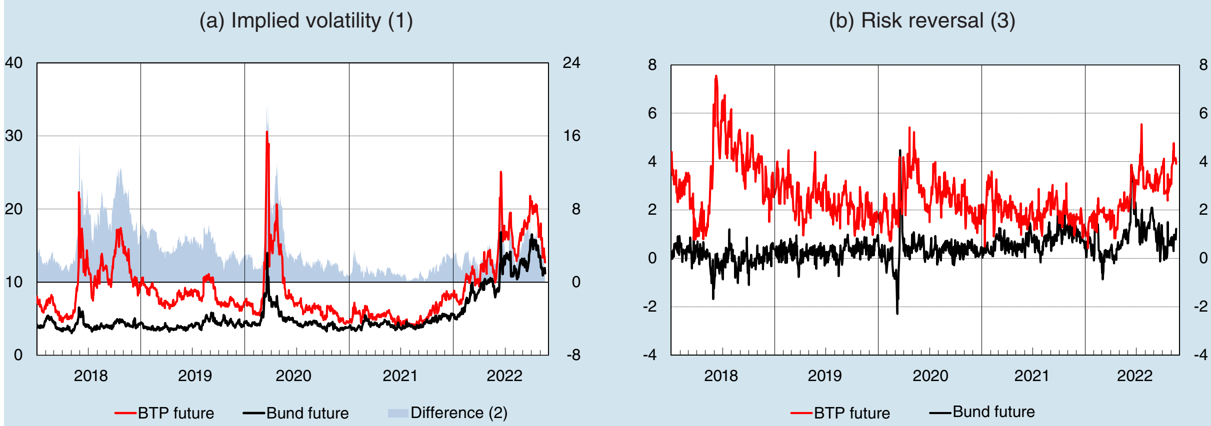

Source: Based on Bloomberg data.
(1) Differences between the yields on the benchmark 10-year government bonds of the countries in the key and the yield on the corresponding German Bund. – (2) The International Swaps and Derivatives Association (ISDA) is an organization of participants in the market for OTC derivatives. The ISDA basis measures the difference between CDS spreads on 5-year US dollar contracts under the 2014 and the 2003 ISDA Definitions.

Since April 2022, liquidity conditions in the secondary government bond market have weakened (Figure 1.6), continuing the trend that started at the end of last year (see *Financial Stability Report*, 1, 2022). However, they have remained more relaxed than those recorded during the acute phase of the pandemic crisis and other previous episodes of high tension.

On the MTS market, intraday price volatility has increased, especially following the publication of inflation data and the announcements of monetary policy. Trading, while declining, has remained at high levels. Large orders continue to be traded on this platform with no significant impact on prices.

Figure 1.5

**Futures on 10-year BTPs and Bunds, implied volatility and risk reversal**
*(daily data; per cent and percentage points)*



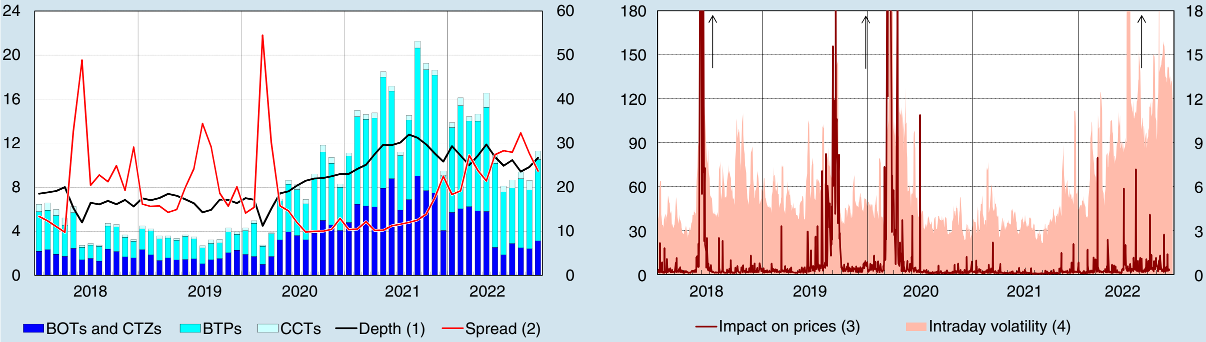

Source: Based on Bloomberg data.
(1) Implied volatility in the prices of at-the-money options on 10-year BTP and Bund futures with maturity at 30 days. – (2) Right-hand scale. – (3) Difference between the implied volatility of put and call option prices on active 10-year BTP and Bund futures with the same relative change in the strike price in relation to the underlying price (moneyness) and with the same residual maturity (1 month).

Figure 1.6

**Liquidity indicators for Italian government securities**

(a) Trading volumes, market depth, and bid-ask spread on MTS
*(monthly averages of daily data; billions of euros and basis points)*

(b) Impact of large orders on the prices quoted on MTS and intraday volatility
*(daily averages of high-frequency data; basis points and per cent)*

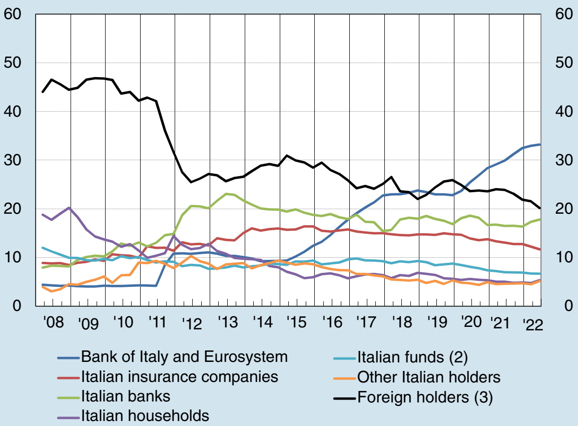



Source: Based on MTS data.
(1) Calculated as the average of the bid and ask quantities recorded during the entire trading day on BTPs listed on MTS. – (2) Measured as the simple average of the bid-ask spreads observed during the entire trading day for the BTPs listed on MTS. Right-hand scale. – (3) The indicator refers to the 10-year benchmark BTP and is based on data recorded at 5-minute intervals. Average daily impact on bid-ask prices listed on MTS of a sale or purchase order of €50 million. – (4) A measure of volatility (realized volatility) based on intraday yields of 10-year BTPs calculated at 5-minute intervals; 5-day moving average of annualized values. Right-hand scale.

In the first half of 2022, the share of Italian government securities held by the Bank of Italy and by Italian banks and households increased (Figure 1.7), while that of insurance companies and foreign investors declined. Our evidence based on trading by primary dealers on the secondary market suggests that the activity of non-resident investment funds and hedge funds has intensified since the beginning of the year. Specifically, the latter made sizeable sales in June, coinciding with a phase of intense discussions about monetary policy prospects and of high volatility, as was the case in previous episodes of tension (see the box 'Investor behaviour in the market for Italian government securities', *Financial Stability Report*, 2, 2020). Disinvestments were concentrated in the first half of the month, when risk premiums rose rapidly in countries with higher government debt, making the activity of market makers more difficult. This trend subsided after 15 June, following the announcement of the TPI.

Figure 1.7

**Italian government securities by holder category** (1)
*(quarterly data; per cent)*




Sources: Bank of Italy, Financial Accounts, and estimates based on Assogestioni and ECB data.
(1) Shares calculated on data at market prices and net of securities held by Italian general government. Data refer to a subset of holders. – (2) Includes foreign individually managed portfolios and investment funds attributable to Italian investors (round trip). – (3) Securities held by foreign investors net of those held by the Eurosystem and by round trip managed portfolios and investment funds.

## *The primary market for government securities*

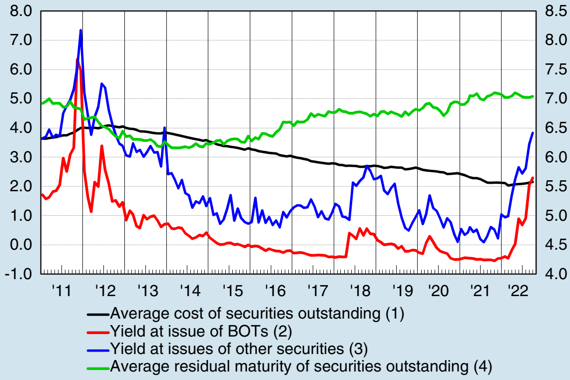
On the primary government bond market, issuance continued at a steady pace, despite the marked increase in yields at issue (Figure 1.8). The volumes of medium- and long-term securities put up for auction held stable. The allotment prices around the time of the closing of the auction were on average 5 basis points higher than those in the secondary market; the volatility of the bids remained low.

Owing to the high average residual maturity of government securities (stable at around 7 years), the increased yields at issue will only be gradually reflected in the average cost of outstanding securities. A permanent 1-percentage point increase in the yields on public sector bonds at all maturities would raise the average cost by 0.4 percentage points after 3 years.

Redemptions of medium- and long-term securities, equal to €226 billion in 2022, will rise to €254 billion in 2023 and to €257 billion in 2024.

Figure 1.8

**Average cost, yield at issue and average residual maturity of government securities**
*(monthly data; per cent and years)*



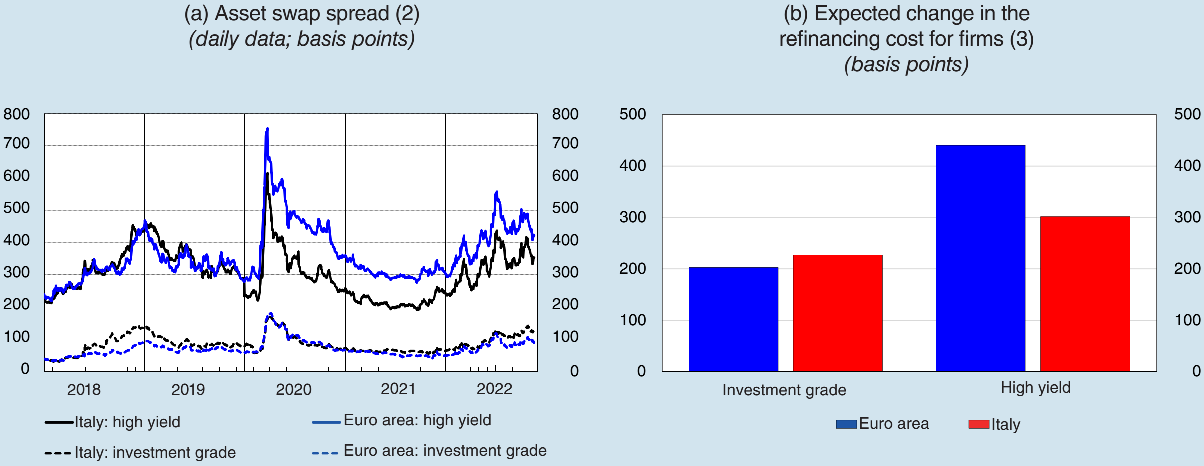

Sources: Based on Bank of Italy and Ministry of Economy and Finance data updated to 31 October 2022.
(1) Weighted average of the yields at issue of government securities outstanding at end of month. – (2) Weighted average of the yields at issue of all the BOTs placed during the month, by settlement date. – (3) Weighted average of the yields of securities other than BOTs and indexed BTPs placed during the month, by settlement date. – (4) End-of-period values weighted by the outstanding securities. Right-hand scale.

## *The equity and corporate bond markets*

The yield spread between bonds issued by firms and the risk-free rates (asset swap spread) has increased since late April (Figure 1.9.a). This trend applies to both Italian and euro-area securities. If the expectations for interest rate developments were to

Figure 1.9

**Yields on corporate bonds** (1)




Sources: Based on ICE Bank of America Merrill Lynch (BofAML) and Bloomberg data.
(1) The BofAML indices for the euro area have been recalculated to exclude Italy. – (2) Asset swap spreads weighted by the market capitalization of individual securities issued by non-financial corporations. – (3) The analysis only includes euro-denominated bonds of non-financial corporations resident in euro-area countries with a maturity of up to 10 years. For each bond, the expected change in the refinancing cost is equal to the difference between: (a) the sum of the forward swap rate relating to an operation starting on the security's maturity date and having a maturity equal to the original maturity of the security, and the spread between the yield to maturity of the security and the spot swap rate relating to an operation having a maturity equal to the remaining maturity of the security; and (b) the annual coupon rate paid by the security. The values obtained are weighted by market capitalization and aggregated by distinguishing between securities issued by Italian and euro-area companies, and investment grade and high-yield companies.

be confirmed in the coming months, firms would have to refinance their debt under significantly more expensive conditions (Figure 1.9.b).

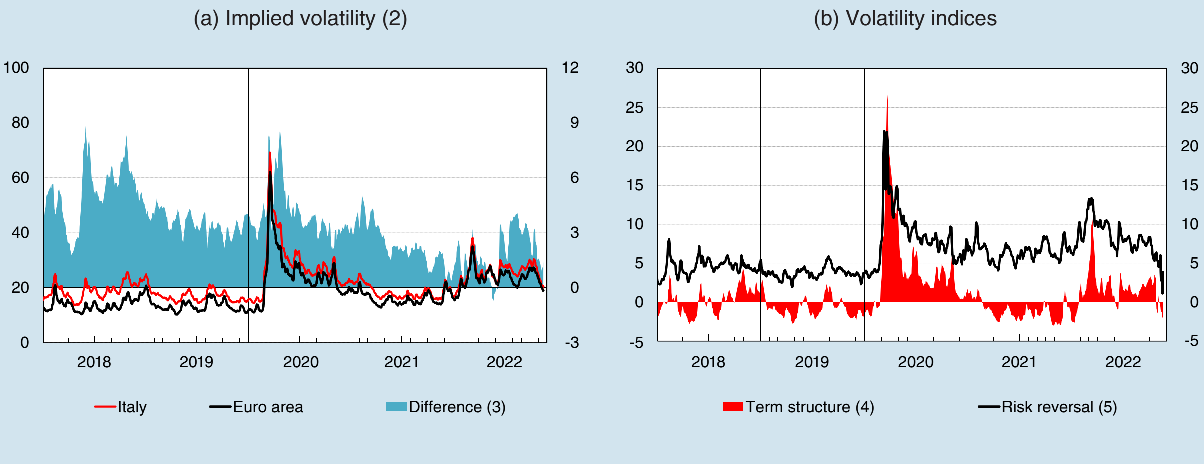
The issuance of bonds whose proceeds are intended to improve the state of the environment (green bonds) continues. However, the volumes outstanding as a share of GDP are still lower than in the other major European countries (1.5 per cent against 4.0 per cent). On the secondary market, the yield on green bonds issued by Italian non-financial corporations is on average lower by about 5 basis points than that of conventional securities with similar maturities (this yield spread is referred to as the 'greenium').

In line with the targets set out in the Paris Agreement and as part of the action plan to integrate climate risk considerations into the Eurosystem's monetary policy framework, the ECB announced a measure in July to gradually decarbonize portfolios of corporate bonds held under the programme for the purchase of bonds issued by non-financial corporations in euro-area countries (corporate sector purchase programme, CSPP) and under the pandemic emergency purchase programme (PEPP). To this end, as of October 2022, the Eurosystem started to steer purchases towards issuers with a better climate performance.[6]

Implied equity market volatility indicators in Italy and the euro area (Figure 1.10) remained high until September 2022 and subsequently showed signs of easing. At a sectoral level, there were significant upward movements in implied volatility in the euro area for stocks in the gas, oil, public utility and automotive sectors.

Figure 1.10

**Equity market indicators** (1)
*(daily data; per cent and percentage points)*




Source: Based on Bloomberg data.
(1) 5-day moving averages. – (2) Volatility implied by the prices of 2-month options on the Italian FTSE MIB index and, for the euro area, on the EURO STOXX 50 index. – (3) Right-hand scale. – (4) Difference between the implied volatility on 2- and 12-month put and call at-the-money options on the Italian FTSE MIB index. – (5) Difference between the implied volatilities of put and call options on the Italian stock market index with the same delta (0.25) and the same maturity (2 months). The index measures the relative price of the options that protect against a fall in the stock index compared with those that profit if it rises.

6 Better climate performance will be measured with reference to lower greenhouse gas emissions, more ambitious carbon reduction targets and better climate-related disclosures; see ECB, 'ECB takes further steps to incorporate climate change into its monetary policy operations', press release, 4 July 2022, and the ECB's website, 'FAQs on incorporating climate change considerations into corporate bond purchases'.

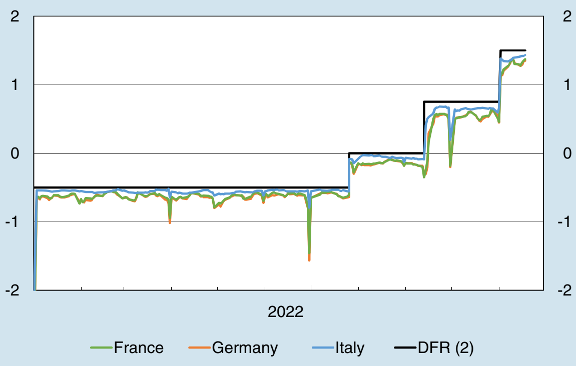
## *The money market*

Since the end of 2021, one-day repo rates (Figure 1.11) have remained close to, but below, the Eurosystem's deposit facility rate, reflecting the premiums linked to the relative scarcity of securities, similar to what occurred in other euro-area countries. In recent years, demand for high-quality collateral, mainly government securities, has risen significantly for various reasons, such as the roll-out of large-scale asset purchase programmes for monetary policy purposes, the adoption of prudential regulatory requirements,[7] the uptake of more advanced risk management practices, and the increased reliance on the exchange of margins as collateral for trading. This demand has also been supported by the borrowing of securities to cover short positions in the bond market owing to expectations of higher monetary policy interest rates. The Bank of Italy's repo activity has helped to prevent sudden increases in the cost of borrowing specials (specialness) from affecting trading, which has continued to take place in an orderly fashion and to stand at high levels, in particular in the special repo segment. The operations carried out by the Ministry of Economy and Finance in the same market, mainly for the management of its liquidity, have also helped to increase the availability of securities to borrow and to mitigate the impact of specific tensions.

Figure 1.11

**Repo rates in the money market** (1)

*(daily data; per cent)*




Source: Based on CME Group data.
(1) 1-day euro-area government bond repo rates traded in the general collateral segment, on BrokerTec or MTS platforms. – (2) Eurosystem deposit facility rate.

The increase in the monetary policy reference rates was transmitted to secured money market rates with temporary frictions: the change in the key interest rates led to a weakening in liquidity conditions and a wider dispersion of repo rates. The spread between the Italian general collateral (GC) rate and the Eurosystem's deposit facility rate (DFR) widened considerably. The spread was more pronounced following the 75-basis point increase in September, when the Italian GC rate remained over 20 basis points below the DFR rate for some days (compared with around 6 basis points recorded on average during the first half of the year, Figure 1.11). The same pattern was observed in other euro-area countries, such as France and Germany, where the misalignment was more pronounced and persistent.

## 1.4 REAL ESTATE MARKETS

In the first half of the year, the twelve-month growth of residential property prices in the euro area remained robust on average (above 9 per cent). Price growth slowed in Germany, while it picked up pace slightly in Italy and sharply in Spain, and has continued to increase at a steady rate in France (Figure 1.12.a). In the commercial property sector too, prices in the euro area rose on average (by 1.7 per cent), supported by the increase in Germany, while they declined slightly in France and Italy.

[7] For example, the liquidity coverage ratio (LCR) encourages financial institutions to hold good-quality unencumbered securities on their balance sheets.

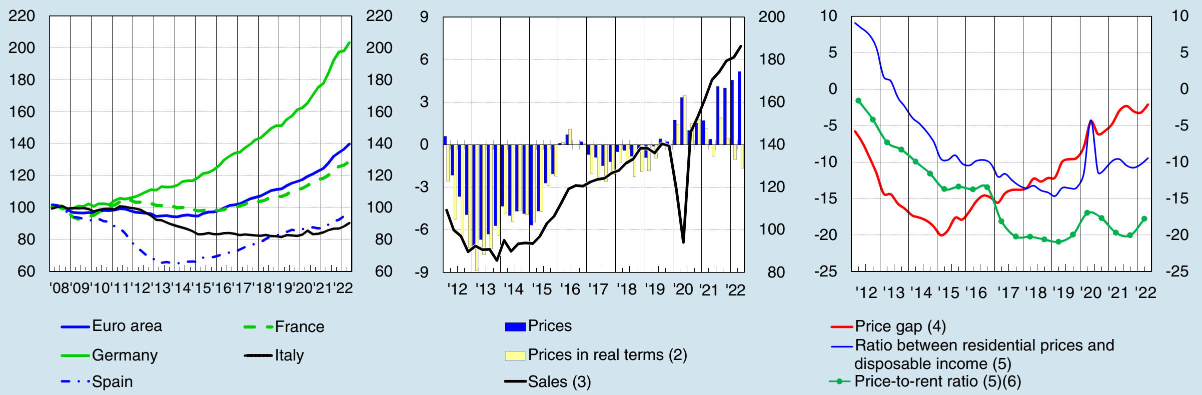
**Figure 1.12**

**The residential property market in Italy and the euro area** (1)
*(quarterly data, unless otherwise specified)*

(a) Residential property prices (indices: *2008=100)*

(b) Dwellings (*year-on-year changes and index*: *2015=100)*

(c) Valuation indicators



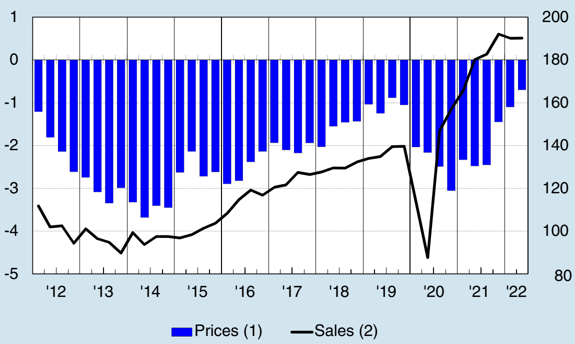

Sources: Based on data from the Bank of Italy, Eurostat, Istat, Osservatorio del Mercato Immobiliare (OMI), Nomisma and Scenari Immobiliari.
(1) Panels (b) and (c) refer to Italy. – (2) Data deflated using the change in consumer prices. – (3) Data adjusted for seasonal and calendar effects. Right-hand scale. – (4) The price gap is defined as the percentage of deviation of the house prices index in real terms from its long-term trend. – (5) The data are expressed as a percentage deviation compared with the long-term average. – (6) Half-yearly data.

In Italy, over the same period, sales of residential properties gained pace. House prices grew faster than in the second half of 2021, but slower than consumer prices (Figure 1.12.b). Our calculations based on the listings published on the digital platform Immobiliare.it show that the demand for housing remained at relatively high levels also over the summer months. However, real estate agents, a sample of whom were interviewed in October as part of our periodic surveys, point to a deterioration in market conditions, as they expect developments in consumer price inflation to weigh negatively on housing demand. According to our estimates,[8] nominal housing prices are likely to continue to grow at a faster pace until the end of 2022 and subsequently slow down.

Considering the long-term trends, the indicators that make it possible to assess the dynamics of the residential market continue not to indicate risks of overvaluation (Figure 1.12.c). Nonetheless,

**Figure 1.13**

**Non-residential property in Italy**
*(quarterly data)*




Sources: Based on data from the Bank of Italy, Istat, Nomisma, Osservatorio del Mercato Immobiliare (OMI) and Scenari Immobiliari.
(1) Year-on-year percentage changes. The indicator, which is still being tested, uses data drawn from transactions actually concluded on the market. – (2) Index: 2015=100; data adjusted for seasonal and calendar effects. Right-hand scale.

8 The estimates are based on the models described in S. Emiliozzi, E. Guglielminetti and M. Loberto, 'Forecasting House Prices in Italy', Banca d'Italia, Questioni di Economia e Finanza (Occasional Papers), 463, 2018.

although house prices in the main Italian cities and macro-areas were broadly in line with the national figures, prices in Milan have been rising substantially since as far back as 2015.

Sales remained stable in the non-residential sector; in the first half of 2022, the decline in prices moderated (-0.9 per cent, from -2.0), owing to a smaller fall in prices for retail space and industrial buildings and a slight increase in office space prices (Figure 1.13).

## 1.5 HOUSEHOLDS AND FIRMS

### *Households*

The risks to financial stability stemming from the household sector continue to be limited overall. In the first half of 2022, the financial situation of households was supported by the growth in disposable income and the abundant liquidity accumulated during the pandemic. The impact of higher energy prices and, to a lesser extent, food prices on households' purchasing power was mitigated by government support measures. In the second half of the year, the outlook for the general economic situation has deteriorated, reflecting heightened macroeconomic uncertainty and the ongoing conflict in Ukraine (see *Economic Bulletin*, 4, 2022). According to the ECB's Consumer Expectations Survey (CES) for September 2022, the share of households expecting their financial situation to deteriorate over the next twelve months is higher than it was in April; the increase has been more intense than in the other main euro-area countries.

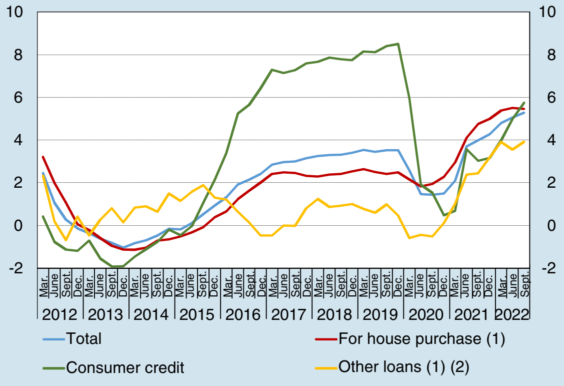
In June, the propensity to save was still above pre-pandemic levels, reflecting a still significant precautionary component. However, according to calculations based on the CES survey, the share of households expecting to save over the next twelve months has declined among the least well-off households compared with the end of 2021, likely owing to the higher share of expenditure for utility bills and food. Following the strong growth observed in 2020-21, gross financial wealth has declined by 6.5 per cent, reflecting the fall in the price of assets; it amounts to around four times disposable income, broadly unchanged from before the pandemic and above the euro-area average. While declining, financial investment has remained positive and has continued to be directed towards relatively low-risk assets (government securities, insurance policies and deposits).

Household debt has remained stable at 64 per cent of disposable income, thanks to the growth in income which has offset the increase in debt; it is still much lower than the euro-area average (97 per cent). Mortgage loans have continued to grow at a fast pace (5.5 per cent in September; Figure 1.14). The average interest on outstanding loans has risen slightly, though it remained at a very low level (1.8 per cent). The normalization of monetary policy, however, has fed into new mortgage rates, which have increased by around 90 basis points from 1.4 per cent in December 2021 (see the box 'Household exposure to the interest rate risk inherent in mortgage loans').

**Figure 1.14**

**Loans by banks and financial corporations to consumer households**

*(end-of-period data; 12-month percentage changes)*



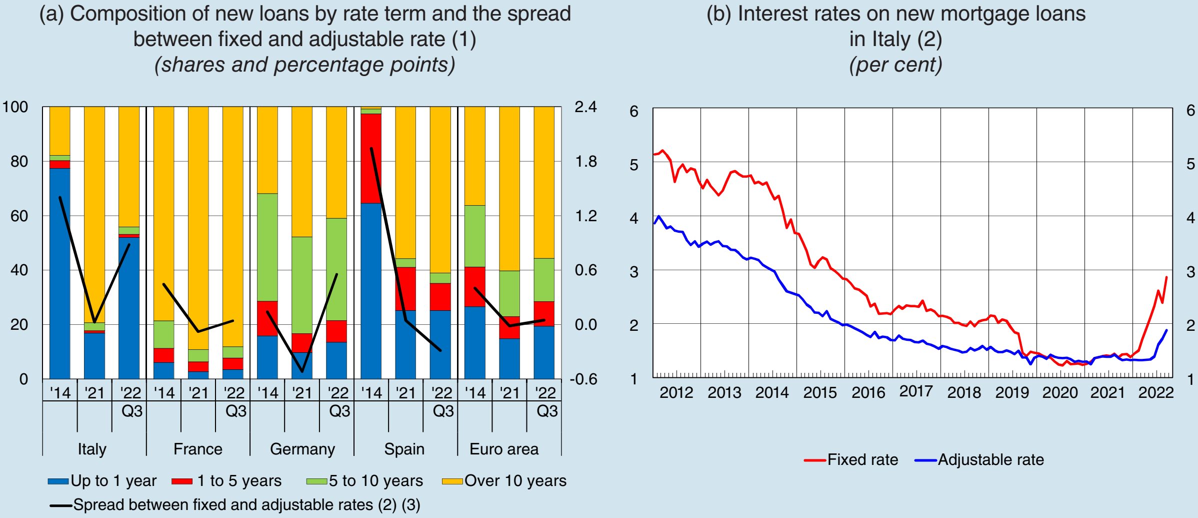

Source: Supervisory reports.
(1) The figure refers to bank loans only. – (2) Other loans: the most significant are current account overdrafts and mortgage loans other than those for the purchase, construction and renovation of properties for residential purposes.

## HOUSEHOLD EXPOSURE TO THE INTEREST RATE RISK INHERENT IN MORTGAGE LOANS[1]

Exposure to the risk of an increase in the debt servicing costs for house purchase loans is modest. As at September 2022, adjustable-rate mortgages (usually benchmarked to a market rate such as the Euribor) made up less than 40 per cent of total outstanding mortgage loans, a historic low. Prior to the 2008 financial crisis, their share hovered around 80 per cent, then fell gradually in the second half of 2015. Starting in that year, as monetary policies became more accommodative, the spread between fixed and adjustable rates applied to new mortgage loans gradually narrowed, reaching a level similar to that of the euro area (see panel (a) of the figure). This development reflected the sharper decline in the cost of fixed-rate loans that, together with the protection they offer against the risk of future increases in market rates, has led households to prefer this type of mortgage.

**Figure**

**New mortgage loans and interest rates**




Source: ECB.
(1) Average for the reference period. – (2) The fixed rate is that applied to mortgage loans for which the interest rate is set for a period of more than 10 years. The adjustable rate is that applied to mortgage loans for which the interest rate is set for a period of less than 1 year. – (3) Right-hand scale.

Since spring of this year, the spread between fixed and adjustable rates has widened again (see panel (b) of the figure) to almost 90 basis points on average in the third quarter; during the same period, less than half of new mortgages were granted at fixed rates (compared with 80 per cent in the first quarter). Similar developments have not been reported in the other major euro-area countries, where the granting of new adjustable-rate loans has remained limited, at levels similar to those observed for 2021 as a whole. The risk of future increases in debt servicing costs is however mitigated by wide-scale use of an interest rate cap, applied to around 40 per cent of new adjustable-rate loans in the quarter ending in September 2022.

The widening interest rate gap is in part attributable to intermediaries' need to offset the current and expected rise in the cost of bank liabilities.[2] The speed with which the shift in composition of new loans has occurred also reflects demand-side factors. Some studies have shown that the choice made by Italian

[1] By Angelo Nunnari and Raffaella Pico.
[2] G. Foà, L. Gambacorta, L. Guiso and P.E. Mistrulli, 'The supply side of household finance', *The Review of Financial Studies*, 32, 10, 2019, pp. 3762-3798.

households is primarily tied to the initial amount of payments, which may explain the preference for an adjustable-rate loan since the initial instalment due is lower than that for a fixed-rate mortgage.[3]

According to an estimate made using data from the Central Credit Register, a 2 percentage point rise in the cost of outstanding adjustable-rate mortgages as of August 2022 would result in an increase of 17 per cent in the median monthly instalment. The increase would be similar for smaller payments, which are more likely to be owed by lower-income households. The median debt-to-income ratio would rise by around 2 percentage points (over 4 points for the least well-off households).

3 M. Paiella and A.F. Pozzolo, 'Choosing between fixed- and adjustable-rate mortgages', in S. Agarwal and B.W. Ambrose (edited by), *Household credit usage*, New York, Palgrave Macmillan, 2007; M. Ehrmann and M. Ziegelmeyer, 'Household risk management and actual mortgage choice in the euro area', European Central Bank, Working Paper Series, 1631, 2014.

Recourse to consumer credit has intensified during the year, though less so than during the pre-pandemic period; household debt as a ratio of disposable income has remained unchanged. The overall cost of new loans grew by around 120 basis points from the end of 2021, to 8.8 per cent in September. The sector's exposure to the risk of an increase in interest rates is mitigated by the sizeable share of new loans granted at rates that are fixed for over 5 years (approximately 60 per cent in 2022), which is higher than the euro-area average (55 per cent).

Despite households' weakening purchasing power, the increase in nominal income and the still low interest rate environment have helped to keep the non-performing loan ratio at historically low levels (0.6 per cent in September; see Section 2.2). The non-performing loan rate of consumer credit alone has also remained muted (1.2 per cent last April).[9] According to a pilot survey conducted by the Bank of Italy between June and July this year on 1,700 households, in 2022, the share of respondents reporting being behind with the payment of debt instalments by more than 90 days has remained unchanged overall compared with last year.

The Government has adopted a wide array of measures to mitigate the effects of higher energy costs for households and firms, amounting to around €71 billion starting in 2021. Our analyses suggest that the measures in support of households' purchasing power appear to have had a greater impact for households in the lowest income quintile, for whom the items most affected by inflation account for a large share of spending.[10]

The projections of the Bank of Italy's microsimulation model based on a scenario consistent with the latest macroeconomic forecasts, which include the growth in nominal disposable income for this year and the next, indicate that at the end of 2023, the share of vulnerable households and the ratio of their debt to the total will increase by 0.7 and 1.5 percentage points respectively, to 2.4 and 9.1 per cent.[11] Should trends in interest rates prove more unfavourable,[12] then the share of debt at risk would

9 Assofin, CRIF and Prometeia, 'Osservatorio sul credito al dettaglio', 52, 2022.

10 N. Curci, M. Savegnago, G. Zevi and R. Zizza, 'The redistributive effects of inflation: a microsimulation analysis for Italy', Banca d'Italia, Questioni di Economia e Finanza (Occasional Papers), forthcoming.

11 Households are considered vulnerable when their debt-service-to-income ratio is above 30 per cent and their equivalized disposable income is below the median. The data are based on the latest edition of the 'Survey on Household Income and Wealth' for the year 2020. For details on the microsimulation model, see C.A. Attinà, F. Franceschi and V. Michelangeli, 'Modeling households' financial vulnerability with consumer credit and mortgage renegotiations', *International Journal of Microsimulation*,13, 2020, pp. 67-91, also published as Banca d'Italia, Questioni di Economia e Finanza (Occasional Papers), 531, 2019.

12 Compared with the baseline scenario, the assumptions are that the 3-month Euribor, the 10-year interest rate swap (IRS) and the interest rate on consumer credit will rise by about 100 basis points.

reach 9.9 per cent of the total. In a particularly adverse scenario,[13] characterized by very unfavourable changes in income and in the cost of debt compared with the baseline scenario, the share would rise to 10.6 per cent, a level nevertheless below that observed during the sovereign debt crisis.

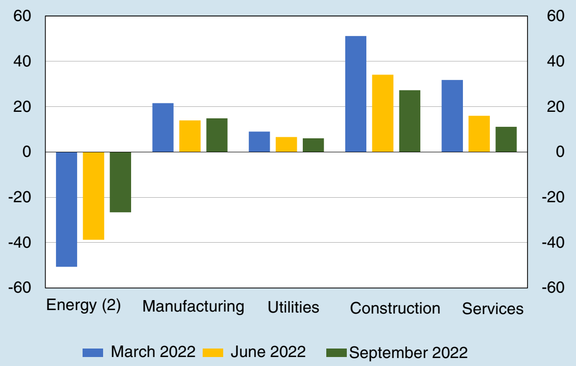
### *Firms*

The financial situation of firms has been affected by the slowdown in economic activity, rising interest rates and higher energy prices. Firms' debt repayment capacity has remained good so far, thanks to the rebound in profitability, high liquidity and low leverage. Looking ahead, firms' vulnerability is likely to remain limited, unless economic conditions deteriorate much more than expected.

The strong recovery in profitability that characterized 2021 has moderated. In June, gross operating income grew by 1.6 per cent (from 6.8 per cent at the end of 2021). According to data from the Business Outlook Survey of Industrial and Service Firms conducted by the Bank of Italy between September and October on a sample of firms with 20 or more employees, 75 per cent of these businesses expect to close the year with a profit; this is on a par with the percentage for 2021 and slightly higher than before the pandemic. The share of firms reporting that they increased their sales prices in the previous nine months to cope with heightened energy costs is larger in the most energy-intensive sectors; this helped ease pressure on profitability. The profits expected by analysts for listed companies in 2023 remain higher than those predicted for 2022, except for the energy sector (Figure 1.15); however, expectations have been gradually revised downwards, especially in the construction and service sectors.

Figure 1.15

**Expected profits of Italian listed companies in 2023** (1)
*(percentage changes)*




Source: Bloomberg.
(1) Changes in the index of profits expected by analysts for 2023 compared with 2022. Based on a closed sample of 181 listed companies as at September 2022, accounting for 93 per cent of the market capitalization of non-financial corporations. – (2) The sector includes energy producers and energy plant manufacturers.

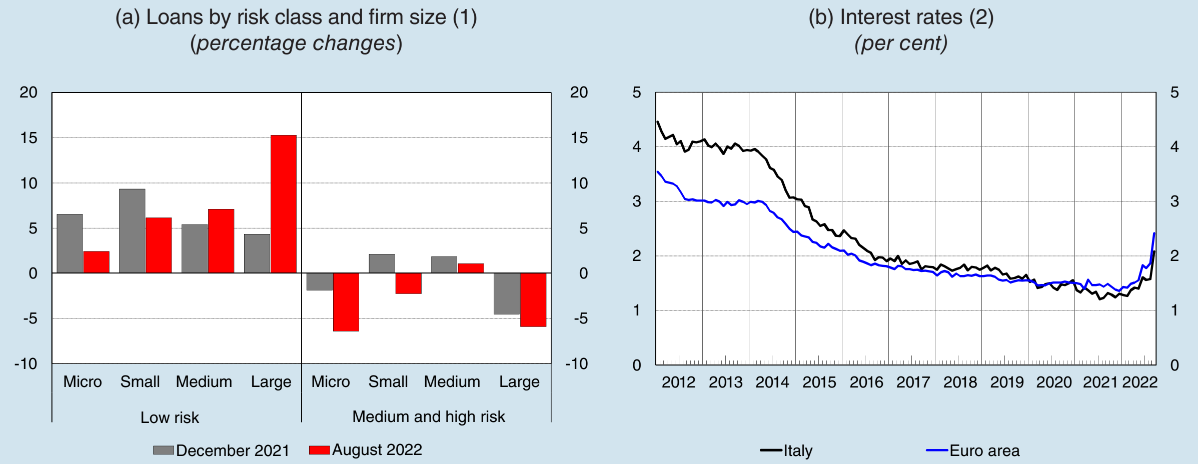
Firms' liquidity remains at the high levels reached at the end of 2020: in June of this year it accounted for 28.4 per cent of GDP, almost twice the share held in the previous decade and significantly above pre-pandemic levels (21.6 per cent). The findings of the survey confirm widespread cash holdings: only 6 per cent of firms consider their liquidity to be insufficient to support their ongoing operations until the end of the year.

Firms' financial structure has remained more balanced compared with the past. In June 2022, leverage (calculated as the ratio of financial debt to the sum of financial debt and net equity valued at market prices) amounted to 39.9 per cent, 10 percentage points below the peak registered in 2011. The increase of around 2 points compared with last year was due solely to the decrease in equity prices; net of the decline in the value of capital, leverage has remained virtually unchanged. For the end of the year, respondent firms expect a reduction in leverage, especially those operating in the service sector.

[13] Compared with the baseline scenario, this assumes a rise of 200 basis points in interest rates and a reduction of 4 percentage points in the growth rate of nominal income (around two standard deviations of the annual variations recorded in the period 2003-21).

Figure 1.16

**Credit to firms**




Sources: Bank of Italy, ECB and Cerved.
(1) The data refer to the annual change in lending for a sample of about 510,000 limited companies. Loans include those granted by financial companies, take account of securitizations and also include bad loans. Allocation into the risk groups is based on Cerved's CeBi-Score4 indicator. Low (medium and high) risk firms have a score ranging from 1 to 4 (5 and 10). The breakdown by firm size is in accordance with Commission Recommendation 2003/361/EC, which defines micro firms as those employing fewer than 10 workers and whose turnover or total assets do not exceed €2 million; small firms as those employing fewer than 50 workers and whose turnover or total assets do not exceed €10 million and which are not included among micro firms; medium-sized firms as those employing fewer than 250 workers and whose turnover or total assets do not exceed €50 million and €43 million respectively and which are not included among micro or small firms; and large firms as all the remaining ones. – (2) Harmonized interest rates on new loans to non-financial corporations; includes current account overdrafts.

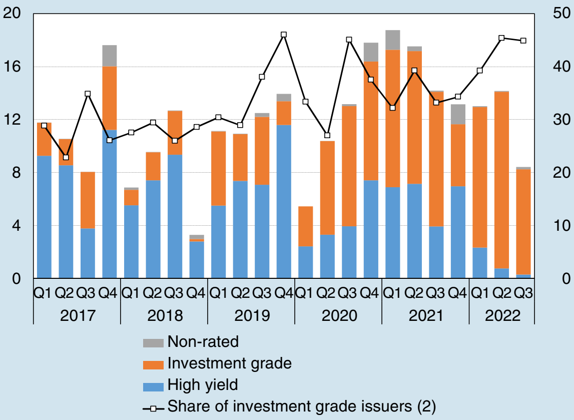
Firms' debt accelerated over the summer months, to 3.8 per cent in September. However, the dynamics have been uneven: already since the early months of 2022, growth has increased for larger firms, driven by higher demand for investment and working capital, while financing for smaller firms has declined (5.0 and -1.5 per cent respectively). The change in lending has reflected, among other things, financial intermediaries' increased selectivity: among the soundest firms, growth was positive for all size classes, while it was negative among the risky ones, including for large companies (Figure 1.16.a).

Credit supply conditions are tightening (Figure 1.16.b). The average interest rate on new bank loans, which was close to historical lows at the end of 2021, turned upwards in June; a similar though more pronounced trend has been observed in the euro area.

For the second half of the year, the firms interviewed in the Business Outlook Survey expect an increase in the demand for loans, especially in the energy sector and among larger firms, despite expectations of a tightening of credit standards across all sectors and sizes. These findings were also confirmed by the Italian intermediaries taking part in the Bank Lending Survey (BLS).

Figure 1.17

**Bond funding** (1)
*(billions of euros; per cent)*




Sources: Cerved, Dealogic and Securities Database.
(1) Bonds issued by Italian non-financial corporations and groups. The investment grade risk category comprises issuers with CeBi-Score ratings from 1 to 4, while the high yield category comprises issuers with ratings above 4. The amounts are calculated gross of redemptions. – (2) Right-hand scale.

In the second half of the year, deteriorating market conditions have adversely affected the use of bond funding. Against the background of positive developments in the first half of the year, when the value of total issues exceeded the average of the pre-pandemic years, in the third quarter the number fell to the levels observed in the first half of 2020 (Figure 1.17). The share of firms with sounder balance sheets – which account for nearly all new issues – has expanded, continuing the trend that began during the pandemic.

For the largest Italian firms, however, the risk of an increase in the cost of bond funding is higher than the euro-area average. In early November the share of BBB-rated bonds – those most exposed to the risk of a downgrading to speculative grade – amounted to 86.5 per cent of total investment grade issues in Italy, compared with 60.9 per cent in the euro area.[14]

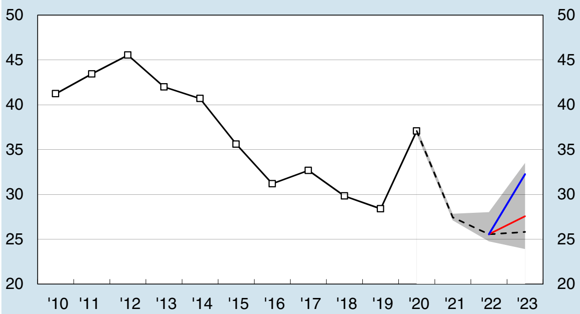
The ability of Italian firms to repay their debts remains on average at high levels so far, thanks to their relatively sound financial situation. In June, the ratio of interest expense to gross operating income remained at historically low levels (6.1 per cent). The non-performing loan rate stood at 1.7 per cent in September, the lowest in 15 years, and not particularly high even for firms that availed of moratoriums (see Section 2.1).

Looking ahead, the risks associated with a slowdown in economic activity, higher energy prices and changes in interest rates are on the rise. Assuming still positive growth in operating profitability, the vulnerability of firms in 2023 will depend mainly on the developments in the cost of debt. The projections of the Bank of Italy's microsimulation model indicate that, in a scenario consistent with the latest macroeconomic forecasts, the share of debt held by vulnerable firms will remain small overall, at 26 per cent (Figure 1.18); it will likely grow in the construction and real estate sectors.[15] Should trends in interest rates prove more unfavourable, then the share of debt at risk would reach 28 per cent of the total. In a particularly adverse scenario, characterized by very negative changes in profitability and by a significant increase in the cost of debt, the share would rise to 32 per cent, a level nevertheless below those recorded during the pandemic and the sovereign debt crisis.[16]

Figure 1.18

**Share of debt held by vulnerable firms** (1)

*(annual data; per cent)*




Source: Based on Cerved data.
(1) Vulnerable firms are those whose gross operating income is negative or whose ratio of interest expense to gross operating income exceeds 50 per cent. Excludes firms with bad loans. The latest available annual financial statements for the whole sample of firms refer to 2020. The shaded area indicates a confidence interval of 95 per cent around the baseline scenario. Compared with the baseline scenario, in 2023: (A) the nominal interest rate is 100 basis points higher; (B) the nominal interest rate is 200 basis points higher and the growth rate of nominal gross operating income is 10 percentage points lower.

14 The estimates consider the securities included in the BofAML indices, which are highly representative of the bond issues traded in the markets and refer to the composite rating calculated as the average of the ratings of Moody's, Standard & Poor's and Fitch Ratings.

15 The estimates take account of the price outlook in the macroeconomic projections for gross operating income and interest rates, both expressed in nominal terms. For details on the microsimulation model, see A. De Socio and V. Michelangeli, 'A model to assess the financial vulnerability of Italian firms', *Journal of Policy Modeling*, 39, 2017, pp. 147-168, also published as 'Modelling Italian firms' financial vulnerability', Banca d'Italia, Questioni di Economia e Finanza (Occasional Papers), 293, 2015.

16 Compared with the baseline scenario, the adverse scenario assumes a rise in the nominal interest rate of 100 basis points (greater than the increases recorded in 2007 and 2011); the particularly adverse scenario assumes a rise of 200 basis points in the nominal interest rate and a decline of 10 percentage points in the growth rate of nominal gross operating income, equal to around 2 standard deviations of the annual variations recorded in the period 2003-21.

# 2 RISKS TO FINANCIAL INTERMEDIARIES

## 2.1 BANKS

Over the year, the worsening of macro-financial conditions (see Section 1.2) and the gradual phasing out of the support measures for households and firms adopted to counter the effects of the pandemic did not affect the quality of banks' assets. The new non-performing loan ratio fell slightly, remaining at low levels, and the stock of non-performing loans continued to decline. For all performing loans, the share of loans for which financial intermediaries found a significant increase in credit risk (classified as Stage 2 under IFRS 9) diminished slightly, although it varied across intermediaries. The latter were prompted by the Bank of Italy to adapt their accounting models to estimate expected credit losses, in order to incorporate risk assessments in a timely manner.

The gradual normalization of monetary policy is favouring growth in net interest income, thereby contributing to an improvement in profitability. Capitalization remains at high levels and is greater than in the pre-pandemic period, although it is falling because of both extraordinary share buybacks and the decline in the market value of securities in the portfolio measured at fair value.

Weakening macroeconomic conditions, inflationary pressures and rising interest rates may have significant consequences for banks' balance sheets in the coming months. The higher debt burden will affect the capacity of households and firms to repay their loans, with potential consequences for credit quality. There may also be upward pressures on the cost of funding, partly as a result of the need to replace some of the funds acquired through the targeted longer-term refinancing operations (TLTROs), maturing in the coming months. The bigger banks also need to issue instruments to satisfy the minimum requirement for own funds and eligible liabilities (MREL). In the medium term, Italian intermediaries' profitability is expected to remain positive due to the growth in net interest income, although this is partly offset by an increase in loan loss provisions and the decline in trading income.

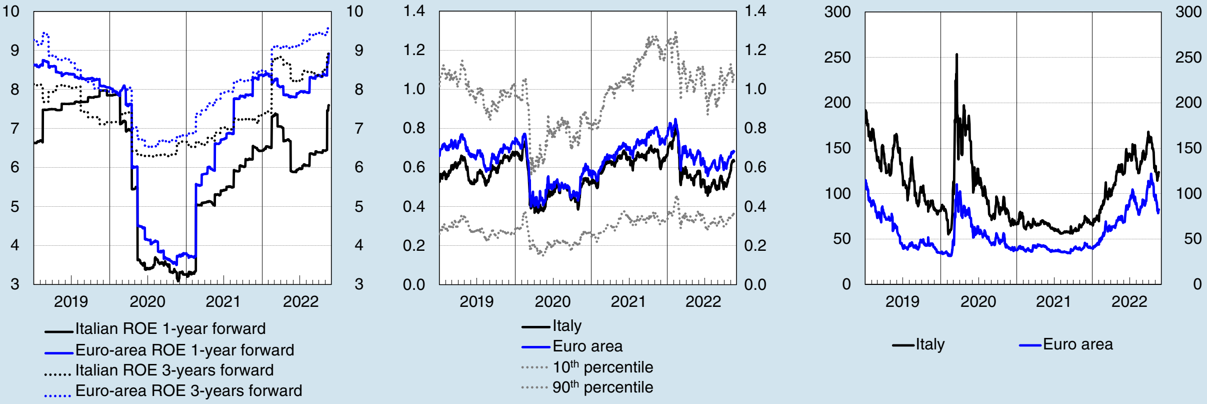
Financial market volatility is affecting the market value of banks. Analysts' expectations for the return on equity (ROE) of European intermediaries, over a one-year horizon, have been revised upwards over the past few months in conjunction with the ECB's announcement of the gradual normalization of monetary policy, recouping the decline reported after the Russian invasion of Ukraine. Expected profits over the next three years remain above pre-pandemic levels (Figure 2.1.a). The price-to-book (PTB) ratio is hovering at around 0.6 and remains marginally below the European average (Figure 2.1.b). Medium-term profitability expectations, implied in the price-to-book ratio, reflect the weakening of the growth prospects according to how the economic situation unfolds. The increase in credit default swap (CDS) premiums indicates a rise in default risk both for the two main Italian groups and for other large European banks (Figure 2.1.c).

### *Asset risks*

In the third quarter, the ratio of new non-performing loans to performing loans (NPL ratio) stood at 1.1 per cent on an annual basis, slightly down from the end of 2021 and at particularly low levels by historical

Figure 2.1

**Italian listed banks: an international comparison**



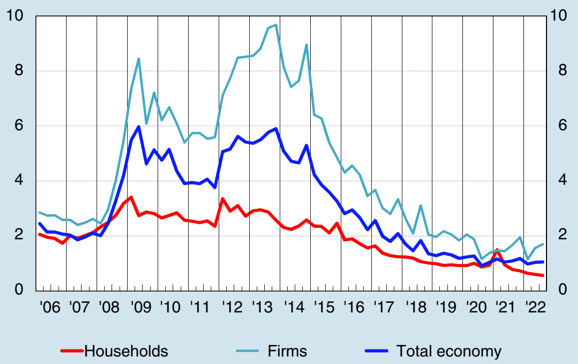

Source: Calculations based on Refinitiv data.
(1) ROE is estimated by market operators. Average weighted according to market value. The data refer to the banks included in the FSTE Italy Banks and the Euro STOXX Banks indices. – (2) Average weighted according to market value. For the banks included in the sample, see note 1. – (3) The data refer to the following sample of banks: for Italy, UniCredit and Intesa Sanpaolo; for the euro area, BNP Paribas, Société Générale, Crédit Agricole, Deutsche Bank, Commerzbank, Banco Santander, Banco Bilbao and Vizcaya Argentaria. Simple average of 5-year CDS spreads.

standards (Figure 2.2). The decline was driven by the lower flow of non-performing loans observed for firms and to a lesser extent for households.

The expiry of the moratoriums introduced following the pandemic and the gradual phasing out of the interest-only period for state-guaranteed loans did not translate into a significant increase in loans with repayment difficulties.[1] The default rate for firms benefiting from moratoriums declined in June in comparison with the end of last year, to just over 2 per cent,[2] remaining higher, however, than that for firms not benefiting from any support measures or backed by secured loans alone (0.5 and 0.8 per cent respectively).

Figure 2.2

**Credit quality indicators** (1)
*(quarterly data; per cent)*




Source: Central Credit Register.
(1) Annualized quarterly flows of adjusted NPLs in relation to the stock of loans, net of NPLs adjusted at the end of the previous quarter. Data seasonally adjusted where necessary.

In the first six months of the year, non-performing loans sold on the secondary market are expected to total around €9 billion (Figure 2.3). The estimate of the amount that will be sold throughout the year (around €20 billion) is in line with that observed in 2021. Developments in sales, together with the low flow of NPLs, have contributed to the fall in the stock of this type of asset.

[1] From the start of the pandemic to the end of the first half of this year, state-guaranteed loans to firms amounted to around €268 billion at the end of the first half year, more than 90 per cent of which attributable to the programmes introduced because of the crisis and conducted by the Central Guarantee Fund (CGF).

[2] For further details, see the box 'The phasing-out of support measures and bank asset quality', *Financial Stability Report*, 1, 2022.

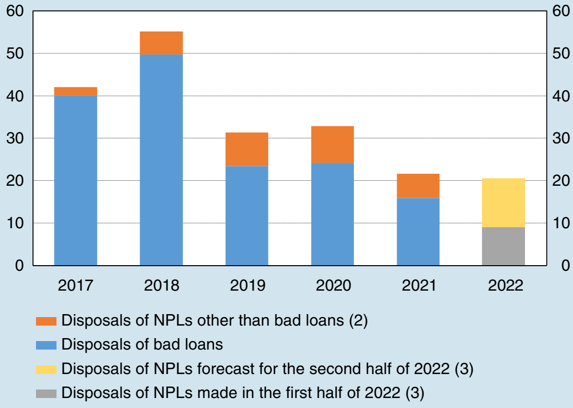
At the end of June, net NPLs equalled €37 billion (Table 2.1), down by about €3 billion compared with end-2021 (€73 billion gross, down by €11 billion). The NPL ratio, net of loan loss provisions, continued to go down (1.5 per cent; Figure 2.4.a); for this indicator, the gap between Italian significant banks and all the intermediaries directly supervised by the ECB was essentially wiped out (Figure 2.4.b).

The coverage ratio for NPLs was 49.8 per cent in June, down over the half-year by 2.2 percentage points compared with six months earlier. For significant banks, the decline was mainly driven by disposals of non-performing loans with high coverage levels.

For less significant banks, the coverage ratio remains well below that for significant banks (34.6 per cent compared with 52.7 per cent; Table 2.1), in part due to the presence, among the former, of intermediaries specializing in NPL management, which acquire default positions and enter them in their balance sheets net of write-downs (see Table A2 in the Appendix); if we only consider less significant banks other than these specialized banks, the difference goes down to 7.3 percentage points (from 7.7 percentage points in December 2021).

Figure 2.3

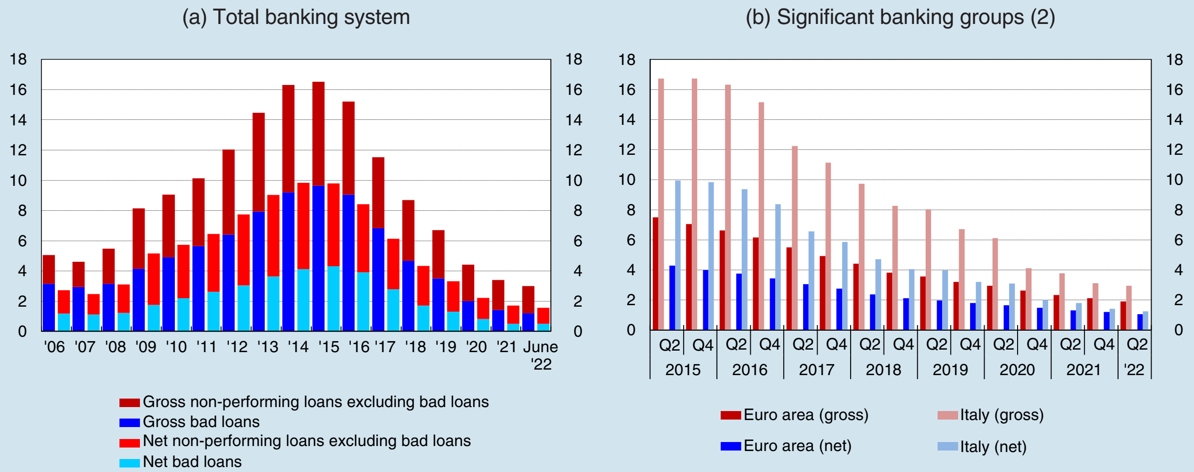
**Disposals of non-performing loans** (1)
*(gross amounts; billions of euros)*




Source: Annual survey on disposals of non-performing loans.
(1) The total includes the subsidiaries of foreign banks, which are not classified as 'significant' or 'less significant' in Italy for supervisory purposes. – (2) Includes NPLs classified as unlikely to pay or past-due. – (3) Preliminary data.

Figure 2.4

**Non-performing loans: share of total loans** (1)
*(per cent)*




Sources: Consolidated supervisory reports for Italian banking groups and individual supervisory reports for the rest of the system. ECB, 'Supervisory Banking Statistics' for the euro area.
(1) Includes loans to customers, credit intermediaries and central banks. Includes banking groups and subsidiaries of foreign banks; excludes branches of foreign banks. The amounts are calculated net and gross of provisions. The data for June 2022 are provisional. – (2) The perimeter of significant banks and less significant banks differs between the dates shown in the figure: since June 2019, when the reform of the cooperative banking sector was completed, Cassa Centrale Banca has become a significant banking group for supervisory purposes and 143 cooperative credit banks (BCCs) have joined the ICCREA group, which was already classified as significant before the reform. Mediolanum and Fineco have been included among the significant banks since June 2022.

Table 2.1

**Credit quality: amounts and shares of non-performing loans and coverage ratios**
*(billions of euros and per cent)*

| | Significant banks | | | | | Less significant banks | | | | | Total (1) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Gross exposures | Net exposures | Gross percentage share | Net percentage share | Coverage ratio (2) | Gross exposures | Net exposures | Gross percentage share | Net percentage share | Coverage ratio (2) | Gross exposures | Net exposures | Gross percentage share | Net percentage share | Coverage ratio (2) |
| | June 2022 (3) | | | | | | | | | | | | | | |
| **Loans** (4) | **2,015** | **1,975** | **100.0** | **100.0** | **2.0** | **197** | **192** | **100.0** | **100.0** | **2.8** | **2,484** | **2,432** | **100.0** | **100.0** | **2.1** |
| Performing | 1,963 | 1,951 | 97.4 | 98.8 | 0.6 | 186 | 184 | 94.3 | 96.2 | 0.9 | 2,411 | 2,395 | 97.1 | 98.5 | 0.7 |
| *of which:* Stage 2 (5) | 221 | 211 | 11.0 | 10.7 | 4.3 | 18 | 17 | 9.1 | 9.1 | 3.3 | 255 | 244 | 10.3 | 10.0 | 4.3 |
| Non-performing | 52 | 24 | 2.6 | 1.2 | 52.7 | 11 | 7 | 5.7 | 3.9 | 34.6 | 73 | 37 | 2.9 | 1.5 | 49.8 |
| Bad debts | 18 | 5 | 0.9 | 0.3 | 70.9 | 6 | 3 | 2.8 | 1.7 | 40.3 | 28 | 10 | 1.1 | 0.4 | 62.7 |
| Unlikely to pay | 32 | 17 | 1.6 | 0.9 | 44.6 | 5 | 3 | 2.4 | 1.7 | 33.1 | 41 | 23 | 1.6 | 1.0 | 43.4 |
| Past-due | 3 | 2 | 0.1 | 0.1 | 29.4 | 1 | 1 | 0.5 | 0.5 | 9.9 | 4 | 3 | 0.2 | 0.1 | 26.7 |
| | December 2021 (6) | | | | | | | | | | | | | | |
| **Loans** (4) | **1,987** | **1,942** | **100.0** | **100.0** | **2.3** | **199** | **194** | **100.0** | **100.0** | **2.6** | **2,457** | **2,400** | **100.0** | **100.0** | **2.3** |
| Performing | 1,926 | 1,915 | 96.9 | 98.6 | 0.6 | 188 | 187 | 94.3 | 96.3 | 0.6 | 2,374 | 2,360 | 96.6 | 98.3 | 0.6 |
| *of which:* Stage 2 (5) | 220 | 212 | 11.1 | 10.9 | 3.5 | 17 | 16 | 8.5 | 8.4 | 3.6 | 253 | 244 | 10.3 | 10.2 | 3.6 |
| Non-performing | 61 | 28 | 3.1 | 1.4 | 55.0 | 11 | 7 | 5.7 | 3.7 | 36.2 | 84 | 40 | 3.4 | 1.7 | 52.0 |
| Bad debts | 24 | 14 | 1.2 | 0.7 | 41.5 | 6 | 3 | 2.9 | 1.7 | 41.2 | 35 | 13 | 1.4 | 0.5 | 63.9 |
| Unlikely to pay | 35 | 19 | 1.8 | 1.0 | 46.1 | 5 | 3 | 2.5 | 1.7 | 34.1 | 44 | 25 | 1.8 | 1.0 | 44.8 |
| Past-due | 3 | 2 | 0.1 | 0.1 | 30.2 | 1 | 1 | 0.4 | 0.3 | 10.7 | 4 | 3 | 0.2 | 0.1 | 28.7 |

Sources: Supervisory reports, on a consolidated basis for banking groups and on an individual basis for the rest of the system.
(1) Includes subsidiaries of foreign banks that are classified as neither Italian significant banks nor Italian less significant banks, and account for about 12 per cent of total gross customer loans. Excludes branches of foreign banks. – (2) The coverage ratio is measured as the ratio of loan loss provisions to the corresponding gross exposure. – (3) Provisional data. – (4) Includes loans to customers, credit intermediaries and central banks. – (5) Based on the IFRS 9 accounting standard, Stage 2 includes loans whose credit risk has increased significantly since they were originally disbursed. – (6) Following the inclusion of Mediolanum and Fineco among the significant banks, the data prior to 30 June were pro forma recalculated as if the banks had been significant in the previous periods too.

About 54 per cent of the disposals of bad loans have been carried out via securitizations with state backing for senior tranches (guarantee schemes for the securitization of bad loans - GACS).[3] As at 30 June 2022, some 46 transactions were outstanding, for which securities worth just under €27 billion had been issued, of which around €22 billion were senior tranches. The redemptions made so far on senior tranches have reduced the state's exposure, which amounted to €13.6 billion on the same date.

For 25 transactions, the actual collections were 30 per cent lower on average than those predicted in the original recovery plans. The slowdown in the recovery process appears to be largely due to the consequences of the pandemic, in relation to the suspension of the courts and to the interruptions in property auctions. Despite this slowdown, based on the information provided by the servicers involved in the securitizations backed by GACS, almost all transactions continue to have an adequate degree of coverage for senior tranches relative to the expected future inflows included in the updated recovery plans.[4] The potential risk for the state in enforcing the guarantee (for a limited number of operations) would be covered by the GACS endowment, with no need for additional state funding.

[3] The figure refers to the bad loans sold from 2017 to 2021.

[4] For the description of methodology used for the analysis, see the box 'The performance of operations backed by guarantee schemes for the securitization of bad loans', *Financial Stability Report*, 1, 2021.

The volume of performing loans to the non-financial private sector classified as Stage 2 under IFRS 9 has remained virtually stable; given the improvement in the pandemic situation, the stock of these loans has been significantly reduced for those who have benefited from moratoriums.[5] The ratio of Stage 2 loans to total performing loans has declined slightly to 14.2 per cent, a level that is still higher than that recorded prior to the pandemic (10.4 per cent in December 2019). There continues to be a marked difference between the significant and less significant banks' shares of Stage 2 loans (15.4 and 11.2 per cent respectively).[6] The coverage ratios for this type of loan have risen on average by more than 80 basis points, to 4.6 per cent.

The economic slowdown, the macroeconomic consequences of the conflict in Ukraine, the rise in interest rates and the significant tensions in energy markets are all weighing on future developments in bank asset quality. Since the end of last year, the ratio of direct exposure to counterparties resident in Russia, Belarus and Ukraine to the total financial assets of the system has remained broadly stable (in June, 0.7 per cent, corresponding to €30.9 billion; see the box 'Risks to banks' assets deriving from the war in Ukraine', *Financial Stability Report*, 1, 2022), against a substantial increase in their coverage ratio.

As regards the indirect effects, the exposure of banks resident in Italy to firms which, as importers and exporters from and to Russia, Belarus, and Ukraine, might be more affected by trade restrictions resulting from sanctions, remains small (€5.2 billion or 0.35 per cent of loans). The credit quality for these counterparties is in any case better than that for firms overall for the time being.

Furthermore, the increase in energy prices may have negative effects on non-financial firms, in particular those operating in sectors with higher energy cost ratios, owing to both greater energy supply costs and the rise in non-energy input prices, which are in turn affected by the price increases.[7] Given the increased loans granted, credit risk indicators have not yet shown significant signs of deterioration at the aggregate level, even in the sectors exposed to rising energy prices. For some large intermediaries, there was an increase in loan loss provisions following the introduction of adjustments to models for caculating expected losses to take account of the uncertainties arising from the ongoing conflict and the risks associated with higher energy prices. For the system as a whole, the consequences of the war could affect the estimates for expected losses in the coming months.

In the first half of 2022, the vulnerability of Italian banks stemming from real estate exposures remained at historically low levels. For commercial real estate (CRE) loans,[8] which have a higher than average degree of riskiness than those granted to firms, there has been an improvement in credit quality compared with the end of last year (Figure 2.5). The ratio of new NPLs to performing loans has returned to around 2 per cent, following the increase recorded last December (5 per cent); the NPL ratio gross of loan loss provisions went down by 2 percentage points, to 12 per cent; the ratio of Stage 2 loans to total performing loans also declined, from 29 to 25 per cent. With reference to the new loans originating in the first half of the year, both the average of the loan-to-value ratio (LTV, 64 per cent) and the share of loans with an LTV above 80 per cent (14 per cent) remained stable compared with 2021.

[5] This effect reflects the reduction in the use of the management overlays on the impairment model for expected credit losses introduced from 2020 onwards to take account of the consequences of the pandemic for the riskiness of debtors belonging to the hardest hit economic sectors.

[6] For the significant banks, the share of Stage 2 loans remained around 4.2 percentage points higher than the average for the euro-area significant banking groups.

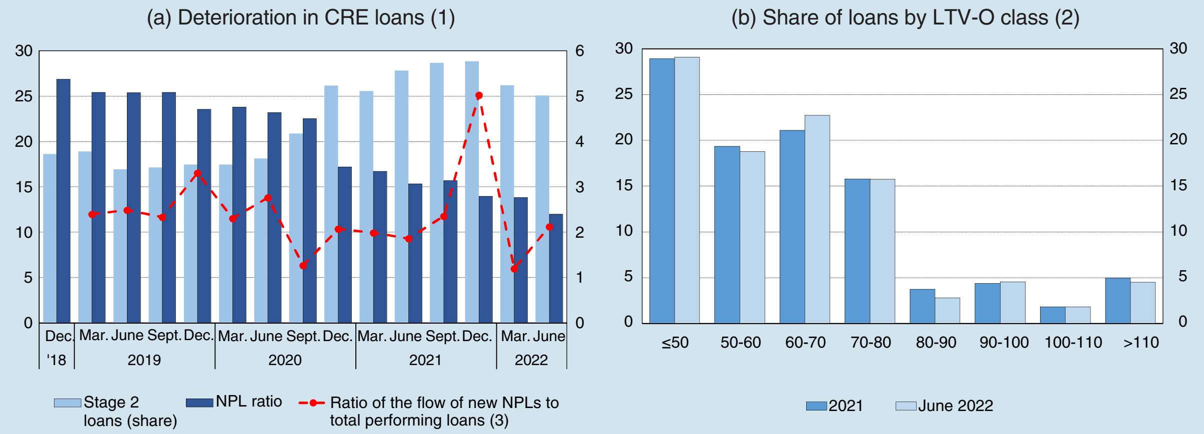
[7] Reference is made to sectors that are not net producers of energy (non-energy sectors), for which the estimation of the impact of direct and indirect energy costs is based on the energy input-output models most widely used in the literature. These models combine information on production inputs in sectoral input-output matrices with information on the use and production of energy goods in the 2018 Physical Energy Flow Accounts (PEFA).

[8] CRE loans are loans to non-financial corporations that are 'collateralized by' or 'for the purchase of' commercial real estate. The definition of commercial real estate is from Recommendation ESRB/2019/03, amending Recommendation ESRB/2016/14.

**Figure 2.5**

## Characteristics of CRE loans

*(per cent)*




Source: AnaCredit.
(1) The default rate is the ratio of the flow of new non-performing loans to performing loans at the start of the period. Annualized rate. – (2) The loan-to-value ratio at origination (LTV-O) is based on new loans disbursed during the year, identified by settlement date, and only includes loans collateralized by real estate. Based on the AnaCredit dataset classification, real estate collateral includes: residential buildings, office and commercial premises, and other commercial properties. For further details, see the box 'Analysis of bank loans to the commercial real estate sector' in *Financial Stability Report*, 1, 2022. – (3) Right-hand scale.

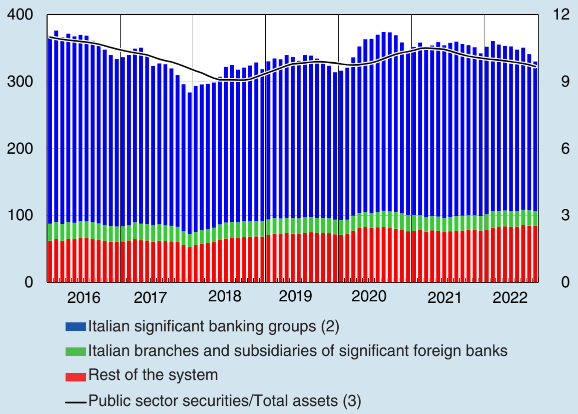
Our projections,[9] in line with the latest macroeconomic scenarios published by the Bank of Italy,[10] indicate that the default rate for firms will rise gradually in 2023 and more markedly in 2024, reaching figures of around 4 per cent at the end of that year in the baseline scenario and 5 per cent in an adverse scenario. There will be a similar trend for households, with a rate remaining close to 2 per cent in both scenarios. The increase in the cost of credit is expected to influence the growth of the default rate. Even with a significant increase in non-performing loans for firms in the adverse scenario, the default rate would still remain markedly lower that recorded in previous times of crisis.

Between March and September, the share of public sector securities in banks' total assets fell slightly, to 9.1 per cent (Figure 2.6). The share of these securities allocated to the portfolio of assets valued at amortized cost rose just barely for both significant and less significant banks, to 71.9 and 72.8 per cent respectively. For these assets, any changes in share prices do not affect regulatory capital.

**Figure 2.6**

## Banks' investment in Italian public sector securities (1)

*(monthly data; billions of euros and per cent)*




Source: Supervisory reports.
(1) Comprises all types of public sector securities, including those issued by local authorities. Excludes Cassa Depositi e Prestiti SpA. – (2) Includes the cooperative credit banks merged into cooperative credit banking groups. – (3) Twelve-month moving average ending in the month indicated. The series 'total assets' does not include bond buybacks by the issuer. Right-hand scale.

9 For the methodology, see E. Bonaccorsi Di Patti and G. Cascarino, 'Modelling the dynamics of non-performing loans in Italy', Banca d'Italia, *Notes on Financial Stability and Supervision*, 19, 2020.

10 Banca d'Italia, 'Macroeconomic projections for the Italian economy', 13 October 2022.

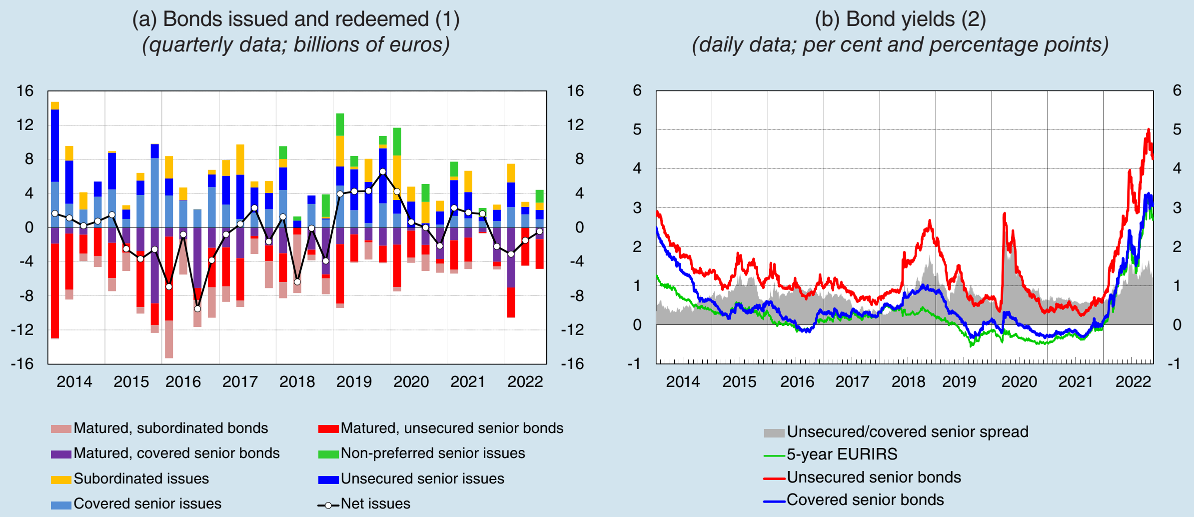
## *Refinancing risk and liquidity risk*

For the banking system as a whole, growth in funding was more moderate than that in loans, contributing to the slight increase in the funding gap,[11] which reached -11.8 per cent in September.

Although deposits are still expanding and the liquidity made available by the Eurosystem remains high, banks have increasingly relied on wholesale bond markets, albeit under more restrictive conditions. Net issues rose in the second and third quarters of the year, though they were negative by about €0.5 billion (Figure 2.7.a), with rates gradually rising (Figure 2.7.b). The higher interest rates could lead to an increase in funding costs overall, given that (a) by June 2023, around half of TLTRO III will be concluded and (b) by the end of 2023, almost 20 per cent of the value of outstanding bank bonds will mature (totalling around €50 billion).

Figure 2.7

**Bank bonds placed on international markets**




Sources: Bloomberg and Dealogic.
(1) The data refer to Italian banks' issues on international markets. Excludes issues retained on issuers' balance sheets and those earmarked for the retail market. Includes bonds deriving from securitizations. – (2) The data refer to yields at maturity of Italian banks' bonds with a residual maturity of 5 years.

Possible tensions in wholesale markets could complicate the progress of banks towards alignment with the fully-fledged MREL requirement (effective from 1 January 2024; see the box 'MREL for Italian significant banks').

### MREL FOR ITALIAN SIGNIFICANT BANKS[1]

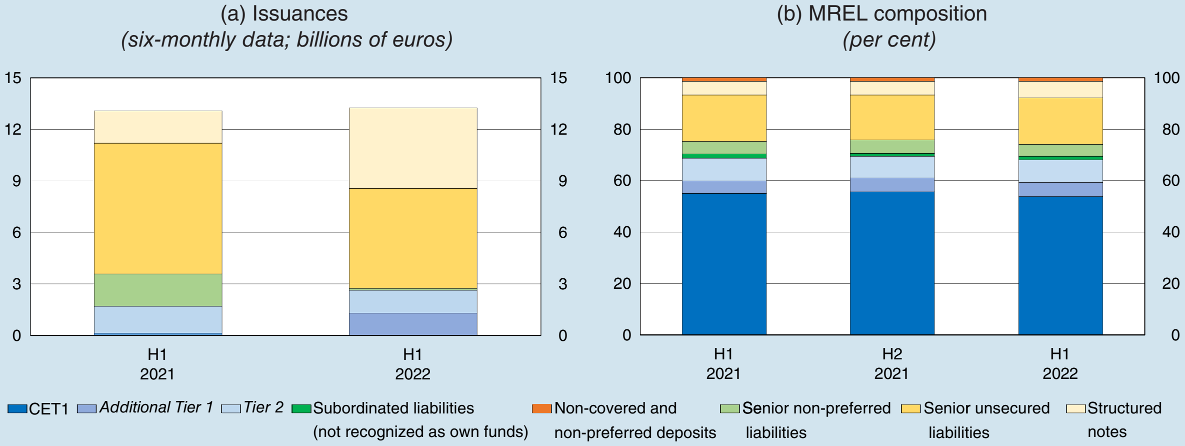
In the first half of 2022, eligible liabilities for the minimum requirement for own funds and liabilities subject to bail-in (MREL) were issued for €13.2 billion, a level similar to that recorded in the first

[1] By Valeria Calicchia, Umberto Caragnano and Emilia Luisa Leone.

[11] The funding gap is the difference between the value of the loans and retail funding, expressed as a percentage of loans.

Figure

**Italian significant banks: MREL eligible instruments**




Source: Based on banking groups' resolution reports.

half of 2021 (panel (a) of the figure). The bulk of the issuances come from the largest banks, which traditionally turn to wholesale funding markets to meet part of their funding needs. Compared with previous half-year periods, there is an increasing share of lower-quality instruments, such as structured notes,[2] among the issuances.

In the most recent issuances placed on the wholesale market, there has been a noticeable increase in funding costs in connection with the rise in interest rates. Higher funding costs could complicate banks' alignment with the MREL targets coming into force on 1 January 2024, especially as regards the subordinated debt component given that some of the significant banks are still not compliant with the final MREL targets, even though on average the system as a whole is adequately covered.[3]

On 30 June, the eligible MREL liabilities held by Italian significant banks[4] amounted to €278.2 billion, accounting for 27.6 per cent of risk-weighted assets (RWAs), and indicating a stable situation compared with December 2021, with average values for the intermediate and final targets[5] of 23.3 per cent and 24.6 per cent respectively of the RWAs. For the largest significant banks (with total assets of more than €100 billion), that are subject to a subordination requirement, subordinated instruments amounted to €179.3 billion (20.6 per cent of RWAs), down from the previous half-year period, against intermediate and final targets of 18.1 per cent and 18.5 per cent respectively.

[2] These are liabilities arising from debt instruments that incorporate a derivatives component and comply with the eligibility conditions laid down in Article 45-*ter* of Directive 2014/59/EU on bank recovery and resolution (BRRD).

[3] The aggregate shortfall of eligible liabilities to meet the total and subordinated MREL requirements amounted to €5.4 billion and €4.8 billion, respectively.

[4] Eligible MREL instruments include own funds and liabilities that satisfy the conditions laid down in Article 45-*ter* of the BRRD.

[5] In order to ensure that the MREL requirement would be built up progressively, as of 1 January 2022, banks have had to comply with an interim target, which is binding until the entry into force of the final target, scheduled for 1 January 2024.

Own funds accounted on average for 68 per cent of the total amount held (see panel (b) of the figure). Taking into account the subordinated liabilities not recognized as own funds (1.5 per cent of the total) and senior non-preferred instruments (4.6 per cent), the subordinated liabilities accounted for 74.1 per cent of the total. Senior unsecured instruments and structured notes accounted, respectively, for 18.0 per cent and 6.5 per cent of the total. For intermediaries overall, the share of non-covered and non-preferred deposits was marginal (1.4 per cent). The largest significant banks showed a higher degree of diversification, while for smaller banks the share of own funds, in particular common equity tier 1 (CET1) instruments, was preponderant (76 per cent).

Banks' liquidity position remained robust for both short- and medium-term maturities. At the end of June, the net stable funding ratio (NSFR) was 134.6 per cent on average, and no bank was below the regulatory minimum of 100 per cent. The available stable funding mainly comprised deposits by retail customers and loans from other financial intermediaries or central banks; the stable funding requirement was largely attributable to loans.

Between the end of March and the end of September, the average liquidity coverage ratio (LCR) went down by about 18 percentage points, in part because of the contraction in the reserves deposited with the central bank and in freely available government securities. The indicator remains well above the regulatory limit of 100 per cent on average, standing at 182.7 per cent (Table 2.2). The composition of high-quality liquid assets (HQLAs, the numerator of the LCR) remained practically unchanged, with a share of government securities and of liquidity held in the form of central bank reserves equal to 33 and 55 per cent respectively of the HQLAs.

Table 2.2

**Liquidity indicators of Italian banks** (1)
*(per cent)*

| | LCR (2) | Net liquidity position at 1 month (3) | NSFR (4) |
|---|---|---|---|
| Significant banks | 176.3 | 23.0 | 133.6 |
| Less significant banks | 249.7 | 17.6 | 142.9 |
| **Total banking system** | **182.7** | **20.1** | **134.6** |

Sources: Consolidated supervisory reports for banking groups and individual supervisory reports for the rest of the system.
(1) Data updated to September 2022 for the average liquidity coverage ratio (LCR) and the net liquidity position at 1 month, and to June 2022 for the net stable funding ratio (NSFR). – (2) The average LCR is calculated as the ratio between total high-quality liquid assets and the total net cash outflow over a 30-day horizon (see the Basel Committee, *Basel III. The Liquidity Coverage Ratio and the liquidity risk monitoring tools*, Bank for International Settlements, January 2013). – (3) The net liquidity position is equal to the ratio of the sum of highly liquid assets and net outflows to the total value of the assets. For significant and less significant banks, the figure is calculated as the simple average of the liquidity positions of the individual banks. – (4) The NSFR is the ratio of the available stable funding (calculated by multiplying an entity's liabilities and own funds by the factors that reflect their stability over a 1-year horizon) to the stable funding requirement (calculated by multiplying the assets and off-balance-sheet items by the factors that reflect their liquidity characteristics and residual maturities over the same time horizon). This requirement is designed to ensure that banks have sufficient stable funding to meet their funding needs over a 1-year horizon under both normal and stressed conditions, as set out in Regulation (EU) 2019/876 (Capital Requirements Regulation II or CRR II).

The liquidity in excess of the minimum reserve requirements deposited with the Bank of Italy has gradually declined: in the maintenance period that ended on 1 November, it averaged €324 billion, €70 billion lower than in April (Figure 2.8).

Between March and October 2022, the amount of Eurosystem refinancing for counterparties operating in Italy fell by €22 billion, to €431 billion. Around half of the funding obtained via TLTRO III will mature in June 2023, and the remaining part by the end of 2024. However, the ECB Governing Council's recent decision to change the current TLTRO III rates,[12] making them less favourable, could

[12] ECB, 'ECB recalibrates targeted lending operations to help restore price stability over the medium term', press release, 27 October 2022.

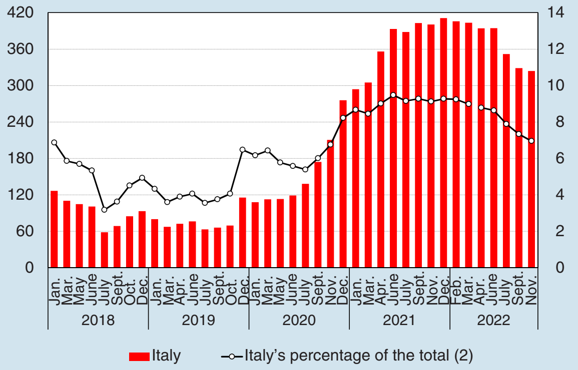
increase the share of funding that banks will repay before it reaches maturity. An analysis of a large sample of banks carried out last October[13] shows banks' willingness to replace just over half of their TLTRO III funds with alternative funding sources, largely accounted for by market-based and customer funding.

The value of the assets pledged as collateral in Eurosystem operations (collateral pool) fell by €30 billion, to €482 billion at the end of September (Figure 2.9.a). Loans make up the main class of eligible assets (33.8 per cent of the total; Figure 2.9.b). In July 2022, some of the collateral easing measures applied to collateral assets were lifted, which had been adopted in response to the pandemic emergency;[14] this reduced the collateral pool by around €10 billion. The measures still in place are continuing to increase the availability of collateral, for a total of €50 billion.

Figure 2.8

**Excess liquidity of counterparties operating in Italy** (1)

*(billions of euros and per cent)*




Sources: Based on Bank of Italy and ECB data.
(1) The months indicated on the x-axis are those in which each maintenance period ends. Excess liquidity is calculated as the sum of banks' average reserve balances, net of the reserve requirement, plus average recourse to the deposit facility. – (2) Right-hand scale.

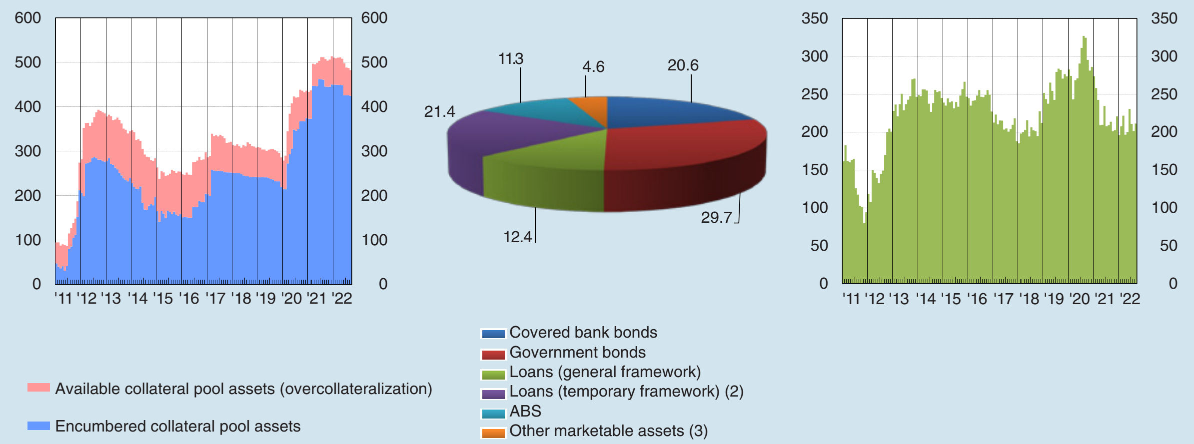
Figure 2.9

**Eligible assets of the Italian banking system**

(a) Eligible assets in the collateral pool (1)
*(monthly data; billions of euros)*

(b) Composition of the collateral pool as at September 2022
*(per cent)*

(c) Eligible securities outside the collateral pool (4)
*(monthly data; billions of euros)*




Sources: Based on Eurosystem data and supervisory reports.
(1) End-of-period data for the monetary policy counterparties of the Bank of Italy. The volume of encumbered Eurosystem collateral pool assets includes the part covering accrued interest and refinancing in dollars. The collateral pool is valued at the prices taken from the Common Eurosystem Pricing Hub, net of haircuts. – (2) Under the temporary framework, the eligibility criteria for assets that can be used as collateral are regulated by the individual national central banks pursuant to the rules provided by the ECB Governing Council (under the general framework, the criteria are set according to common rules that are applicable to the entire Eurosystem). – (3) Includes bank bonds, also those backed by the state guarantee scheme, and securities issued by non-financial corporations and international organizations. – (4) End-of-period data for the entire banking system, not including Cassa Depositi e Prestiti SpA and Poste Italiane SpA. Amounts at market values as reported by the banks, net of the haircuts applied by the Eurosystem.

[13] All Italian banks are considered, except for non-EU branches and those belonging to foreign Single Supervisory Mechanism (SSM) groups; however, subsidiaries of non-resident banks belonging to Italian SSM groups are included.
[14] ECB, 'ECB announces timeline to gradually phase out temporary pandemic collateral easing measures', press release, 24 March 2022.

Overall, the asset encumbrance ratio stands at 29.5 per cent, down from 30.7 per cent in March 2022. Italian banks have €211 billion in unencumbered eligible securities available outside the collateral pool, of which about 85 per cent are government securities (Figure 2.9.c). The amount of assets available for use as collateral for Eurosystem refinancing is likely to remain considerable even after an upward shift of 100 basis points in the entire sovereign yield curve: the value of the encumbered assets is expected to fall by €27.4 billion (5.7 per cent of the total), while that of potentially eligible securities would fall by €8.1 billion (4.0 per cent of the total).

### *Market risk and interest rate risk*

Since Russia's invasion of Ukraine began, and with the gradual acceleration of monetary policy normalization, the financial markets in the main currency areas have displayed high volatility. This has led to a substantial increase in banks' exposure to market risks.

Our estimates indicate that at the end of September, the Value at Risk (VaR) for the entire securities portfolio (banking and trading book) was almost 135 points, up by 35 points on March, despite a 7 per cent decline in exposures (Figure 2.10). The increase is mainly due to the volatility of credit spreads and of interest rates. The contribution of equity and the exchange rate to the risk is limited overall.

Figure 2.10

**The VaR trend for Italian banks** (1)

*(daily data; index: December 2012=100)*


Sources: Based on data from the securities registry database, supervisory reports and Refinitiv.

(1) Averages, weighted according to the size of each bank's portfolio. VaR is the loss on a portfolio that within a day will not exceed a given tail level (99 per cent). The indicator for the banking system as a whole is calculated at the end of every month, using granular data on the stocks and the characteristics of the assets in the portfolio of each Italian bank, taking account of the changes in risk factors over the last 250 business days.

Simulations based on the government securities portfolio, measured at fair value at the end of September 2022, show that an upward shift of 100 basis points for the entire sovereign yield curve would lower the tier 1 ratio by 17 basis points on average (14 basis points for significant banks and 41 basis points for less significant banks). The impact is in line with that estimated in February 2022.[15]

Taking into consideration the set of assets and liabilities held in the banking book at the end of June 2022 indicate that, in a scenario with risk-free rates growing in line with the expectations implied by the market interest rate curves over a 2-year horizon,[16] the median change in the economic value of the banking book would be positive for both significant and less significant banks (30 and 14 basis points of the tier 1 capital ratio respectively).[17] If only banks with negative changes are

[15] On the one hand, the estimates do not take into consideration government securities held by foreign subsidiaries and by the insurance component of Italian banking groups (in some cases involving significant amounts); on the other hand, they do not take account of factors that could mitigate the impact, such as the existence of hedging operations. The tax effects are considered instead, which reduce the impact by about 4 basis points.

[16] The estimates are based on the simplified methodology for determining exposure to interest rate risk as defined by the Bank of Italy; see Bank of Italy Circular 285/2013 (Supervisory rules for banks), Part One, Section III, Chapter 1, Annex C (Interest rate risk for the banking book in terms of change in economic value); this methodology is applied to the assets/liabilities of the banking book reported by banks using the maturity ladder. In particular, the scenario under consideration suggests an increase of more than 200 basis points for maturities up to 2 years, of between 60 and 120 basis points for those maturing in 3-10 years, and of no more than 10 basis points for those with longer maturities.

[17] The positive effect is due to the low losses recorded by banks' assets. Specifically, based on the market rates observed, the sensitivity of portfolio items, especially those with long maturities, has decreased; furthermore, the shock (non-parallel) applied to long-term interest rates is far more limited than that used in the previous estimate (see *Financial Stability Report*, 1, 2022).

considered, the average losses would be equal to 170 and 75 basis points respectively of the tier 1 capital ratio. Reductions in value, while becoming more marked, are likely to be sustainable for banks even in other scenarios assuming a shorter average duration of deposits considered to be stable, which would be consistent with an increase in customer preferences for investments as an alternative to liquidity in a context of higher inflation.

Finally, the impact on net interest income of a parallel 200-basis point increase[18] in the risk-free curve would be positive for almost all banks. According to our estimates,[19] the average 12-month weighted increase for the banking system would be equal to 75 basis points of the tier 1 capital ratio. In scenarios with less stability in sight deposits, the result would decrease significantly.

### *Capital and profitability*

At the end of the first half of the year, the average CET1 ratio for the entire banking system – given by the ratio of CET1 to risk weighted assets – was 14.8 per cent, 50 basis points lower than at the end of 2021. The decrease in capital ratios affected both the significant groups and the less significant banks, albeit to varying degrees: the average CET1 ratio declined by 49 and 139 basis points respectively.

For significant banks, the decline in the CET1 ratio was driven exclusively by the performance of common equity tier 1, the decline in which largely offset the slight contraction in their weighted assets. Specifically, the reduction in capital was affected by: (a) the extraordinary initiatives carried out by two leading banks following the expiry of the recommendation on dividend payments and share buybacks; (b) the trend in the 'other comprehensive income' reserve, linked to the decrease in the market value of securities in the portfolio measured at fair value; and (c) the transitional effects linked to the application of the IFRS 9 accounting standard. For the less significant banks, the decrease in the CET1 ratio followed both the decline in capital and the increase in RWAs. The former was affected by the decline in the capital buffer with respect to overall profitability and the transitional effects relating to IFRS 9.

In June, the gap between the average capital ratio of Italian significant banks and that of banks in the countries participating in the Single Supervisory Mechanism (SSM) had become negligible (6 basis points).[20]

The leverage ratio, which measures capital adequacy relative to non-risk-weighted assets, went down by 60 basis points in the first half of the year, to 5.6 per cent, mainly because of the phasing out last March of the regulatory provision, whereby exposures towards the central banks were not included when calculating the requirement.[21] The leverage ratio of Italian significant banks (5.4 per cent) was broadly in line with the European average (5.3 per cent), compared with a binding minimum requirement of 3 per cent.

[18] The impacts have been estimated using the simplified methodology for the assessment of interest rate risk reported in Bank of Italy Circular 285/2013 (Supervisory rules for banks), Part One, Section III, Chapter 1, Annex C-*bis* (Interest rate risk in the banking book in terms of variations in net interest income), which allows scenarios only relating to parallel shocks to the interest rate curve to be applied.

[19] For the estimation, a renewal is assumed under market conditions only for items that mature or that revise the remuneration rate by 30 June 2023, based on a static balance sheet logic that does not take account of: (a) a future rebalancing of assets and liabilities due to changes in monetary policy; (b) the conditions applied to outstanding TLTROs or (c) market conditions.

[20] This figure also includes Italian significant banks.

[21] The exemption was part of the measures provided for by Regulation (EU) 2020/873 (CRR 'quick-fix'), adopted in June 2020 following the pandemic emergency.

Overall, the level of capitalization of the system would also be able to bear the probable impact if an adverse macroeconomic scenario materialized, involving, among other things, a complete interruption of Russian gas flows to Europe and a significant increase in commodity prices, a scenario drawn up in line with the most recent projections published by the Bank of Italy[22] (see the box 'Vulnerability analysis of the Italian banking system').

## VULNERABILITY ANALYSIS OF THE ITALIAN BANKING SYSTEM [1]

The Bank of Italy recently carried out a vulnerability analysis of the Italian banking system as a whole for 2023-24 under a baseline and an adverse scenario consistent with the most recent macroeconomic projections.[2] The exercise, whose characteristics are different from those used by supervisory authorities to carry out stress tests for microprudential purposes, covered a broad sample of significant and less significant banks, accounting for around 90 per cent of the total assets of the banking system.[3]

The assessments were carried out by combining a top-down simulation approach based on banks' supervisory reporting with a vector autoregression (VAR) model that considers the amplification of the initial macroeconomic shock caused by the erosion of bank capital (macroeconomic feedback). The impact on the balance sheets of financial intermediaries also takes the following factors into account: (a) greater exposure to risk for companies working in highly energy-intensive sectors; (b) potential growth in operating costs due to inflation; (c) the increase in funding costs following the rise in the interest rate applied to targeted longer-term refinancing operations; and (d) the increase in yields on customer deposits.

The starting data are those of the 2021 balance sheets (the last year for which there is complete information), updated with the reports on portfolio securities held at the end of last August. Changes in the main sources of cost, income and losses on loans and portfolio securities are estimated on the basis of developments in the economic and financial variables under the two scenarios.[4]

The banks tested demonstrated a good level of resilience overall. The fully-loaded CET1 ratio[5] would remain broadly unchanged in the baseline scenario, in which most banks would close with a profit.

1 By Paolo Bisio, Nicola Branzoli and Anna Rendina.

2 'Macroeconomic projections for the Italian economy', Banca d'Italia, 13 October 2022. In the adverse scenario, it is assumed that gas supplies from Russia to Europe are completely shut off and that commodity prices are significantly higher, accompanied by a more marked slowdown in world trade and, in the short term, by greater uncertainty.

3 The banks excluded from the exercise are mostly subsidiaries and branches of foreign banks in Italy. For the Italian banking groups with branches or subsidiaries abroad, the analysis was only carried out on the group's banks operating in Italy.

4 The losses associated with credit risk were calculated by applying default rates to the credit portfolio, differentiated by macro-area and macro-sector of economic activity. A conservative scale factor was applied to more energy-intensive firms to take account of their greater fragility in the current macroeconomic environment. The losses relating to market risk were calculated by revaluing portfolio debt securities measured at fair value and by applying haircuts to the value of equities. Developments in net interest income were estimated by applying different shocks to the unit yields of interest-bearing assets and to the unit costs of onerous debts according to the sector of the counterparty, the contract's characteristics, and the instrument's residual maturity. The shocks were defined taking into consideration the changes in interest rates over the reference horizons of the scenarios. For operational risk, fee income and the cost items in the income statement, the methodology advocates an approach similar to that used for the EBA-coordinated stress test of the largest European banks, adjusted to take account of the fact that the exercise was micro- rather than macroprudential. Lastly, it was assumed that the operating expenses would rise in the 2023-24, in line with: (a) the projected increase in per capita remuneration of private sector employees, as regards staff costs; (b) the growth of the GDP deflator, as regards other expenditure.

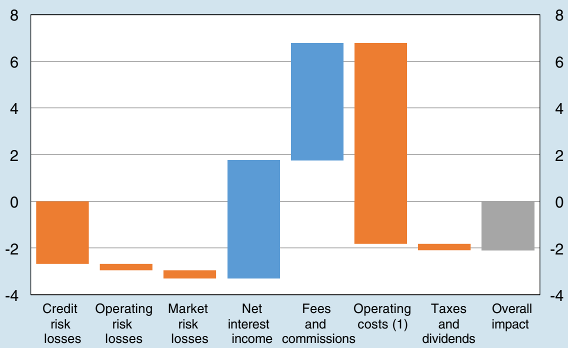
5 The CET1 ratio is calculated as the ratio of tier 1 capital to RWAs.

22 Banca d'Italia, 13 October 2022, op. cit.

In the adverse scenario, the CET1 ratio would fall on average by 2.1 percentage points by the end of 2024 (see the figure). The impacts on less significant institutions (LSIs) would be slightly more severe, with the CET1 ratio decreasing by 2.4 percentage points (by 2.6 points for LSIs with a traditional business model, taken separately).

Figure

**Change in the CET1 ratio in 2023-24 for Italian banks under the adverse scenario**
*(percentage points)*




Source: Supervisory reports.
(1) Includes other items in the income statement.

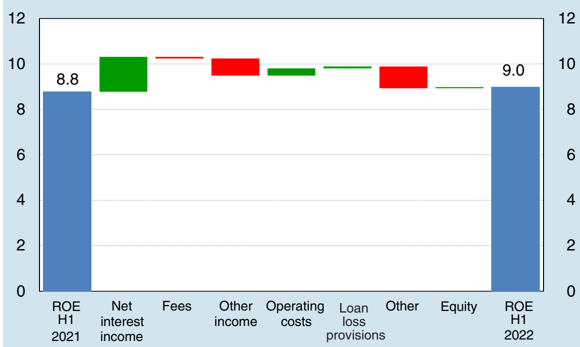
For all banks the largest losses are credit risk losses, which would reach 2.7 percentage points in terms of RWAs in the adverse scenario. This is, on average, around twice the estimated losses for 2022 in each of the next two years. Losses from market risk, including sovereign risk, are limited overall (0.4 percentage points in terms of RWAs in the adverse scenario). The increase in operating costs would be offset by net interest income and fees, even though they would both be below expectations for this year. The impacts of the greater risk estimated for energy-intensive businesses and the macroeconomic feedback effect are small (0.3 percentage points).

The results should be assessed with caution in light of the high uncertainty surrounding macroeconomic scenarios. Nevertheless, the impact estimates for the less significant banks provide a tool to support analysts in risk monitoring and oversight activities in the coming months, pending the collection of updated business plans and the new stress test exercise to be conducted in early 2023 for use in the next cycle of the Supervisory Review and Evaluation Process (SREP).

In the first half of 2022, the profitability of Italian banks rose slightly compared with the year-earlier period. The return on equity (ROE), net of extraordinary components, rose from 8.8 to 9.0 per cent (Figure 2.11). The return on assets (ROA) stood at 0.6 per cent.

Figure 2.11

**Breakdown of the change in ROE between the first half of 2021 and the first half of June 2022** (1)
*(per cent and percentage points)*




Sources: Consolidated supervisory reports for banking groups and individual supervisory reports for stand-alone banks.
(1) Changes are expressed as a ratio to own funds and to reserves. A green/red bar indicates a positive/negative contribution to ROE at the start of 2021, giving the final ROE value for 2022.

Net interest income rose by 9.2 per cent. The increase was mainly due to the higher interest earned on bonds held in portfolios, above all on government bonds because of the marked increase in recent months. The expansion in the volume of lending, particularly to the non-financial private sector, has also been a contributory factor. For liabilities, the decline in the stocks of debt securities led to a decrease in the relative interest. In contrast, interest expense on deposits increased, mainly because of the higher interest burden on deposits. Finally, the positive effect caused by outstanding TLTROs in the Eurosystem remained stable.

The gross income grew by 1.8 per cent; the fall in trading income and, to a lesser extent, the decline in fees partly offset the increase in net interest income. The decrease in operating costs (1.3 per cent) and in loan loss provisions (2.4 per cent) also contributed to the improvement in profitability.

According to our estimates, consistent with the baseline scenario of the most recent macroeconomic projections,[23] until the end of 2024, net interest income will grow by around one fifth per year on average, benefiting greatly from the increase in market interest rates. Over the same period, in line with the expected deterioration in borrowers' creditworthiness, loan loss provisions are also expected to more than double compared with this year, in both 2023 and 2024. The rise in interest rates would also have a negative effect on net trading revenues, which would fall this year and in 2023. Operating costs will likely increase gradually, reflecting the rise in inflation. The overall profitability of all Italian banks would, however, remain positive for the whole horizon under consideration. The risks weighing on these projections are, however, mainly tilted to the downside; loan loss provisions could be higher than expected if economic activity is less favourable than expected and/or the impact of greater financial burdens on debtors' ability to repay bank debts is more pronounced. Moreover, the positive impact of interest rates on net interest income could be lower, both because of an adjustment in interest on deposits, faster and more intense than what is included in historical regularities, and because of change in the composition of the funding structure following the maturity of the TLTROs.

Finally, there is also the risk for the Italian banking system of possible cyber-attacks connected with the conflict in Ukraine. Should they occur, it could lead to a significant increase in operating costs, as well as to reputational repercussions.

The monitoring regularly carried out by the Bank of Italy[24] shows that the serious cyber incidents occurring at Italian banks decreased slightly in 2021 (12 events) following the increase recorded in 2020 (15 events, compared with 10 in 2019).

Action on the part of international and supervisory authorities to mitigate this type of risk is ongoing: the G7 finance ministers and central bank governors recently approved the publication of a set of principles for managing third-party cyber risks and tackling harmful software that make IT devices inaccessible for the purposes of extortion (ransomware).[25]

## 2.2 INSURANCE COMPANIES AND THE ASSET MANAGEMENT INDUSTRY

### *Insurance companies*

Inflationary pressures and the rise in interest rates have so far had a moderate effect on the average capitalization of insurance companies (see the box 'The impact of inflation dynamics on the non-life sector'). The average solvency ratio[26] decreased to 247 per cent in September 2022 but remains high (Figure 2.12). The fall in equity and bond prices was offset in part by higher eligible

[23] Banca d'Italia, 13 October 2022, op. cit.

[24] This activity is based on the regular reporting of serious operational or security incidents as provided for by the Bank of Italy. For more details, see the Bank of Italy's website: 'Reporting significant operational or security incidents'.

[25] See on the Bank of Italy's website 'The G7 adopts new standards for strengthening the cybersecurity of the global financial system'.

[26] For the definition of the solvency ratio, see note 1 to Figure 2.12. The regulations require a ratio of 100 per cent or more.

own funds stemming from the upward shift of the risk-free interest rate curve that insurance companies use to calculate their technical provisions.

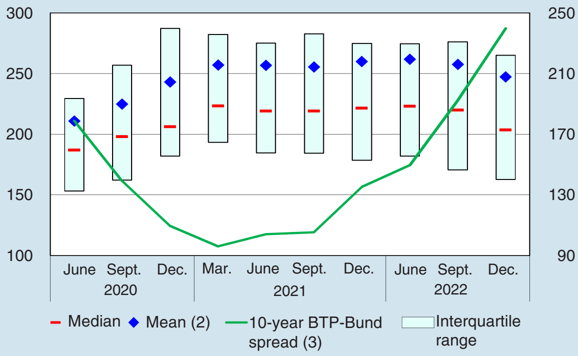
The Italian insurance sector, in line with the developments observed in other European countries, continues to be more exposed to market and counterparty risks to a greater extent than to technical risks associated with insurance (underwriting risks), the shares being 77 and 23 per cent of the basic solvency capital requirement respectively (Figure 2.13.a). The largest market risk component is the exposure to changes in bond spreads (Figure 2.13.b).

At the end of June 2022, Italian insurance companies' exposures to Italian government securities continued to account for around half of all investments with market risks borne by the Italian companies themselves, a level that is significantly above the European average (49 per cent versus 27 per cent; Figure 2.14.a). By contrast, holdings of corporate bonds, shares and investment funds were lower than in other countries. Investment in corporate bonds continued to be mostly made up of securities issued by non-financial corporations, especially foreign ones (Figure 2.14.c); 49 per cent were BBB-rated and 28 per cent were A-rated (Figure 2.14.b); 8 per cent of corporate bonds were sustainable investments from an environmental, social and corporate governance (ESG) perspective.

**Figure 2.12**

**Solvency ratio and BTP-Bund spread** (1)

*(per cent and basis points)*

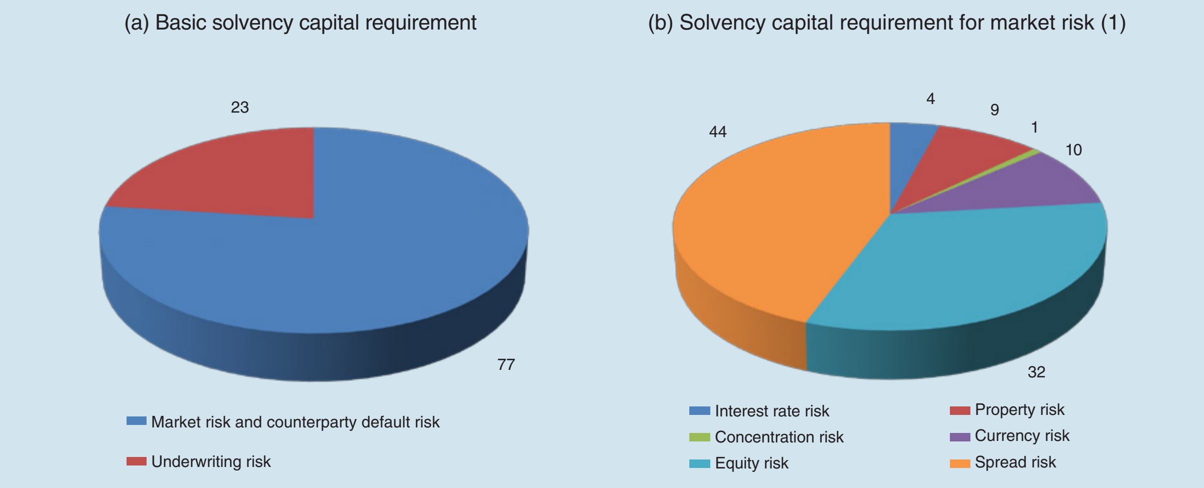



Sources: IVASS and calculations based on Refinitiv data.
(1) The solvency ratio is calculated as the ratio of own funds held for coverage of the capital requirement to the solvency capital requirement established under Solvency II. The data are taken from the quarterly Solvency II supervisory reports based on the quantitative reporting templates. – (2) Weighted average with weights equal to the solvency capital requirement. – (3) The BTP-Bund spread refers to the end of each period. Right-hand scale.

**Figure 2.13**

**The main sources of risk in the solvency capital requirements**

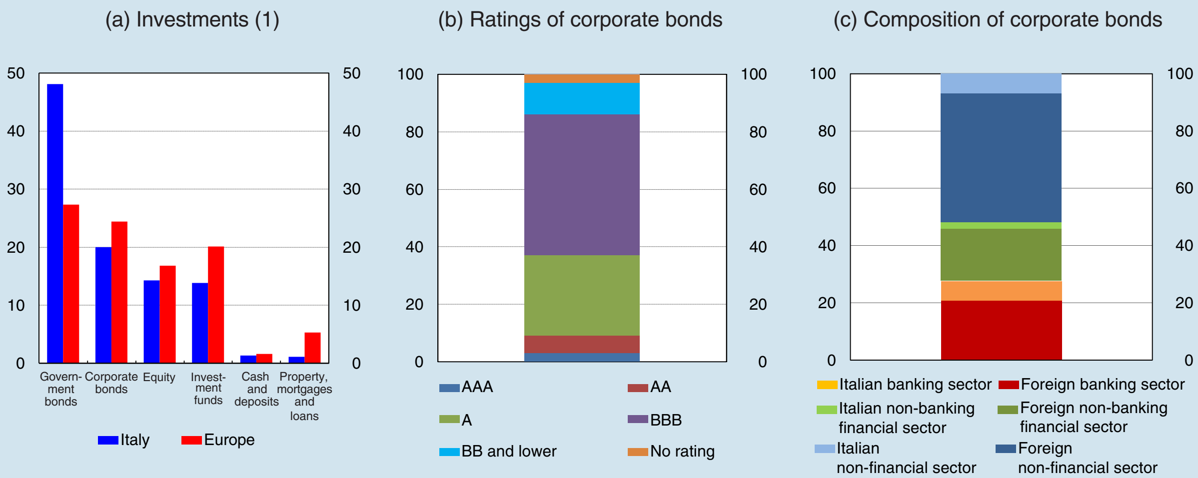
*(data at 31 December 2021; per cent)*




Source: IVASS.
(1) The data only consider those companies (76 undertakings representing 60 per cent of total assets) that use the standard formula to calculate the solvency capital requirement (SCR). The standard method used for calculating the spread risk does not set capital requirements for exposures to an EU state that are denominated and funded in the national currency.

Figure 2.14

**Insurance company investments**
*(data at 30 June 2022; per cent)*




Sources: IVASS and EIOPA.
(1) The data for Europe, as at 31 March 2022, refer to the European Economic Area.

## THE IMPACT OF INFLATION DYNAMICS ON THE NON-LIFE SECTOR[1]

At national and international level, there is a growing focus on the possible effects of inflation on insurance companies' capital positions, in particular following the increase in the cost of claims (and therefore in technical provisions) connected to the rise in prices.[2]

IVASS conducted an initial study to assess the impact on the liabilities of the Italian insurance sector. The exercise estimates the change in claim provisions as of the end of 2021 stemming from expected inflation and the risk-free interest curve observed at the end of September 2022,[3] assuming that assets remain constant.

The analyses covered claim provisions both for the total non-life sector and, in greater detail, for the motor vehicle third-party liability and general liability insurance lines of business, which, in terms of claims provisions, are the most important classes for the Italian insurance market and for which the cost of claims is potentially more exposed to inflation.[4]

[1] By Giulia Avola (IVASS) and Francesco Sciarretta (IVASS).
[2] EIOPA, *Financial Stability Report*, June 2022.
[3] The analysis drew on the assumptions for future inflation made by Oxford Economics which, at the end of September 2022, forecast values of 7.8 and 4.4 per cent for 2022 and 2023, respectively. From 2024 onwards, a level of 2 per cent was considered. The risk-free interest rate curve used was the one officially published by the European Insurance and Occupational Pensions Authority (EIOPA), referring to September 2022 (see EIOPA's website, 'Risk-free interest rate term structures').
[4] The two lines of business account for 66 per cent of the non-life market in terms of claims provisions. The analysis was carried out on a representative sample covering around 93 and 98 per cent of the market, respectively, in terms of claim provisions relating to motor vehicle third-party liability insurance and general liability insurance.

In the scenario considered, the total claim provisions of the market would increase by 4 per cent,[5] resulting in a contraction in own funds of less than 2 per cent,[6] with limited effects on the sector's overall capitalization.

The analyses on third party motor vehicle liability and general liability insurance also confirm the expected growth of the provisions and show that the business lines with longer average claims settlement times[7] benefit more from the mitigating effect of higher risk-free interest rates.

5 In the exercise, net future cash flows referring to December 2021 were revalued on the basis of the assumptions for future inflation and discounted by applying the risk-free interest rates referring to the end of September 2022. No assumptions were made on the inflation rate used by the insurance companies to calculate the net future cash flows of the claim provisions.

6 These are the own funds that at the end of 2021 were eligible to cover the capital requirement of the insurance companies analysed.

7 Settlement times vary depending on the complexity of the claims and the extent of the damage.

Italian companies' exposure to financial derivatives is very small, and they are mostly held for hedging purposes. At the end of June, the market value of these contracts was €3 billion, accounting for 0.3 per cent of all investment, a considerably lower share than the European average of 1.8 per cent in March 2022. Most contracts (61 per cent) were for interest-rate swaps. Italian insurance companies did not report liquidity tensions generated by margin calls.

Direct exposures to Russia, Belarus and Ukraine as well as investment in sectors exposed to energy price increases remain negligible (0.01 and 1.0 per cent respectively).

Since May 2022, the increase in public and private bond yields has resulted in a negative balance between unrealized gains and losses relating to total investment, which in September was equal to minus €54 billion (Figure 2.15).

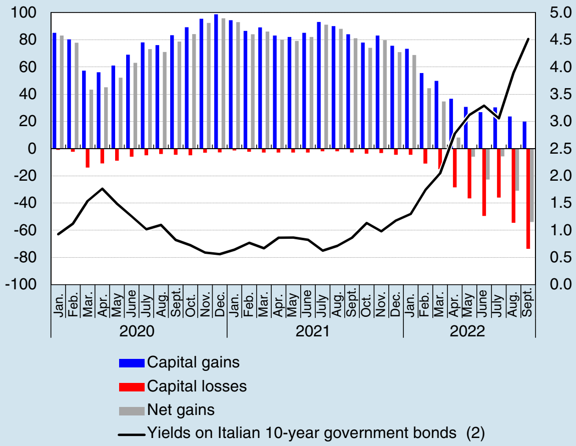
Considering the exceptionally volatile situation on the financial markets, Italian law allows companies that do not adopt international accounting standards to temporarily suspend the effects on their balance sheets of unrealized losses on non-permanent securities.[27]

However, the half-yearly reports in June of this year showed that very few insurance companies availed themselves of the derogation. Therefore, the losses negatively affected profitability over the period considered: the return on equity (ROE) in the life segment was negative and significantly lower compared with June last year (Figure 2.16.a). The decrease in life premium income (-9 per cent since June 2021) also

Figure 2.15

**Unrealized gains and losses** (1)

*(monthly data; billions of euros and per cent)*

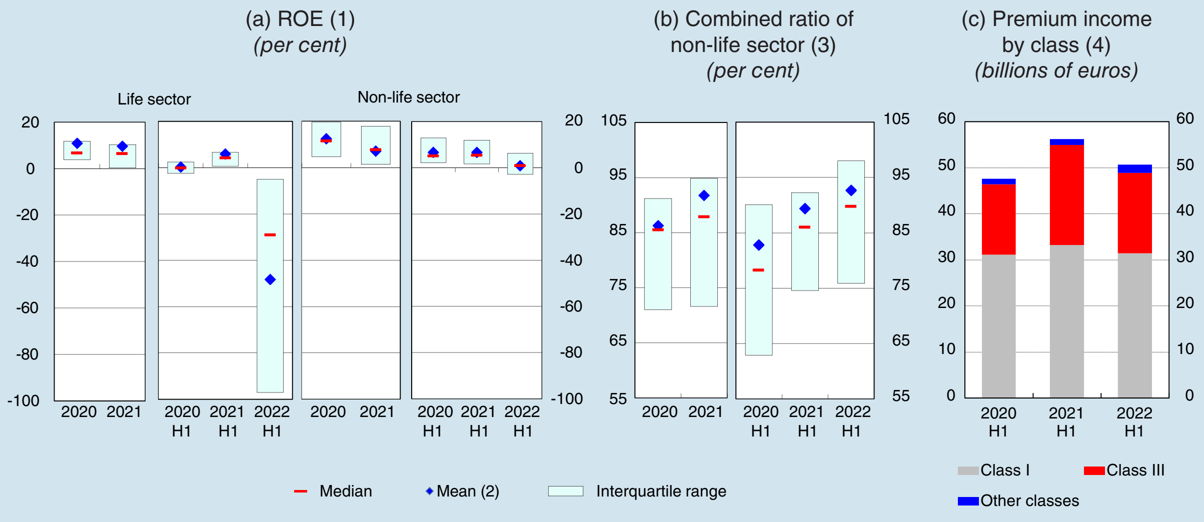



Sources: IVASS and calculations based on Refinitiv data.
(1) Unrealized gains and losses are the difference between the market value and the book value of portfolio securities. – (2) Right-hand scale. End-of-period data.

27 Article 45, paragraphs 3-*octies*, 3-*novies* e 3-*decies* of Decree Law 73/2022, converted, as amended, into Law 122/2022. IVASS Regulation 52/2022 laid down the implementing rules for insurance companies.

Figure 2.16

**Main balance sheet indicators for Italian insurance companies and life premium income**




Source: IVASS.
(1) Ratio of earnings to shareholders' equity. The half-yearly ROE data are not annualized and are based on a representative sample of the leading Italian insurance companies. – (2) Weighted average with weights equal to the denominator of each ratio. – (3) Ratio of operating expenses to premium income. – (4) 'Class I' mainly includes policies that can be revalued (traditional life insurance policies with a guaranteed return); 'Class III' is mainly composed of unit- and index-linked policies (life insurance policies where policyholders bear the risk); 'Other classes' includes all the other kinds of life insurance policies.

contributed to the decline; the biggest contraction was observed for unit-linked contracts, as a result of unfavourable stock market developments (Figure 2.16.c).

In the non-life sector, profitability was affected by the increase in cost of claims, which led to a rise in the combined ratio[28] of 2 percentage points compared with the previous year (Figure 2.16.b). ROE remains in any case positive: the impact of the losses is smaller than in the life segment and premium income rose by 5 per cent owing to the increased demand for non-life insurance coverage other than motor vehicle liability.

The stock prices of Italian and European insurance companies have decreased compared with the highs of the first half of 2022, returning to end-2021 levels (Figure 2.17.a). For listed companies, the growth in profits expected by analysts reflects earnings from higher interest rates, which are likely offsetting the effects stemming from price increases (Figure 2.17.b).

The liquidity position of insurance companies has not recorded any significant changes since the end of 2021. The liquid asset ratio[29] was broadly stable, at 66 per cent, and higher than the European median of 46 per cent.

However, Italian companies in the life sector are more exposed than the European average[30] to the risks of liquidity tensions caused by surrenders of contracts, partly owing to the limited

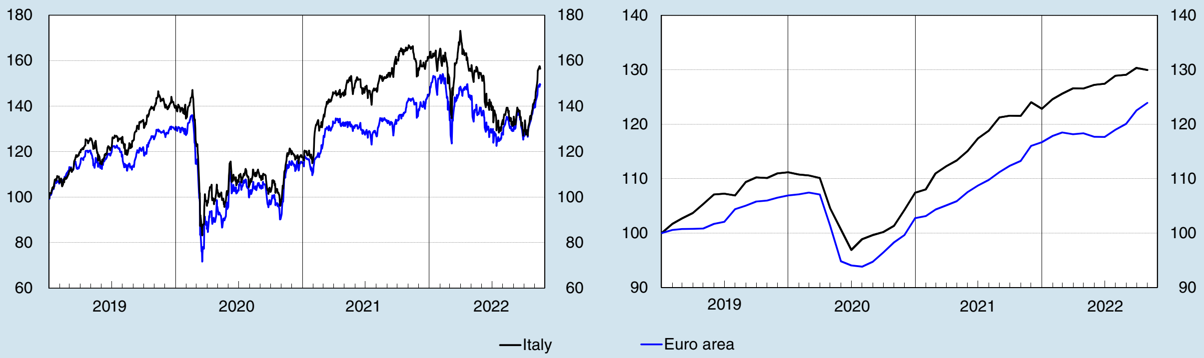
28 For the definition of combined ratio, see note 3 to Figure 2.16.
29 Liquid assets are calculated by applying haircuts to the different asset categories, in line with the banking sector rules set by Commission Implementing Regulation (EU) 2016/322 of 10 February 2016. Since March 2022, the weight of investment funds has been reduced from 80 to 60 per cent.
30 In December 2021, the surrenders to premium income ratio for Italy stood at 44 per cent, while the European average was 29 per cent.

Figure 2.17

**Italian and euro-area insurance companies**

(a) Share prices
*(daily data; indices: 1 January 2019=100)*

(b) Expected earnings (1)
*(monthly data; indices: January 2019=100)*

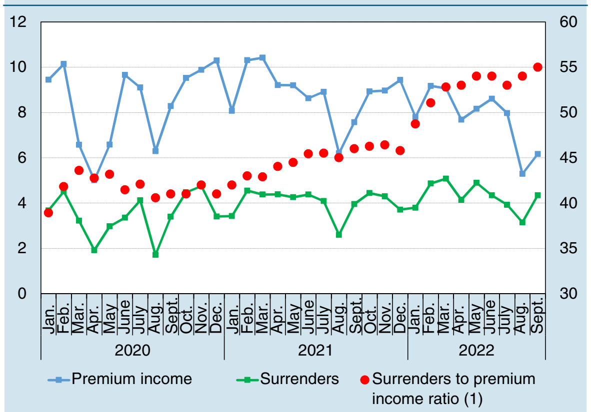



Source: Calculations based on Refinitiv data.
(1) Average of expected earnings per share in the 12 months following the reference date of a sample of the leading Italian and euro-area insurance companies (weighted by the number of outstanding shares). For Italy the data refer to Assicurazioni Generali, Mediolanum Assicurazioni, Poste Italiane and UnipolSai. For the euro area the data refer to the leading companies included in the Datastream euro-area insurance sector index.

contractual constraints and disincentives in the case of early redemption of the contract.[31] Since February, moreover, Italian insurance companies' ratio of surrenders to premium income rose to 55 per cent in September, 9 percentage points higher than in the previous year (Figure 2.18). This increase resulted from both a decline in premium income and an increase in surrenders (see the box 'The potential risks to the insurance sector because of the war in Ukraine', *Financial Stability Report*, 1, 2022). The IVASS survey on the potential vulnerabilities of the insurance sector showed that this was largely due to the increased liquidity needs of policyholders brought about by the macroeconomic environment but also to their decisions to reinvest in new financial and insurance products.

Figure 2.18

**Premium income and surrenders**
*(monthly data; billions of euros and per cent)*




Source: IVASS.
(1) Calculated as the ratio of surrenders to premium income. Cumulative data. Right-hand scale.

## *The asset management industry*

In the second and third quarters of 2022, net subscriptions to Italian open-end investment funds were positive overall (amounting to €1.3 billion; Figure 2.19). In particular, bond funds recorded large outflows (minus €7.8 billion), while equity and money market funds saw sizeable inflows (€8.2 billion and €2 billion respectively). These developments appear to be consistent with the current macroeconomic environment, marked by high inflation and uncertainty and by interest rates hikes by central banks. In the first two quarters of the year, non-ESG funds recorded negative net subscriptions,

[31] EIOPA, *Report on insurers' asset and liability management in relation to the illiquidity of their liabilities*, 16 December 2019.

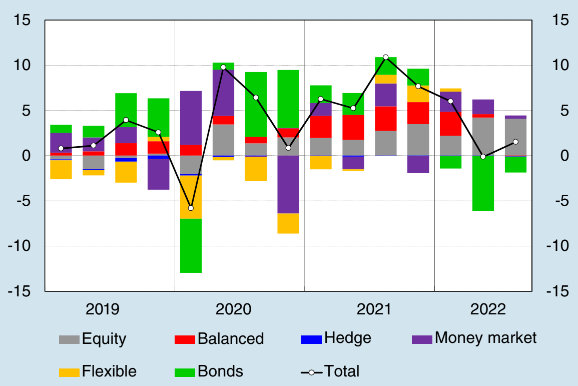
while inflows were concentrated in ESG funds (€4.5 billion), in line with the growth recorded in that segment in recent years.[32]

The degree of liquidity[33] of the assets of Italian funds rose between March and September, from 7.4 to 8.3 per cent, staying at historically high levels. During the same period, no significant changes were observed in the lines of credit available or in borrowing.[34] The share of Italian funds vulnerable to very sizeable redemptions (with a liquidity indicator of less than one)[35] remained practically stable, edging down from 3.4 to 3.3 per cent between January and August (Figure 2.20.a). Exposure to financial derivatives funds remains limited. However, the percentage of those vulnerable to liquidity risk stemming from changes in margin requirements grew between January and August from 2.1 to 3.6 per cent (Figure 2.20.b); the rise was ascribable

Figure 2.19

**Open-end Italian investment funds: net subscriptions** (1)

*(quarterly data; billions of euros)*

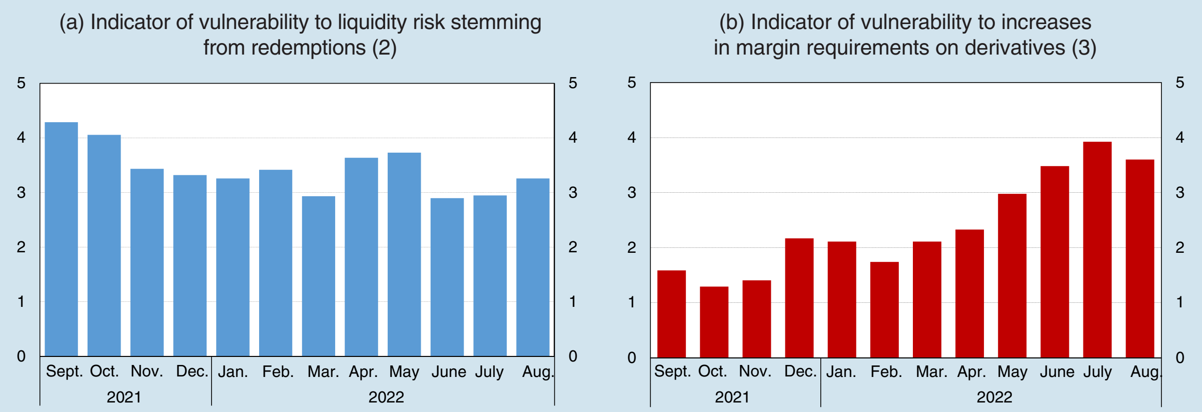



Source: Assogestioni.
(1) The data refer to funds based in Italy and abroad, run by asset management companies belonging to Italian groups. Provisional data for Q3 2022.

Figure 2.20

**Liquidity risk indicators for Italian open-end investment funds** (1)

*(September 2021 - August 2022; percentage share of net assets)*




Sources: Supervisory reports and ECB (Centralised Securities Database).
(1) A decrease (increase) in the indicators points to a decrease (increase) in the share of assets ascribable to vulnerable funds. – (2) Ratio of the assets of funds with a liquidity risk indicator of less than 1 to the assets of all funds in the market segment. Open-end investment funds in the flexible and mixed bond segments are included. The liquidity risk indicator is equal to the ratio of the fund's assets weighted by the degree of liquidity of each exposure to net redemptions under the stress scenario. The stress scenarios are equal to the average of the values above the 99th percentile of the distribution of net monthly redemptions in relation to total assets for each of the sectors analysed between January 2008 and November 2020 (high yield and emerging country funds: 14 per cent; euro area 30 per cent; United States and global: 24 per cent; mixed funds: 24 per cent). – (3) Ratio of vulnerable funds' assets to total sub-sector assets. Vulnerable funds are those whose ratio of liquid assets to margin requirements, determined under the stress scenario and applied to futures positions, is less than 1. The stress scenario is equal to the 1st percentile in the distribution of variation margins in the period from January 2008 to November 2020. Liquid assets include bank current accounts, government securities of euro-area countries, and government securities of other countries with ratings the same or higher than AA.

32 As at 30 June 2022, the assets of ESG funds accounted for 32 per cent of the total assets of Italian funds (€515 billion), compared with 26 per cent in June 2021.

33 The degree of liquidity is defined as the ratio of current account holdings (net of purchases, sales and subscriptions to be settled) to net assets.

34 In Italy, the law provides that Italian open-end investment funds can only take out loans on a temporary basis, in relation to the need to invest in or disinvest from fund assets, and within the maximum limit of 10 per cent of the overall net value of the fund.

35 The liquidity indicator is equal to the ratio of the fund's assets weighted by the degree of liquidity of its components to net redemptions under the stress scenario (see footnote 1 to Figure 2.20).

above all to a decrease in the liquidity of some funds, while no significant increase was observed in the exposure to derivatives.

Owing to the fall in equity and bond prices, the value of the assets of both euro-area and Italian investment funds declined in the first half of 2022, by 11.0 and 9.7 per cent respectively. The worsening growth outlook and the high volatility of bond yields led funds to reduce their exposure to credit and interest rate risks. Their share of high yield bonds in total assets fell from 9.4 to 8.4 per cent. By contrast, the share of assets invested in BBB-rated securities remained unchanged (at 11.0 per cent). As regards interest rate risk, the average duration of the bond portfolio decreased from 5.8 to 5.2 years (the European average is 6.8 years).

The exposure of Italian funds to securities issued by residents of Russia, Belarus and Ukraine decreased further (from 0.3 per cent to 0.1 per cent), mainly as a result of write-downs on these securities. So far, no Italian fund has had to activate extraordinary liquidity management tools to address the market turmoil triggered by the Russian invasion of Ukraine.

In the first half of the year, Italian funds made net sales of securities amounting to €5.5 billion, thereby increasing their degree of liquidity. Sales were concentrated in investment fund units (€7.1 billion) and Italian government securities (€2 billion), while net purchases were mainly in foreign government securities (€2 billion), equity (€911 million) and, to a lesser extent, corporate debt securities issued by private corporations (€450 million).

Overall, changes in the composition of the corporate bond portfolio do not appear to be related to the rise in energy costs. Net purchases were recorded for securities issued by the chemical manufacturing sector, the software production and electronics industry, public utilities and pharmaceutical companies. By contrast, net sales were recorded for securities issued by the metal working, non-metal products and paper-making sectors.

The total assets of alternative investment funds (AIF) continued to increase (3.1 per cent). Credit funds grew at an especially fast pace (6.8 per cent). As at the same date, there were 13 alternative individual saving plans (PIRs),[36] for a total amount equal to €1.4 billion.

The risks to financial stability stemming from open-end alternative funds remain limited. As at 30 June 2022, leverage was modest overall (106 per cent of net assets; Figure 2.21.a) and lower than the European average (139 per cent in 2020, which is the latest figure available).[37] There are no signs of significant short-term liquidity risks for open-end alternative funds (Figure 2.21.b); only in the event of persistent outflows over a time horizon of between three and six months might there be a mismatch between asset liquidity and redemptions for investors, equal to about 4.4 per cent of the securities portfolio. Over a time horizon of between six months and one year, the mismatch would instead amount to 5.7 per cent.[38]

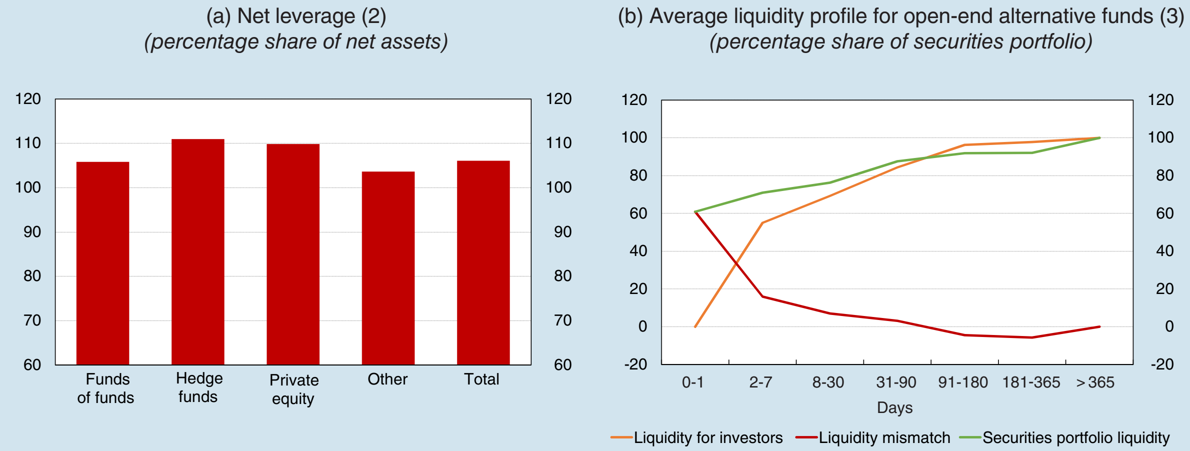
[36] Decree Law 34/2020 (the 'Relaunch Decree') extended the fiscal benefits included in the legislation for traditional PIRs to alternative PIRs that invest at least 70 per cent of their total asset value in financial instruments, including unlisted ones, issued by companies that are not on the FTSE MIB and FTSE Mid Cap indexes on the Italian stock exchange (Borsa Italiana) or on equivalent indices (see *Financial Stability Report*, 2, 2020). Decree Law 104/2020 (the 'August Decree') subsequently raised the limit for investment in alternative PIRs from €150,000 to €300,000. The 2022 Budget Law (Law 234/2021) made it possible for investors to subscribe to more than one alternative PIR and extended to the new PIRs the tax credit for unrealized losses on investments made in the calendar year 2022, for an amount not exceeding 10 per cent of the amount invested.

[37] Leverage is defined as the ratio of assets under management to net equity. Interest rate derivatives are excluded.

[38] The average liquidity mismatch in each period is calculated as the difference between the average share of the securities portfolio that the funds can liquidate by that date and the average share of assets that investors in these funds can redeem in the same period. The estimate does not take account of any current account holdings.

Figure 2.21

**Indicators for Italian alternative investment funds** (1)
*(data at 30 June 2022)*




Sources: Supervisory reports and data submitted pursuant to the Alternative Investment Fund Managers Directive (AIFMD).
(1) Based on supervisory reports and data submitted pursuant to Directive 2011/61/EU (AIFMD); this requires the managers of such funds to regularly provide the competent authorities with information on their main assets and exposures. – (2) Overall exposure calculated using the method based on the ratio of commitments to the net assets of alternative funds managed by Italian asset management companies. 'Other' includes funds that provide direct financing or buy credit from other financial intermediaries and those not included in the other categories according to the criteria adopted by the European Securities and Markets Authority (ESMA). – (3) For each period, the liquidity mismatch is the difference between the liquidity of the securities portfolio, equal to the average share of the securities portfolio that the open-end alternative funds can liquidate by that date, and the liquidity profile for investors, equal to the average share of assets that investors in these funds can redeem in the same period.

The potential risks associated with the scarce liquidity of assets are mitigated by the legislation obliging funds that invest more than 20 per cent of their assets in illiquid assets to be set up as closed-end funds.

The Bank of Italy monitors the leverage levels of alternative funds, in accordance with the European Securities and Markets Authority (ESMA) guidelines regarding Article 25 of Directive 2011/61/EU.[39] In particular, on the basis of a set of criteria,[40] the Bank of Italy identifies potentially risky funds and, if necessary, imposes leverage limits or other restrictions. At present, limited risks have been identified and therefore no specific limits have been imposed on individual AIFs or categories of AIFs. Funds with a higher risk profile are, however, subject to more in-depth analyses as part of their periodic monitoring.

The assets of Italian property funds were stable at €107 billion (Figure 2.22.a). The shares of funds set up in the first half of the year were subscribed mainly by professional foreign investors for commercial operations (Figure 2.22.b); 85 per cent of new investments were made in the provinces of Milan and Rome.

Property funds benefited from a revaluation of 1.2 per cent (Figure 2.23.a). The share of funds for which the difference between book value and market value exceeds net assets is equal to 3.1 per cent (Figure 2.22.b). Leverage has remained at historically low levels (Figure 2.23.c). Loans by banks

[39] ESMA, 'Guidelines on Article 25 of Directive 2011/61/EU', 23 June 2021.

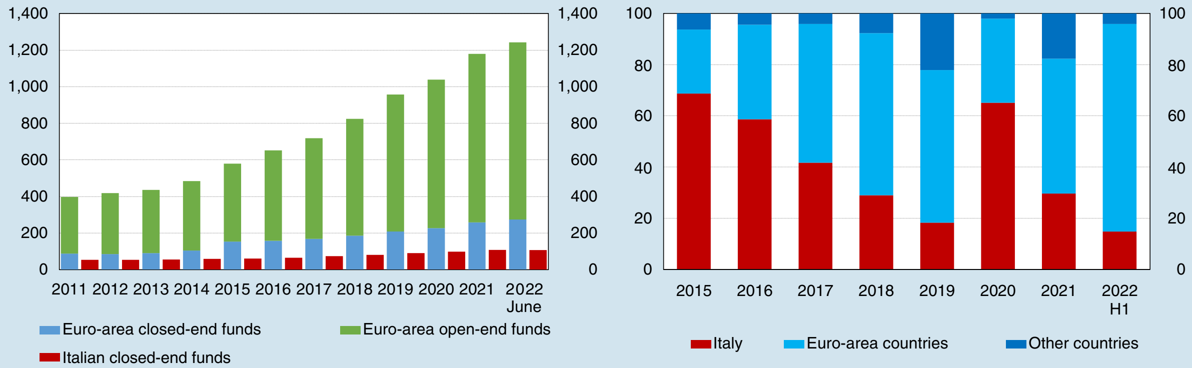
[40] The criteria set out in the guidelines include the leverage level, size, and liquidity profile of the fund. In addition, the assessment covers the relative weight of the fund in the markets in which it operates and the potential risk of contagion to any related financial institutions and financed entities.

Figure 2.22

## Italian property funds

(a) Assets
*(billions of euros)*

(b) Composition of investors
by year of establishment of the property fund (1)
*(per cent)*




Source: Supervisory reports.
(1) Share of net assets subscribed by the different categories of investors.

and other financial intermediaries to this sector account for around 1 per cent of the total lending granted. The risks to financial stability stemming from this sector remain low, as Italian property funds are not subject to the liquidity risk deriving from high demand for redemptions, since national legislation requires them to be closed-end.

Figure 2.23

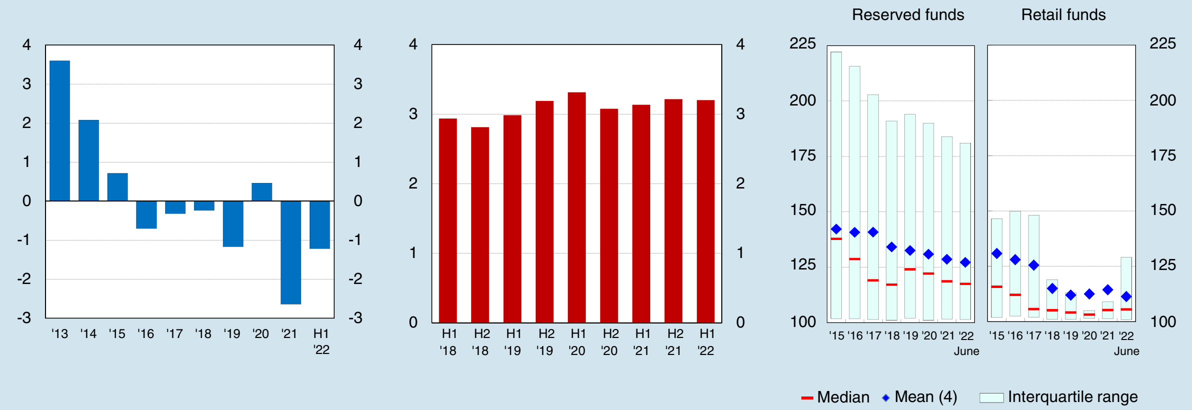
## Main indicators for Italian property funds

*(per cent)*

(a) Net write-downs of reserved funds (1)

(b) Vulnerability index (2)

(c) Leverage (3)




Sources: Supervisory reports and calculations based on data from Istat and the Osservatorio del Mercato Immobiliare (OMI).
(1) Ratio of reserved fund balance sheet write-downs net of revaluations to the average of total assets at the end of the reference year and at the end of the previous year. – (2) Share of the sector's net assets held by property funds for which the estimated difference between the book value and the market value of properties is greater than net assets. For each fund, the difference is calculated between the fund's cumulative net write-downs in relation to its assets and the cumulative variations of a theoretical price index for the properties in the portfolio. The index is calculated as the weighted average of the price indices for properties (divided into residential and commercial) for each Italian region. The weights are equal to the shares of the assets of each fund that are invested in the markets included in the price indices under consideration. Write-downs and variations in the indices are calculated from the year that each fund was established or from 2009 (the year in which data became available) if the fund was set up prior to that date. Excludes funds in liquidation and those set up in the half year prior to the reference period. – (3) Ratio of total assets to net equity. – (4) Weighted average with weights equal to the denominator of each ratio.

# 3 FINANCIAL STABILITY POLICIES

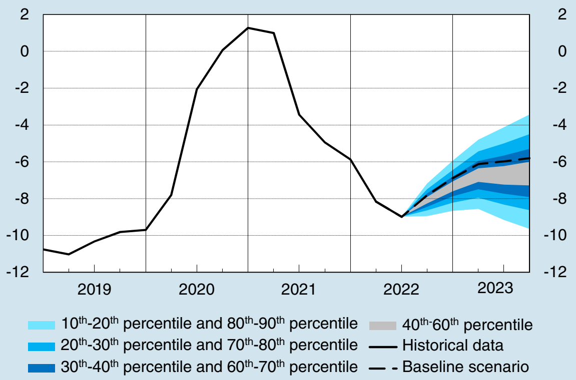
## *Macroprudential policy*

The Bank of Italy has maintained the countercyclical capital buffer (CCyB) rate at zero (see Table A.10 in the Appendix), in the absence of risks to financial stability stemming from excessive credit growth.[1] Bank lending to households and firms continues to grow, helping the recovery of the financial cycle, which is still weak however. In the second quarter of 2022, the credit-to-GDP gap was again negative and, according to our projections, it is likely to remain so in the coming quarters (Figure 3.1).

Developments in the credit cycle and, more generally, vulnerabilities in the financial system are uneven across the countries participating in the Single Supervisory Mechanism (SSM). These differences have resulted in different macroprudential policy stances and different CCyB levels (see the box 'The recent use of the CCyB in SSM countries').

Figure 3.1

**Credit-to-GDP gap in Italy** (1)
*(quarterly data; percentage points)*




Sources: Based on Bank of Italy and Istat data.
(1) The probability distribution of the projections takes account of asymmetric shocks to the main risk factors, following the procedure described in C. Miani and S. Siviero, 'A non-parametric model-based approach to uncertainty and risk analysis of macroeconomic forecasts', Banca d'Italia, Temi di Discussione (Working Papers), 758, 2010. – (2) For the methodology used to estimate the deviation from the trend, see P. Alessandri, P. Bologna, R. Fiori and E. Sette, 'A note on the implementation of a countercyclical capital buffer in Italy', Banca d'Italia, Questioni di Economia e Finanza (Occasional Papers), 278, 2015.

### THE RECENT USE OF THE CCYB IN SSM COUNTRIES[1]

Based on September 2022 data, ten SSM countries will have positive countercyclical capital buffers (CCyBs)[2] by the end of 2023, with rates ranging between 0.5 and 2 per cent (see the figure).

Bulgaria, Croatia, France, Germany, Luxembourg and Slovakia have activated the CCyB amid growing vulnerabilities, as flagged by several macro-financial indicators (credit growth, real estate prices and private sector indebtedness); for France, Germany and Slovakia, the credit-to-GDP gap

1 By Massimo Molinari.

2 The CCyB is a macroprudential tool introduced by the Basel Committee on Banking Supervision (BCBS) to mitigate the procyclicality of the financial system through an additional capital buffer, to be built up in times of excessive credit growth and released when a crisis occurs.

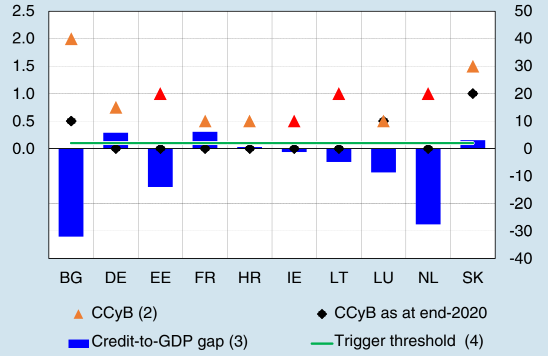
1 Banca d'Italia, 'The Countercyclical Capital Buffer (CCyB) rate for the fourth quarter of 2022 remains unchanged at zero per cent', 30 September 2022.

also points to the need to increase the CCyB.[3] By contrast, the other four countries – Estonia, Ireland, Lithuania and the Netherlands – have activated the CCyB even in the absence of heightened risks, leveraging the strong capital position and good profitability of their respective banking sectors to limit the procyclicality risk associated with a higher requirement.[4] Partly with a view to increasing the macroprudential space available to them (see the box 'The creation of macroprudential space', *Financial Stability Report* 1, 2021), these four countries have changed their regulatory framework by setting a positive buffer under normal conditions, i.e. a CCyB greater than zero when risks are neither high nor low ('positive cycle-neutral CCyB').[5] In order to identify the appropriate level of the positive cycle-neutral CCyB, each authority has followed non-harmonized national criteria, resulting in rates ranging from 1.0 to 2.0 per cent for this requirement. The Basel Committee has recently welcomed the possibility of introducing a positive cycle-neutral CCyB to create more macroprudential space,[6] although it did not consider it appropriate to amend the Basel III regulatory framework governing the introduction of the CCyB (see the box 'Macroprudential policy in Italy and the European Union', *Financial Stability Report*, 1, 2016).

Figure

**CCyB and credit-to-GDP gap** (1)

*(per cent; percentage points)*




(1) For the country codes, see the European Union's Interinstitutional Style Guide. – (2) Series of CCyB rates announced or applied since 2021; they are shown in red for the countries that have adopted a positive cycle-neutral CCyB. Ireland and the Netherlands have set CCyB rates below the positive cycle-neutral CCyB targets of 1.5 per cent and 2.0 per cent, respectively. – (3) The indicator identified as the most reliable by each country for credit-to-GDP gaps. Bulgaria and the Netherlands use the credit-to-GDP gap calculated according to the Basel methodology. The other countries employ their national methodologies. Right-hand scale. – (4) The BCBS has identified a credit-to-GDP gap of 2 percentage points as the CCyB trigger threshold. Right-hand scale.

The remaining 11 SSM countries have kept their countercyclical capital buffer at zero. For Italy, Cyprus, Finland, Greece, Latvia and Slovenia, no indicator points to an increase in cyclical risks that would justify the activation of the CCyB. By contrast, the credit-to-GDP gap is above the trigger threshold set by the BCBS for Spain, which considers it to be an unreliable indicator at the current juncture, as it is driven by a sharp contraction in GDP. Austria, Belgium, Malta and Portugal have kept the buffer at zero despite increasing vulnerabilities in their credit sectors.[7] The high level of uncertainty, mainly due to the developments in the conflict in Ukraine, was at the root of their decisions.[8]

3 France and Germany have set a lower countercyclical capital buffer than would be recommended by the credit-to-GDP gap. However, they have other macroprudential measures in place that ensure a stricter stance than that suggested by the CCyB alone.

4 The ECB has recently stressed the importance of macroprudential reserves for preserving the resilience of the banking sector, and noted how these can be set up even at times when the economic and financial cycle is not in an upswing, if the conditions for avoiding pro-cyclical effects are in place. For more details, see ECB, 'Governing Council statement on macroprudential policies', 2 November 2022.

5 The positive cycle-neutral CCyB has also been introduced in non-SSM countries, such as Denmark, the United Kingdom and Sweden.

6 For more details, see BCBS, 'Newsletter on positive cycle-neutral countercyclical capital buffer rates', 5 October 2022.

7 For Austria, the credit-to-GDP gap is also consistent with a positive buffer.

8 However, these four countries have put in place other capital- and/or borrower-based macroprudential tools to address risks from specific sectors, such as residential real estate.

The Bank of Italy has identified Russia, the United States, Switzerland and the United Kingdom as material third countries for the Italian banking system in 2022 for the purposes of the application of the CCyB to exposures of the Italian banking system to residents in these countries.[2] The risks from these four countries are monitored directly by the European Systemic Risk Board (ESRB), which has included them among the material countries for the entire European Economic Area.[3] The Bank of Italy has been closely monitoring the evolution of financial stability risks (including risks other than those associated with excessive credit growth) stemming from the exposures of Italian financial intermediaries to the countries involved in the conflict in Ukraine (see Chapter 2, 'Risks to financial intermediaries').

Last September, the Bank of Italy assessed requests to reciprocate three macroprudential measures adopted by Norway, one by Lithuania, one by the Netherlands and one by Belgium.[4] Norway introduced a systemic risk buffer (SyRB) requirement and two lower thresholds for the average risk weights. Lithuania and Belgium introduced SyRBs. The Netherlands set a minimum average risk weight. Italian banks' exposures to the risks identified by the authorities of these four countries are extremely low; the Bank of Italy therefore decided not to reciprocate these measures.

The Bank of Italy has also assessed the request to reciprocate a macroprudential measure introduced by the German authority, requiring a SyRB of 2 per cent for exposures backed by residential real estate in Germany. This measure aims to reduce banks' exposure to vulnerabilities stemming from the German residential real estate sector, which has seen significant price increases since 2010 (see Section 1.4).[5] The Bank of Italy has decided to reciprocate this measure, while limiting its application to banks with exposures to the German residential market in excess of €10 billion at the consolidated level (or at the individual level for stand-alone banks).[6]

The Bank of Italy has recently confirmed the designation of the UniCredit, Intesa Sanpaolo, Banco BPM and Monte dei Paschi di Siena banking groups as other systemically important institutions (O-SIIs) for 2023.[7] The previously established capital buffers have been confirmed for all four banking groups: 1.0 per cent for UniCredit, 0.75 per cent for Intesa Sanpaolo, and 0.25 per cent for Banco BPM and Monte dei Paschi di Siena.[8]

The tools available to the Bank of Italy to preserve the stability of the national financial system also include the product intervention power, pursuant to Regulation EU/2014/600 (see the box 'The Bank of Italy's 'intervention power': assessing the risks to financial stability', *Financial Stability*

[2] Banca d'Italia, 'Identification by Italy of material third countries pursuant to Recommendation ESRB/2015/1 of the European Systemic Risk Board (ESRB)', 30 June 2022.

[3] In addition to the countries of the European Union, the European Economic Area comprises Iceland, Liechtenstein and Norway.

[4] Banca d'Italia, 'Decision not to reciprocate three macroprudential measures adopted by Norway, one by Lithuania, one by the Netherlands and one by Belgium', 2 September 2022.

[5] The ESRB had pointed to vulnerabilities in the German residential sector as early as the end of 2019 and recommended last December that the competent authorities take appropriate macroprudential measures.

[6] Banca d'Italia, 'Decision to reciprocate a German macroprudential measure pursuant to Recommendation ESRB/2022/4 of the European Systemic Risk Board', 20 October 2022.

[7] Banca d'Italia, 'Identification of the UniCredit, Intesa Sanpaolo, Banco BPM and Monte dei Paschi di Siena banking groups as other systemically important institutions authorized to operate in Italy', 25 November 2022.

[8] Pursuant to the European regulation, either the requirement for global systemically important institutions (G-SSIs) or the requirement for other systemically important institutions (O-SSIs), whichever is higher, shall apply to the UniCredit banking group. The group has held a capital reserve for G-SSIs equal to 1.0 per cent of total risk-weighted exposures since 1 January 2022; based on last year's decision, this reserve must be maintained as of 1 January 2023.

*Report*, 1, 2022).[9] To support the possible exercise of its intervention power, the Bank of Italy regularly conducts analyses of the risks to the stability of Italy's financial system that may stem from financial instruments traded, distributed or sold in Italy or from Italy.[10] Based on the latest assessments, at the end of September 2022, the instruments potentially posing a risk to financial stability were securitizations and certificates (for securities) and contracts for difference and swaptions (for derivatives). Our analysis suggests that the risks to financial stability posed by these instruments are currently low.

9 The same power is also granted to the Italian Companies and Stock Exchange Commission (Consob), which exercises it with the aim of safeguarding investors and promoting the orderly functioning and integrity of financial and commodity markets. For more information on the product intervention power, see the Bank of Italy's website: 'The Bank of Italy's 'intervention power' concerning financial instruments, structured deposits and related financial activities/practices'. Pursuant to the Code of Private Insurance, IVASS exercises the intervention power on insurance investment products in terms of the risks to financial stability, and on all investment products for the purposes of consumer protection.

10 For further information on the criteria used by the Bank of Italy to exercise its intervention power, see Banca d'Italia, 'The Bank of Italy's 'intervention power' concerning financial instruments, structured deposits and related financial activities/practices: legal, analytical and methodological framework', April 2022. For the list and definitions of all the financial instruments analysed within the scope of its intervention power, see the Bank of Italy's website: 'Glossary of the types of financial instruments analysed by the Bank of Italy within the scope of its intervention power'.

# APPENDIX

# CONTENTS

**Table A1**

## Financial sustainability indicators

*(per cent of GDP, unless otherwise specified)*

| | GDP (1) (*annual growth rate*) | | Characteristics of public debt (2) | | | | Primary surplus (2) | S2 sustaina-bility indicator (3) | Private sector financial debt (4) | | External position statistics (5) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Level | | Average residual life of govt. securities (*years*) | Non-residents' share (*% of public debt*) | | | House-holds | Non-fi-nancial firms | Current account balance | Net interna-tional investment position |
| | 2022 | 2023 | 2022 | 2023 | 2021 | 2021 | 2022 | 2021 | 2021 | 2021 | 2021 | 2021 |
| Italy | 3.2 | -0.2 | 147.2 | 147.1 | 7.0 | 28.8 | -2.1 | 2.1 | 42.8 | 70.1 | 0.9 | 5.7 |
| Germany | 1.5 | -0.3 | 71.1 | 68.3 | 6.4 | 42.7 | -2.7 | 2.6 | 55.7 | 72.1 | 5.4 | 75.1 |
| France | 2.5 | 0.7 | 111.8 | 112.5 | 8.3 | 49.6 | -3.4 | 1.8 | 66.5 | 164.4 | -0.5 | -26.7 |
| Spain | 4.3 | 1.2 | 113.6 | 112.1 | 8.0 | 43.7 | -2.9 | 2.2 | 56.5 | 98.5 | 0.8 | -64.9 |
| Netherlands | 4.5 | 0.8 | 48.3 | 46.4 | 8.5 | 36.8 | -0.6 | 5.3 | 98.6 | 142.1 | 5.4 | 90.3 |
| Belgium | 2.4 | 0.4 | 103.9 | 105.1 | 9.8 | 55.9 | -3.6 | 7.8 | 61.3 | 141.0 | -2.9 | 52.9 |
| Austria | 4.7 | 1.0 | 78.5 | 77.3 | 11.6 | 63.2 | -2.2 | 3.5 | 50.6 | 97.8 | 0.9 | 18.0 |
| Finland | 2.1 | 0.5 | 66.7 | 67.4 | 7.5 | 51.4 | -2.0 | 3.0 | 66.1 | 114.0 | -2.6 | 1.3 |
| Greece | 5.2 | 1.8 | 177.6 | 169.8 | …. | …. | -1.8 | …. | 52.0 | 61.1 | -8.2 | -155.7 |
| Portugal | 6.2 | 0.7 | 114.7 | 111.2 | 6.7 | 46.4 | 0.1 | 0.0 | 63.6 | 97.9 | -2.1 | -90.6 |
| Ireland | 9.0 | 4.0 | 47.0 | 42.8 | 11.2 | 53.0 | 1.1 | 5.7 | 28.4 | 159.9 | 13.1 | -137.7 |
| Euro area | 3.1 | 0.5 | 93.0 | 91.3 | …. | …. | -2.4 | 2.9 | 58.6 | 107.8 | 0.6 | 2.8 |
| United Kingdom | 3.6 | 0.3 | 87.0 | 79.9 | 14.5 | 34.5 | -1.7 | …. | 84.9 | 67.9 | -4.8 | -28.2 |
| United States | 1.6 | 1.0 | 122.1 | 122.9 | 6.1 | 27.4 | -2.2 | …. | 77.2 | 80.6 | -3.9 | -70.9 |
| Japan | 1.7 | 1.6 | 263.9 | 261.1 | 8.0 | 12.0 | -7.6 | …. | 68.9 | 117.4 | 1.4 | 80.2 |
| Canada | 3.3 | 1.5 | 102.2 | 98.7 | 5.8 | 23.1 | -2.6 | …. | 105.9 | 119.1 | 0.5 | 40.2 |

Sources: IMF, ECB, BIS, European Commission.
(1) IMF, *World Economic Outlook*, October 2022. – (2) IMF, *Fiscal Monitor*, October 2022. – (3) European Commission, *Fiscal Sustainability Report 2021*, April 2022. S2 is a sustainability indicator defined as the immediate and permanent increase in the structural primary surplus that is necessary to meet the general government inter-temporal budget constraint. – (4) Loans and securities. Data for the euro area countries are from ECB, Statistical Data Warehouse and refer to the end of Q2 2022; data for the United Kingdom and non-European countries are from BIS statistics and refer to the end of Q1 2022. – (5) Data for the euro area countries are from ECB, Statistical Data Warehouse and refer to the end of Q2 2022. Data for the United Kingdom and non-European countries are from IMF Data Warehouse and refer to the estimate for 2022 for the current account balance and to the end of Q1 2022 for the net international investment position as a percentage of the estimated GDP for 2022.

**Table A2**

## Italian banks' NPL rates and coverage ratios by business model

*(per cent)*

| | Non-performing | | | Bad debts | | | Unlikely to pay | | | Past-due | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Gross share | Net share | Coverage ratio | Gross share | Net share | Coverage ratio | Gross share | Net share | Coverage ratio | Gross share | Net share | Coverage ratio |
| | | | | | | **June 2022** (1) | | | | | | |
| Significant banks | 2.6 | 1.2 | 52.7 | 0.9 | 0.3 | 70.9 | 1.6 | 0.9 | 44.6 | 0.1 | 0.1 | 29.4 |
| Less significant banks | 5.7 | 3.9 | 34.6 | 2.8 | 1.7 | 40.3 | 2.4 | 1.7 | 33.1 | 0.5 | 0.5 | 9.9 |
| Traditional banks | 4.3 | 2.4 | 46.2 | 1.9 | 0.8 | 60.0 | 2.1 | 1.3 | 39.5 | 0.3 | 0.3 | 12.0 |
| Banks specialized in managing NPLs | 23.0 | 22.6 | 8.4 | 14.4 | 14.3 | 7.8 | 7.3 | 7.0 | 10.0 | 1.3 | 1.3 | 6.4 |
| Other specialized banks | 5.8 | 4.1 | 29.8 | 2.4 | 1.2 | 52.1 | 0.8 | 0.5 | 37.8 | 2.6 | 2.4 | 6.2 |
| **Total banking system** (2) | **2.9** | **1.5** | **49.8** | **1.1** | **0.4** | **62.7** | **1.6** | **1.0** | **43.4** | **0.2** | **0.1** | **26.7** |
| | | | | | | **December 2021** (3) | | | | | | |
| Significant banks | 3.1 | 1.4 | 55.0 | 1.2 | 0.4 | 70.8 | 1.8 | 1.0 | 46.1 | 0.1 | 0.1 | 30.2 |
| Less significant banks | 5.7 | 3.7 | 36.2 | 2.9 | 1.7 | 41.2 | 2.5 | 1.7 | 34.1 | 0.4 | 0.3 | 10.7 |
| Traditional banks | 4.4 | 2.4 | 47.4 | 2.0 | 0.8 | 60.4 | 2.1 | 1.3 | 40.2 | 0.3 | 0.3 | 12.3 |
| Banks specialized in managing NPLs | 23.0 | 21.7 | 8.2 | 15.0 | 14.3 | 7.3 | 7.1 | 6.5 | 10.4 | 0.9 | 0.9 | 5.1 |
| Other specialized banks | 4.6 | 2.7 | 42.6 | 2.5 | 1.0 | 60.8 | 1.1 | 0.7 | 33.4 | 1.1 | 1.0 | 9.2 |
| **Total banking system** (2) | **3.4** | **1.7** | **52.0** | **1.4** | **0.5** | **63.9** | **1.8** | **1.0** | **44.8** | **0.2** | **0.1** | **28.7** |

Source: Harmonized FINREP reports, on a consolidated basis for banking groups and on an individual basis for the rest of the system. This includes all the system's banks.
(1) Provisional data. – (2) Includes subsidiaries of foreign banks that are classified as neither 'significant' nor 'less significant' in Italy for supervisory purposes. – (3) Following Mediolanum and Fineco's inclusion among the significant banks, the data prior to 30 June 2022 were pro forma recalculated as if the two banks had been significant in the previous periods too.

Table A3

**Italian banks' non-performing loans and guarantees by counterparty sector** (1)
*(billions of euros; per cent; June 2022)*

| | Gross exposures | Share of total gross loans (2) | Net exposures | Share of total net loans (2) | Collateral (3) | Personal guarantees (3) | Coverage ratio for unsecured loans |
|---|---|---|---|---|---|---|---|
| | | | | **Firms** (4) | | | |
| Non-performing loans to customers | 43 | 6.1 | 18 | 2.7 | 21 | 8 | 60.2 |
| *of which:* manufacturing | 7 | 3.5 | 3 | 1.4 | 2 | 1 | 60.5 |
| construction (5) | 9 | 14.4 | 4 | 6.5 | 5 | 2 | 65.4 |
| services | 23 | 6.3 | 11 | 3.0 | 12 | 4 | 58.3 |
| *of which:* bad loans | 17 | 2.5 | 5 | 0.8 | 8 | 4 | 75.0 |
| *of which:* manufacturing | 3 | 1.5 | 1 | 0.4 | 1 | 1 | 74.6 |
| construction (5) | 4 | 6.2 | 1 | 2.0 | 2 | 1 | 77.7 |
| services | 9 | 2.4 | 3 | 0.8 | 4 | 2 | 73.9 |
| | | | | **Consumer households** | | | |
| Non-performing loans to customers | 16 | 2.8 | 8 | 1.5 | 10 | 0 | 65.0 |
| *of which*: bad loans | 6 | 1.1 | 2 | 0.4 | 3 | 0 | 74.8 |
| | | | | **Total** (6) | | | |
| Non-performing loans to customers | 63 | 4.1 | 29 | 1.9 | 32 | 8 | 59.1 |
| *of which:* bad loans | 24 | 1.6 | 8 | 0.5 | 12 | 4 | 73.5 |

Source: Individual supervisory reports.
(1) The data are from non-consolidated balance sheets that do not include loans granted by financial corporations belonging to a banking group or by foreign subsidiaries of Italian groups. Includes 'non-current assets held for sale', which at the end of June 2022 came to about €6 billion for the total amount of non-performing loans gross of provisions. Provisional data. – (2) Calculated, gross and net of the relative loan loss provisions, as a percentage of the total corresponding gross and net exposures to the individual sector or sub-sector. – (3) The amounts correspond to the gross exposure that is collateralized or backed by personal guarantees. – (4) In addition to manufacturing, construction and services, the 'firms' sector also comprises agriculture, forestry, fishing and industrial activities other than manufacturing. – (5) Includes real estate activities. – (6) Includes general government, financial and insurance corporations, non-profit institutions serving households, and non-classifiable and unclassified entities.

Table A4

**Exposures of Italian groups and banks to foreign residents by counterparty sector** (1)

*(billions of euros; per cent; June 2022)*

| | Public sector | Banks | Financial corpora-tions | House-holds and firms | Total | Percentage change in total compared with the end of the previous half of the year | Per cent of total exposures reported to the BIS (2) | Per cent of total exposures (3) |
|---|---|---|---|---|---|---|---|---|
| Euro area (excluding Italy) | 211.2 | 68.0 | 60.4 | 220.4 | 560.0 | 6.0 | 8.9 | 19.2 |
| Other industrialized countries | 45.3 | 19.9 | 31.1 | 41.7 | 138.0 | -0.1 | 1.0 | 4.7 |
| *of which:* United Kingdom | 0.6 | 4.2 | 13.3 | 8.9 | 27.1 | -17.9 | 1.3 | 0.9 |
| Emerging and developing countries | 71.0 | 20.9 | 4.8 | 97.8 | 194.5 | 7.0 | 3.8 | 6.7 |
| Europe | 55.3 | 10.3 | 3.6 | 84.9 | 154.0 | 9.2 | 14.5 | 5.3 |
| *of which:* Russia | 1.6 | 4.1 | 0.3 | 17.0 | 23.0 | 14.0 | 26.0 | 0.8 |
| Turkey | 0.5 | 2.8 | 0.2 | 1.5 | 4.9 | -5.2 | 4.6 | 0.2 |
| Africa and the Middle East | 11.7 | 3.3 | 0.1 | 7.3 | 22.3 | 7.0 | 3.5 | 0.8 |
| Asia and Pacific | 3.0 | 4.8 | 0.7 | 3.1 | 11.6 | -13.9 | 0.6 | 0.4 |
| Central and South America | 1.1 | 2.5 | 0.4 | 2.5 | 6.5 | 3.2 | 0.6 | 0.2 |
| *of which:* Argentina | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Brazil | 0.1 | 2.3 | 0.0 | 1.1 | 3.4 | 14.3 | 0.9 | 0.1 |
| Mexico | 0.3 | 0.1 | 0.2 | 0.9 | 1.4 | -17.7 | 0.4 | 0.0 |
| Offshore financial centres | 0.3 | 0.3 | 3.5 | 6.7 | 10.8 | 30.0 | 0.3 | 0.4 |
| **Total** | **327.9** | **109.2** | **99.6** | **366.5** | **903.3** | **5.4** | **3.2** | **31.0** |
| *Memorandum item:* | | | | | | | | |
| Energy-exporting emerging and developing countries (4) | 7.9 | 6.9 | 0.4 | 20.7 | 35.9 | 11.5 | 5.9 | 1.2 |

Source: Consolidated supervisory reports for banking groups, individual supervisory reports for the rest of the system.
(1) Exposures to 'ultimate borrowers', gross of bad loans and net of provisions. Does not include BancoPosta and Cassa Depositi e Prestiti SpA. – (2) As a percentage of the total foreign exposures to each country reported to the Bank for International Settlements (BIS) by a large set of international banks. The numerator and denominator refer to 31 March 2022. – (3) Total exposures to residents and non-residents. The numerator and denominator refer to 30 June 2022. – (4) Includes: Algeria, Angola, Azerbaijan, Bahrain, Bolivia, Brunei, Chad, Colombia, Congo, Ecuador, Equatorial Guinea, Gabon, Iran, Iraq, Kazakhstan, Kuwait, Libya, Nigeria, Oman, Qatar, Russia, Saudi Arabia, Sudan, Timor-Leste, Trinidad and Tobago, Turkmenistan, United Arab Emirates, Venezuela and Yemen.

Table A5

**Investment by Italian and euro-area banks in public sector securities issued in the banks' country of residence** (1)

*(millions of euros and per cent)*

| | Italy (2) | | | Euro area | | |
|---|---|---|---|---|---|---|
| | Stocks | Net purchases | Share of total assets (3) | Stocks | Net purchases | Share of total assets |
| 2012 | 322,686 | 90,128 | 8.9 | 1,251,226 | 213,410 | 3.8 |
| 2013 | 375,081 | 45,331 | 10.9 | 1,313,179 | 46,354 | 4.3 |
| 2014 | 383,645 | -4,299 | 11.0 | 1,370,728 | 6,792 | 4.4 |
| 2015 | 364,361 | -20,898 | 10.6 | 1,295,539 | -67,495 | 4.2 |
| 2016 | 333,329 | -26,646 | 9.8 | 1,205,130 | -89,282 | 3.9 |
| 2017 | 283,742 | -46,708 | 8.5 | 1,074,168 | -119,982 | 3.5 |
| 2018 | 318,449 | 43,974 | 9.7 | 1,054,143 | -8,157 | 3.4 |
| 2019 | 313,699 | -17,420 | 9.4 | 1,030,973 | -44,657 | 3.2 |
| 2020 – Jan. | 316,251 | -875 | 9.5 | 1,027,968 | -9,501 | 3.1 |
| Feb. | 320,600 | 6,890 | 9.5 | 1,037,546 | 13,050 | 3.1 |
| Mar. | 336,121 | 19,791 | 9.9 | 1,084,606 | 55,092 | 3.1 |
| Apr. | 352,400 | 18,992 | 10.3 | 1,158,270 | 77,910 | 3.3 |
| May | 363,171 | 7,711 | 10.5 | 1,214,418 | 50,143 | 3.5 |
| June | 363,563 | -3,016 | 10.3 | 1,224,174 | 3,950 | 3.5 |
| July | 369,916 | 3,438 | 10.9 | 1,210,063 | -18,098 | 3.4 |
| Aug. | 373,878 | 4,562 | 11.2 | 1,222,794 | 10,433 | 3.5 |
| Sept. | 373,340 | -2,950 | 11.0 | 1,227,113 | 143 | 3.5 |
| Oct. | 369,089 | -5,054 | 10.7 | 1,201,212 | -27,574 | 3.4 |
| Nov. | 358,243 | -12,564 | 10.3 | 1,185,250 | -18,702 | 3.3 |
| Dec. | 343,615 | -14,725 | 10.0 | 1,145,291 | -40,446 | 3.3 |
| 2021 – Jan. | 351,549 | 9,135 | 10.2 | 1,155,880 | 12,240 | 3.2 |
| Feb. | 358,094 | 8,047 | 10.4 | 1,174,160 | 21,943 | 3.3 |
| Mar. | 351,040 | -8,552 | 10.1 | 1,199,215 | -11,179 | 3.3 |
| Apr. | 353,866 | 4,938 | 10.1 | 1,173,985 | -22,447 | 3.2 |
| May | 358,733 | 4,829 | 10.2 | 1,181,023 | 6,319 | 3.2 |
| June | 353,977 | -5,250 | 10.0 | 1,158,769 | -23,451 | 3.2 |
| July | 357,700 | 2,145 | 10.1 | 1,146,802 | -15,957 | 3.1 |
| Aug. | 359,647 | 2,461 | 10.2 | 1,151,468 | 4,745 | 3.1 |
| Sept. | 355,949 | -2,600 | 10.0 | 1,132,866 | -16,343 | 3.1 |
| Oct. | 354,220 | 1,132 | 9.9 | 1,111,654 | -16,550 | 3.0 |
| Nov. | 351,043 | -6,788 | 9.8 | 1,112,201 | -3,495 | 2.9 |
| Dec. | 342,012 | -7,225 | 9.6 | 1,092,366 | -16,627 | 3.0 |
| 2022 – Jan. | 351,963 | 10,511 | 9.8 | 1,098,168 | 8,421 | 2.9 |
| Feb. | 360,384 | 11,647 | 10.0 | 1,113,970 | 21,788 | 2.9 |
| Mar. | 355,218 | -3,354 | 9.8 | 1,106,930 | -4,569 | 2.9 |
| Apr. | 353,032 | 4,049 | 9.7 | 1,087,604 | -8,706 | 2.8 |
| May | 352,252 | 4,126 | 9.6 | 1,111,733 | 32,916 | 2.8 |
| June | 347,612 | -2,558 | 9.6 | 1,098,195 | -8,883 | 2.8 |
| July | 350,444 | 1,569 | 9.7 | 1,100,903 | -571 | 2.8 |
| Aug. | 340,866 | -3,976 | 9.4 | 1,080,460 | -11,326 | 2.7 |
| Sept. | 329,744 | -5,036 | 9.1 | 1,065,957 | -2,642 | 2.6 |

Sources: Individual supervisory reports and ECB.
(1) The data on net purchases refer to the whole period; the data on stocks and share of total assets refer to the end of the period. Purchase amounts are shown net of variations in market prices; holdings are shown at market value. All public sector securities are counted, including those issued by local government authorities. – (2) Cassa Depositi e Prestiti SpA is excluded. – (3) The 'total assets' series does not include bond repurchases.

Table A6

**Italian banks' bonds by holder and maturity** (1)

*(millions of euros; September 2022)*

| | Maturity | | | | Total |
|---|---|---|---|---|---|
| | by 2023 | in 2024 | between 2025 and 2029 | beyond 2030 | |
| Households (2) | 6,914 | 5,066 | 26,619 | 2,613 | 41,211 |
| *of which:* senior non preferred bonds | 5 | 4 | 262 | 7 | 278 |
| subordinated bonds | 684 | 373 | 2,392 | 918 | 4,366 |
| Banks in the issuer's group (3) | 3,711 | 2,456 | 15,808 | 1,752 | 23,726 |
| *of which:* senior non preferred bonds | -7 | – | – | – | -7 |
| subordinated bonds | 25 | 432 | 140 | 599 | 1,196 |
| Other Italian banks | 5,061 | 4,967 | 14,951 | 1,938 | 26,916 |
| *of which:* senior non preferred bonds | 192 | 122 | 1,545 | 127 | 1,986 |
| subordinated bonds | 127 | 31 | 608 | 478 | 1,244 |
| Other investors | 36,205 | 20,279 | 81,012 | 27,575 | 165,071 |
| *of which:* senior non preferred bonds | 1,982 | 357 | 7,492 | 1,350 | 11,182 |
| subordinated bonds | 3,187 | 2,447 | 8,419 | 12,824 | 26,877 |
| **Total** | **51,891** | **32,767** | **138,390** | **33,877** | **256,924** |
| *of which:* senior non preferred bonds | 2,172 | 483 | 9,299 | 1,484 | 13,437 |
| subordinated bonds | 4,024 | 3,282 | 11,559 | 14,819 | 33,684 |

Source: Individual supervisory reports.
(1) Data are indicated at nominal value and refer to bonds entered on the liability side, net of buybacks by the issuer. Rounding may cause discrepancies in the totals. – (2) Consumer and producer households and non-profit institutions serving households. Only resident customers. – (3) Resident banks belonging to the issuer's banking group.

Table A7

## Composition of the assets deposited with the Bank of Italy as collateral for Eurosystem credit operations (collateral pool) (1)

*(billions of euros; end-of-period values)*

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | March | September |
| **Total** | **283.5** | **253.7** | **297.3** | **321.2** | **310.5** | **285.8** | **436.1** | **513.5** | **510.3** | **482.2** |
| Government securities | 119.8 | 97.6 | 88.8 | 105.8 | 78.0 | 68.1 | 129.4 | 156.9 | 154.3 | 143.1 |
| Local and regional government securities | 2.9 | 2.6 | 1.7 | 1.9 | 1.3 | 0.5 | 0.8 | 2.0 | 1.6 | 1.4 |
| Uncovered bank bonds | 10.4 | 5.8 | 5.3 | 5.4 | 5.0 | 3.3 | 5.4 | 7.4 | 7.2 | 5.5 |
| Government-guaranteed bank bonds | 15.0 | 0.4 | 0.3 | 1.3 | 2.5 | 1.0 | 0.6 | 0.6 | 0.6 | 0.5 |
| Covered bonds | 49.8 | 46.4 | 76.3 | 76.8 | 91.3 | 86.1 | 99.8 | 107.3 | 104.5 | 99.4 |
| Non-bank bonds | 1.0 | 2.5 | 3.0 | 3.0 | 4.3 | 3.7 | 4.9 | 10.0 | 10.1 | 7.7 |
| Asset-backed securities | 40.0 | 35.5 | 44.0 | 49.9 | 49.7 | 47.7 | 45.5 | 61.8 | 58.7 | 54.3 |
| Other marketable assets | 0.4 | 0.6 | 0.8 | 2.8 | 1.3 | 1.8 | 2.6 | 6.3 | 7.9 | 7.3 |
| Non-negotiable assets (bank loans) | 44.3 | 62.4 | 77.1 | 74.3 | 77.1 | 73.6 | 147.1 | 161.2 | 165.4 | 163.0 |

Source: based on Eurosystem data.
(1) The collateral pool is valued at the prices taken from the Common Eurosystem Pricing Hub, net of haircuts.

**Table A8**

## Italian banks' net liquidity position (1)

*(monthly average share of total assets)*

| | Significant groups | | | Less significant groups | | |
|---|---|---|---|---|---|---|
| | Cumulative cash flow (2) | Counterbalancing capacity | Liquidity indicator (3) | Cumulative cash flow (2) | Counterbalancing capacity | Liquidity indicator (3) |
| 2018 – Jan. | 0.8 | 12.1 | 12.9 | -0.5 | 16.1 | 15.6 |
| Feb. | 0.3 | 13.2 | 13.5 | -1.0 | 16.7 | 15.8 |
| Mar. | 0.6 | 13.5 | 14.1 | -2.0 | 18.7 | 16.7 |
| Apr. | 0.7 | 13.5 | 14.2 | -3.0 | 19.9 | 16.8 |
| May | -0.2 | 14.1 | 13.9 | -5.3 | 21.3 | 16.0 |
| June | -1.2 | 14.1 | 12.9 | -5.5 | 20.7 | 15.2 |
| July | -1.3 | 13.9 | 12.5 | -4.3 | 20.0 | 15.7 |
| Aug. | -0.9 | 13.9 | 13.0 | -5.2 | 20.8 | 15.6 |
| Sept. | -0.2 | 13.7 | 13.5 | -5.9 | 21.9 | 16.0 |
| Oct. | -0.1 | 13.4 | 13.3 | -4.9 | 20.5 | 15.6 |
| Nov. | 0.1 | 13.5 | 13.6 | -4.7 | 20.0 | 15.2 |
| Dec. | 0.1 | 13.6 | 13.7 | -5.9 | 20.2 | 14.3 |
| 2019 – Jan. | -0.5 | 13.8 | 13.3 | -6.6 | 20.2 | 13.6 |
| Feb. | -0.5 | 14.6 | 14.1 | -5.9 | 19.1 | 13.1 |
| Mar. | -0.6 | 15.0 | 14.4 | -5.8 | 19.5 | 13.7 |
| Apr. | 0.2 | 15.6 | 15.8 | -5.8 | 19.8 | 13.9 |
| May | 0.3 | 15.8 | 16.0 | -5.5 | 19.7 | 14.2 |
| June | – | 15.9 | 16.0 | -5.3 | 19.8 | 14.5 |
| July | 0.5 | 16.0 | 16.5 | -3.9 | 19.8 | 15.9 |
| Aug. | 0.7 | 16.3 | 17.1 | -3.5 | 20.4 | 16.9 |
| Sept. | 1.6 | 16.6 | 18.3 | -3.6 | 21.0 | 17.4 |
| Oct. | 1.6 | 16.7 | 18.3 | -3.2 | 20.7 | 17.6 |
| Nov. | 0.3 | 18.2 | 18.5 | -3.8 | 21.5 | 17.7 |
| Dec. | -1.0 | 19.2 | 18.2 | -5.6 | 21.9 | 16.3 |
| 2020 – Jan. | -1.1 | 18.6 | 17.5 | -5.9 | 21.4 | 15.5 |
| Feb. | -0.4 | 18.7 | 18.2 | -5.9 | 22.1 | 16.1 |
| Mar. | -0.8 | 18.5 | 17.7 | -4.8 | 22.3 | 17.5 |
| Apr. | -1.4 | 19.6 | 18.3 | -4.4 | 22.6 | 18.2 |
| May | -2.8 | 22.6 | 19.8 | -6.5 | 25.3 | 18.7 |
| June | -4.2 | 24.4 | 20.3 | -7.3 | 26.1 | 18.8 |
| July | -0.9 | 21.9 | 21.1 | -4.5 | 25.0 | 20.5 |
| Aug. | -0.9 | 22.4 | 21.6 | -4.0 | 25.6 | 21.3 |
| Sept. | -0.4 | 22.6 | 22.1 | -3.6 | 25.1 | 21.5 |
| Oct. | 0.1 | 21.1 | 21.2 | -2.7 | 23.7 | 21.0 |
| Nov. | 0.1 | 21.9 | 22.0 | -1.9 | 23.3 | 21.5 |
| Dec. | -0.5 | 22.0 | 21.5 | -2.1 | 23.6 | 21.4 |
| 2021 – Jan. | -1.0 | 21.7 | 20.7 | -3.0 | 23.6 | 20.6 |
| Feb. | -0.7 | 22.0 | 21.3 | -1.2 | 23.0 | 21.8 |
| Mar. | 0.2 | 21.6 | 21.8 | -0.2 | 24.7 | 24.5 |
| Apr. | 0.5 | 21.0 | 21.5 | 1.4 | 25.3 | 26.7 |
| May | 0.2 | 22.0 | 22.2 | 0.2 | 26.3 | 26.5 |
| June | -0.0 | 22.3 | 22.3 | -0.3 | 26.7 | 26.4 |
| July | 0.2 | 22.2 | 22.4 | -0.3 | 25.3 | 25.0 |
| Aug. | -0.2 | 23.1 | 22.9 | -0.7 | 25.6 | 24.9 |
| Sept. | -0.3 | 22.9 | 22.6 | -1.7 | 26.5 | 24.8 |
| Oct. | -0.7 | 22.3 | 21.6 | -1.5 | 25.0 | 23.5 |
| Nov. | -0.2 | 22.4 | 22.2 | -1.4 | 24.6 | 23.1 |
| Dec. | -0.4 | 21.8 | 21.4 | -2.2 | 25.4 | 23.2 |
| 2022 – Jan. (4) | -1.0 | 25.8 | 24.8 | -2.5 | 25.3 | 22.8 |
| Feb. | -1.5 | 26.3 | 24.8 | -3.4 | 26.1 | 22.7 |
| Mar. | -2.0 | 27.0 | 25.0 | -3.0 | 25.6 | 22.5 |
| Apr. | -3.2 | 27.7 | 24.5 | -5.0 | 26.7 | 21.6 |
| May | -3.8 | 28.4 | 24.6 | -5.6 | 26.3 | 20.7 |
| June | -4.1 | 27.9 | 23.8 | -4.6 | 24.6 | 20.0 |
| July | -4.1 | 27.5 | 23.4 | -5.4 | 24.1 | 18.7 |
| Aug. | -3.5 | 27.1 | 23.6 | -6.4 | 24.2 | 17.8 |
| Sept. | -2.7 | 26.1 | 23.4 | -6.6 | 23.8 | 17.2 |
| Oct. | -3.4 | 26.4 | 23.0 | -7.0 | 23.5 | 16.5 |

Source: Data transmitted to the Bank of Italy by a sample of banking intermediaries for periodic monitoring of their liquidity positions.
(1) Monthly averages based on weekly reports for significant banks (significant institutions, or SI, supervised directly by the ECB) and for a sample of less significant banks (less significant institutions, or LSI, supervised by the Bank of Italy in cooperation with the ECB). On prudential grounds it is assumed there is no rollover of maturing obligations towards institutional counterparties. – (2) Calculated as the (positive or negative) difference between outflows (negative sign) and inflows (positive sign). The calculation of outflows includes maturing obligations towards institutional clients and banks' estimates of expected retail customer outflows. – (3) Calculated as the (positive or negative) difference between the holdings of freely available assets eligible for use as collateral for Eurosystem refinancing operations (counterbalancing capacity) and cumulative expected net cash flows over the next 30 days. – (4) Effective on 1 January 2022, Fineco and Mediolanum are no longer in the LSI sample and are now included in the SI sample.

Table A9

## Macroprudential capital buffers in the countries of the European Economic Area

*(per cent)*

| | Combined buffer requirement (CBR) (1) | Capital conservation buffer (CCoB) | Countercyclical capital buffer (CCyB) | | | | Capital buffer for global systemically important institutions (G-SIIs) | | Capital buffer for other systemically important institutions (O-SIIs) | | Systemic risk buffer (SyRB) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date of entry into force | Current rate | Fully phased-in date | Fully phased-in rate | Date of entry into force | Description | Date of entry into force | Description | Date of entry into force | Description |
| Austria | 2.50-4.50 | 2.50 | 1 Jan. 2016 | 0.00 | | | | | 1 Jan. 2022 | 8 banks: 0.50-1.00 | 3 June 2021 | 11 banks (includes 7 O-SIIs): 0.50-1.00 |
| Belgium | 2.50-13.00 | 2.50 | 1 Apr. 2020 | 0.00 | | | | | 1 Dec. 2021 | 8 banks: 0.75-1.50 | 1 May 2022 | 9 banks (includes 6 O-SIIs) 9.00 (3) |
| Bulgaria | 6.50-7.50 | 2.50 | 1 Oct. 2022 | 1.00 | 1 Oct. 2023 | 2.00 | | | 1 Jan. 2022 | 8 banks: 0.50-1.00 | 3 Dec. 2021 | 3.00 (4) |
| Cyprus | 2.50-3.75 | 2.50 | 1 Jan. 2016 | 0.00 | | | | | 1 Jan. 2022 | 6 banks: 0.25-1.25 (2) | | |
| Croatia | 4.00-6.00 | 2.50 | 1 Jan. 2016 | 0.00 | 31 Mar. 2023 | 0.50 | | | 1 Jan. 2022 | 7 banks: 0.50-2.00 | 29 Dec. 2020 | 1.50 |
| Denmark | 3.50-6.50 | 2.50 | 30 Sept. 2022 | 1.00 | 31 Mar. 2023 | 2.50 | | | 25 June 2021 | 8 banks: 1.00-3.00 | | |
| Estonia | 2.50-4.50 | 2.50 | 1 Jan. 2016 | 0.00 | 7 Dec. 2022 | 1.00 | | | 1 Jan. 2022 | 4 banks: 1.50-2.00 | | |
| Finland | 2.50-4.50 | 2.50 | 16 Mar. 2015 | 0.00 | | | | | 29 June 2021 | 3 banks: 0.50-2.00 | 6 Apr. 2020 | 0.00 |
| France | 2.50-4.00 | 2.50 | 1 Apr. 2020 | 0.00 | 7 Apr. 2023 | 0.50 | 1 Jan. 2022 | 4 banks: 1.00-1.50 (2) | 1 Jan. 2022 | 7 banks: 0.25-1.50 | | |
| Germany | 2.50-4.50 | 2.50 | 1 Apr. 2020 | 0.00 | 1 Feb. 2023 | 0.75 | 1 Jan. 2022 | 1 bank: 1.50 | 1 Jan. 2022 | 14 banks: 0.25-2.00 | | – (3) |
| Greece | 2.50-3.25 | 2.50 | 1 Jan. 2016 | 0.00 | | | | | 1 Jan. 2022 | 4 banks: 0.75 (2) | | |
| Ireland | 2.50-4.00 | 2.50 | 1 Apr. 2020 | 0.00 | 15 June 2023 | 0.50 (5) | | | 1 Jan. 2022 | 6 banks: 0.50-1.50 | | |
| Iceland | 4.50-9.50 | 2.50 | 29 Sept. 2022 | 2.00 | | | | | 1 Apr. 2016 | 3 banks: 2.00 | 16 March 2022 | 9 banks (includes O-SIIs): 3.00 (4) |
| Italy | 2.50-3.50 | 2.50 | 1 Jan. 2016 | 0.00 | | | 1 Jan. 2022 | 1 bank: 1.00 | 1 Jan. 2022 | 4 banks: 0.25-1.00 | | |
| Latvia | 2.50-4.50 | 2.50 | 1 Feb. 2016 | 0.00 | | | | | 21 Dec. 2021 | 5 banks: 0.00-2.00 (2) | | |

Sources: ESRB and macroprudential supervisory authorities.

(1) For each bank, the CBR is equal to the sum of the CCoB, CCyB, G-SII and O-SII buffers, and the SyRB, pursuant to Article 128(6) of CRD IV. Where a group, on a consolidated basis, is subject to the following buffers, only the highest buffer shall apply in each case: (a) a G-SII buffer and an O-SII buffer; (b) a G-SII buffer, an O-SII buffer and a systemic risk buffer (SyRB), pursuant to Article 131(14) of CRD IV. Where the SyRB applies only to domestic exposures, that SyRB shall be cumulative with the O-SII or G-SII buffer pursuant to Article 133(5) of CRD IV. In the countries where the changes introduced by CRD V have been transposed into national legislation, the SyRB is always cumulative with the higher of the G-SII or O-SII buffers pursuant to Articles 131(15) and 133(1), (7) and (8.c). – (2) France expects to raise its maximum G-SII buffer to 2.0 per cent starting in January 2023. Cyprus and Greece expect to complete the phase-in of the O-SII buffer at a maximum level of 1.5 per cent and 1.0 per cent respectively in January 2023. In Latvia, the capital buffer of one of the banks identified as O-SII is currently set at 0.0 per cent and will be raised to 0.25 per cent starting on 1 January 2023. – (3) The SyRB introduced by Belgium is a sectoral buffer that applies to exposures secured by residential property of banks that use internal models to quantify risk-weighted exposures. Germany is set to introduce a sectoral SyRB starting in February 2023, amounting to 2.0 per cent for exposures secured by residential property. – (4) The SyRB applies only to domestic exposures. – (5) Ireland has announced that the increase to 0.5 per cent will be followed by subsequent increases up to the neutral level set at 1.5 per cent for the CCyB.

*Cont.*

*cont.* **Table A9**

## Macroprudential capital buffers in the countries of the European Economic Area
*(per cent)*

| | Combined buffer requirement (CBR) (1) | Capital conservation buffer (CCoB) | Countercyclical capital buffer (CCyB) | | | | Capital buffer for global systemically important institutions (G-SIIs) | | Capital buffer for other systemically important institutions (O-SIIs) | | Systemic risk buffer (SyRB) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Date of entry into force | Current rate | Fully phased-in date | Fully phased-in rate | Date of entry into force | Description | Date of entry into force | Description | Date of entry into force | Description |
| Liechtenstein | 2.50-5.50 | 2.50 | 1 July 2019 | 0.00 | | | | | 1 Jan. 2022 | 3 banks: 2.00 | 1 May 2022 | 1.00 (3) |
| Lithuania | 2.50-6.50 | 2.50 | 1 Apr. 2020 | 0.00 | 1 Oct. 2023 | 1.00 | | | 31 Dec. 2021 | 3 banks: 1.00-2.00 | 1 July 2022 | 2.00 (3) |
| Luxembourg | 3.00-4.00 | 2.50 | 1 Jan. 2021 | 0.50 | | | | | 1 Jan. 2022 | 7 banks: 0.50-1.00 | | |
| Malta | 2.50-4.50 | 2.50 | 1 Jan. 2016 | 0.00 | | | | | 1 Jan. 2022 | 4 banks: 0.125-2.00 (2) | | |
| Norway | 7.00-10.50 | 2.50 | 30 June 2022 | 1.50 | 31 Mar. 2023 | 2.50 | | | 1 Jan. 2021 | 2 banks: 1.00-2.00 | 31 Dec. 2020 | 3.00-4.50 (4) |
| Netherlands | 2.50-5.00 | 2.50 | 1 Jan. 2016 | 0.00 | 25 May 2023 | 1.00 (5) | 1 Jan. 2022 | 1 bank: 1.00 | 1 Jan. 2022 | 5 banks: 1.00-2.50 | | |
| Poland | 2.50-3.50 | 2.50 | 1 Jan. 2016 | 0.00 | | | | | 29 Oct. 2021 | 10 banks: 0.10-1.00 | | |
| Portugal | 2.50-3.50 | 2.50 | 1 Jan. 2016 | 0.00 | | | | | 1 Jan. 2022 | 6 banks: 0.25-1.00 (2) | | |
| Czech Republic | 4.00-6.50 | 2.50 | 1 Oct. 2022 | 1.50 | 1 Apr. 2023 | 2.50 | | | 1 Oct. 2021 | 5 banks: 0.50-2.50 | | |
| Romania | 3.00-5.00 | 2.50 | 17 Oct. 2022 | 0.50 | 23 Oct. 2023 | 1.00 | | | 1 Jan. 2022 | 9 banks: 0.50-2.00 | 1 Jan. 2022 | 0.00-2.00 |
| Slovakia | 3.50-5.50 | 2.50 | 1 Aug. 2020 | 1.00 | 1 Aug. 2023 | 1.50 | | | 1 Jan. 2022 | 5 banks: 0.25-2.00 (2) | | |
| Slovenia | 2.50-3.50 | 2.50 | 1 Jan. 2016 | 0.00 | | | | | 1 Jan. 2022 | 6 banks: 0.25-1.00 (2) | | – (3) |
| Spain | 2.50-3.50 | 2.50 | 1 Jan. 2016 | 0.00 | | | 1 Jan. 2022 | 1 bank: 1.00 | 1 Jan. 2022 | 4 banks: 0.25-1.00 | | |
| Sweden | 3.50-7.50 | 2.50 | 29 Sept. 2022 | 1.00 | 22 June 2023 | 2.00 | | | 1 Jan. 2022 | 4 banks: 0.00-1.00 | 29 Dec. 2020 | 3 O-SIIs: 3.00 |
| Hungary | 2.50-3.00 | 2.50 | 1 Jan. 2016 | 0.00 | 1 July 2023 | 0.50 | | | 1 Jan. 2022 | 7 banks 0.125-0.50 (2) | | |

Sources: ESRB and macroprudential supervisory authorities.
(1) For each bank, the CBR is equal to the sum of the CCoB, CCyB, G-SII and O-SII buffers, and the SyRB, pursuant to Article 128(6) of CRD IV. Where a group, on a consolidated basis, is subject to the following buffers, only the highest buffer shall apply in each case: (a) a G-SII buffer and an O-SII buffer; (b) a G-SII buffer, an O-SII buffer and a systemic risk buffer (SyRB), pursuant to Article 131(14) of CRD IV. Where the SyRB applies only to domestic exposures, that SyRB shall be cumulative with the O-SII or G-SII buffer pursuant to Article 133(5) of CRD IV. In the countries where the changes introduced by CRD V have been transposed into national legislation, the SyRB is always cumulative with the higher of the G-SII or O-SII buffers pursuant to Articles 131(15) and 133(1), (7) and (8.c). – (2) Portugal expects to complete the phase-in in 2023. The range of the buffer is unchanged but for one bank the buffer will increase from 0.75 to 1 per cent in 2023. Malta expects to complete the phase-in of the O-SII buffer at a minimum level of 0.25 per cent in January 2025. For 2023 Slovakia has identified an additional O-SII, bringing the total number of institutions identified as O-SII to 6; the minimum and maximum buffer levels will remain unchanged in 2023. In Slovenia, the maximum O-SII buffer will rise to 1.25 per cent starting in January 2023. Hungary expects to complete the phase-in of the O-SII buffer at a minimum level of 0.50 per cent and a maximum level of 2.0 per cent in January 2024. – (3) Liechtenstein and Lithuania introduced a sectoral SyRB. In Lichtenstein the SyRB applies to exposures to natural persons that are secured by residential property and to exposures to legal persons that are secured by commercial property. In Lithuania the sectoral SyRB applies to exposures to natural persons that are secured by residential property. Slovenia expects to introduce a differentiated sectoral SyRB in January 2023 set at 1 per cent for exposures to natural persons that are secured by residential property and at 0.5 per cent for all other exposures. – (4) The SyRB applies only to domestic exposures. For the institutions that do not follow the advanced IRB approach, the buffer is set at 3.0 per cent until 31 December 2022; after that date, as for all the other banks, it will be set at 4.5 per cent. – (5) The Netherlands have announced that the increase to 1.0 per cent will be followed by subsequent increases up to the neutral level set at 2.0 per cent for the CCyB.

**Table A10**

**Recent macroprudential policy decisions of the Bank of Italy**

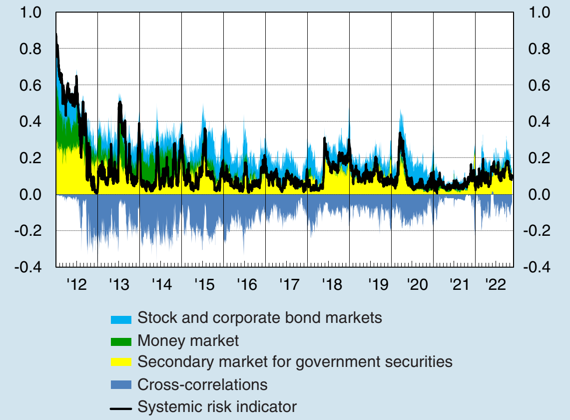
| Date (1) | Decision | Capital requirement for this year *(per cent)* | Fully phased-in capital requirement *(per cent)* (2) |
|---|---|---|---|
| 24.6.2022 | Setting of the CCyB rate for the third quarter of 2022 | 0.00 | – |
| 30.6.2022 | Identification by Italy of material third countries | – | – |
| 02.9.2022 | Decision not to reciprocate three macroprudential measures adopted by Norway, one by Lithuania, one by the Netherlands and one by Belgium | – | – |
| 30.9.2022 | Setting of the CCyB rate for the fourth quarter of 2022 | 0.00 | – |
| 20.10.2022 | Decision to reciprocate the CCyB rate introduced against systemic risk in Germany | – | 2.00 (2023) |
| 25.11.2022 | Identification of the UniCredit, Intesa Sanpaolo, Banco BPM and Monte dei Paschi di Siena banking groups as O-SIIs authorized to operate in Italy and setting of their respective CCyB rates: | | |
| | UniCredit (3) | 1.00 | 1.00 |
| | Intesa Sanpaolo | 0.75 | 0.75 |
| | Banco BPM | 0.25 | 0.25 |
| | Banca Monte dei Paschi di Siena | 0.25 | 0.25 |

(1) The dates given are those on which the decisions were published. For the full list, see the Bank of Italy's website: 'Macroprudential policy decisions of the Bank of Italy'. – (2) In brackets, the year when fully phased in. – (3) In accordance with European legislation, the UniCredit Group will apply only the higher between the global systemically important institution (G-SII) and the other systemically important institution (O-SII) requirements.

Figure A1

**Indicator of systemic liquidity risk in the Italian financial markets** (1)

*(daily data; Indices: 0 = 1)*

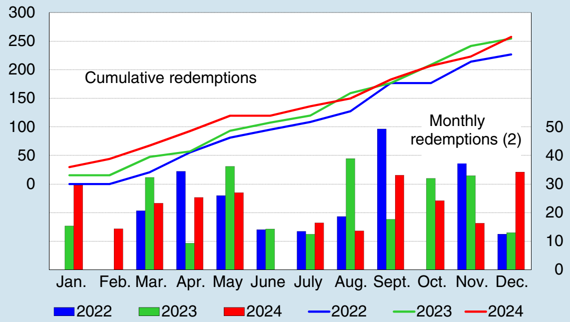



Sources: Based on data from Refinitiv, Bloomberg, Moody's Analytics, MTS SpA, and the Bank of Italy.
(1) The systemic risk indicator measures the combined risk in the money market, the secondary market for government securities, and the stock and corporate bond markets. The index range is from 0 (minimum risk) to 1 (maximum risk). The graph also shows the contributions to the systemic risk indicator of the individual markets and the correlations between them. For the methodology used in constructing the indicator, see *Financial Stability Report*, 1, 2014.

Figure A2

**Redemptions of medium- and long-term government securities** (1)

*(monthly data; billions of euros)*



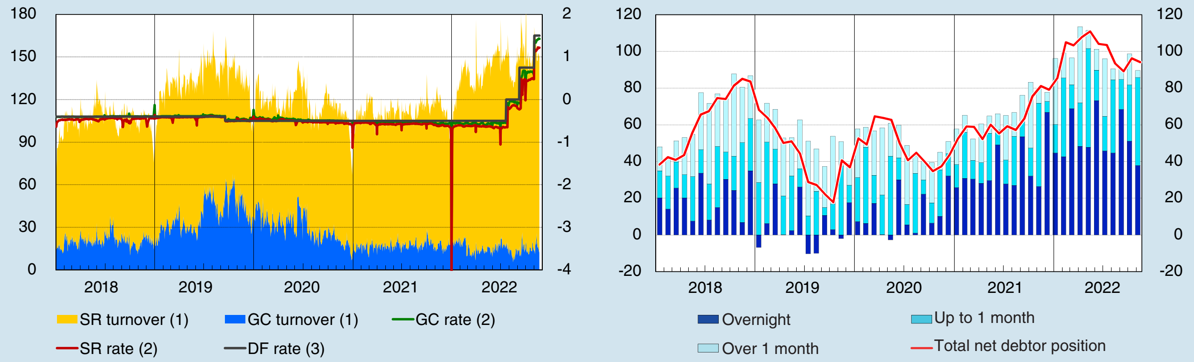

Sources: Based on data from the Ministry of Economy and Finance and the Bank of Italy.
(1) Government securities (including those placed in the international markets) with maturity at issue of more than one year. Excludes the tranches issued by the Ministry of Economy and Finance to establish its own securities portfolio to be used exclusively for repos. Redemptions of indexed BTPs are not revalued for inflation. – (2) Right-hand scale.

Figure A3

**Repo turnover, rates and net debtor position on the MTS market**

(a) MTS turnover and repo rates
*(daily data; billions of euros and per cent)*

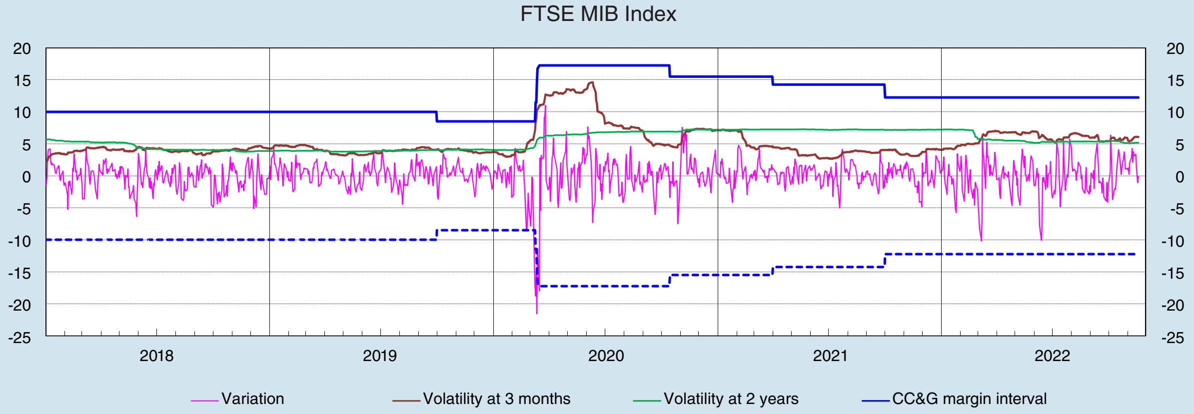
(b) Net foreign debtor position of Italian operators (4)
*(monthly data; billions of euros)*




Source: based on MTS data.
(1) Daily turnover in general collateral (GC) and special repos (SR) on the MTS market by contract settlement date. – (2) Calculated in reference to daily contracts for Italian government securities made on MTS Repo. Right-hand scale. – (3) Eurosystem deposit facility rate. – (4) Calculated on the basis of the cash value of the outstanding contracts on the MTS repo market. Monthly averages of daily data for total net position; for the breakdown by maturity, end-of-period data. Starting in May 2021, the indicator reflects repo trading conducted by the Ministry of Economy and Finance on the MTS Repo market.

Figure A4

**Margins applied by central counterparties and volatility of the financial instruments** (1)
*(daily data; per cent)*




Sources: Based on data from Bloomberg, Euronext Clearing and Refinitiv.
(1) 3-day variation on the FTSE-MIB index. The volatility indicators are based on the value-at-risk (VaR) methodology and calculated with reference to a period of 3 months and 2 years with a confidence interval of 99 per cent. The dashed line, which is the mirror image of the margins, indicates the adequacy of the margin requirements to cope with the negative price fluctuations actually recorded in the market.

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