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Financial Stability Report

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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

With the outbreak of the war in Ukraine, uncertainty over the economic outlook and risks to financial stability have increased. Inflation is rising markedly in the main global economies because of increasing prices for energy and other commodities and continuing supply bottlenecks. Central banks have started or stepped up their return to less accommodative monetary policies. The ECB will maintain its flexible approach to monetary policy whenever threats to its transmission jeopardize the attainment of price stability.

Conditions on the global financial markets worsened after the invasion of Ukraine. Long-term interest rates have continued to go up in both the United States and the euro area, against a background of high volatility. The sizeable fluctuations in commodity prices have led to a considerable expansion in the margin requirements on derivatives for operators and to malfunctions on these markets. The emergence of new tensions could also hit firms that operate in these markets for hedging purposes.

The risks to financial stability have increased in Italy too, although they remain low compared with past episodes of tension. As in the other euro-area countries, in a context of heightened uncertainty, growth forecasts have been revised downwards and inflation expectations have gone up.

The slowdown in economic activity and the rise in interest rates could put pressure on the public finances. Since last November, the yield spread between Italian and German government securities has widened. Greater risk aversion and expectations of a reduction in monetary accommodation have been contributory factors. Nevertheless, although yields at issuance are rising, funding conditions on the primary market for Italian government bonds remain favourable overall. Despite the downward revision for economic growth, the Government has confirmed its objective of reducing net borrowing as a share of GDP.

The residential real estate market continues to recover gradually. The increase in prices is more limited than in other European countries and the risks to financial stability from this sector remain low. Uncertainty over the economic outlook is affecting the non-residential sector, where prices are still falling and the average riskiness of loans is relatively high compared with Italian firms as a whole and by European standards.

The risks to financial stability from the household sector continue to be low. In 2021, disposable income grew and confidence improved, but the war in Ukraine and rising inflation are having a negative effect on the outlook. The measures taken by the Government are helping to limit the impact of rising energy prices on the most financially vulnerable households. The total indebtedness of the household sector is still low by international standards and loan repayment capacity is adequate.

Firms' financial vulnerability is increasing, despite the cyclical improvement in 2021. The spread between bond yields and the risk-free rates has widened, as in the rest of the euro area. The higher share of spending on energy products, difficulties in the procurement of commodities and intermediate goods, and, for some firms, the direct consequences of the sanctions imposed on Russia and Belarus have all had an impact. Exporters with the greatest exposure to the markets affected by the conflict account for a small portion of turnover and total bank loans.

Italian banks are stronger, but the repercussions of the war are causing risks to rise. In 2021, the asset quality of the banking system was still good on average, thanks to the economic recovery and the support measures for households and firms; lending increased for the soundest firms, especially the small ones. The new non-performing loan ratio remains at historically low levels; disposals of non-performing loans continued. Banks' profitability

improved, mainly as a result of the decrease in loan loss provisions, and capitalization remained stable. However, the war represents a significant source of uncertainty for the banking system and could have significant consequences through multiple channels, both financial and economic. Direct exposure to Russian counterparties is limited overall, but is concentrated in two large groups; the conflict's impact on them, while not negligible, seems in any case to be manageable. The risk of cyber attacks has also risen. The situation calls for cautious and careful accounting and prudential classification of loans and provisioning and distribution policies.

In 2021, the insurance sector's capitalization and premium income continued to improve, while profitability declined. Insurance companies' exposure to the effects of the conflict is moderate; the sector's resilience was confirmed by the results of the recent stress tests.

The positive trend in net subscriptions of Italian investment funds has continued. The share of assets under management of funds potentially vulnerable to heavy demand for redemptions or to changes in the margin requirements on derivatives has fallen. Exposure to Russian, Belarusian and Ukrainian issuers is very small.

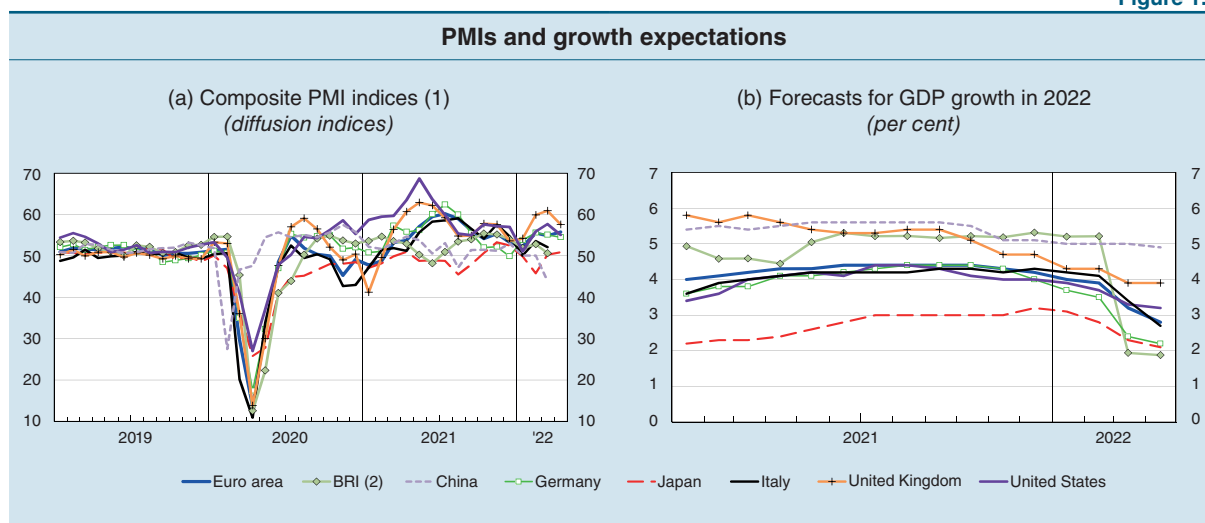
1 MACROECONOMIC, FINANCIAL AND SECTORAL RISKS

1.1 GLOBAL RISKS AND EURO-AREA RISKS

Global economic growth slowed in the early months of the year following the resurgence of the pandemic and the outbreak of the war in Ukraine at the end of February. The risks and the uncertainty for the world economy have increased significantly. The geopolitical tensions have contributed to the marked volatility in energy prices, especially of oil and gas. The ongoing uncertainty over the energy markets is putting supplies at significant risk, especially for Europe, which covers around 40 per cent of its gas needs by importing it from Russia. The prices of metals, fertilizers and agricultural goods have also gone up, particularly for wheat, for which Russia and Ukraine export almost one third of the world total.

Economic activity has been affected by the initial impact of the war since March (Figure 1.1.a). The estimates for growth this year have been revised downwards, above all in the euro area, which has stronger trade links with the economies affected by the conflict, and in Russia, where GDP expectations have fallen drastically (Figure 1.1.b).

Figure 1.1



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, April 2022).

Inflation is increasing considerably in the leading world economies, reflecting the rise in energy prices and persistent supply bottlenecks. The exception is China, where growth in demand and in prices has been slowed by the restrictive measures taken to combat the new waves of COVID cases. In March, the consumer price index grew by 7.4 per cent on an annual basis in the euro area, driven by higher energy prices, while it increased by 8.5 per cent in the United States, in part pushed up by wage pressures.

Following the outbreak of the war in Ukraine, short-term inflation expectations rose significantly, while those for the medium term remain essentially in line with the targets set by the monetary authorities.

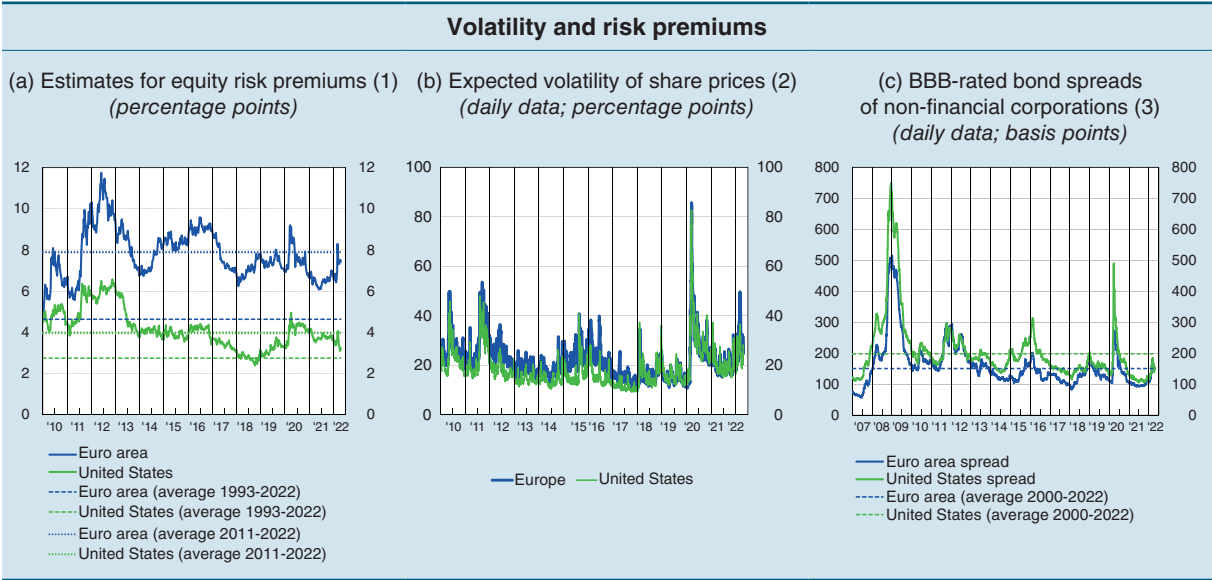
Central banks have responded to the increase in inflation either by starting or by stepping up the normalization of their monetary policies. In its meeting on 15 and 16 March, the Federal Reserve increased the federal funds rate by an initial 25 basis points, bringing it to 0.25-0.50 per cent, and is projecting further increases of at least 150 basis points over the current year; it also confirmed its willingness to lower the volume of financial assets held on its balance sheet. On 17 March, the Bank of England raised the reference rate for the third time in a row, up to 0.75 per cent. On 14 April, the European Central Bank confirmed the reduction in net asset purchases, which could end in the third quarter of this year. The market expects a rise in deposits with the central bank by the end of 2022.

The conditions on the global financial markets worsened after the invasion of Ukraine, with potentially greater repercussions in the emerging countries that are most indebted or that have trade relations with regions affected by the conflict.

After a temporary fall in conjunction with the start of the war, long-term interest rates continued to rise rapidly in the main currency areas, driven by inflation expectations and by the prospect of central banks removing monetary accommodation. There is the risk, signalled by the option prices on government securities (see Section 1.3), of a further significant increase in yields.

As a result of the conflict, the main stock market indices have recorded marked decreases, owing to the increase in risk premiums (Figure 1.2.a). Stock price volatility has reached very high levels (Figure 1.2.b), leading to sporadic disruptions on the exchange-traded funds (ETF) market, where some intermediaries have suspended operations aimed at keeping share prices aligned with those of the underlying instruments. Equity market conditions have improved since mid-March, though volatility remains high.

Figure 1.2



Sources: ICE, Bank of America Merrill Lynch (BofAML) and Refinitiv. (1) For S&P 500 (US) 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). To obtain an estimate of the share risk premium, 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. The dashed lines indicate the averages of the risk premiums from 1993 to 2022. – (2) Indices of the implied volatility in the prices of options (VSTOXX for the euro area and VIX for the United States). – (3) Spreads refer to BBB-rated bonds issued by non-financial corporations. The dashed lines indicate the averages of the spreads from 2000 to 2022.

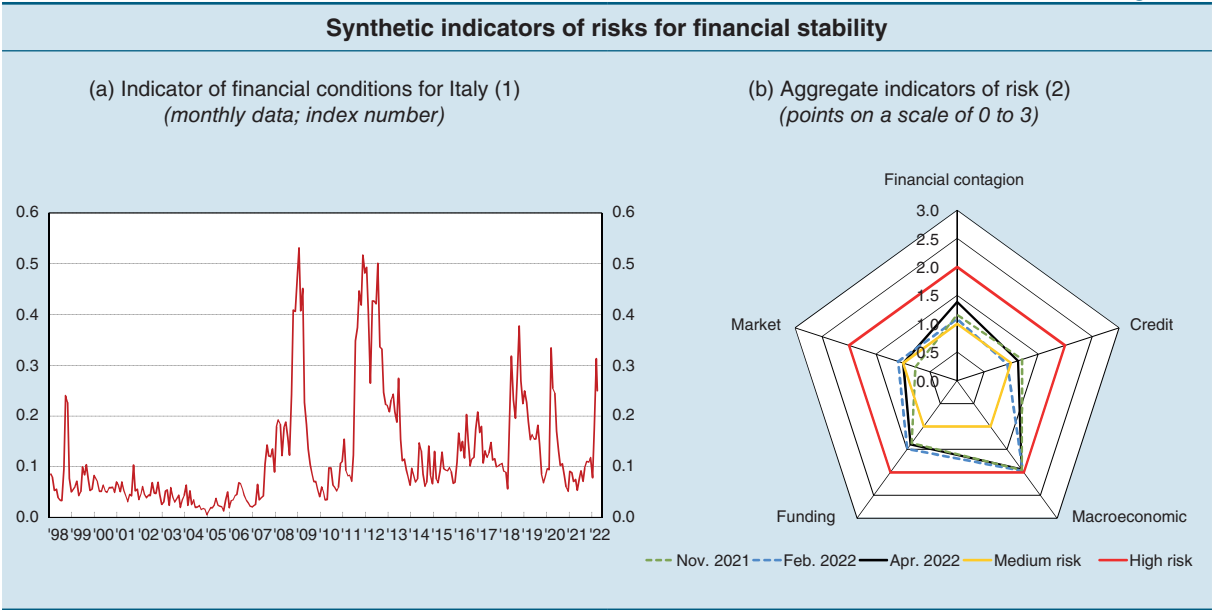
Spreads on corporate bonds have widened since last autumn (Figure 1.2.c), more markedly in the euro area than in the United States. Although the default rate has remained low at global level and credit ratings for issuers have continued to improve on the whole, some rating agencies expect an increase in insolvencies over the next few months, especially in the sectors most exposed to the consequences of the conflict (see Section 1.5).

Tensions on commodities markets have escalated since the start of the war (see *Economic Bulletin*, 2, 2022). The marked fluctuations in prices have led to episodes of malfunctions on the commodities derivatives markets, where some operators have encountered considerable difficulties in paying the margins to guarantee their positions. If the size and volatility of the margins were to remain persistently high, there could be new financial tensions, with possible repercussions for firms that use derivatives to hedge against risks and not for speculative purposes.

1.2 MACROFINANCIAL CONDITIONS IN ITALY

The risks to financial stability have increased in Italy, mainly due to the tensions generated by the Russia-Ukraine conflict. The financial conditions index points to a tightening in the last two months (Figure 1.3.a), in connection with the deterioration of the situation on the financial markets (especially that of public debt; see Section 1.3), and with the volatility of the foreign exchange market.

Figure 1.3



Sources: Based on Refinitiv and Bank of Italy data. (1) The index ranges from 0 (minimum risk) to 1 (maximum risk). For further details, 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. – (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.

The uncertainty over macroeconomic trends has risen and risks are high (Figure 1.3.b). The outlook for growth and inflation expectations is being conditioned by the marked increases in energy prices, persistent bottlenecks in global value chains and the consequences of the invasion of Ukraine (see *Economic Bulletin*, 1, 2022 and *Economic Bulletin*, 2, 2022). There are still problems linked to the sizeable public debt and to the risk of returning to an environment of structurally low growth. The

forecasts for GDP performance for the current year are more than 1.5 percentage points below what was expected before the conflict began. According to the policy scenario estimate of the 2022 Economic and Financial Document (DEF) approved in April, GDP will grow by 3.1 per cent in 2022 and by 2.4 per cent in 2023. The projections are higher than those recently released by the International Monetary Fund (2.3 and 1.7 per cent respectively) and by Consensus Economics (2.7 per cent in 2022; see Section 1.1).

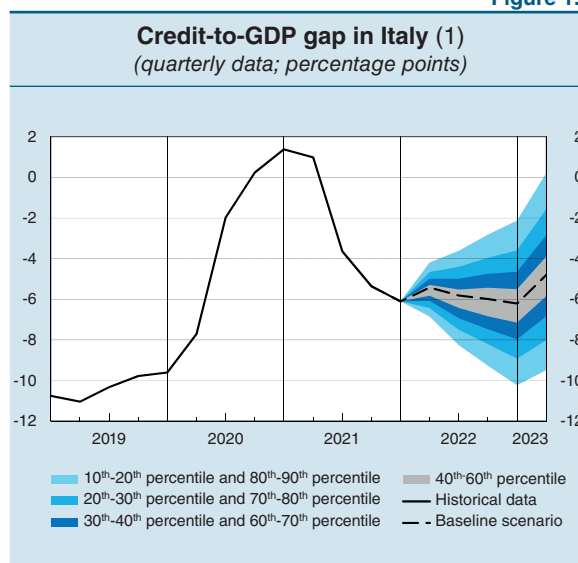
The pandemic crisis has led to an increase in Italy's public debt of more than 20 percentage points. The stabilization of the debt at the current levels (150.8 per cent of GDP in 2021) would leave the country exposed to risks stemming from tensions on the financial markets. In order to reduce the debt-to-GDP ratio, it is necessary first of all to lead potential output to a path of sustained growth; from this point of view, the full and effective implementation of the National Recovery and Resilience Plan (NRRP) will be crucial. In the future, the gap between GDP growth and the cost of the debt will have increasingly less favourable effects on the public finances, in part because of the inevitable normalization of the monetary policy stance; a gradual and structural improvement in the primary balance will therefore be fundamental. The quicker the pace of growth, the smaller the necessary adjustment of the public accounts.

In the policy scenario of the DEF, net borrowing would fall from 7.2 to 5.6 per cent of GDP this year (the estimate incorporates the effects of expansionary measures with an impact on the accounts of about half a percentage point of GDP), and debt would fall from 150.8 to 147.0 per cent. In the following three years, the debt-to-GDP ratio would be further reduced; in 2025, it would exceed the 2019 level by more than 7 percentage points.

In view of the marked uncertainty connected with the ongoing geopolitical crisis, the Government has decided on new support measures, while maintaining a firm stance for the gradual consolidation of the public accounts. It will therefore be necessary to prepare selective interventions, concentrating resources on the most vulnerable households and on the sectors hardest hit by the rise in energy prices and the limits imposed on trade with Russia.¹

The macroeconomic context is also impacting the conditions of the financial cycle; our projections, in line with the latest scenarios, indicate that the difference between the credit-to-GDP ratio and its long-run trend (credit-to-GDP gap), which was negative in the fourth quarter of 2021, will remain broadly negative in 2022 as well (Figure 1.4).

Figure 1.4



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. 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.

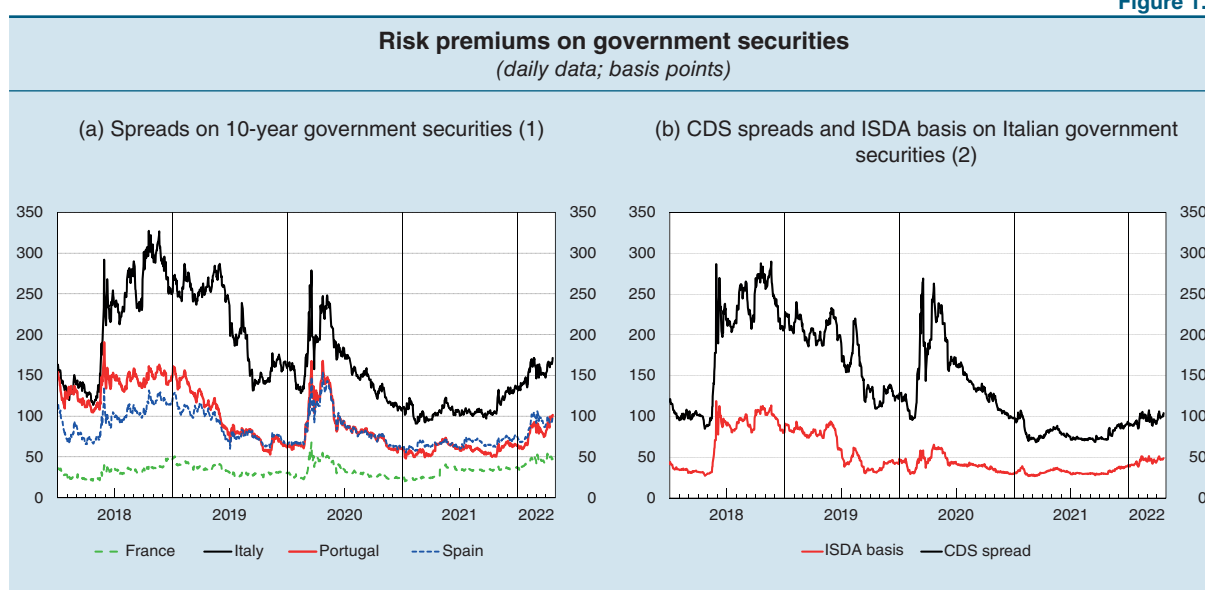
¹ 'Preliminary hearing on the 2022 Economic and Financial Document', testimony by F. Balassone, Head of the Directorate for Structural Economic Analysis, before the Chamber of Deputies, Rome, 14 April 2022 (only in Italian).

1.3 THE FINANCIAL MARKETS

The secondary market for government securities

The yield spreads between the government securities of some euro-area countries, including Italy, and the corresponding German Bund (Figure 1.5.a) have widened compared with last autumn. The rise appears to be connected above all to the worsening economic outlook and fears that the gradual reduction of monetary accommodation in response to the trend in inflation may lead to a sudden increase in risk premiums (see *Financial Stability Report*, 2, 2021). There has been a similar trend on the credit default swap (CDS) market, although the premium for insolvency risk on Italian government securities remains at historically low levels (Figure 1.5.b).

Figure 1.5



Source: Based on Bloomberg data.

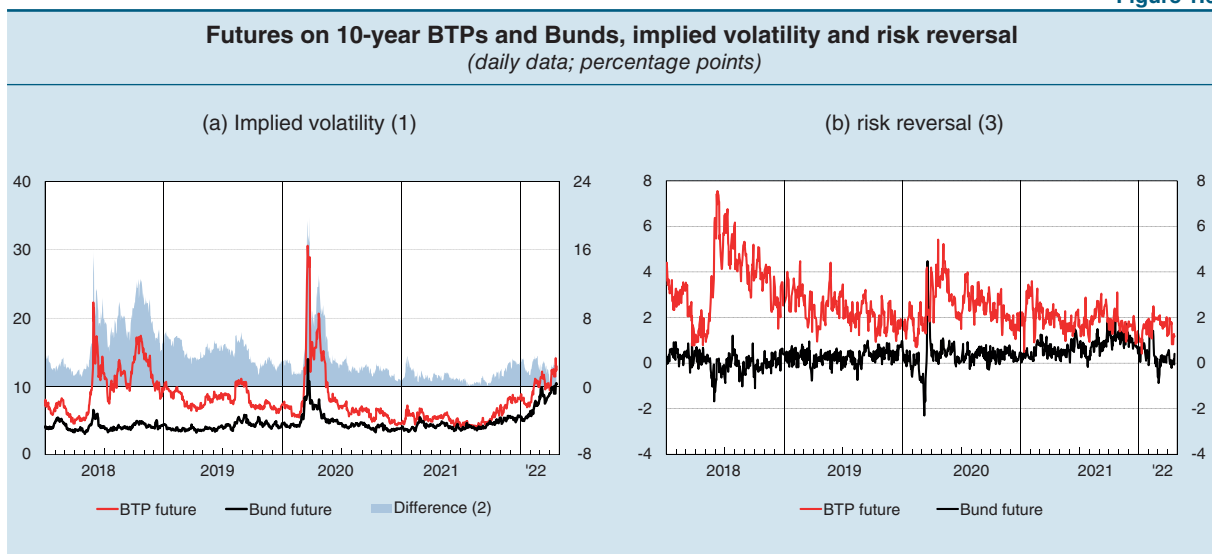
(1) Differences between the yields on the benchmark 10-year government bonds of the countries in the key and the yield on the corresponding German Bund. – (2) The International Swaps and Derivatives Association (ISDA) is an organization of participants in the market for OTC derivatives. The ISDA basis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

In the market for options on Italian government securities, the cost required to insure against price variations, measured by implied volatility, has progressively increased over the last few months (Figure 1.6.a). Uncertainty linked to the conflict has led to an increase in the risk of greater capital flows towards German government securities and demand has grown for protection against their appreciation: albeit at a time of overall growth in interest rates, the risk reversal indicator² entered negative territory (Figure 1.6.b). There has been a rise in open interest positions on the BTP futures market, common to other euro-area countries as well, probably linked to the current expectations for interest rates.

In a context of greater uncertainty and volatility, liquidity conditions on the government securities market have weakened since the second half of last year, worsening further following the outbreak of the conflict in Ukraine. There has also been a deterioration on the markets of other euro-area countries, including France and Germany, in response to the risks relative to inflation and to the

² Difference in the implied volatility in the prices of put and of call options.

Figure 1.6

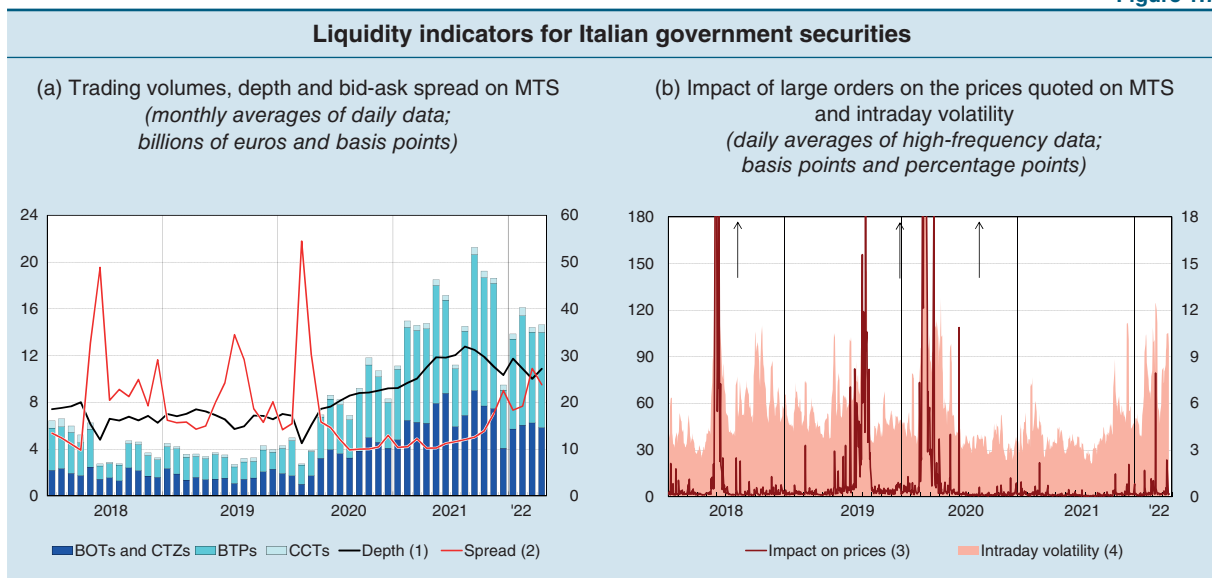


Source: Based on Bloomberg data.

(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 in 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).

timeframe for exiting the expansionary phases of monetary policy in various advanced economies (see *Financial Stability Report*, 2, 2021). On the MTS market, the bid-ask spread has reached the highest levels recorded since May 2020, standing at around 25 basis points in March and April (Figure 1.7.a); the market makers' listed quantities have gradually declined and intraday price volatility has grown considerably (Figure 1.7.b).

Figure 1.7



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 analysis 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.

Trading is continuing in an orderly fashion: trades remain steady, though at lower levels compared with the peaks reached last year, and market resilience, namely its capacity to absorb large orders without them having a significant impact on prices, remains adequate (Figure 1.7.b). In addition, the propensity to trade large-value orders remains high, which are more frequent than in the past and for an average amount that stands at historically high levels (around €13 million, in line with the average for 2021).³

At the end of March, the net asset purchases made under the pandemic emergency purchase programme (PEPP) were terminated. Within the mandate of the ECB Governing Council, flexibility will remain a key element of monetary policy whenever threats to its transmission jeopardize the attainment of price stability (see the box ‘The role of the PEPP in stabilizing the market’).

THE ROLE OF THE PEPP IN STABILIZING THE MARKET¹

The PEPP was introduced on 18 March 2020 as a targeted, temporary and proportionate measure in response to a public health emergency that is unprecedented in recent history. Together with the measures adopted by governments, the programme ensured that funding conditions remained favourable, helping households to sustain consumption and firms to stay in business. The PEPP thus provided crucial support in stabilizing the financial markets, helping to reduce the systemic consequences of the pandemic shock.

The PEPP has two main functions. Firstly, together with the other ECB monetary policy instruments, the programme provided the monetary accommodation needed to support economic recovery after the health crisis and to pursue price stability and secondly, the PEPP countered the risks to the transmission of monetary policy, helping to maintain orderly conditions on the financial markets. To this end, the flexibility of the programme was fundamental, allowing the distribution of purchases to vary over time and across asset classes and countries.

Financial assets worth more than €1,700 billion have been purchased under the PEPP, of which around €280 billion worth of Italian public securities.² The distribution of purchases over time shows the propensity to intervene in a targeted way at times of greatest need, especially at the peak of the pandemic (see panel (a) of Figure A). Similarly, the relative weight of investments by asset class reflects the assessment of the market segments under more intense pressure. An example of this is the trend of commercial paper purchases, which were concentrated in the first months of the programme. Furthermore, at the height of the crisis, interventions were more intense in countries experiencing the most serious tensions, as can be seen from the dynamics of the cumulative deviation of the capital key³ (see panel (b) of Figure A).

Since it was announced, the PEPP has contributed to the reduction in yields and in market volatility. After the marked increase following the outbreak of the pandemic, yields on euro-area government securities stabilized at significantly lower levels and then began to rise from the middle of last year, in

¹ By Daniele Sechi.

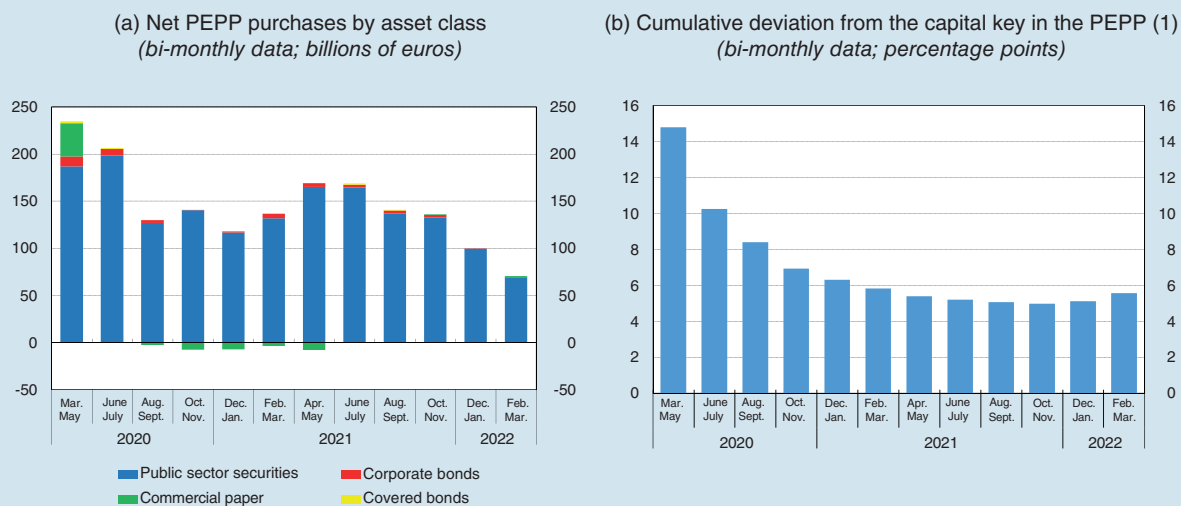
² Data updated to end-March 2022.

³ The targets for government securities purchases are usually assigned to countries based on their capital key, which is their percentage share of the contribution to the ECB capital.

³ In the first three months of 2022, more than 420 transactions of more than €100 million were negotiated, while there were 240 in the same period of 2021 (31 in the same months of 2020).

Figure A

Net purchases and deviation from the capital key in the PEPP



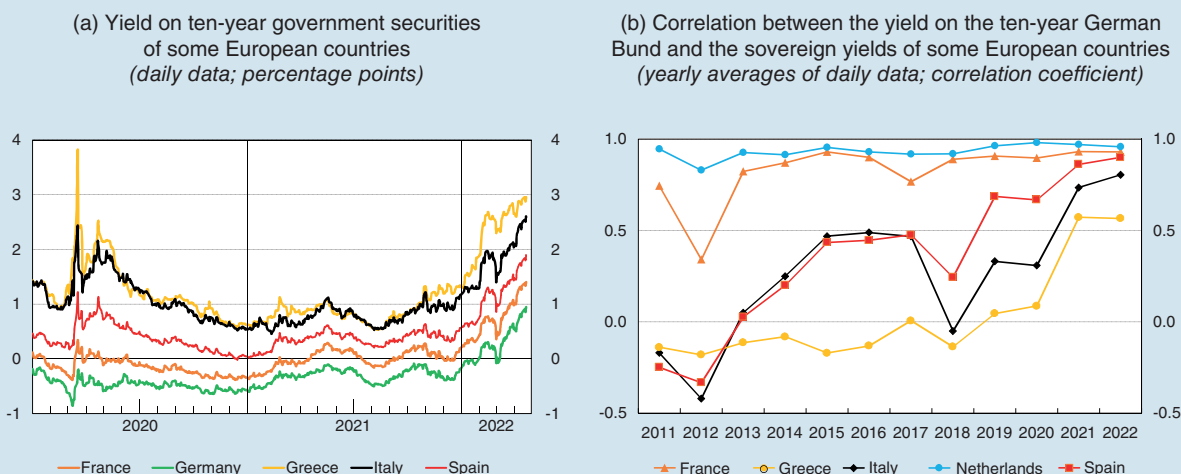
Source: Based on ECB data.

(1) The sum of the deviations in absolute terms, for each country, between the amount of purchases actually made and the respective capital key. A higher value for the cumulative deviation indicates less adherence to the capital key criterion.

relation to the expectations of an exit from the expansionary phases of monetary policy (see panel (a) of Figure B). The correlation between the yield on the German Bund and the yields on government securities in other euro-area countries has increased in connection with the implementation of the programme (see panel (b) of Figure B).

Figure B

Yield and correlation of government securities



Source: Based on Bloomberg data.

Some recently published studies have analysed the effectiveness of the PEPP, focusing in particular on its flexibility. Empirical evidence shows that the programme led to a significantly higher reduction in the yields on long-term government securities than would have been obtained by maintaining a constant monthly pace for purchases.⁴ Analysis of high-frequency data has demonstrated that the impact of the interventions was greater during the most serious periods of stress.⁵ Lastly, the programme has fostered a rapid normalization of liquidity conditions on the government securities markets.⁶

The PEPP's flexible approach in purchasing financial assets has helped to reduce market volatility and limited the risk of new episodes of fragmentation.⁷

Although the PEPP's net purchases ended in March 2022, these characteristics could prove useful in the near future, in a phase of progressive normalization of monetary policy, complicated by the geopolitical tensions. Accordingly, on 16 December 2021, the ECB Governing Council decided that it will be possible to reinvest maturing securities in a flexible way, at least until December 2024 (over time and across asset classes and countries).

⁴ M. Bernardini and A.M. Conti, 'Assessing the flexible implementation of the ECB's Pandemic Asset Purchases', Banca d'Italia, *Note Covid-19*, 20 December 2021.

⁵ M. Bernardini and A. De Nicola, 'The market stabilization role of central bank asset purchases: high-frequency evidence from the Covid-19 crisis', Banca d'Italia, *Temi di Discussione (Working Papers)*, 1310, 2020.

⁶ R. Poli and M. Taboga, 'A composite indicator of sovereign bond market liquidity in the euro area', Banca d'Italia, *Questioni di Economia e Finanza (Occasional Papers)*, 663, 2021.

⁷ I. Schnabel, 'Asset purchases: from crisis to recovery', speech given at the annual conference of the Latvian central bank on 'Sustainable Economy in Times of Change', Frankfurt am Main, 20 September 2021; ECB's Visco on inflation, flexible policy, raising limits', F. Laqua's interview with Governor I. Visco for Bloomberg TV, 18 October 2021.

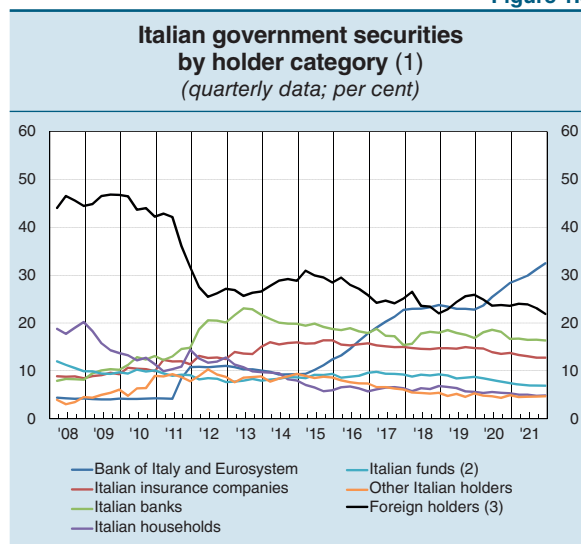
In the second half of 2021, the share of Italian government securities held by banks headquartered in Italy remained stable, at 16.4 per cent, while that of insurance companies declined to 12.8 per cent (Figure 1.8). In the same period, the percentage held by the Bank of Italy continued to rise, by 2.5 percentage points, reaching 29.9 per cent; that held by foreign investors instead fell by 2.0 percentage points, to 29.7 per cent.

The primary market for government securities

Despite yields at issue being on the increase since the end of 2021, funding conditions on the primary market have been favourable on the whole and placements continued at a steady pace in the first three months of the year.

The average cost at issue for outstanding government securities reached a new historical low in March (2.0 per cent; Figure 1.9). In

Figure 1.8



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.

part due to an average maturity of outstanding securities of seven years, a hypothetical upwards and persistent shock of 100 basis points to the Italian yield curve would lead to a limited increase in the average cost at issue.

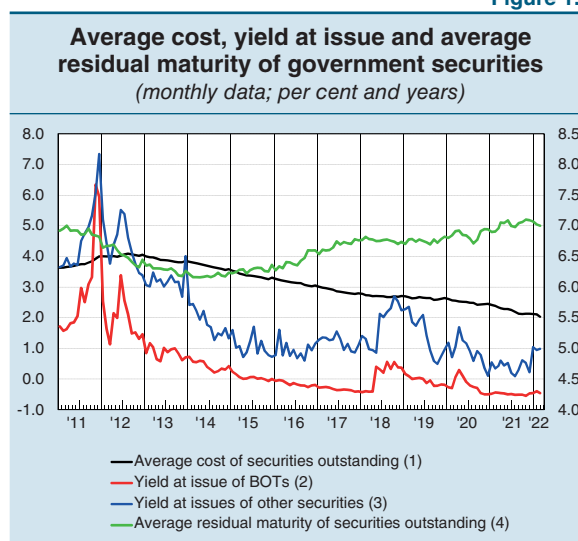
Since the start of the year, the Treasury has placed securities worth €17 billion using syndicates, a lower figure than last year (€32 billion in the first three months of 2021), also considering that the need for funding is expected to be lower for 2022. In 2022 as well, funding needs will be able to benefit from the allocations under the Next Generation EU programme.⁴ Redemptions of medium- and long-term securities, equal to €226 billion in 2022, will rise to €254 billion in 2023 and to €251 billion in 2024.

The equity and corporate bond markets

The yield spreads between bonds issued by corporations and risk-free ones have widened compared with the figures for November 2021, for both Italian and euro-area securities. The spreads of securities with a lower credit rating (high yield)⁵ have widened more markedly than those of bonds with a higher rating (investment grade; Figure 1.10).

Implied volatility in equity markets has risen since the beginning of the year in both Italy and the euro area (Figure 1.11.a). This trend, initially linked to expectations of a rise in interest rates and to the steady reduction in the ECB's purchase programme, has been exacerbated by the outbreak of the conflict in Ukraine. Clear signs of tension have also emerged with reference to the cost of hedging against sharp falls in equity prices (risk reversal) and to the term structure of volatility (Figure 1.11.b).

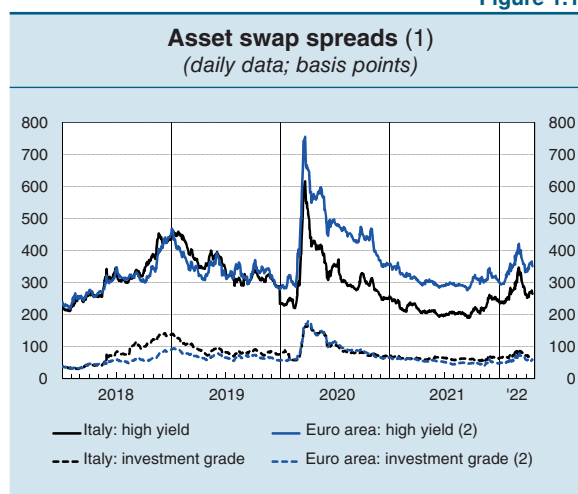
Figure 1.9



Sources: Based on Bank of Italy and Ministry of Economy and Finance data, updated to 31 March 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 at issue of securities other than BOTs and of indexed BTPs placed during the month, by settlement date. – (4) End-of-period values weighted by the outstanding securities. Right-hand scale.

Figure 1.10



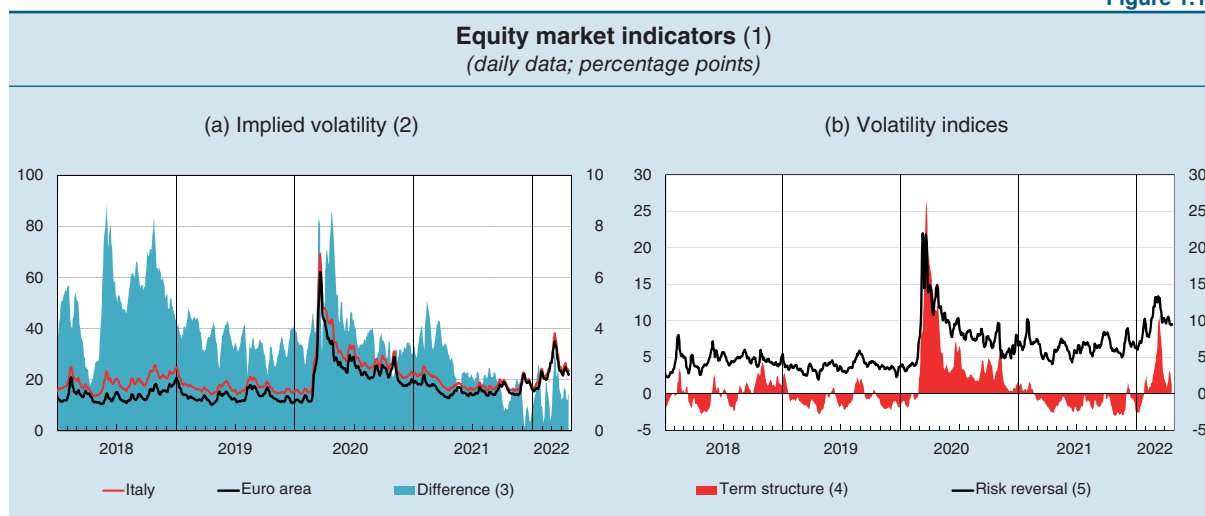
Source: Based on BofAML data.

(1) Asset swap spreads weighted by the market capitalization of individual securities issued by non-financial corporations. – (2) The BofAML indices for the euro area have been recalculated to exclude Italy.

⁴ In 2021, Italy benefited from €25 billion worth of NRRP pre-financing, of which €16 billion in loans and €9 billion in grants. As at April 2022, the European Commission has paid Italy the first tranche of €21 billion (net of the pre-financing received), of which €11 billion in loans and €10 billion in grants.

⁵ The divergence of spreads relative to Italian and euro-area high yield securities is largely attributable to the diverse sectoral composition of bond markets (see *Financial Stability Report*, 2, 2020).

Figure 1.11



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) Difference between the volatility implied by the prices of 2-month options on the Italian and euro-area stock market indices. Right-hand scale. – (4) Difference between the implied volatility on 2- and 12-month options on the Italian FTSE MIB index. – (5) Difference between the implied volatility 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.

The money market

Following the discontinuation of the Euro overnight index average rate (EONIA) on 3 January, the transition to the new risk-free overnight rate, the euro short-term rate (€STR), is being carried out. The liquidity of derivatives contracts indexed to the new €STR, such as overnight index swaps (OISs), is gradually increasing.⁶ The decision in October 2021 of the central counterparties to automatically convert existing derivatives contracts indexed to the EONIA to the new rate has also assisted the transition process. Moreover, those indexed to the €STR will be used as a benchmark to define the forward-looking replacement rates (fallback) for the Euribor. In order for the prices of contracts indexed to the €STR to provide reliable indications on market expectations, it is important for these contracts to be traded on markets that are regulated, sufficiently transparent and liquid.⁷

1.4 REAL ESTATE MARKETS

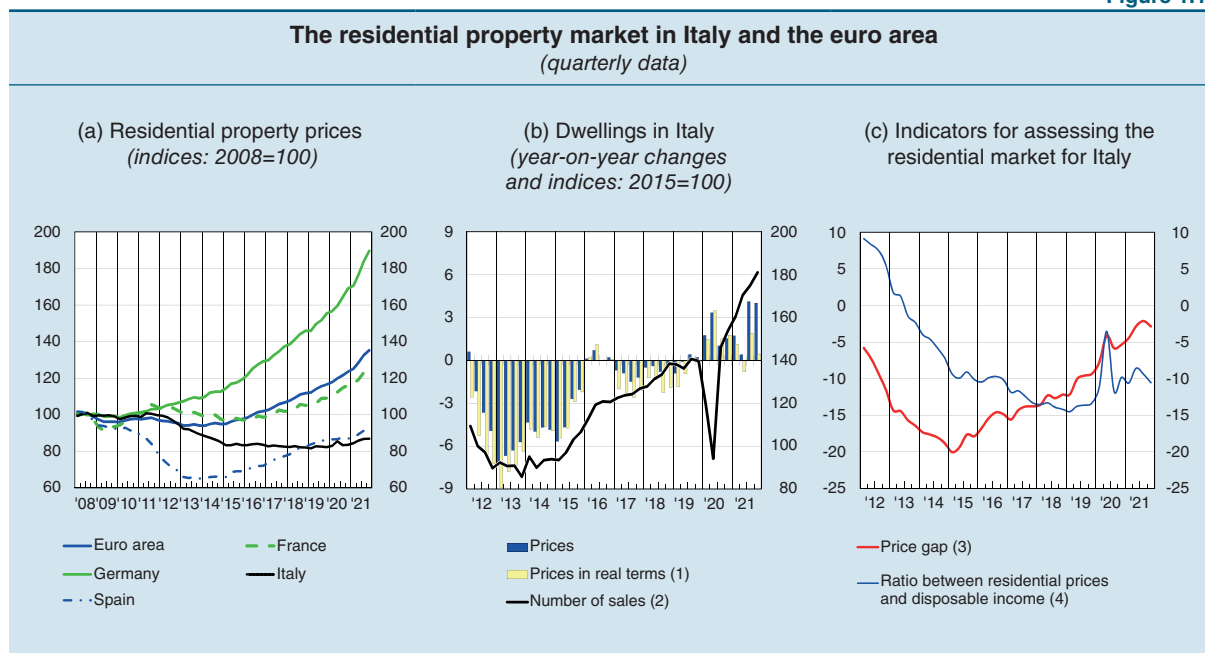
The prices of residential properties have accelerated further in all European countries since July 2021, recording very marked increases in Germany and France (Figure 1.12.a). In the commercial sector, however, prices have gone down in all countries, particularly in France.

The expansion of the residential market in Italy has continued. House prices have risen with greater intensity than in the first part of the year, but less so by international standards. Although sales stood at levels more than one fourth higher than in the last six months of 2019 (Figure 1.12.b), they slowed

⁶ In the last quarter of 2021, the total amount of swaps anchored to the €STR recorded by London Clearing House (LCH) rose on average to about \$5,600 billion a month, from \$657 billion in the previous quarter.

⁷ D. Della Gatta, 'What lies ahead for euro money market benchmarks?', Banca d'Italia, Markets, Infrastructures, Payment Systems, 17, 2022.

Figure 1.12



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

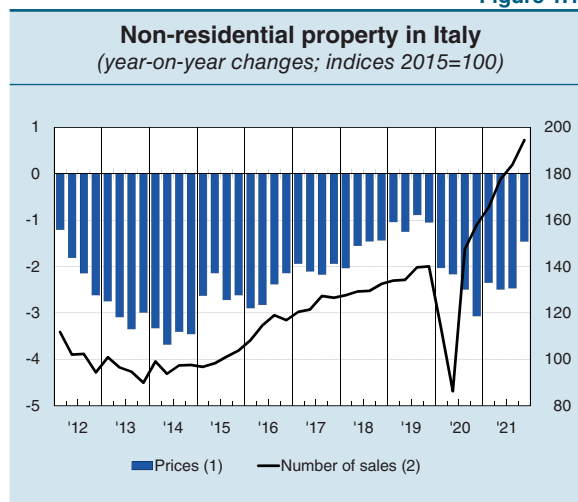
at the end of 2021. Our calculations based on the listings published on the Immobiliare.it digital platform show that the demand for houses remained high over the winter months.

According to the assessments of the real-estate agents interviewed in February for our regular surveys, the outlook for the property market remains positive overall, with signs of a rise in prices becoming stronger. Our estimates also indicate that house prices will continue to grow at a steady pace over 2022.

The indicators that make it possible to assess the dynamics of the residential sector compared with the long-term trends confirm the signs of recovery but do not point to risks of overvaluation (Figure 1.12.c). The performance of prices also appears to be consistent with the improvement in household income (see Section 1.5).

Sales of non-residential property rose in the second half of last year and the fall in prices slowed (Figure 1.13). In 2021, the prices of office space remained more or less unchanged; although the contraction in retail space prices is slackening, it continues to be more marked than that for industrial buildings. The uncertainty over the economic outlook could affect the performance of the sector.

Figure 1.13



Sources: Based on data from the Bank of Italy, Normisma, Osservatorio del Mercato Immobiliare (OMI) and Scenari Immobiliari.
 (1) The indicator, which is still being tested, uses data drawn from transactions already concluded on the market. – (2) Data adjusted for seasonal and calendar effects. Right-hand scale.

1.5 HOUSEHOLDS AND FIRMS

Households

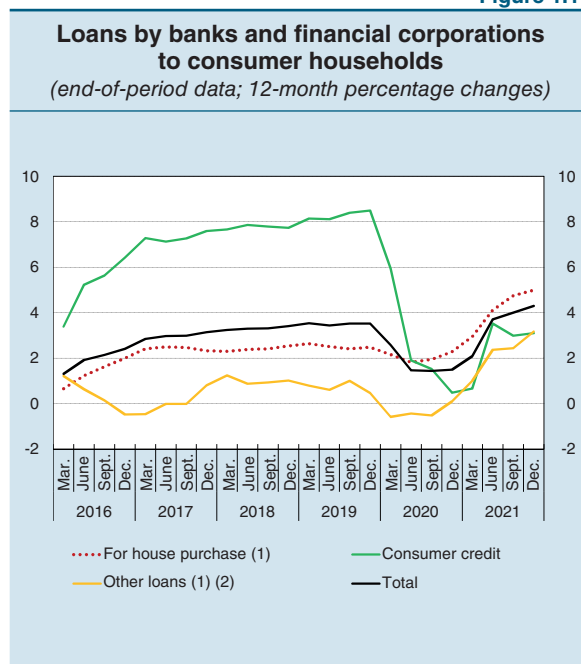
The financial situation of households was positively affected by the growth in income and the improvement in consumer confidence during 2021. However, signs of a marked slowdown in consumption emerged in the last part of the year, owing to the uncertainty connected to developments in the COVID situation. The outbreak of the conflict in Ukraine is negatively affecting the outlook for the current year. Expectations worsened significantly in the early months of 2022, as indicated by the ECB's Consumer Expectations Survey (CES). Household debt remains stable and low compared with the euro-area average. Credit quality remains good. The risks to financial stability stemming from the household sector remain limited overall, though the increase in energy prices could have significant implications for the most vulnerable households.

At the end of the fourth quarter of 2021, households' propensity to save rose slightly, to 11.3 per cent, higher than pre-pandemic levels. According to the CES conducted in January 2022, the propensity to save will remain unchanged over the next twelve months. In the last quarter of 2021, the high rate of saving and the revaluation of stocks translated into an increase in financial wealth, which grew at a slightly faster pace than it had done in the previous quarters. New investments were concentrated in more highly liquid or diversified assets, such as deposits, investment funds (especially foreign ones) and insurance policies. In this last segment, unit- and index-linked policies continued to grow.

Based on preliminary data referring to the fourth quarter of 2021, household debt as a ratio of disposable income, equal to 64.6 per cent, was unchanged compared with the previous quarter and with 2020. It nevertheless remains well below the euro-area average (98.3 per cent, the latest figure available, referring to the third quarter of 2021). At the end of 2021, total lending to households had risen by 4.3 per cent, buoyed by mortgages for house purchase (5.0 per cent; Figure 1.14). The latter continued to grow at the same pace in the first two months of 2022. The average interest rate on existing mortgages is stable at 1.6 per cent, in line with the euro-area average, with a narrow spread between fixed rate and variable rate (about 20 basis points in February 2022). The low interest rate environment fostered the use of fixed-rate loans, which account for more than 85 per cent of new loans for house purchase and over 60 per cent of those outstanding. According to data from the digital platform MutuiOnline.it, about 70 per cent of the loans granted in the first two months of 2022 were tied to first-home purchases, with a loan-to-value ratio of 66 per cent.

The take-up of consumer credit continued to grow at a moderately fast pace, though less so than before the pandemic, benefiting from the growth in demand, which extended to durable goods.

Figure 1.14



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 restructuring of properties for residential purposes.

The improvement in income conditions recorded up to the end of 2021 and the low interest rate environment buoyed debt servicing capacity and helped to keep down the non-performing loan ratio (0.8 per cent at the end of the year). The average interest on outstanding loans, which held stable at 2.6 per cent, is about 0.5 percentage points higher than the euro-area average. Debt moratoriums continued to decrease: at the end of 2021, they still amounted to €6 billion, of which €1 billion relating to instalments on mortgages for first-home purchase.

Since the second half of 2021, households have been affected by significant increases in the prices of electricity and gas, especially in the ‘protected market’ (*mercato tutelato*)⁸ (12.0 per cent for electricity and 9.7 per cent for gas, as yearly averages). The Government earmarked €5.5 billion in 2021 to protect the purchasing power of Italian households. Based on our simulations,⁹ these measures limited the rise in households’ spending on energy products, though less so for the poorest among them. In particular, following those increases, the average share of spending on energy products in total spending rose by 0.2 percentage points (from 4.9 to 5.1 percentage points), compared with a growth of 0.4 percentage points if no measures were taken. For the poorest households, the simulations instead suggest a growth of 0.5 per cent (from 7.7 to 8.2 per cent), compared with 0.6 percentage points if no measures were taken.¹⁰ In the early months of 2022, also owing to the worsening of the Ukrainian crisis, energy prices continued to rise, prompting the Government to take further measures.¹¹ The increases referring to 2021 do not seem to pose significant risks to the stability of the financial system. According to recent studies conducted at the Bank of Italy, the increases in energy prices are compatible with a relatively low growth in both the share of financially vulnerable households and the proportion of debt held by them, with rises of about 9 and 60 basis points, respectively (see the box ‘Climate change and the vulnerability of households and firms’).

CLIMATE CHANGE AND THE VULNERABILITY OF HOUSEHOLDS AND FIRMS¹

Stress tests will increasingly be the main instrument for assessing the risks to the financial system stemming from climate change,² as they make it possible to adopt a forward-looking approach, to compare various scenarios and to evaluate their overall impact on the financial system. Although many authorities are working on these exercises, there are still methodological difficulties, mainly linked to the availability of granular data, the complexity of the models and of the numerous channels for transmitting climate-related risks, and the drawing up of the scenarios and time horizons, which are often long-term.

¹ By Luciano Lavecchia.

² Specifically, risks associated with the occurrence of extreme natural phenomena (physical risks) and risks linked to the decarbonization process (transition risks) may materialize. For a more in-depth analysis, see E. Bernardini, I. Faiella, L. Lavecchia, A. Mistretta and F. Natoli, ‘Central banks, climate risks and sustainable finance’, Banca d’Italia, Questioni di Economia e Finanza (Occasional Papers), 608, 2021.

⁸ At the end of 2021, about half of Italian households had signed energy contracts in the ‘free market’ (*mercato libero*), for the most part at a fixed price, in which prices grew less than they did in the protected market.

⁹ I. Faiella and L. Lavecchia, ‘Contenimento dei prezzi dell’energia e spesa delle famiglie’, *Energia*, 1, 2022, pp. 36-39 (only in Italian).

¹⁰ The results of these simulations do not take into account the extension of the ‘electricity and gas bonus’ enacted starting on 1 January 2021. Moreover, the increases in the imputed prices only refer to households whose contracts are in the ‘protected market’.

¹¹ In the first quarter of 2022, the quarterly change in electricity and gas prices for a typical consumer in the protected market was equal to 55 and 41.8 per cent, respectively. The Government has allocated a total of about €20.6 billion to measures in favour of households and firms since March 2021, of which €5.5 billion referring to 2021.

A recent study carried out in the Bank of Italy³ presents the results of an exercise designed to assess the impact of transition risks on the financial vulnerability of Italian households and firms. The study simulates the increase in the number of vulnerable households and firms and the debt at risk associated with them because of the sudden increase in energy prices linked to the introduction of a hypothetical price on CO₂ emissions for the Italian economy as a whole, in addition to what is already envisaged by the European Union Emissions Trading System (EU ETS). The increase is then passed to household income and to the EBITDA of firms, thereby obtaining the effects on the financial vulnerability of the two sectors, as defined in previous papers.⁴

The results show significant heterogeneity in the expected effects. Using a counterfactual exercise, it is estimated that, using 2018 as the base year,⁵ the impacts on households would have been limited even with significant changes in prices, as in the case of a high price on CO₂ (€200 and €800 per tonne). However, they would have been considerable for micro and small firms and for companies in the agricultural, manufacturing and real estate sectors, even with low carbon prices (€50 and €100 per tonne), and compatible with the energy price changes recorded for 2021.

Another study⁶ extends the approach described and estimates the default rates (sectoral) of loans to firms from Italian banks according to the share of financially vulnerable firms and to their debt. The analysis shows that, if every ton of CO₂ emitted had been penalized with a carbon price of €50 in 2018, the average quarterly default rate for loans to firms would have increased the following year by about one fourth (from 2.8 to 3.6 per cent), though remaining below the historical average observed in the years 2006-2019. The estimates obtained reflect the relatively solid financial structure of firms and the low default rates recorded in 2018. The effect would have been greater and varied across sectors with a tax of €800, the highest value in a 'disorderly' transition scenario as defined by the Network for Greening the Financial System (NGFS).⁷ Introducing carbon pricing in periods of greater vulnerability for firms or with higher default rates could therefore have a more significant impact.

³ I. Faiella, L. Lavecchia, V. Michelangeli and A. Mistretta, 'A climate stress test on the financial vulnerability of Italian households and firms', *Journal of Policy Modeling*, 2021, also published as Banca d'Italia, *Questioni di Economia e Finanza (Occasional Papers)*, 639, 2021.

⁴ C.A. Attinà, F. Franceschi and V. Michelangeli, 'Modelling households' financial vulnerability with consumer credit and mortgage renegotiations', *International Journal of Microsimulation*, 13, 2020, pp. 152-173, also published in Banca d'Italia, *Questioni di Economia e Finanza (Occasional Papers)*, 531, 2019; 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*, 293, 2015 (Occasional Papers), 293, 2015.

⁵ The year 2018 is used in the research paper that introduced the microsimulation model for the energy demand of Italian households and was kept to help in comparing the results (see I. Faiella and L. Lavecchia, 'Households' energy demand and the effects of carbon pricing in Italy', Banca d'Italia, *Questioni di Economia e Finanza (Occasional Papers)*, 614, 2021).

⁶ M.A. Aiello and C. Angelico, 'Climate change and credit risk: the effect of carbon taxes on Italian banks' business loan default rates', Banca d'Italia, *Questioni di Economia e Finanza (Occasional Papers)*, 688, 2022.

⁷ The NGFS is a global network of central banks and supervisors to foster the transition towards greener financial system that is more resilient to environmental and climate-related risks. The Bank of Italy takes part in the activities of the NGFS and as of 2022 is on the Steering Committee.

The projections of the Bank of Italy's microsimulation model, which are based on a scenario consistent with the latest macroeconomic forecasts, indicate that at the end of 2022, the share of vulnerable households and the ratio of their debt to the total would increase by 0.4 and 2.6 per cent respectively, to 2.0 and 11.9 per cent. Should developments in interest rates prove particularly unfavourable,¹²

¹² Compared with the baseline scenario, the assumptions for 2022 are that the 3-month Euribor, the 10-year interest rate swap (IRS) and the interest rate on consumer credit will rise by about 200 basis points.

the share of financially vulnerable households and the percentage of debt held by them would rise, compared with the baseline scenario, by 0.3 and 2.3 percentage points, respectively. If, in addition to the interest rates, the macroeconomic performance were less unfavourable as well,¹³ the share of financially vulnerable households and the percentage of debt held by them would rise by 0.5 and 3 percentage points, respectively.

Firms

Following its strengthening in 2021, fostered among other things by the support of economic and monetary policy, developments in the financial situation of firms became more uncertain owing to the fears connected to the worsening of the COVID situation and the outbreak of the conflict in Ukraine. The still limited impact of the pandemic crisis is being flanked by difficulties in the procurement of commodities and intermediate goods, the higher share of spending on energy products, and the direct and indirect consequences of the sanctions imposed on Russia and Belarus. In the current situation, the risks of a marked increase in the vulnerability of firms appear moderate.

Last year, the recovery in production activity was significant, notwithstanding the slowdown in the fourth quarter. The strong growth in gross operating income, equal to 6 per cent on an annualized basis, made it possible to increase profitability, which has recently returned to levels that are just below those recorded before the pandemic, though with some differences in the sectors hardest hit by the shock.

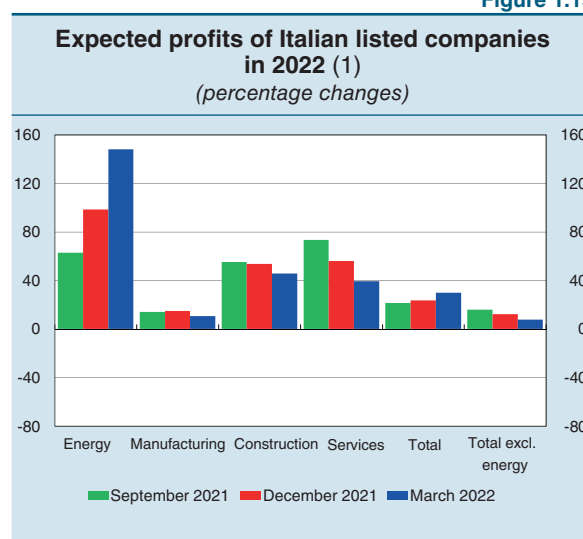
Firms' expectations relating to their revenues pointed to an expansion in the first quarter of the year.¹⁴ The outlook for the coming quarters is weighed down by the downside risks linked to the difficulties in the procurement of commodities, the unfavourable dynamics of the costs of energy products, and the uncertainty connected to the effects of the conflict. In the period January-March, analysts' forecasts for the profits of listed companies for the current year became less favourable, except for those in the energy sector (Figure 1.15). The downward revision was sharpest in the service sector.

The negative effects connected to the growth in financial debt since the beginning of the pandemic have been in part mitigated by the dynamics of liquid assets, which reached a new historical high (29.5 per cent as a share of GDP in the fourth quarter of 2021; Figure 1.16.a); compared with 2019, the increase (7.9 percentage points) was greater than the euro area average (about 6 percentage points). Net of liquidity, the leverage for the corporate sector fell by about 2 percentage points (Figure 1.16.b).

¹³ In addition to the previous assumptions, the growth rate of nominal income is assumed to be 4 percentage points lower compared with the baseline scenario.

¹⁴ The ECB conducts its [Survey on the access to finance of enterprises \(SAFE\)](#) twice a year. The latest survey, carried out in September and October 2021, includes the opinions of firms concerning the period April-September 2021 and their expectations for the period October 2021-March 2022.

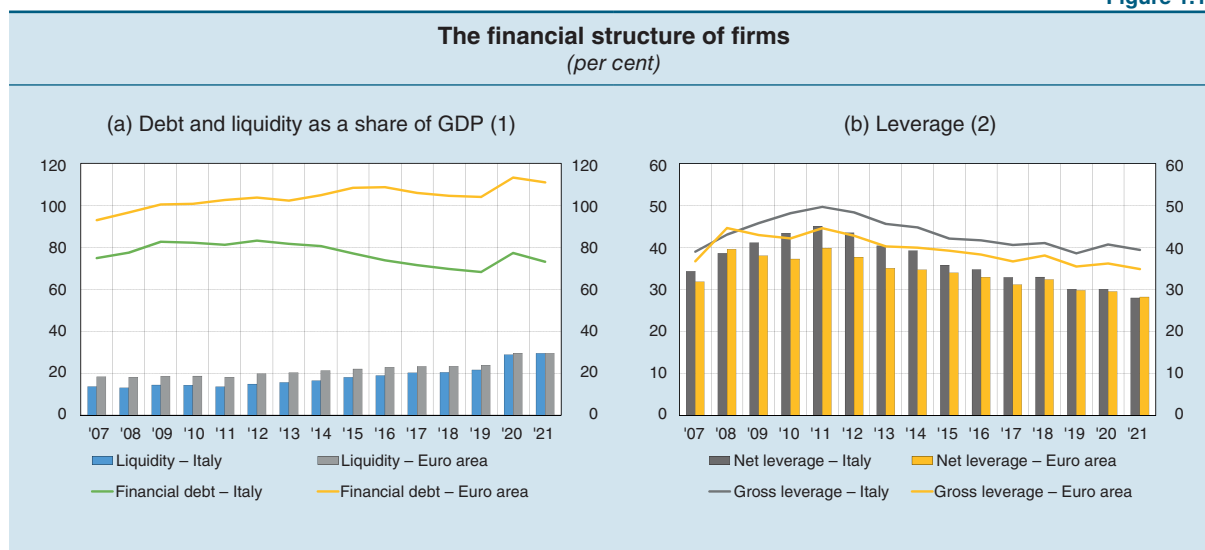
Figure 1.15



Source: Bloomberg.

(1) Changes in the index of profits expected by analysts for 2022 compared with 2021. The total includes the public utilities segment. Based on a closed sample of 191 listed companies as at September 2021, representing 95 per cent of the market capitalization of non-financial corporations.

Figure 1.16



(1) Ratio of financial debts and of liquidity to GDP. Preliminary data for 2021. – (2) The histograms show leverage, net of liquidity. Preliminary data for 2021.

The capitalization of non-financial corporations, including those with a relatively higher debt, rose during the pandemic following private capital increases (see the box ‘Capital increases by firms during the pandemic’). Firms’ opinions pointed to a possible, further increase in own funds in the first quarter of the year, which they expect will be more marked for small and medium-sized enterprises, in connection with their self-financing policies.

CAPITAL INCREASES BY FIRMS DURING THE PANDEMIC¹

The financial repercussions of the pandemic crisis have led many firms to take on more debt to avert temporary liquidity shortages and build up reserves. This prompted the competent authorities to adopt capital support measures in order to mitigate the risks of an imbalance in the financial structure of firms. The data on capital increases by Italian limited companies make it possible to describe their dynamics during the pandemic – comparing them with those of the previous three years – and to analyse the characteristics of the firms that carried out these operations.

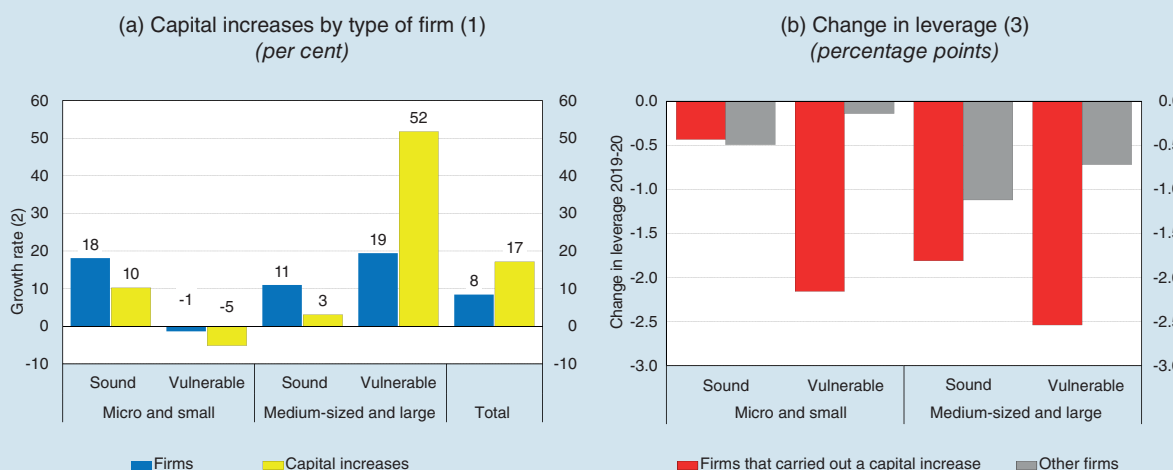
Similarly to what happened back in 2007-08 and 2011-12, during the pandemic crisis, the capital increases surpassed those observed during positive cyclical phases, in both number and in terms of the amounts involved, suggesting that they were used to rebalance the financial structure against capital erosion and the higher debt typical of periods of recession.²

In 2020, over 8,000 limited companies, about 1 per cent of those active in 2019, increased their capital, 8 per cent more than in the years 2017-19 on average (see panel (a) of Figure A). The number of companies carrying out capital increases rose in almost all size and risk classes, the exception being small and financially vulnerable firms. The increase was greater for own funds, which exceeded €6 billion, growing by 17 per cent compared with the previous three years on

¹ By Tommaso Orlando and Fabio Parlapiano.

² F. Columba, T. Orlando, F. Palazzo and F. Parlapiano, ‘The features of equity capital increases by Italian corporates’, Banca d’Italia, *Questioni di Economia e Finanza (Occasional Papers)*, forthcoming.

Capital increases by Italian firms in 2020



Sources: Cerved and Infocamere.

(1) The analyses refer to a sample of limited companies which, in the year before that in which the capital increase was carried out, recorded positive revenues in their financial statements and for which at least one figure between total assets and equity was different than zero. The types of firm are identified based on the different size and risk classes (firms with CeBi-Score ratings from 1 to 4 are considered sound, those with ratings above 4 are classified as vulnerable). – (2) The histograms show the growth rate as the percentage changes, between the average value for the years 2017-19 and the value for 2020, in the number of capital increases and the amounts involved for each category of firms. – (3) Median of the change in leverage, considering only those firms for which financial statements are available for 2019 and 2020, distinguishing between those that carried out capital increases in 2020 and the rest of the sample.

average. The rise is mainly attributable to medium-large companies, especially those that are financially vulnerable, and to smaller firms in sound conditions. By contrast, a decrease was observed for new capital injections for small and financially vulnerable firms. For the latter, these dynamics could reflect a lower incentive for shareholders to invest equity in the company, owing to the low likelihood of a recovery in production activity or to other factors of inertia (e.g. greater problems of excess debt).

Though the companies in the sample for which financial statements are available for the period 2019-20 show a reduction in leverage (measured as the ratio of financial debt to the sum of financial debt and equity), the companies that increased their capital also recorded a greater reduction in their debt (see panel (b) of Figure A). The data suggest that rebalancing the financial structure was the primary motive for the capital increases made by Italian firms during the most acute phase of the pandemic crisis. In particular, the reduction in debt was most intense among the most vulnerable firms, especially the smallest ones, for which the risk of insolvency is typically higher.

In May 2020, the Government introduced measures to foster the capital strengthening of the firms hardest hit by the pandemic emergency. These included: (a) tax credits proportional to the amount involved in the capital increases for medium-sized firms (revenues between €5 million and €50 million) that reported sizeable losses in 2020; (b) the subscription by the SME Fund (Fondo Patrimonio PMI), managed by Invitalia, of subordinated debt or hybrid instruments issued by firms with a turnover of between €10 million and €50 million and fewer than 250 employees and which undertook a capital increase; and (c) the subscription by Patrimonio Rilancio, a fund managed by Cassa Depositi e Prestiti SpA, of equity or hybrid instruments issued by large companies with a turnover of more than €50 million. Apart from meeting the size criteria, one of the requirements

to be eligible to benefit from the measures was not to have been in a situation of financial difficulty as defined by EU rules as at 31 December 2019.

Based on the data on the operations completed as part of each measure,³ as at December 2021, the number and amounts of capital increases ascribable to the incentives were limited. In particular, the tax credits recognized in relation to capital increases amounted to about €40 million and concerned fewer than 190 enterprises. Based on the latest data available, the number of firms that benefited from the measures connected with the SME Fund and the Patrimonio Rilancio fund is low (150 and 14, respectively). Extraordinary measures to support firms and designed to encourage capital strengthening have been taken in most European countries, but their take-up has been limited and, therefore, they might not have been fully effective (including with respect to the goal of opening up firms to new investors and issuing new, hybrid financial instruments).⁴ Possible new measures could take into account the actual amounts of the capital increases that have already been carried out since the onset of the pandemic, to prioritize those firms that encountered greater obstacles in strengthening their capital and that could benefit most from this aid.

³ The data on the operations concluded through the SME Fund and the Patrimonio Rilancio fund are available in the national register of State aid (*Registro nazionale degli aiuti di Stato*). As regards tax credits for the capital strengthening of medium-sized firms (Decree Law 34/2020, Article 26.8), the source for the aggregate data on the amounts of tax credits recognized is the Bank of Italy.

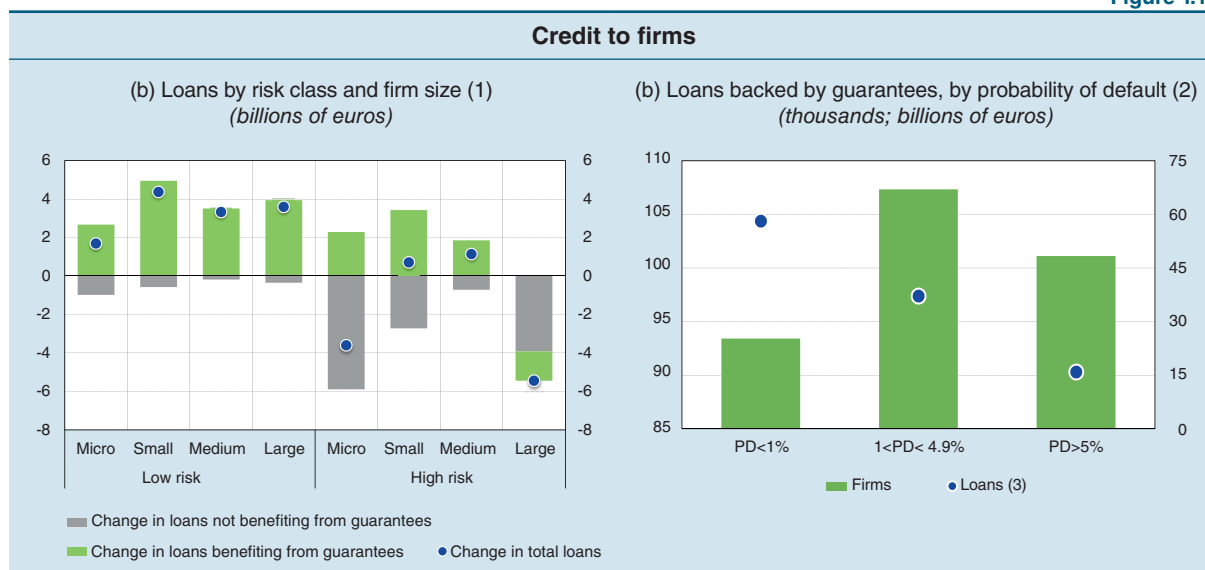
⁴ On this, see the proposal made before the pandemic by O. Blanchard, T. Philippon and J. Pisani-Ferry, 'A new policy toolkit is needed as countries exit Covid-19 lockdowns', Peterson Institute for International Economics, Policy Brief, 20-8, 2020; see also A. Boot, E. Carletti, H.H. Kotz, J.P. Krahnert, L. Pelizzon and M. Subrahmanyam, 'Corona and financial stability 3.0: try equity-risk sharing for companies, large and small', Leibniz Institute for Financial Research SAFE, SAFE Policy Letter, 81, 2020.

Following the peak observed over the course of 2020, the growth in bank lending to non-financial corporations slowed (1.6 per cent on an annualized basis in December of last year), also reflecting the low demand for lending and the abundant supply of liquidity holdings (see *Financial Stability Report*, 2, 2021 and *Economic Bulletin*, 1, 2022). In 2021 as well, loans to firms benefiting from the public guarantee schemes – which were extended up to June 2022 – continued to play a key role in increasing business lending. Credit expanded for the most solid companies, especially for small firms (Figure 1.17.a). The dynamics of lending were instead negative for the riskiest micro and large firms. For the latter, this was also due to the repayment of loans covered by public guarantees made by a small number of large firms.

At the end of last year, the firms benefiting from the credit support measures (loans backed by guarantees and debt moratoriums that had not yet expired) were mainly low-risk (see the box 'The phasing out of support measures and bank asset quality', Chapter 2). Analyses conducted on lending backed by public guarantees indicate that, as at that date, 92 per cent of loans (granted to about 87 per cent of firms) were to firms with a probability of default of less than 5 per cent (Figure 1.17.b).

The consequences of the conflict in Ukraine on the corporate sector are potentially significant. However, direct exposures through exports to the markets concerned appear limited. Exporting firms numbered just under 19,000 in 2019, and only about one tenth of them were exposed for a significant portion of their turnover (Figure 1.18); these companies accounted for a very limited share of total firms in terms of both turnover and total assets (0.4 and 0.5 per cent, respectively). They were mainly small and medium-sized enterprises with low levels of debt and operating in the

Figure 1.17



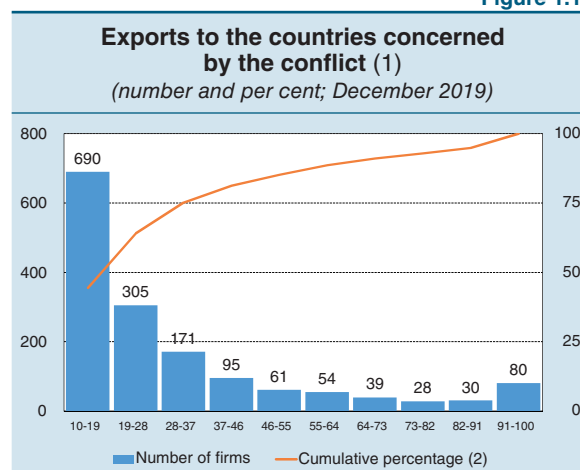
Sources: AnaCredit, Bank of Italy and Central Credit Register.

(1) The data refer to the change in lending between 2020 and 2021 of a sample of about 530,000 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 (high) risk firms have a score ranging from 1 to 4 (5 to 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) Number of firms and amount of loans backed by public guarantees as at December 2021. Each firm was assigned a probability of default (PD) reported by banks that have internal credit risk assessment models. For firms borrowing from several banks with internal models, the average of the PD reported by the various banks, weighted by the respective amount of the loan granted, was considered. Excludes firms and the relative credit exposures without at least one reported PD. – (3) Right-hand scale.

manufacturing and retail trade sectors. At the end of 2021, bank lending to these companies was equal to €4.6 billion (0.5 per cent of total loans to the corporate sector), of which one fourth was backed by public guarantees (see the box 'Risks to banks' assets deriving from the war in Ukraine', Chapter 2).

The findings of the euro-area bank lending survey (BLS)¹⁵ suggest that credit supply conditions tightened slightly in the first quarter of this year, more so for risky lending. Between December and February, the interest rate on new bank loans – excluding current account overdrafts – decreased and is still lower (by 30 basis points) than that observed before the pandemic. Going forward, the possible adverse effects of a significant increase in the cost of bank credit will likely be mitigated by the composition of the debt,

Figure 1.18



Sources: Based on Customs Agency and Cerved data.

(1) Distribution of the share in turnover of exports to Russia, Belarus and Ukraine of firms exporting at least 10 per cent of their turnover to these countries in 2019. This year was chosen as the reference year owing to the exceptional developments in world trade in 2020, following the pandemic crisis. – (2) Right-hand scale. The line shows the cumulative percentage of firms whose share of exports in turnover is lower than or equal to that of the corresponding category.

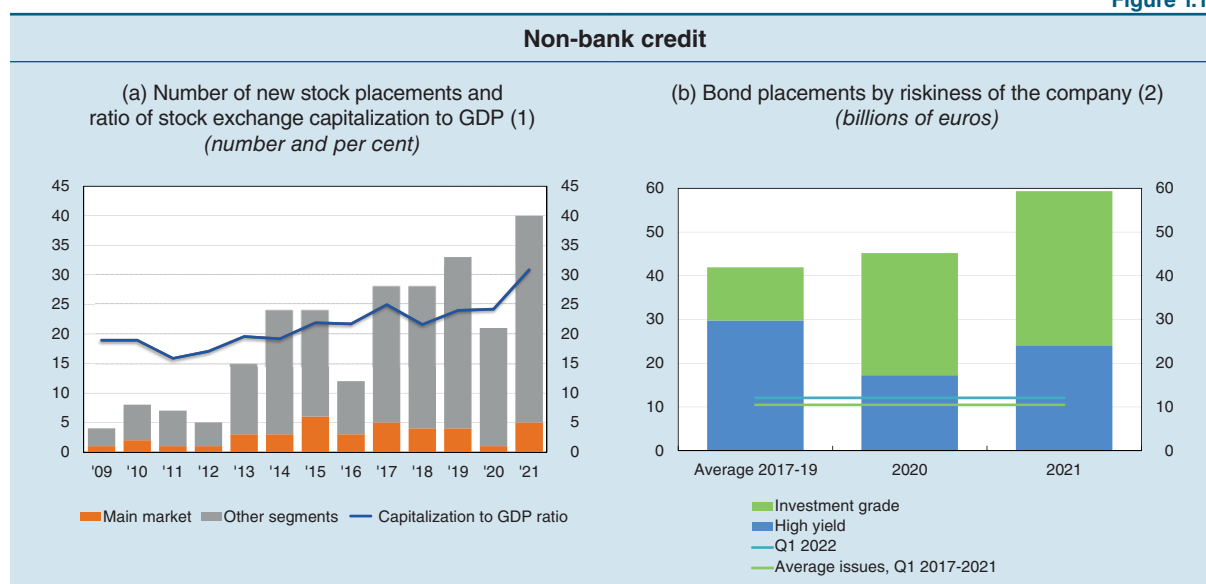
¹⁵ The results for Italy are available on the Bank of Italy's website: 'Bank Lending Survey (BLS)'. For the results relative to the euro area, see the ECB's website, 'The euro area bank lending survey. First quarter of 2022', April 2022.

for which the average maturity increased during the pandemic (see *Financial Stability Report*, 1, 2021).

Credit quality remains at historically high levels, though it is being affected by the signs of deterioration observed since the second half of last year (see Section 2.1).

The conditions prevailing on the domestic financial markets contributed to strengthening the stock exchange capitalization and raised the number of companies admitted to listing. As of December 2021, the capitalization of non-financial corporations exceeded €540 billion, or 31 per cent as a share of GDP (Figure 1.19.a). This marks an increase of more than 7 percentage points compared with 2020, brought about both by the favourable performance of stock prices, particularly in the automotive and energy sectors, and by new stock exchange listings. Last year, the number of firms that placed stocks for the first time reached the historical high of 40; most new issuers have chosen the Euronext Growth Milan (EGM) segment, which is reserved for small and medium-sized enterprises. While new listings continued in the first quarter of 2022, the conflict in Ukraine will likely slow the favourable trend recorded last year, on account of the sharp drop in the general stock market indices and the increase in volatility, both in Italy and in the euro area.

Figure 1.19



Sources: Borsa Italiana, Cerved, Datastream, Dealogic and Securities Database.

(1) Number of non-financial corporations admitted to listing in the Borsa Italiana market and ratio of stock exchange capitalization of non-financial corporations to GDP. – (2) Gross amount of 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 data for 2022 refer to Q1.

The use of bond funding was significant in 2021. The corporate bond market improved on the highs of the last decade in terms of both amounts and number of issuers. Placements by the most financially sound firms increased compared with past years (Figure 1.19.b). These trends were partially confirmed in the first quarter of this year: the share attributable to the soundest issuers rose further, though the amounts placed contracted slightly in comparison with same period of 2021.¹⁶

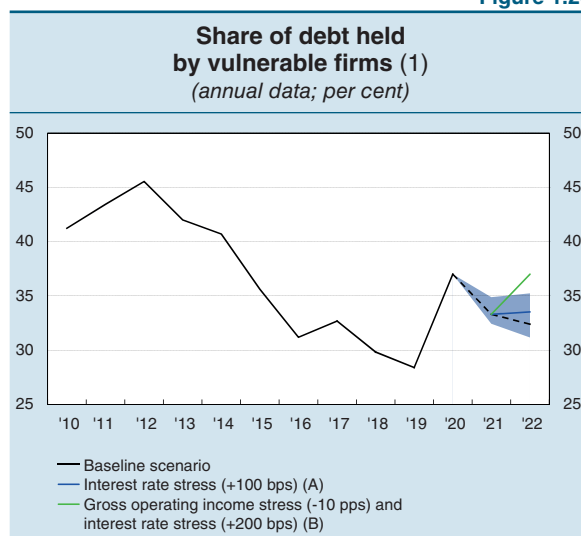
¹⁶ The issues of mini-bonds benefited from the expansion of the bond market and from the support provided by the public guarantee schemes. In 2021, the guarantees provided by the Central Guarantee Fund and by SACE covered mini-bonds for over €140 million (€88 million in 2020), placed mainly by medium-sized and financially sound companies.

Between early November 2021 and early April 2022, downgrades by ratings agencies exceeded upgrades. In Italy, 8.5 per cent of debt securities in terms of nominal value saw their credit rating downgraded, while 3.2 per cent saw it upgraded. For the rest of the euro area, 3.8 per cent were downgraded while 2 per cent were upgraded.¹⁷

Firm closures in 2021, while on the rise, are still a long way away from the average pre-pandemic levels. Both the measures taken by the Government to support the hardest hit firms and the economic recovery contributed to limiting the number of exits from the market. However, in some sectors, bankruptcies and non-bankruptcy proceedings are rising compared with 2019.

Developments in firms' vulnerability will depend above all on the economic situation, on the repercussions for firms' operational costs of the rising prices of both energy and non-energy commodities, and by the possible increase in interest rates. The projections of the Bank of Italy's microsimulation model indicate that, in a scenario consistent with the intermediate one presented in the last *Economic Bulletin*, the share of debt held by vulnerable firms would decrease to 32 per cent at the end of 2022, including for the high energy-intensive sectors most exposed to the effects of the increases in prices (Figure 1.20; see the box 'The impact of the war in Ukraine on the Italian economy: illustrative scenarios', *Economic Bulletin*, 2, 2022). Financial vulnerability is expected to remain highest especially in the construction sector.¹⁸ If trends in interest rates prove unfavourable, then the share of debt at risk would reach 34 per cent of the total.¹⁹ In a particularly adverse scenario, characterized by very negative changes in profitability and in the cost of debt, the share would rise to 37 per cent, a figure that, while historically low, would bring the share of vulnerable firms back to the levels recorded during the most acute phase of the pandemic crisis.

Figure 1.20



Source: Based on Cerved data.

(1) Vulnerable firms are those whose gross operating income is negative or whose ratio of net 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 2022: (A) the interest rate is 100/ basis points higher; (B) the interest rate is 200 basis points higher and the growth rate of nominal gross operating income is 10 percentage points lower.

¹⁷ Over the same period, 65 per cent of bond issues by Italy's major companies had a BBB rating (i.e. was most exposed to the risk of a downgrading to speculative grade); the equivalent figure for the other euro-area countries was 49 per cent. Issues in the high yield sector were 35 per cent in Italy, against 17 per cent in the euro area. 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.

¹⁸ For details on the microsimulation model, see A. De Socio and V. Michelangeli, 2017, op. cit.

¹⁹ Compared with the baseline scenario, the adverse scenario assumes a rise in interest rates of 100 basis points (greater than the increases recorded in 2007 and 2011), around one standard deviation of the annual variations recorded in the period 2003-20.

2 RISKS TO FINANCIAL INTERMEDIARIES

2.1 BANKS

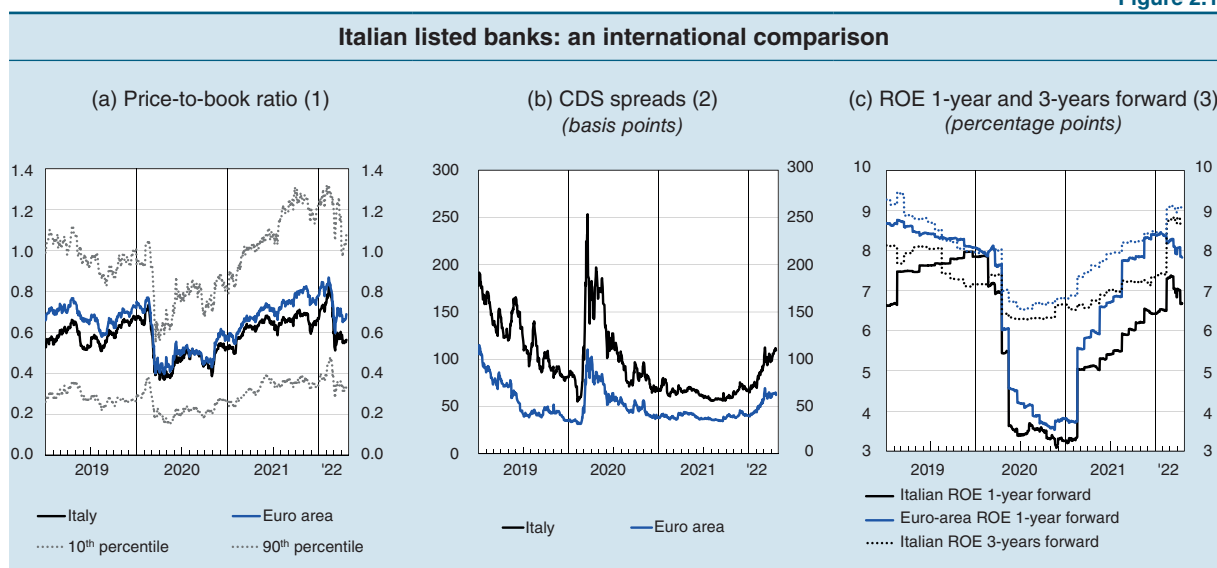
The Italian banking system is facing the risks generated by the war in Ukraine from a stronger position overall than at the end of 2019, on the eve of the outbreak of the pandemic emergency. Last year, asset quality was still good on average, thanks to the economic recovery and the support measures for households and firms. The new non-performing loan ratio (new NPL ratio) remained stable at historically low levels, although it began to rise slightly in the last quarter of 2021. The stock of non-performing loans (NPLs) and their share of total loans was smaller, especially after some disposals. Out of all performing loans, the share of loans for which financial intermediaries recognize a significant increase in credit risk (classified as Stage 2 under IFRS 9) remained constant, albeit at higher levels than before the pandemic. Profitability improved, mainly as a result of the fall in loan loss provisions. Capitalization, which grew significantly in 2020, declined only slightly in 2021.

The concurrent effects of the gradual withdrawal of the support measures adopted during the pandemic and those generated by the war in Ukraine are nevertheless causing great uncertainty. The conflict may in fact have repercussions on the banks, not only in the short term, through multiple channels. In addition to the risks deriving from lower-than-expected economic growth and a marked growth in inflation, there are credit risks connected with exposures towards counterparties in Russia, Belarus and Ukraine and with loans to those domestic firms most exposed to the effects of the war (see Section 1.5). Market risks and counterparty risks are also increasing, mainly linked to the growth in commodity prices (see Section 1.1). In addition, banks are exposed to the legal repercussions and reputational consequences of introducing sanctions against Russia and there is a greater risk of cyber attacks affecting banks' business continuity.

Uncertainty and risk have affected banks' market value. In the weeks following the start of the conflict, there was a generalized increase in bond spreads and a rapid decline in equity prices (-23 per cent). The latter in turn led to a fall in the price-to-book ratio from its peak of 0.8 to 0.56 per cent (Figure 2.1.a). The insolvency risk premium, measured by the prices of credit default swaps (CDS), rose for the two main Italian banking groups and the other large European banks (Figure 2.1.b). Compared with euro-area banks, market indicators show a more marked deterioration for Italian banks, which are on average more exposed to the countries at war (see the box 'Risks to banks' assets deriving from the war in Ukraine').

Recently, analysts' expectations regarding Italian and euro-area banks' earnings three years forward, which are also affected by expectations for growth of the net interest income connected with an increase in rates, returned to levels close to those recorded before the pandemic emergency (Figure 2.1.c). The trends observed to date nevertheless indicate that any intensification of the conflict would expose the financial markets and the banks to a further increase in volatility in the short term.

Figure 2.1



Source: Based on Refinitiv data.

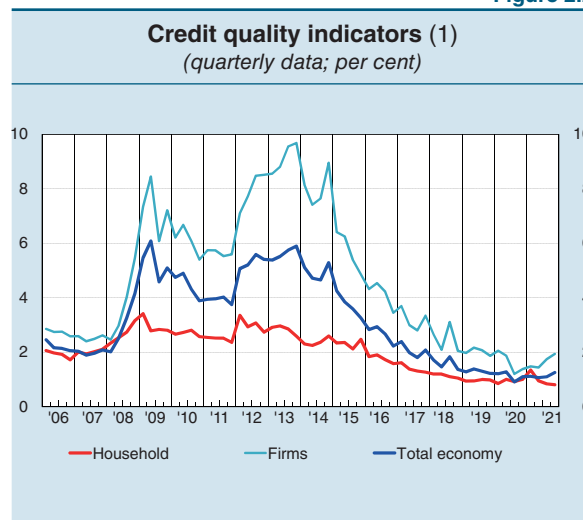
(1) Average weighted according to market value. The data refers to the banks included in the FSTE Italy Banks and the Euro STOXX Banks indices. – (2) The data refer to the following sample of banks: for Italy, UniCredit and Intesa Sanpaolo; for the euro area, Banco Bilbao Vizcaya Argentaria, Banco Santander,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

Asset risks

The ratio of new NPLs to performing loans remained low, even though it rose slightly. In the fourth quarter of 2021, the indicator rose to 1.3 per cent (Figure 2.2). This was determined by loans to firms, mainly to those in the sectors of construction and services and, to a lesser extent, manufacturing, while the gradual phasing out of the support measures also contributed (see the box ‘The phasing out of support measures and bank asset quality’), above all as regards firms who had benefited from the debt moratoriums. There was, however, a slight reduction in the household new non-performing loan ratio.

Diposals continued in the second half of the year as well (€23 billion in 2021 overall; Figure 2.3). Together with low flows of new non-performing loans, this led to a reduction in the stocks of this type of asset: at the end of last year, net NPLs amounted to €40 billion (Table 2.1), down by about €8 billion on the previous half-year (€84 billion gross, down by €16 billion). The ratio of net non-performing loans to total loans fell to 1.7 per cent (Figure 2.4.a). The gap between Italian significant banks and all the financial intermediaries directly supervised by the ECB fell by 30 basis points, to 0.2 percentage points (Figure 2.4.b).

Figure 2.2



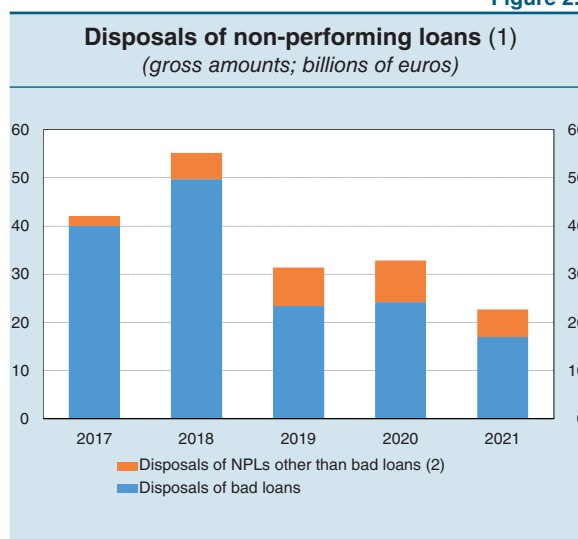
Source: Central Credit Register.

(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.

The coverage ratio for NPLs was 52 per cent in December, steady over the half-year. Significant banks recorded an increase of 1.5 percentage points, to 55 per cent, mainly due to the extraordinary loan loss provisions made by one bank in light of disposals planned for 2022. Instead, the coverage ratio for less significant banks remained at a considerably lower level (36.5 per cent). The gap is largely explained by the inclusion in the set of the less significant banks of intermediaries specializing in NPL management, which acquire these positions and enter them in their balance sheets net of write-downs (see Table A2 in Selected Statistics). Excluding these operators, the gap between the coverage ratios of the two types of intermediary would fall to 7.7 percentage points.

In the second half of 2021, the stock of performing loans to the non-financial private sector classified as Stage 2 under IFRS 9 continued to increase (3.9

Figure 2.3



Source: Annual survey on disposals of non-performing loans.
(1) Includes the subsidiaries of foreign banks, which are not classified as 'significant' or 'less significant' in Italy for supervisory purposes. Provisional data for 2021. – (2) Includes NPLs classified as unlikely to pay or past-due.

Table 2.1

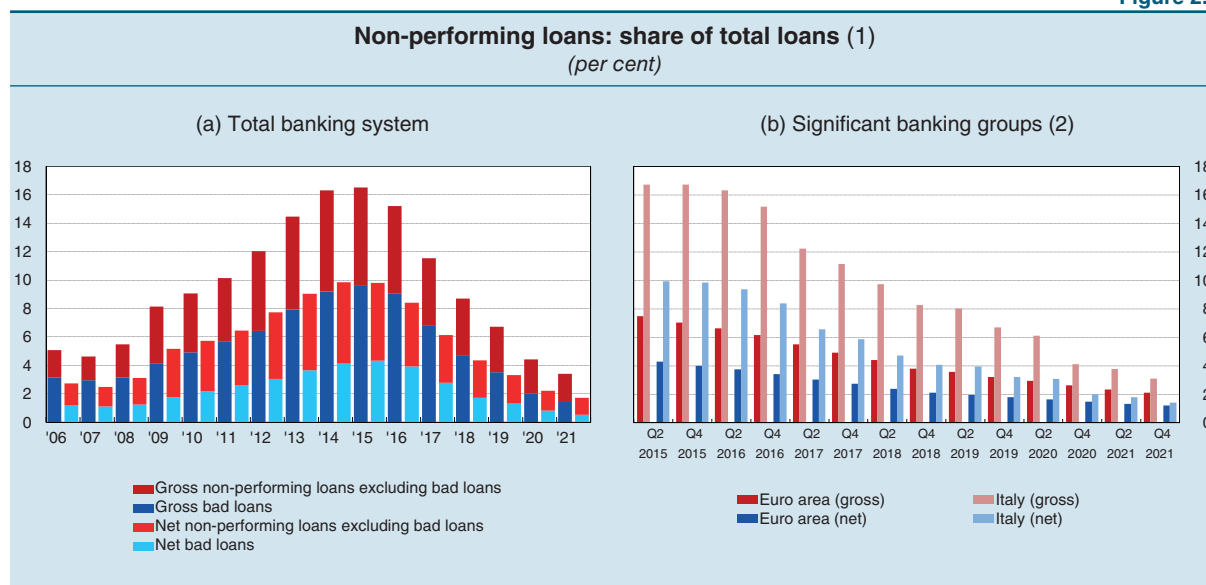
Credit quality: amounts and shares of non-performing loans and coverage ratios
(billions of euros and per cent)

	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)
December 2021 (3)															
Loans (4)	1,959	1,914	100.0	100.0	2.3	227	222	100.0	100.0	2.3	2,457	2,400	100.0	100.0	2.3
Performing	1,897	1,886	96.9	98.6	0.6	216	215	94.9	96.7	0.5	2,374	2,360	96.6	98.3	0.6
Non-performing	61	28	3.1	1.4	55.0	12	7	5.1	3.3	36.5	84	40	3.4	1.7	52.0
Bad loans (5)	24	7	1.2	0.4	70.8	6	3	2.6	1.5	41.6	35	13	1.4	0.5	63.9
Unlikely-to-pay (5)	35	19	1.8	1.0	46.2	5	3	2.2	1.5	34.3	45	25	1.8	1.0	44.8
Past-due (5)	3	2	0.1	0.1	30.2	1	1	0.3	0.3	11.3	4	3	0.2	0.1	28.7
June 2021															
Loans (4)	1,982	1,932	100.0	100.0	2.6	223	217	100.0	100.0	2.8	2,475	2,410	100.0	100.0	2.6
Performing	1,908	1,897	96.2	98.2	0.6	210	209	94.3	96.5	0.5	2,375	2,362	96.0	98.0	0.6
Non-performing	75	35	3.8	1.8	53.5	13	8	5.7	3.5	39.8	100	48	4.0	2.0	52.0
Bad loans (5)	31	10	1.5	0.5	67.0	7	4	3.1	1.7	46.2	45	17	1.8	0.7	63.0
Unlikely-to-pay (5)	41	22	2.1	1.2	45.3	5	3	2.3	1.5	35.3	51	28	2.0	1.2	44.4
Past-due (5)	3	2	0.2	0.1	28.4	1	1	0.4	0.3	13.5	4	3	0.2	0.1	26.8

Sources: Supervisory reports, on a consolidated basis for banking groups and on an individual basis for the rest of the system. Rounding of decimal points may cause discrepancies in totals.

(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) The non-performing loan sub-categories reflect the Bank of Italy's non-harmonized definition, which flanks the harmonized one used at European level. This allows for a distinction to be made between types of exposures, in descending order of risk: bad loans, unlikely-to-pay, past-due and/or overdrawn exposures, consistent with the definitions used in the past.

Figure 2.4



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. Amounts are calculated net and gross of provisions. The data for December 2021 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 finalized, 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.

per cent), albeit at a much slower pace than the exceptionally high growth seen in 2020 (42 per cent). At the end of last year, their share of total performing loans was 14.6 per cent, stable in relation to the previous half-year, but 1.7 percentage points higher than in June 2020. Since the start of the pandemic, there has always been a marked difference between the significant and less significant banks' share of Stage 2 loans (16.2 and 10.3 per cent, respectively). The coverage ratio has remained essentially stable since June 2020 and across banking groups. For Italian significant banks, the share of Stage 2 loans remained around 4 percentage points higher than the average for the euro-area significant banking groups.

In the half-year, there was also an increase in performing loans to the non-financial private sector that were classified as forborne (from 2.2 to 2.4 per cent).¹ However, the rate of transition towards this classification fell considerably in the fourth quarter of 2021, reflecting the gradual phasing out of the support measures, in particular the expiration of the debt moratorium provisions (see the box 'The phasing out of support measures and bank asset quality').

THE PHASING OUT OF SUPPORT MEASURES AND BANK ASSET QUALITY¹

While the support measures introduced by the Government in response to the pandemic (moratoriums and public guarantees on loans) are being phased out, it is currently possible to

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¹ Article 47-ter of Regulation (EU) No 575/2013 (Capital Requirements Regulation or CRR) defines 'forbearance' as a measure of a concession (referring to the terms and conditions or total or partial refinancing of a debt obligation) by an institution towards an obligor that is experiencing or is likely to experience difficulties in meeting its financial commitments. A concession may entail a loss for the lender which, if it exceeds 1 per cent of the discounted value of the expected flow of payments, will require that the position be reclassified as an NPL.

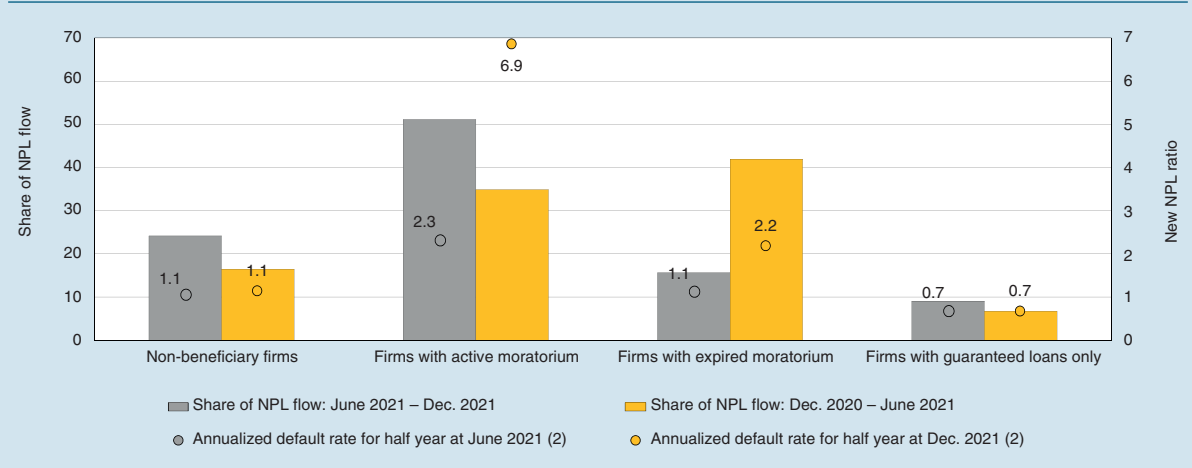
assess the initial effects of these measures in terms of how the riskiness of the beneficiaries has evolved. At the end of last year, loans with moratoriums outstanding amounted to €33 billion and those for which the moratoriums had expired came to €108 billion; State-guaranteed loans totalled €221 billion, largely covered by the Central Guarantee Fund for SMEs.²

Using the AnaCredit dataset,³ it is possible to categorize credit exposures based on the type of support measure the firms had access to and to observe any changes in their riskiness.⁴ The latter is analysed using the actual new NPL ratio and, looking forward, the probability of default (PD) assigned by the banks to borrowers with performing loans.⁵

The aggregate flow of non-performing loans disbursed to the firms reported in AnaCredit was relatively low: just over €4 billion between June and December 2021, up compared with the €2.5 billion in the first half of the year, but in line with expectations. Around three quarters of the flow of NPLs consist of loans to firms that benefited from moratoriums by the end of 2021 (Figure A).

Figure A

New NPL flows and ratios for beneficiaries of support measures (1)
(per cent)



Source: AnaCredit.

(1) Limited sample of firms deemed performing at the start of the reference half-year period. – (2) Right-hand scale.

² The data are drawn from the joint task force coordinated by the Ministry of Economy and Finance (see the Bank of Italy’s website: ‘Task force to oversee the efficient and rapid implementation of the liquidity support measures’; [only in Italian](#)).

³ The AnaCredit dataset contains individual reports by around 250 resident credit institutions and surveys all credit relationships in which a bank’s exposure to an individual debtor is equal to or greater than €25,000. Since June 2020, it also reports separately on loans backed by State guarantees disbursed to firms to mitigate the economic repercussions of the pandemic, as well as on moratoriums granted on outstanding exposures. It is not, however, possible to single out the moratoriums that comply with the EBA guidelines (see Banca d’Italia, ‘Loans backed by COVID-19 guarantees and that qualify for a moratorium. Inclusion of new information in the AnaCredit register’, Communication of 11 June 2020, [only in Italian](#)).

⁴ In particular, the following categories are considered: firms that did not benefit from the measures, firms with active moratoriums, firms with expired moratoriums and firms with State-guaranteed loans only

⁵ For the NPL ratio, borrowers that have relationships with more than one bank are classified based on the total share of exposures in default with all their lender banks. Moreover the PD over a time horizon of one year indicated by banks that use internal models to assess credit risk for prudential purposes. The data are available for around three quarters of the firms registered in AnaCredit, which collectively hold more than 90 per cent of total exposures.

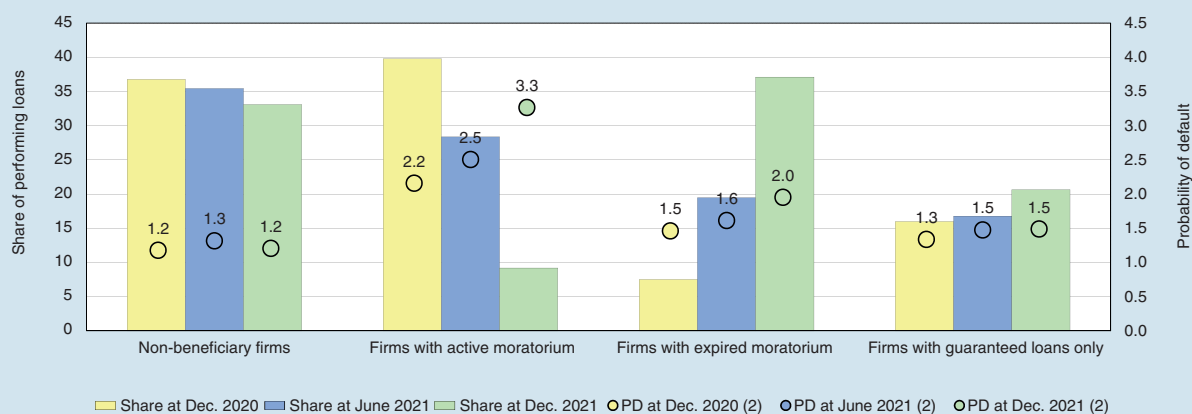
The available data shows that firms with moratoriums (expired or still outstanding at 31 December) had much higher actual riskiness levels than the other firms. More specifically, the new NPL ratio for firms with moratoriums still active was equal to 6.9 per cent, up 4.6 percentage points compared with the first half of the year. This is consistent with the assumption that the riskiest firms would have applied for the longest suspension period possible.⁶ Instead, firms that ceased being beneficiaries of a moratorium prior to the end of the year proved to be less risky than those with active moratoriums, with a new NPL ratio of 2.2 per cent, although this ratio rose by more than one percentage point compared with the previous six months.

Among the recipients of the support measures, firms with State-guaranteed loans only have had the lowest new NPL ratio (stable at 0.7 per cent over the course of the year) so far, facilitated by the limitation on instalments payable during the grace period envisaged for these types of loans.

At the end of December, banks' expectations regarding the riskiness of the beneficiary firms were consistent with the actual new NPL ratios observed (Figure B). In particular, borrowers with moratoriums still active at the end of the year were assessed by banks as the riskiest in terms of PD. Instead, firms with only State-guaranteed loans were confirmed as the least risky among the beneficiaries of the support measures.

Figure B

Exposure and PD of performing loans by support measure category (1)
(per cent)



Source: AnaCredit.

(1) Includes firms considered performing based on the default status reported; each of these was associated with the PD assigned by banks that use internal credit risk assessment models. For firms that borrow from more than one bank, the average of the PDs reported by the various banks, weighted by the respective amount of the loan granted, was considered. Excludes firms and their credit exposures without at least one reported PD. – (2) Right-hand scale.

In the second half of 2021, with a conservative assumption of a zero recovery rate, the expected losses estimated for performing loans⁷ remained overall unchanged compared with the first half of the year

⁶ For this category of borrowers, the share of loans less than 90 days past due was about half a percentage point in February 2022.

⁷ The maximum expected loss was estimated as the average PD of the support measure category multiplied by the relative credit exposure in terms of the amount used. It is implicitly assumed that the total value of the loan is lost in the event of default (loss given default equal to 100 per cent). The average actual recovery rate for bad loans was 34.1 per cent in 2020. See A.L. Fischetto, I. Guida, A. Rendina, G. Santini and M. Scotto di Carlo, 'Bad loan recovery rates in 2020', Banca d'Italia, *Notes on Financial Stability and Supervision*, 27, 2021.

(around €9 billion). However, this was reflected in a redistribution among the different categories of firms: the increase in expected losses for firms with expired moratoriums offset the decrease in those for borrowers with active suspensions, owing to the phasing-out effect.

The crisis in Ukraine, the sanctions imposed on Russia and the possible extension of the conflict are creating a vast set of risks for the banks with impacts that are currently uncertain but potentially considerable. The first of these is in relation to credit, both as a result of the exposures towards the countries involved in the war and because of the indirect effects due to connections between banks and the most heavily penalized firms (see the box ‘Risks to banks’ assets deriving from the war in Ukraine’). In addition to credit risks, there are market and counterparty risks, connected with the volatility on the financial markets (see Sections 1.1 and 1.3), macroeconomic risks (see Section 1.1), operational, legal and reputational risks linked to the increased probability of cyber attacks, and the introduction of the sanctions adopted against Russia.

RISKS TO BANKS’ ASSETS DERIVING FROM THE WAR IN UKRAINE¹

The war in Ukraine, which began at the end of February, exposes Italian banks’ assets to new risks that could materialize through multiple channels.

The first of these are that Italian banks hold direct exposures in the form of loans, securities, derivatives and guarantees to counterparties resident in Russia, Belarus and Ukraine, the countries directly involved in the conflict or subject to economic sanctions. At the end of 2021 these exposures totalled €29.1 billion, equal to 0.7 per cent of the total financial assets, of which €20.6 billion in the form of on-balance sheet financial assets and the rest as off-balance sheet assets (guarantees, derivatives and irrevocable commitments). Almost all the exposures were to Russian counterparties and were concentrated within the top two banking groups, which have subsidiaries in these countries. According to Bank for International Settlements (BIS) data (Figure A), in September 2021 Italy and France were the countries with the highest percentage of exposures to Russia, Belarus and Ukraine, largely concentrated in the private sector.

Taking into account, as well, bank liabilities attributable to counterparties that are resident in these countries (€12.9 billion at the end of 2021 attributable for over 85 per cent to foreign subsidiaries of Italian groups), the net exposures on a cash basis were just under €8 billion (see the table). At sectoral level, the most significant net exposures were to Russian firms (€7.7 billion) owing to the considerable amount of cross-border loans granted to major energy sector and industrial groups.

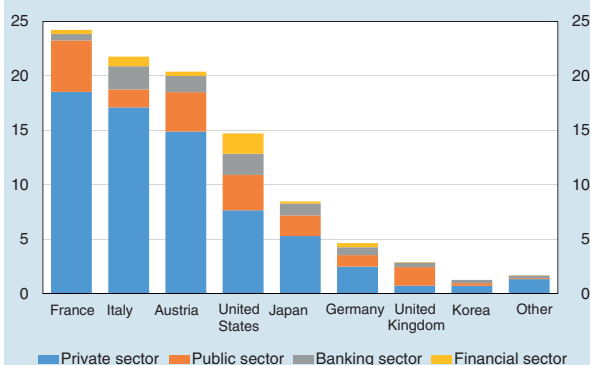
A second channel through which the effects of the conflict can be transmitted to the quality of Italian banks’ assets is Italian firms that export to Russia, Belarus and Ukraine and that could encounter problems in repaying their loans. Following the adoption of economic sanctions against Russia in 2014,² firms that earned at least 10 per cent of their revenue from these countries found it more difficult to honour their repayment obligations due to a drop in sales.

¹ By Francesco Ciarniello and Francesco Palazzo.

² Following the annexation of Crimea in 2014, the immediate effect of the economic sanctions imposed on Russia and the subsequent counter-sanctions was a 35 per cent decline in Italian exports between 2013 and 2015. The decrease was observed across all exporter nations and was not limited to products targeted by Russian counter-sanctions (see M. Crozet and J. Hinz, ‘Friendly fire: the trade impact of the Russia sanctions and counter-sanctions’, *Economic Policy*, 35, 101, 2020, pp. 97-146).

Figure A

Bank exposures to Russia, Belarus and Ukraine (1) (per cent; September 2021)



Source: Based on BIS data.

(1) Data referring to BIS member countries and on an ultimate borrower basis, net of the risk transfer obtained through credit risk mitigation instruments. Loans to individual countries expressed as a percentage of total loans to member countries.

Table

Bank on-balance sheet exposures to Russia, Belarus and Ukraine (millions of euros; December 2021)

	Assets	Liabilities	Net assets
Households	2,071	4,760	-2,689
Firms	14,569	6,855	7,714
Financial sector	2,711	901	1,810
Public sector	1,288	420	868
Total	20,639	12,936	7,704

Source: Consolidated supervisory reports for banking groups and individual supervisory reports for the rest of the system.

Over a three-year horizon, the probability of default of these firms was 2 percentage points higher than that of other firms.

At the end of 2021, exporters with an exposure to Russia, Belarus and Ukraine that exceeded 10 per cent of their revenue (around 1,500 firms) received financing from Italian banks on the order of €4.6 billion, or 0.5 per cent of total lending to firms; the percentage for all banks was very small (Figure B). Around 50 per cent of these firms, responsible for half of lending as at the end of 2021, fell into the best risk categories, higher than the average for the other firms.

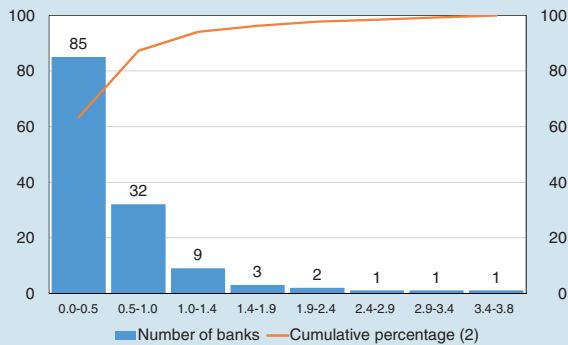
The effects of the conflict could also be transmitted through the increase in the prices of energy products, which have risen further since the war began and are reflected in firms' operating costs, especially of those in energy-intensive sectors.³ At the end of 2021, the firms in these sectors represented 8.5 per cent of performing loans to firms; only a small number of banks had a percentage that was significantly higher than the average (Figure C). The one-year probability of default of the loans to these firms, as reported in the AnaCredit dataset, was equal to 1.2 per cent, which was lower than the average for the other sectors (1.9 per cent). Furthermore, in some of these sectors (e.g. refined oil products) there were no negative repercussions on their share prices as a result of the conflict; however, the share prices of firms in the paper manufacturing

³ To identify these sectors, an energy intensity indicator is considered (used in G. Greca and G. Vetrella, 'Intensità energetica: analisi strutturale ed economica del sistema produttivo', in the Ministry of Ecological Transition's report, *La situazione energetica nazionale nel 2020*, Rome, 2021, pp. 138-152), which correlates the amount of energy consumed by the sector (measured in tonnes of oil equivalent) per million euros of the value added generated. Firms are considered to be high-energy intensive if they operate in sectors with values of over 500 units according to this indicator; the indicator takes much lower values for sectors below the threshold. The sectors, which are listed in the note to Figure C, account for around half of the energy consumed by production activities. The indicator does not include the transformation of energy commodities into non-energy products (e.g. the transformation of oil into plastics in the chemicals sectors, which accounts for 1.4 per cent of business loans); if the classification methodology were to be extended to include this use, other sectors would also be considered to be high-energy intensive.

Figure B

Share of loans to firms with high exposure to the Russian, Belarusian and Ukrainian markets out of total loans to firms (1)

(number and per cent; December 2021)

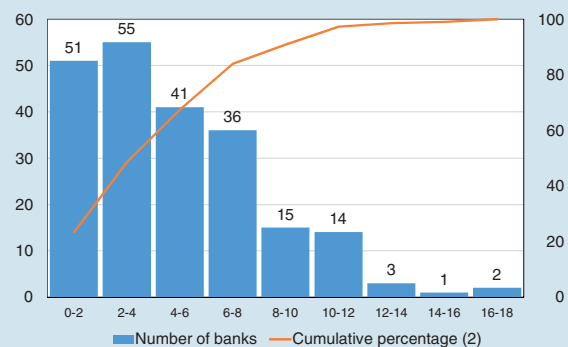


Sources: Based on Customs Agency and Central Credit Register data. (1) The share is based on the total bank loans to firms reported in the Central Credit Register by each bank as at the end of 2021. The left y-axis indicates the number of banks in each category. The line shows the cumulative percentage of banks whose ratio is lower than or equal to that of the corresponding category. – (2) Right-hand scale.

Figure C

Share of loans to firms in high energy-intensive sectors out of total loans to firms (1)

(number and per cent; December 2021)



Source: Calculations based on AnaCredit data. (1) The share is based on total performing bank loans to firms in the following industries: manufacturing of paper and paper products; manufacturing of coke and refined oil products; manufacture of other non-metallic mineral products; metallurgy; generation, transmission and distribution of electricity; maritime transport; and air transport. – (2) Right-hand scale.

and air transport sectors – lending to which amounted to less than 1 per cent of the total loans to firms – seem at present to be more vulnerable in the current macroeconomic setting.

The protraction of the war in Ukraine could have pervasive effects, not just on the firms hit the most by rising energy prices, but also on all firms downstream in the value chain and, finally, on aggregate demand. In particular, a further 5.8 per cent of loans to firms is attributable to sectors for which the metal working sector,⁴ one of the highest energy consumers, accounts for over 10 per cent of intermediate consumption.

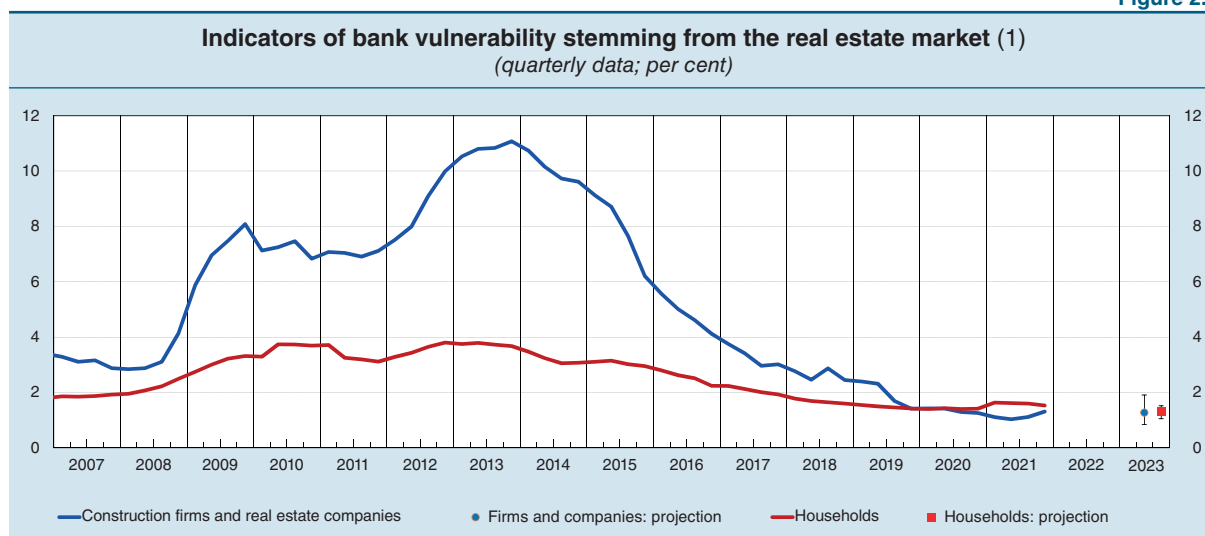
During this phase of considerable uncertainty, relating both to the conflict and to its intermediate and long-term consequences, it is particularly difficult to make a comprehensive assessment. Looking ahead, continuing high procurement costs for raw materials could lead to a significant structural change in some production sectors, with the consequent exit from the market of the firms that encounter the most difficulty in reorienting their production processes and business models.

The Bank of Italy, in collaboration with the ECB, monitors the Italian banks that are exposed to these risks and assesses the organizational measures taken to ensure their adequate management.

⁴ Includes the manufacturing of metal products and electrical equipment other industrial manufactures.

In the second half of 2021, the vulnerability of Italian banks stemming from real estate exposures stayed at historically low levels (Figure 2.5). According to our projections, in 2023, the annual flows of new NPLs relating to loans to households for house purchase and those to firms in the real estate sector will remain stable in relation to capital. The riskiness of loans in the commercial real estate sector is, however, still higher in relation both to average total loans to firms, and by European standards (see the box ‘Analysis of bank loans to the commercial real estate sector’).

Figure 2.5



(1) Bank vulnerability is measured by the ratio of the flow of new non-performing loans in the last 4 quarters to the average of bank capital and reserves in the same period. The projections are represented graphically by the median values and from the 10th and 90th percentiles. For the methodology, see F. Ciocchetta, W. Cornacchia, R. Felici and M. Loberto, 'Assessing financial stability risks arising from the real estate market in Italy', Banca d'Italia, Questioni di Economia e Finanza (Occasional Papers), 323, 2016, and F. Ciocchetta and W. Cornacchia, 'Assessing financial stability risks from the real estate market in Italy: an update', Banca d'Italia, Questioni di Economia e Finanza (Occasional Papers), 493, 2019.

ANALYSIS OF BANK LOANS TO THE COMMERCIAL REAL ESTATE SECTOR¹

The Bank of Italy has recently developed an analytical framework for assessing the risks posed to the financial system by outstanding loans to the commercial real estate (CRE) sector, based on the recommendations of the European Systemic Risk Board concerning the measures for closing real estate data gaps.² The indicators pertain to loans to non-financial firms that are 'collateralized' or 'for the purchase of' commercial real estate (CRE loans) using the data contained in the AnaCredit dataset as from December 2018.

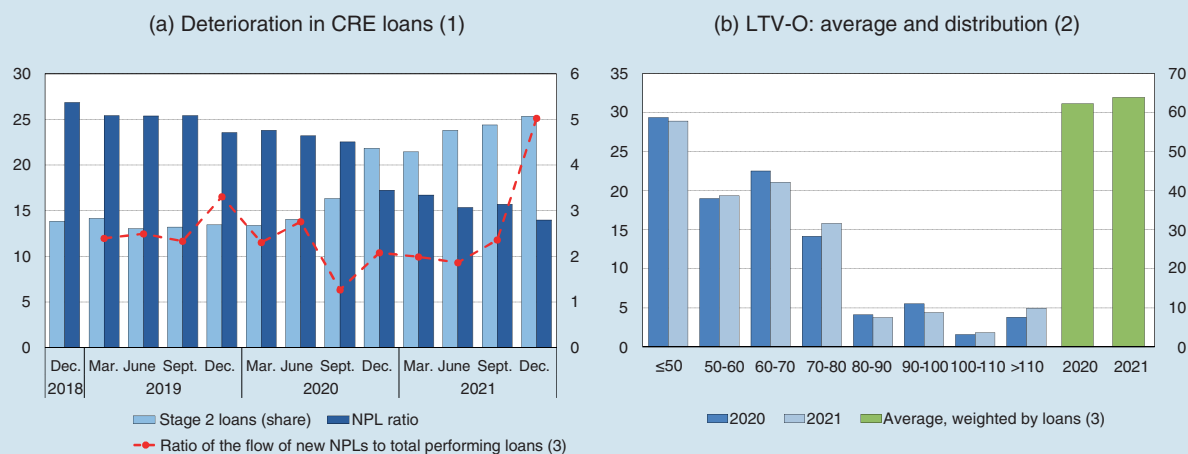
Since the data began to be reported, the total amount of CRE loans has fallen by almost one third following the decrease in new loans granted and the disposal of non-performing loans. In December 2021, they totalled €121 billion, or 21 per cent of loans to non-financial corporations, an amount similar to the European average but lower than that of Germany (30 per cent).

The NPL ratio for CRE loans was equal to 14 per cent, gross of loan loss provisions (panel (a) of the figure), around double that for all loans to non-financial corporations and twice compared with the euro-area average. For almost the entire period analysed, the ratio of new NPLs to total performing loans at the start of the corresponding period stayed at around 2 per cent, just above that for all non-financial corporations; in the final quarter of 2021 it rose by 5 per cent, sparked in part by the phasing out of the support measures (see the box 'The phasing out of support measures and bank asset quality'). The share of loans for which banks report a significant increase in credit risk as compared with the moment at which the loan originated (Stage 2 loans) reached 25 per cent of total loans as at December 2021 (14 per cent in December 2018). The coverage ratio for CRE loans classified as non-performing held fairly stable during the period considered, at around 40 per cent.

¹ By Alessandra Albanese and Federica Ciocchetta.

² Recommendation ESRB/2019/03 amending Recommendation ESRB/2016/14.

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 made during the year, identified by settlement date, and includes only 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. The average ratio is equal to an average weighted by loan amount. The denominator is the protection value allocated to the loan and not the initial overall protection value. The protection value allocated to the loan represents the extent to which a guarantee is linked to a certain instrument and therefore appears to provide more information on the actual use in the event of a borrower's default compared with the overall value of the collateral, which may back more than one loan. If instead an alternative definition of the ratio is used, with the denominator set equal to the overall protection value, the average LTV-O would be around 45-50 per cent. – (3) Right-hand scale.

An indicator generally used to assess risk is the loan-to-value (LTV) ratio, i.e. the ratio of the loan principal to the value of the property pledged as collateral. An increase in the share of loans with a high LTV ratio could be associated with a greater vulnerability: empirical analyses demonstrate that this indicator is correlated both with the probability that the loan will not be repaid and with credit losses in the event of the borrower's insolvency.³

The average LTV ratio for new loans made in 2021 was around 64 per cent, almost 2 percentage points higher than the previous year (panel (b) of the figure). The percentage of loans with an LTV ratio over 80 per cent held stable at 15 per cent; of these, loans with an LTV ratio above 100 per cent rose slightly, from 6 to 7 per cent.⁴

Overall, the riskiness of CRE loans remains higher than the average for all loans to firms and compared with the average for Europe. Given the persistent uncertainty concerning the outlook for the economy due to the pandemic and the conflict in Ukraine, there is the risk of a worsening in loan repayment capacity and a consequent deterioration in credit quality. It is therefore critical that banks carefully assess their risk exposure to this sector, mitigating it with prudent provisioning policies.

³ For further information, see J. Gaudêncio, A. Mazany and C. Schwartz, 'The impact of lending standards on default rates of residential real estate loans', Occasional Paper Series, ECB, Frankfurt am Main, 220, 2019.

⁴ A good portion of the CRE loans with an LTV ratio above 80 per cent are backed by personal guarantees that, in addition to collateralized real estate, mitigate their riskiness.

Some of the risks that the banks must face as a result of possible implications for their asset quality are increasingly linked to climate change. Specifically, physical risks² are intensifying and the frequency of damage to infrastructures and physical capital (such as property and production plant), is reducing the capacity of borrowers to repay their loans and lowering the value of their collateral, with potentially significant repercussions on asset quality (see the box ‘The banking system’s exposure to physical risk stemming from climate change’).

THE BANKING SYSTEM’S EXPOSURE TO PHYSICAL RISK STEMMING FROM CLIMATE CHANGE¹

The effects of physical risk on the quality of credit to firms may depend on an increase in the probability of default and a decrease in the value of collateral. A recent study confirms that Italian firms located in municipalities stricken by landslides and flooding have a higher probability of exiting the market or, in any case, they exhibit a worse trend in revenue and employment than firms located in other municipalities.²

By combining the different data sources that enable identification, at provincial level, of the location of the business premises of the creditor firms³ and of the real estate pledged as collateral, it is possible to quantify⁴ the loans made by Italian banks to the non-financial corporations most exposed to physical risk stemming from climate change (measured using the climate impact indicator used in the National Climate Change Action Plan).⁵

The estimates presented are treated as an upper bound of the exposure to physical risk, since the entire provincial territory is assigned the highest risk level reported within its borders, without taking into consideration any morphological differences between areas in the same province.

It can be estimated that 28 per cent of loans to firms are granted to businesses located (or with business premises) in provinces that have a physical risk indicator defined as ‘high’ or ‘very high’ (panel (a) of the figure). Some 58 per cent of the value of these loans is collateralized (panel (b) of the figure). Since there is ample overlap between the location of the debtor firms and of the real estate backing the loans, the collateral could also suffer the impact of the same climate-related event, therefore reducing the risk mitigation capacity provided by this instrument. If a more conservative scenario based on personal guarantees only is considered, the coverage rate drops to 38 per cent.⁶

¹ By Giorgio Meucci and Francesca Rinaldi.

² S. Clò, F. David and S. Segoni, ‘The impact of hydro-geological hazards on Italian firms’, Banca d’Italia, mimeo, 2022. The paper uses a new database developed by the University of Florence’s Department of Earth Sciences, which identifies hydro-geological events using a web scraping algorithm.

³ The data in the AnaCredit dataset are supplemented by those in the Cerved and in the Company Register databases.

⁴ G. Meucci and F. Rinaldi, ‘Bank exposure to climate-related physical risk in Italy: a first assessment based on AnaCredit data on loans to non-financial corporates’, Banca d’Italia, mimeo, 2022.

⁵ In particular, the effects of the Representative Concentration Pathway 4.5 (RCP 4.5) scenario for the period 2021-2050, in which trends in emissions growth lead to the concentration of greenhouse gases stabilizing by 2100, are taken into account, when. The methodology for calculating the indicator is described in J. Mysiak, S. Torresan, F. Bosello, M. Mistry, M. Amadio, S. Marzi, E. Furlan and A. Sperotto, ‘Climate risk index for Italy’, *Philosophical Transactions of The Royal Society A: Mathematical Physical and Engineering Sciences*, 376, 2018, pp. 1-17. The indicator reflects: (a) the possible frequency and severity with which a given geographical area is afflicted by extreme weather events; (b) the amount of capital at risk in that area.

⁶ For an analysis at aggregate level of the degree of coverage offered by collateral in the form of real estate, see ECB/ESRB Project Team on climate risk monitoring, *Climate-related risk and financial stability*, July 2021.

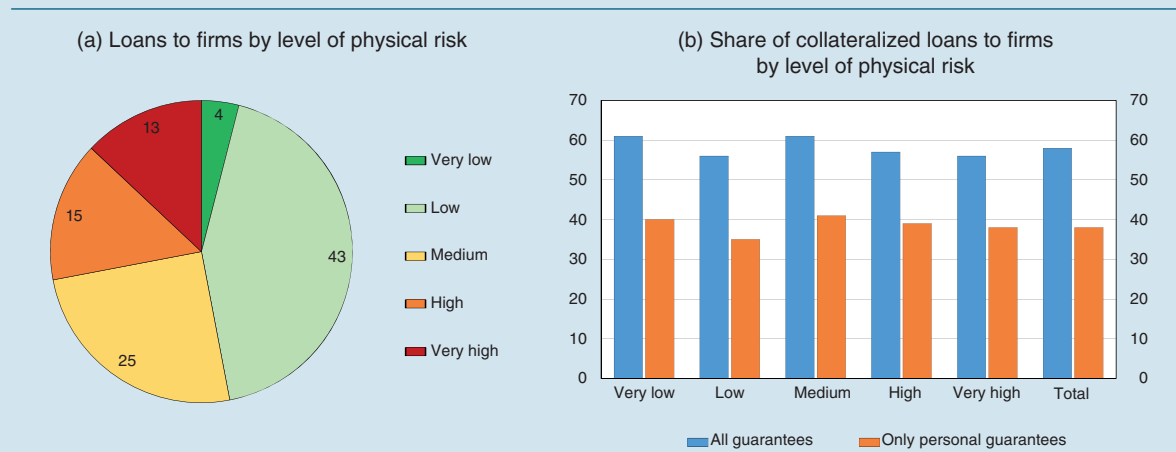
² For a definition of physical risk and transition risk, see the box ‘The banking system’s exposure to climate-related financial risks’, *Financial Stability Report*, 2, 2020.

An alternative protection against risk is offered by insurance coverage. However, at the moment, the granular data on this type of coverage are insufficient.

The loans exposed to physical risk are not more highly concentrated than the level observed for total loans to firms. Banks that have at least half of their credit at risk represent 4 per cent of the loans disbursed by the entire banking system. They are mainly small banks, particularly cooperative credit banks, whose exposure is often concentrated in a single geographical area.

Figure

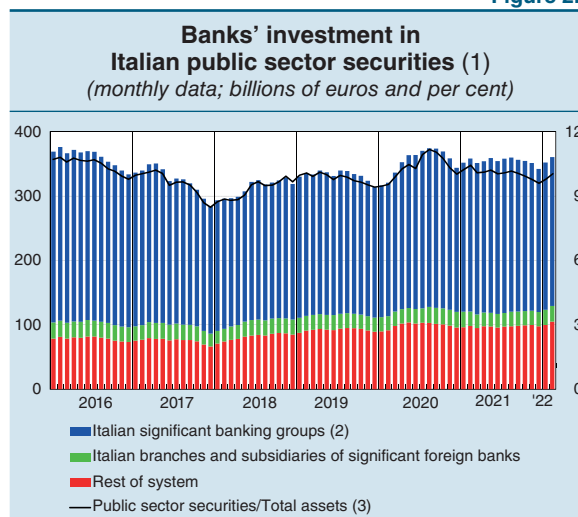
Exposure to physical risk of loans to firms (per cent)



Source: AnaCredit, Cerved and Infocamere.

Between September 2021 and February 2022, the share of public sector securities in banks' total assets remained stable, at 10 per cent (Figure 2.6). The share of these securities allocated to the portfolio of assets valued at amortized cost rose to 64.6 per cent for significant banks, and fell to 77.1 per cent for less significant banks. For these assets, any changes in share prices would not affect regulatory capital.

Figure 2.6



Source: Supervisory reports.

(1) Comprises all public sector securities, including those issued by local authorities. Excludes Cassa Depositi e Prestiti SpA. – (2) Includes the cooperative credit banks (BCCs) merged into cooperative credit banking groups. – (3) 12-month moving average ending in the month indicated. The series 'total assets' does not include bond buybacks by the issuer. Right-hand scale.

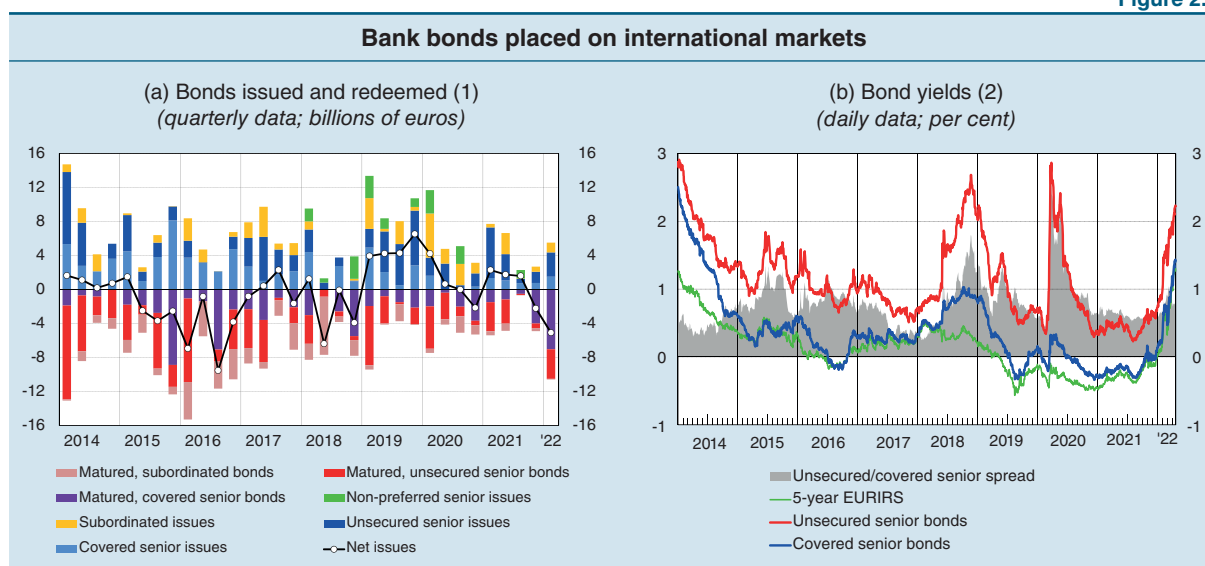
Refinancing risk and liquidity risk

The narrowing of the funding gap³ (to -12.1 per cent in February, slightly down from 11.8 per cent in September 2021) was due to slower growth in lending than in funding.

The increase in deposits and the abundant resources made available by the Eurosystem enabled banks to make limited recourse to

³ The funding gap is the difference between the value of the loans and retail funding, expressed as a percentage of loans.

Figure 2.7



the wholesale bond market, unlike non-financial corporations (see Section 1.5). In the first quarter of 2022, net issues were actually negative by around €5 billion (Figure 2.7.a), with rising interest rates (Figure 2.7.b). If rates continue to rise, there could be an increase in funding overall, given that by the end of 2022, 16 per cent of the value of outstanding bank bonds will mature, totalling around €38 billion.

Banks' liquidity position has remained robust both for short- and medium-term maturities. At the end of December, the net stable funding ratio (NSFR) for Italian banks was 134 per cent on average, and no bank was below the regulatory minimum. The available stable funding mainly comprised deposits by retail customers and loans from other financial intermediaries or central banks; the stable funding requirement was mostly met by customer loans.

During the period between the end of September 2021 and the end of February 2022, the average liquidity coverage ratio (LCR) for the banking system as a whole remained essentially unchanged and was much higher than the regulatory minimum of 100 per cent, still benefiting from the abundant liquidity injected into the banking system by the Eurosystem's refinancing operations (Table 2.2).

The liquidity reserves deposited with the Bank of Italy in excess of the minimum reserve requirements remains high, averaging €394 billion in the maintenance period that ended in April (Figure 2.8), a much higher amount than the portion excluded from the payment of negative interest rates (€113 billion).

Between September 2021 and March 2022, recourse to Eurosystem refinancing by counterparties operating in Italy remained virtually unchanged at €453 billion. The favourable interest rates applied to the third series of targeted longer-term refinancing operations (TLTRO III) – in particular during the period between June 2020 and June 2022 and to those cases in which the loans are at least equal to a given reference level⁴ – reduce the incentive to repay them ahead of June 2022.

⁴ The interest rate for each transaction is set at the level of the average rate applied in the Eurosystem's main refinancing operations over the life of the operation; if the banks' net lending exceeds a set benchmark, the rate applied in TLTRO III operations will be lower.

Table 2.2

Liquidity indicators of Italian banks (1) (per cent)			
	LCR (2)	Net liquidity position at 1 month (3)	NSFR (4)
Significant banks	190.1	25.5	131.6
Less significant banks	318.8	23.1	158.9
Total banking system	203.2	24.2	134.5

Sources: Consolidated supervisory reports for banking groups and individual supervisory reports for the rest of the system.

(1) Data updated to February 2022 for the 1-month LCR and to December 2021 for the NSFR. – (2) The average liquidity coverage ratio is calculated as the ratio between total high-quality liquid assets and total net cash outflow over a 30-day horizon. (see the Basel Committee on Banking Supervision, '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).

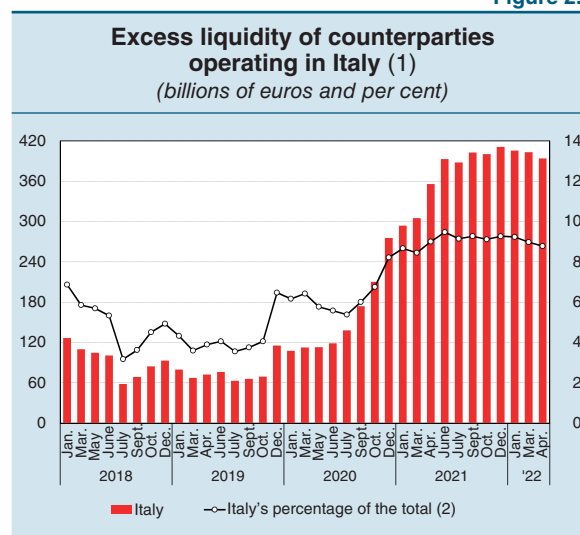
By June 2023, about €270 billion worth of outstanding TLTRO IIIs will have come to maturity (60 per cent of the total outstanding). Almost all Italian banks appear to be able to comply with the NSFR regulatory minimum even without the positive contribution of TLTRO IIIs. Nevertheless, if it were necessary to substitute part of the maturing TLTRO IIIs with medium- and long-term market funding, this could lead to a rise funding costs.

In line with the stable recourse to refinancing operations, the value of the assets pledged as collateral in Eurosystem operations has remained basically unchanged at €510 billion, as has the composition (Figures 2.9.a and 2.9.b). To avoid any negative repercussions on the availability of collateral to cover refinancing operations, starting in July 2022, the collateral easing measures adopted in response to the pandemic emergency and applied to collateral assets, will begin to be gradually phased out.⁵ These measures contribute for €77 billion, i.e. 15 per cent of Italian banks' pledged collateral assets.

Overall, the asset encumbrance ratio is equal to 29.8 per cent, declining from its historical peak in September 2021 (31.1 per cent). Italian banks have €222 billion in securities eligible for use as collateral available outside the collateral pool, of which 85 per cent are government securities (Figure 2.9.c). The volume of assets available to be used as collateral for Eurosystem refinancing is likely to remain ample even after a parallel upward shift of 100 basis points in the sovereign yield curve: the value of the encumbered assets would fall by €29 billion (5.8 per cent of the total), while the value of potentially eligible securities would fall by €11 billion (5.0 per cent of the total).

⁵ ECB, 'ECB announces timeline to gradually phase out temporary pandemic collateral easing measures', press release, 24 March 2022.

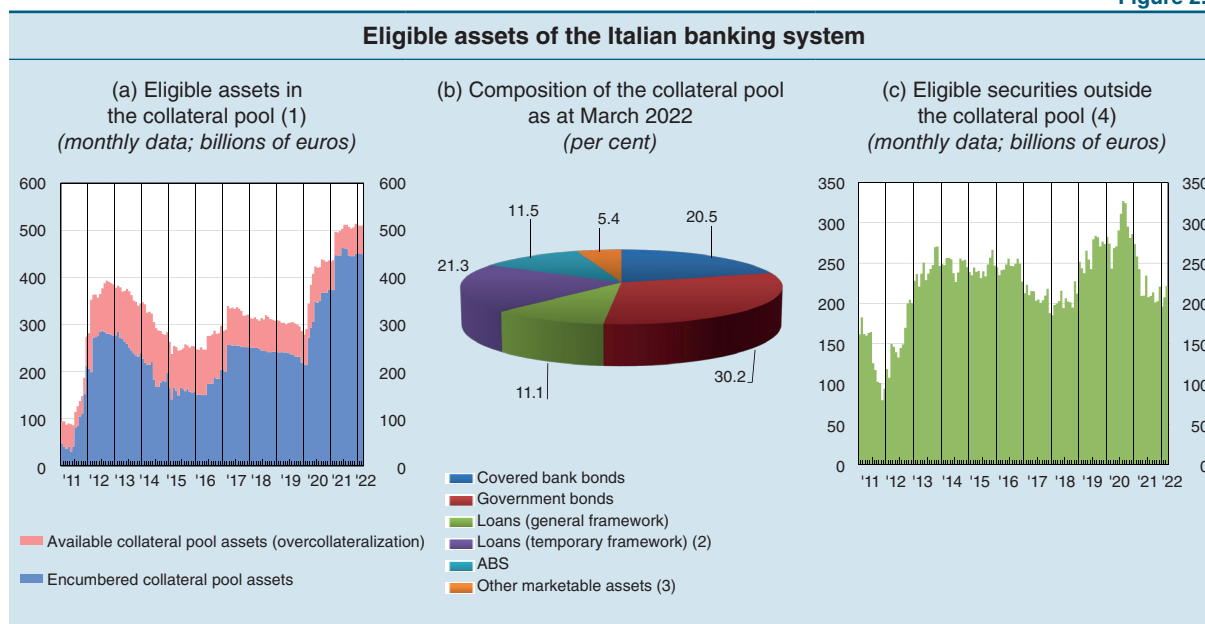
Figure 2.8



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



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 set by the individual national central banks pursuant to the rules provided by the ECB Governing Council. – (3) Includes bank bonds, including 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 banks, net of the haircuts applied by the Eurosystem.

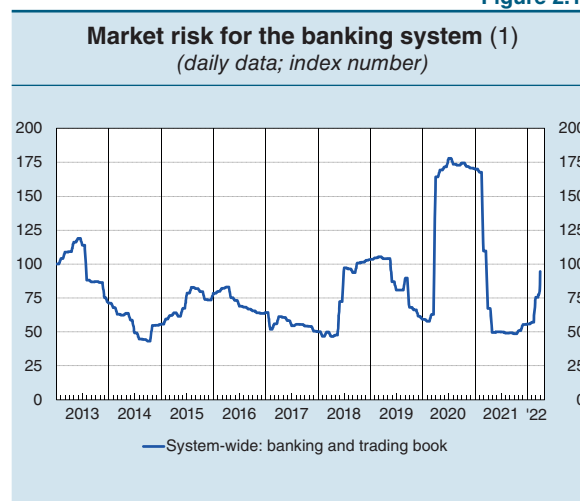
Market risk and interest rate risk

High volatility on the financial markets, due to the launch of the normalization of monetary policy in the main currency areas and to the geopolitical tensions connected with the war in Ukraine, have caused an increase in banks' exposure to market risk and interest rate risk.

In relation to market risk, our estimates indicate that, at the end of March, the Value at Risk (VaR) for the entire securities portfolio (banking and trading book) was almost double that recorded at the lowest point in 2021 (50 points; Figure 2.10). The increase is mainly due to the volatility of credit spreads and interest rates. The contribution of equity risk and exchange rate risk is limited overall.

As regards exposure to interest rate risk, simulations based on the government securities portfolio, measured at fair value at the end of February 2022, show that an upward shift of 100 basis points in the entire sovereign yield curve

Figure 2.10



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 using granular data on the stocks and the characteristics of the assets in the portfolio of each Italian bank at the end of every month, taking account of the changes in risk factors over the last 250 business days.

would lower the tier 1 ratio by 22 basis points (21 basis points for significant banks and 41 basis points for less significant banks).⁶ The impact is in line with that estimated in September 2021.

Assessments made by the significant banks on the set of assets and liabilities held in the banking book at the end of 2021⁷ further show that a parallel upward shift of 200 basis points in the risk-free interest rate curve would determine a median reduction in the value of the banking book of around 4 per cent of tier 1 capital (Figure 2.11). Taking into account only those banks with negative changes, the average weighted loss would be 6.5 per cent, slightly higher than that estimated on exposures at the end of June, but well below the EBA's threshold (15 per cent). Losses would be lower than in the other scenarios included in the EBA Guidelines, which only take into account changes in short-term rates or in the slope of the curve.

Lastly, estimates made for the entire banking system based on the simplified methodology for determining exposure to interest rate risk as defined by the Bank of Italy⁸ indicate that considering the risk-free interest rate from the start of the year and that expected for the next two years on the basis of the expectations implicit in the curves of market interest rates,⁹ the median change in the economic value of the banking book would be -3 and -2 per cent of tier 1 capital, respectively, for significant and less significant banks. If only banks with negative changes are taken into account, the average losses would be equal to 5 and to 10 per cent respectively of tier 1 capital. Reductions in value, while becoming more marked, are likely to continue to be sustainable for banks even assuming a shorter average duration of core deposits, which would be consistent with a growth in customer preferences for investments as an alternative to holding cash (to protect value in a context of higher inflation).

Capital and profitability

In the second half of 2021, the capital adequacy of Italian banks remained at levels similar to those recorded in the first half of the year. In December, the common equity tier 1 (CET1) ratio, which compares banks' capital against their risk-weighted assets (RWAs) for the whole system, stood at 15.3

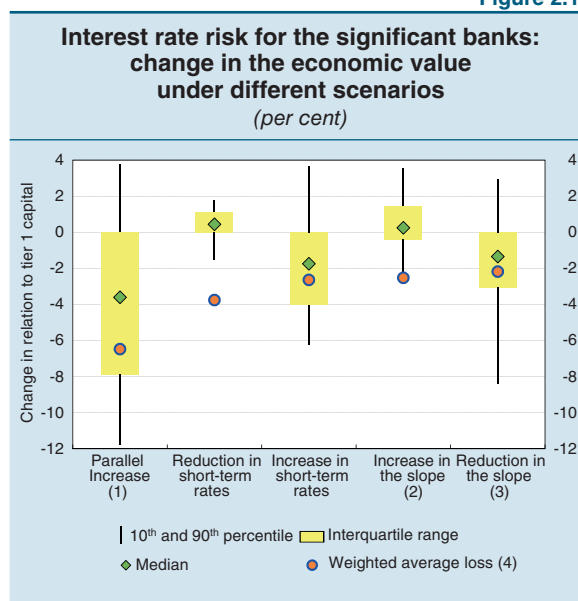
⁶ On the one hand, the estimates do not take into consideration government securities held by foreign subsidiaries and by the insurance component of Italian banking groups (involving significant amounts in some cases); on the other, they do not take account of factors that could mitigate the impact, such as the existence of hedging operations. The tax effects are instead taken into account, which reduce the impact by about 4 basis points.

⁷ The exposure to interest rate risk for prudential purposes is calculated by the banks and based on the European Banking Authority Guidelines; see EBA, 'Guidelines on the management of interest rate risk arising from non-trading book activities', July 2018.

⁸ For more details, see Bank of Italy Circular No. 285/2013 (supervisory rules for banks), Part 1, Section III, Chapter 1, Annex C (only in Italian).

⁹ In particular, the scenario under consideration suggests an increase of more than 200 basis points for maturities up to 2 years, of between 160 and 190 basis points for those maturing in 3-10 years, and of around 100 basis points for those with longer maturities.

Figure 2.11



Source: Short Term Exercise data at 31 December 2021 relating to 11 significant banking groups.

(1) Increase of 200 basis points along the entire risk-free yield curve. – (2) A reduction in short-term rates and an increase in long-term rates. – (3) An increase in short-term rates and a reduction in long-term rates. – (4) Average of the changes in economic value, weighted by tier 1 capital, calculated by taking account of only those banks with negative changes under each scenario.

per cent: more than half of banks had a CET1 ratio above 18.8 per cent, while three quarters of banks had a ratio above 15.4 per cent.

In the face of a slight contraction in the average CET1 ratio for the significant banks (of 9 basis points to 15.3 per cent), that of the less significant banks expanded by 19 basis points to 17.9 per cent. The extraordinary initiatives of some significant banks, after the expiry of the recommendation limiting dividend distribution and buybacks of their own shares, more than offset the positive contribution of the profit and loss account of the period and the effects of the reduction in RWAs. For less significant banks, the increase in retained earnings and the reduction in intangible assets amply counterbalanced the negative effect of the increase in RWAs and in the quota of participating interests to be deducted from the capital.

At the end of December 2021, the gap between the average capital ratio of significant banks in countries participating in the Single Supervisory Mechanism (SSM) and that of Italian significant banks was more than 20 basis points and stable over the half-year. However, the leverage ratio, which measures capital adequacy relative to non-risk-weighted assets, was higher for Italian banks (6.1 per cent) than the European average (6 per cent) against a minimum requirement of 3 per cent, binding since last June. The leverage ratio benefited from the regulatory provision adopted at European level during the pandemic, which expired at the end of March, whereby exposures towards the central banks should not be included when calculating the requirement. With this exemption removed, the ratio would have equalled 5.7 per cent at the end of last year.

Since the start of 2022, the minimum requirement for own funds and liabilities subject to bail-in (MREL) has also become binding.¹⁰ To facilitate a gradual transition, there is an intermediate target to be met up until the end of 2023, while the final target will enter into force on 1 January 2024. In December 2021, for significant banks subject to resolution, the weighted average of the ratio between liabilities that can satisfy the MREL requirement (own funds, subordinated liabilities and senior liabilities with certain characteristics) to risk-weighted assets stood at 27.8 per cent, against average values for the intermediate and final targets of 23.3 and 24.6 per cent respectively of RWAs. The largest banks (with total assets of more than €100 billion) are also required to comply with a part of the requirement with subordinated instruments, including non-preferred senior instruments. For the six banks in this category, the ratio of own funds and subordinated instruments to RWAs was 21 per cent on average, against intermediate and final targets of 17.3 and 19.3 per cent respectively of RWAs.

The average position of banks is adequate overall, although some of them that are subject to resolution have not yet come into line with the requirements: for these banks, the aggregate shortfall of liabilities that satisfy the overall and subordination component of the MREL requirement, to be met by 2024, stood at €4.9 billion and €3.8 billion respectively.¹¹

In 2021, the profitability of Italian banks rose considerably compared with the previous year. Net of extraordinary components, ROE increased from 2.0 to 6.0 per cent (Figure 2.12). Around three quarters of the banks in the sample saw an improvement in profitability compared with 2020 and only

¹⁰ The MREL requirement is made up of two amounts: 1) an amount to absorb resolution losses and 2) an amount for recapitalization designed to ensure that the capital requirements will be met when the resolution strategy is implemented. The amount set aside for recapitalization could also include resources deemed necessary to ensure that the entity is able to maintain sufficient market confidence after the resolution. For further details, see Directive (EU) 2019/879 (Bank Recovery and Resolution Directive, BRRD), Article 45 *et seq.*, and SRB, [Minimum requirement for own funds and eligible liabilities \(MREL\). SRB policy under the banking package](#), 2020.

¹¹ This refers to the largest banks, the only ones that are required to satisfy the MREL requirements, at least in part, with subordinated bonds.

6 per cent of them reported negative results (14 per cent in 2020).

The reduction of loan loss provisions (-37 per cent on an annual basis and mainly concentrated in the first half of 2021) was the main contributing factor in the increase in ROE, leading to growth of 2.7 percentage points.

Gross income rose by 5.4 per cent, mainly thanks to net fees, which increased by 11.7 per cent compared with the previous year (by 7.2 per cent on 2019). The growth in gross income was more marked in the first half of the year, in part benefiting from the increase in trading revenues, particularly in the first quarter of 2021.

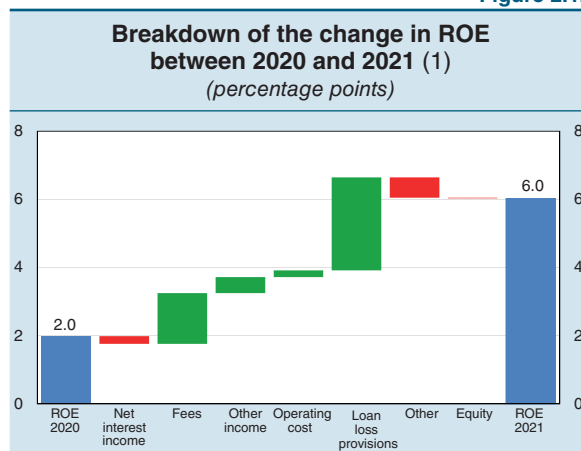
Net interest income fell by 1.4 per cent on an annual basis, contributing negatively to the change in ROE; the reduction was concentrated mainly in the first half of the year. The overall decline in interest rates on loans and securities was only partly offset by the increase in the volume of lending. The cost of funding fell due to the positive contribution of the TLTRO III operations and the reduction in interest owed on amounts deposited in bank accounts and on outstanding debt securities. Our estimates for 2021 suggest that the savings made by using TLTRO IIIs rather than alternative funding sources, net of the costs relating to the excess liquidity held at the Bank of Italy, was around 8 per cent of net interest income.

The decline in operating expenses (-0.8 per cent), led by the reduction in staff costs, also contributed to the improvement in ROE.

Looking forward, banks' profitability should benefit from the increase in market rates on net interest income. However, the uncertain economic situation could have a negative influence.

The overall recovery in profitability for the entire banking system has been accompanied by some cases of fragility, above all among medium-sized and small banks with a traditional business model, for which low credit quality adds to the difficulty of curbing costs and of responding to the challenges of technological innovation. More generally, for these institutions and for less significant banks, the Bank of Italy is trying to encourage them to adopt a sustainable business model and manage credit risk carefully (see the box 'Sustainability of the business model and credit risk: supervision of the less significant institutions').

Figure 2.12



Sources: Consolidated supervisory reports for banking groups and individual supervisory reports for stand-alone banks.

(1) Changes are calculated net of the extraordinary components and as a ratio to own funds and reserves. A green/red bar indicates a positive/negative contribution to the initial ROE at the start of 2020, giving the final ROE value for 2021.

SUSTAINABILITY OF THE BUSINESS MODEL AND CREDIT RISK: SUPERVISION OF THE LESS SIGNIFICANT INSTITUTIONS¹

In light of the more intense competitive landscape and the rising challenges posed by the digital evolution, spurred on even more by the pandemic, in November 2020 the Bank of Italy asked a broad sample of less significant institutions (LSI), whose operations are mainly traditional, to carry out a self-assessment of the sustainability of their business models. The banks were asked to identify strategic initiatives to raise their profitability and to provide their assessments of

¹ By Vanessa Manzi and Giacomo Ceccobelli.

the expected changes in the main economic and financial variables during the two-year period 2021-22 in relation to the implementation of these initiatives. The intermediaries' internal audit functions were asked to conduct a review of the main risk positions, including loans in moratorium, along with an assessment of the credit management processes.

The banks identified a broad range of possible interventions to improve profit margins. On the income side: (a) expand investment and insurance services (19 per cent of the improvement actions planned); (b) promote the range of specialized lending products (15 per cent); (c) stimulate greater growth in lending by focusing on specific customer and sectoral segments (11 per cent); (d) take advantage of digitalization (11 per cent). On the cost containment side, the main types of actions reported relate to: (a) cutting other administrative costs (24.3 per cent of cases, especially involving the renegotiation of supply contracts and facilities rental agreements and the reduction of consultancy costs); (b) reducing staff costs (20.4 per cent, implementing redundancy plans and retirement and generational turnover incentive schemes, with a consequent decrease in gross annual average compensation); (c) rationalizing the commercial network (12.6 per cent).

Generally speaking, the improvement in profitability would be based more on increasing revenue than on containing costs. Following the implementation of the strategies proposed, there would be, in addition to a total rebalancing of revenue, with an increase in the relative weight of net fee income and a concurrent contraction in the impact of net interest income. Carrying out the cost cutting actions would reduce the effect of costs on the cost-income ratio by around 4 percentage points at the end of 2022 compared with what the scenario would be without the interventions. However, the average ratio would continue to be higher than 65 per cent, with large variations across intermediaries.

The analysis performed by the banks' internal audit functions revealed, in some cases, factors that could give rise to an inadequate representation of the risks (e.g. owing to limitations on monitoring and classification mechanisms), or an underestimation of losses.

The results of the self-assessment pointed to weaknesses in the estimates made. As a result, the Bank of Italy conducted in 2021 another survey in which it found that, given the overall balanced state attained by most of the LSIs, a non-negligible share of the banks in the sample (around 15 per cent) show uncertainty at a strategic level, sometimes associated with weak capitalization. For some intermediaries, less proactive and suffering from management deficiencies, the weaknesses identified may jeopardize the sustainability of the business model to the point that the LSIs become distressed. These banks were asked to assess all the options possible to overcome these problems. Where necessary, the assignment of the cost-income ratio targets to be reached by 2023 could be assessed, as well as the action plans for achieving them.

In light of what was found by the internal auditors, the Bank of Italy also conducted on a sample of the LSIs a deeper analysis of the main positions subject to moratorium, which revealed some potential classification problems. The results were communicated to the banks concerned for careful re-examination.

The sustainability of the business model will remain central to discussions between the intermediaries and the Bank in the coming months; uncertainties and delays in taking the necessary corrective steps may lead to more incisive supervisory actions. A statistical survey of all the LSIs which began last summer regarding loans that benefited from moratoriums granted due to the health emergency, will make it possible to continue to observe the changes in the credit risk for these exposures and to carry out subsequent interventions if there are signs that the LSIs are underestimating these risks.

The Bank of Italy is paying very close attention to operational (including legal and IT) and reputational risks relating both to trends of a structural nature (e.g. increasingly digitalized financial services) and to the cyclical developments caused by the war in Ukraine.

As part of regular technological risk monitoring, based on continuously updated analysis methodologies and supervisory practices, and which includes the early warning system for serious operational or security incidents,¹² there is an increasing focus on the outsourcing of IT services. From 2020 to 2021, specific inspections were carried out on some of the main IT service providers working for the less significant banks, to assess risks connected with service provision to banks, the capability of providers to support changes in their customer banks' business model, and the existence of any cyber risk monitoring processes.¹³ Further analysis led to the identification of some areas for improvement regarding, among others, the practices and methodologies to control technological risks and IT security risk monitoring, for which providers have made specific action plans. The results were shared with the banks, which were asked to strengthen checks on their own providers.

As regards the risks associated with the war in Ukraine, growing attention is being paid to possible cyber attacks. Although no increase has been reported, the Bank of Italy has begun specific monitoring of the Italian financial system and has called on banks to step up their controls and risk mitigation measures, especially regarding business continuity and the restoration of critical services.¹⁴ The attention of supervised entities has also been drawn to compliance with the restrictive measures decided by the European Union against Russia.

2.2 INSURANCE COMPANIES AND THE ASSET MANAGEMENT INDUSTRY

Insurance companies

At the end of 2021, the solvency ratio¹⁵ of the insurance sector reached 260 per cent (it was 243 per cent in December 2020; Figure 2.13.a) and total premium income rose by 4 per cent. The average ROE for the sector (around 9 per cent) was down on the previous year; in the life sector, it remained basically unchanged, while in the non-life sector it instead declined (Figure 2.13.b), partly owing to the rise in the ratio of claims plus operating expenses to premium income (combined ratio; Figure 2.13.c).

The financial market turbulence generated by the outbreak of war in Ukraine has had a limited effect on the capitalization of companies. The impact of the fall in equity and bond prices was offset by the greater availability of own funds stemming from the rise in the risk-free interest rate curve that insurance companies use to calculate the technical provisions.¹⁶

¹² The reporting of serious operational or security incidents to the Bank of Italy by banks is included in the Bank's Supervisory Provisions (see the Bank of Italy's website: [Reporting significant operational or security incidents for banks, payment institutions and electronic money institutions](#)).

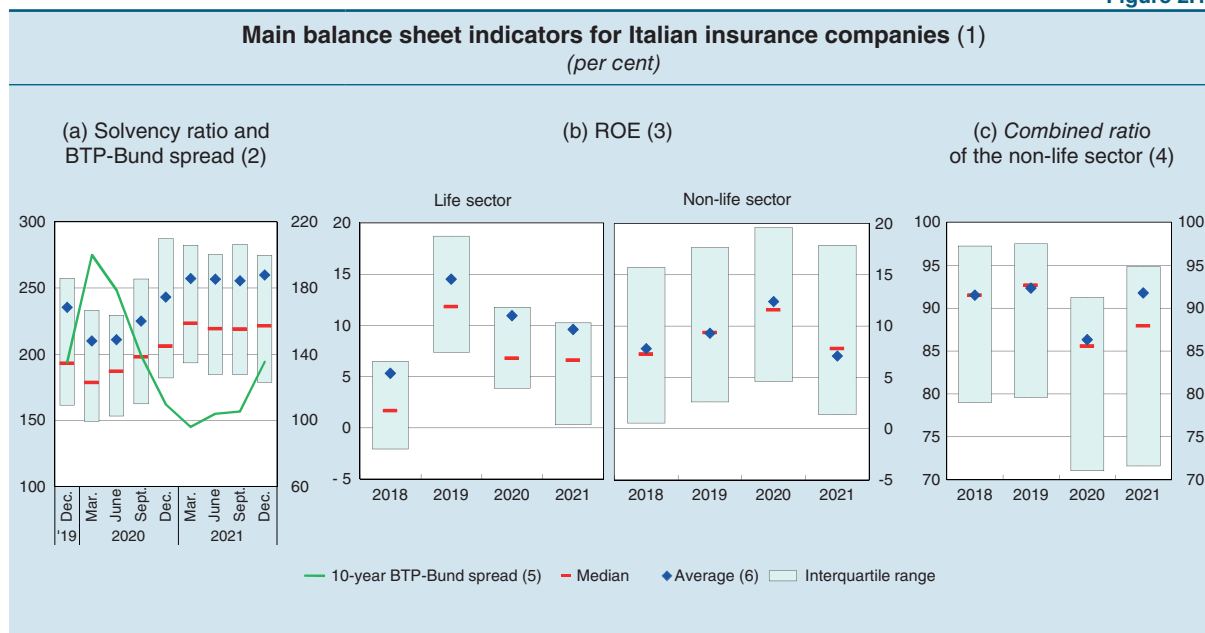
¹³ The strengthening of safeguards for outsourcing agreements and the achievement of better resilience against cyber threats are among the strategic objectives of the SSM (see the ECB website: [SSM supervisory priorities and risk assessment for 2022-2024](#), 7 December 2021).

¹⁴ Banca d'Italia, CONSOB, IVASS, UIF, 'Call for compliance with the restrictive measures adopted by the EU in response to Russian military aggression in Ukraine', press release, 7 March 2022 ([only in Italian](#)).

¹⁵ For the definition of the solvency ratio, see note 2 to Figure 2.13. The regulations require a ratio of 100 per cent or more.

¹⁶ Compared with the end of 2021, at the end of March 2022 we registered a rise in the curve of 90 basis points on average. The risk-free interest rates are positive starting from 2-years maturity, while in December 2021 the rates were negative for maturities of up to 7 years.

Figure 2.13

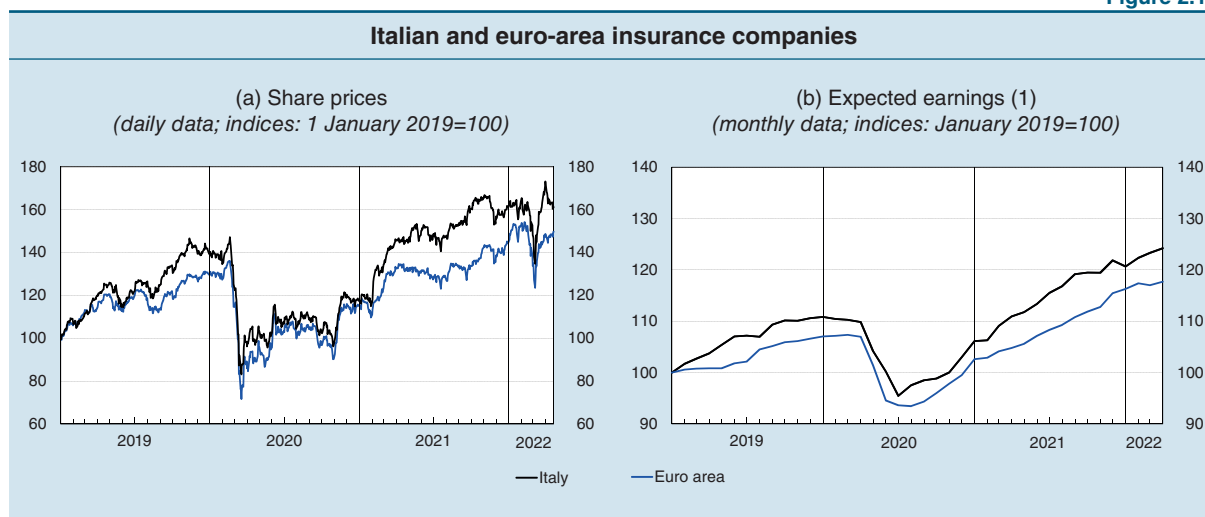


Sources: IVASS and calculations based on Refinitiv data.

(1) Preliminary data for 2021. – (2) The solvency ratio is calculated as the ratio of own funds held for coverage 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. – (3) Ratio of earnings to shareholders' net equity. – (4) Ratio of claims plus operating expenses to premium income. – (5) The BTP-Bund spread refers to the end of each period. Right-hand scale. – (6) Weighted average with weights equal to the denominator of each ratio.

The share prices of Italian insurance companies have been highly volatile since the outbreak of the war; they had nonetheless regained the levels of end-2021, higher than those prevailing before the pandemic. Analysts' expectations of expected earnings continued to rise and are above those recorded at the end of last year. The variations are mostly in line with those observed on average for euro-area companies (Figure 2.14).

Figure 2.14



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, Società Cattolica Assicurazioni and UnipolSai. For the euro area, the data refer to the leading companies included in the Datastream euro-area insurance sector index.

A survey conducted by the Italian Insurance Supervisory Authority (IVASS) shows that also for assessments of the short-term outlook, companies anticipate that the conflict will have a medium-low impact on their profitability and solvency (see the box ‘The potential risks to the insurance sector because of the war in Ukraine’).

THE POTENTIAL RISKS TO THE INSURANCE SECTOR BECAUSE OF THE WAR IN UKRAINE¹

The crisis caused by the conflict in Ukraine has had limited consequences for the Italian insurance market so far. Deep uncertainty over the length and extent of the hostilities, the sanctions and Russian retaliations make it difficult to assess the impacts on the sector going forward.

The survey on the potential vulnerabilities of Italian insurance companies, conducted by IVASS in March 2022, shows that the solvency, investment profitability and liquidity risks are generally assessed as being medium-low and expected to be stable over the next three months.

Specifically, the diversification strategies for investment by geographical area and industrial sector have limited the direct and indirect exposures of companies towards Russian, Belarusian and Ukrainian issuers, which stood at €1.2 billion in December 2021 (0.1 per cent of the total investments of Italian insurance companies) and had fallen by 39 per cent in February due to the effect both of disposals and of the turbulence on the financial markets. Investments in the high energy-intensive sectors² were also limited (€15 billion in December 2021; 1 per cent of total investments). Nevertheless, Italian companies remain subject to risks of changes in private and public bond spreads, which could widen.

The survey also shows that the risks for profitability are medium-low, given the small amount of insurance cover for persons or things located in the countries most involved in the conflict; the risks for which there have already been or there are expected to be significant increases in the frequency and scale of claims are also low in the portfolios of Italian companies. This refers in particular to cover: (a) credit and suretyship insurance; (b) aviation, marine and transport insurance; (c) miscellaneous financial losses, including those against cyber-attacks or business interruptions (taken together, they account for about 5 per cent of total non-life sector premium income).

In the short term, further increases in inflation and in cost of commodities, slowdowns in economic activity and the spread of the crisis to other sectors could lead to falls in profitability.

As well as the general rise in management costs, increases in claims are expected in the non-life sector, especially in the motor vehicle liability sector (which in terms of premiums accounts for 34 per cent of the non-life sector), in part following the rises in the prices of spare parts.

In the life sector, the rise in interest rates has reduced the risk coverage for financial guarantees and could lead to a relaunching of traditional life products. Nevertheless, there are expectations of increases in surrenders and reductions in premium income, especially in unit-linked products, because the tightening of macroeconomic conditions could lead to a lower capacity to save.

¹ By Teresa Griffò (IVASS) and Federica Pallante (IVASS).

² To identify these sectors, an energy intensity indicator is considered (used in G. Greca and G. Vetrella, op. cit.), which correlates the amount of energy consumed by the sector (measured in tonnes of oil equivalent) per million euros of the value added generated. Firms are considered to be high-energy intensive if they operate in sectors with values of over 500 units according to this indicator; the indicator assumes much lower values for sectors below this threshold. The sectors identified are: manufacture of paper and paper products; manufacture of coke and refined oil products; manufacture of other non-metallic mineral products; metallurgy; generation, transmission and distribution of electricity; maritime transport; and air transport. These sectors absorb about half of the energy consumption of production activities.

The insurance sector's financial resilience was also confirmed by the stress tests conducted in 2021 at national and European level on the data from end-2020. The tests considered especially adverse shocks and a scenario that was, overall, more unfavourable than the one generated by the crisis so far (see the box 'The results of the insurance stress tests').

THE RESULTS OF THE INSURANCE STRESS TESTS¹

Last December the European Insurance and Occupational Pensions Authority (EIOPA) published the results of the stress test on the 44 leading European insurance players, which include Assicurazioni Generali, Unipol Gruppo, Intesa Sanpaolo Vita and Poste Vita.² The exercise was conducted in collaboration with the national supervisory authorities and assessed the vulnerability of the European insurance market on the basis of balance sheet data as at end-2020. As usual, IVASS extended the stress test to a further eight Italian insurance players in order to produce a more complete picture of the resilience of the national insurance system.³

The stress tests estimated the impact of shocks, both financial or insurance-based, on insurance players' solvency as well as, for the first time, their liquidity position (see *Financial Stability Report*, 1, 2021).⁴ The scenario, which assumed that the negative impact of the pandemic would continue, showed a sharp, instantaneous drop in the prices of financial assets, a higher frequency of surrenders, a temporary increase in mortality in the life portfolios, and an increase in the frequency and severity of claims in the non-life segment.

The stress test also had the objective of assessing the systemic risk of the sector and its possible repercussions.⁵ Therefore, the participants were allowed to incorporate the effects on the solvency ratio and on liquidity of reactive management actions (constrained balance sheet approach). The usual assessment where such actions are not considered (fixed balance sheet approach) was also conducted.

The results show, at national and European level, a significant reduction in the capitalization of the insurance sector, which on average would maintain a solvency ratio above the regulatory minimum, also thanks to the reactive management actions. In particular, without the activation of the latter, the average ratio would decrease from 228 to 101 per cent for Italian insurance players and from 218 to 126 per cent for the sample of European players. Conversely, the impact on solvency would be much smaller under the constrained balance sheet approach: the ratio would reach 116 and 139 per cent, respectively, for the Italian and European samples.

¹ By Federica Pallante (IVASS).

² These included 43 groups and one standalone company, belonging to 20 member states and accounting for 75 per cent of the European market's total assets. For a summary of the results and a description of the stress test scenarios, see EIOPA's website: '[Insurance stress test 2021](#)'.

³ Insurance players with assets exceeding €2 billion.

⁴ With regard to the financial variables, the scenario assumes, among other things: (a) an increase in government bond yields (e.g. a rise of 88 basis points for 10-year Italian government securities, while, conversely, German Bund yields remain unchanged); (b) an increase in corporate bond yields, with differences based on rating class, sector and geographical area; (c) a decrease in the value of stocks (e.g. a drop of 45 per cent in the European Union); (d) a reduction in the interest rate swap curve across all maturities. However, with a volatility adjustment equal to 60 basis point in the stressed scenario, the curve used to calculate the technical provisions is above the one used at the end of 2020 for the first seven maturities. The insurance stress test does not have the objective of identifying capital strengthening measures: the post-stress solvency ratio is used merely as an indicator of resilience along with other indicators such as the excess of assets over liabilities.

⁵ EIOPA, 'Methodological principles of insurance stress testing', 4 December 2019.

Under both approaches, the decrease would be mitigated by the use of long-term guarantee (LTG) measures; without them, the average solvency ratio of both the European and Italian samples would slide below the regulatory minimum.

The greater vulnerability of Italian insurance companies compared with European insurance companies stems above all from their higher exposure to domestic government securities and corporate bonds with a BBB rating.

The adverse scenario for liquidity does not appear to raise any critical issues: initial cash holdings, together with the sale of liquid assets, would be sufficient to cover the main liquidity needs generated by the shocks at both European and national level.

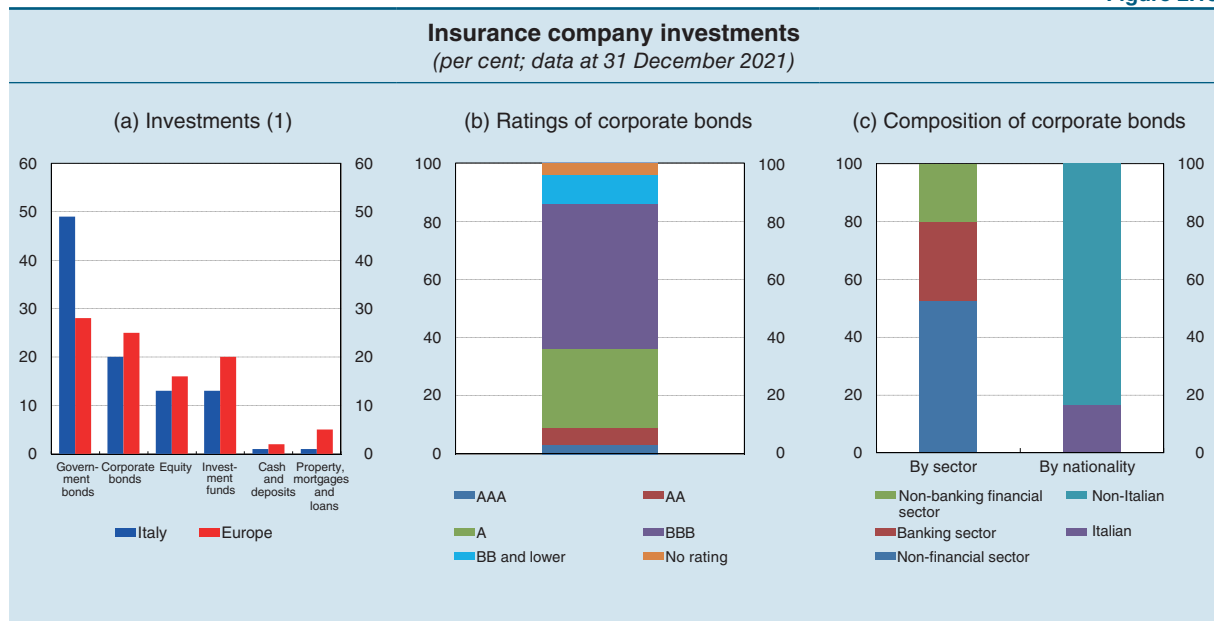
The most common reactive management actions cited by the insurance companies are: (a) intra-group capital injections; (b) reductions in the riskiness of the asset portfolio through sales and purchases of securities; and (c) the suspension of dividend distribution. However, the limited reach (including from a quantitative point of view) of the actions identified in the stress test did not lead to second-round effects in the markets.

EIOPA has recommended that the national authorities verify that the reactive management actions to be taken in adverse scenarios can actually and promptly be carried out, as well as the reasons for not applying them when warranted.⁶

⁶ EIOPA, '2021 Insurance stress test recommendations', 21 March 2022.

At the end of 2021, investments for which the risks are borne by Italian insurance companies were still concentrated in government bonds to a much greater extent than for European insurance companies (49 per cent, compared with 28 per cent; Figure 2.15.a). Investment in corporate bonds, stable at 20 per cent of the

Figure 2.15



Sources: IVASS and EIOPA.

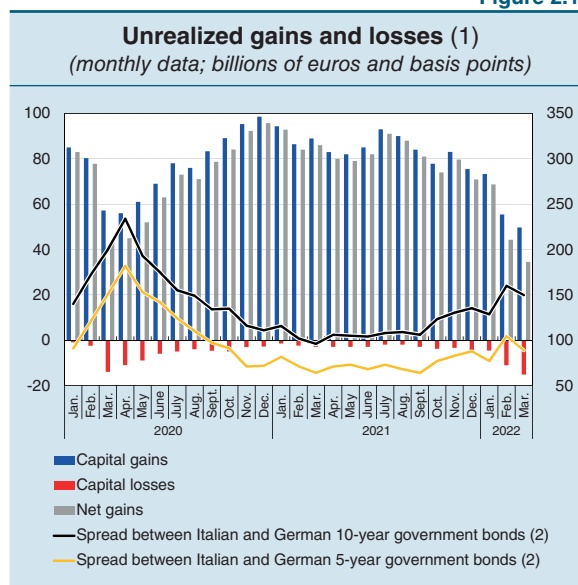
(1) The data for Europe, as at 30 September 2021, refer to the European Economic Area.

portfolio, continued to mostly comprise securities issued by foreign companies and non-financial corporations (Figure 2.15.c); 26 per cent of these had an A rating, 51 per cent a BBB rating and 10 per cent a non-investment grade rating (Figure 2.15.b).

The deterioration in the macroeconomic conditions was reflected in the net unrealized gains of Italian insurance companies, which at the end of the first quarter of 2022 amounted to €35 billion, down sharply compared with December 2021 (€71 billion; Figure 2.16).

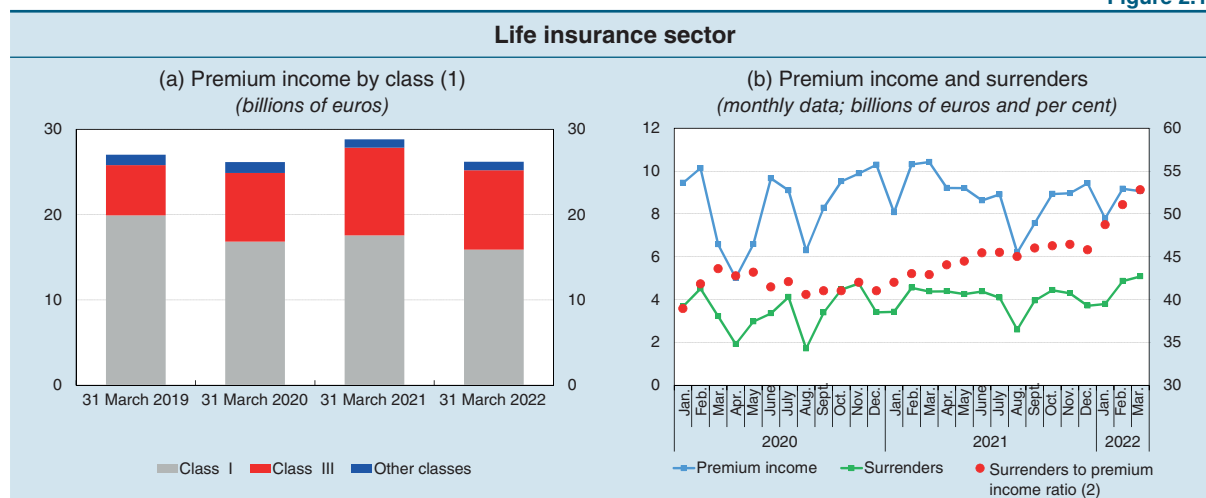
Moreover, in the life sector, the ratio of surrenders to premium income, an indicator of potential liquidity tensions, had risen to 53 per cent in March 2022, compared with 43 per cent in the previous year (Figure 2.17.b). The rise stems from increases in surrenders (11 per cent) and lower premium income (9 per cent), which declined for both traditional and unit-linked products (Figure 2.17.a).

Figure 2.16



Sources: IVASS and calculations based on Refinitiv data.
(1) The 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.

Figure 2.17



Source: IVASS.
(1) 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 include all the other kinds of life insurance policies. – (2) Calculated as the ratio of surrenders to premium income. Cumulative data. Right-hand scale.

The asset management industry

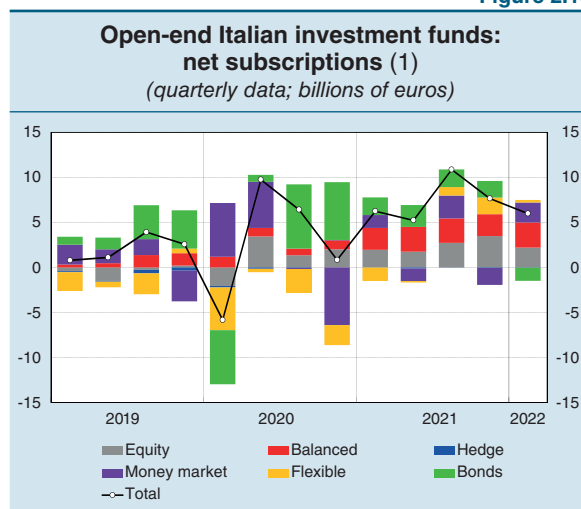
In the fourth quarter of 2021, net subscriptions to Italian open-end investment funds were positive overall (amounting to €7.6 billion; Figure 2.18). Inflows were concentrated in the equity, balanced and bond fund sectors, while money market funds recorded outflows. In the first quarter of 2022, net subscriptions remained positive (€6.0 billion; Figure 2.18), even following the outbreak of war in Ukraine (€255 million in March). Positive net subscriptions were recorded for equity, balanced and

money-market funds, while bond funds registered outflows.

The degree of liquidity¹⁷ rose between September and March, from 6.7 to 7.4 per cent, staying at historically high levels. During the same period, no significant changes were observed in the lines of credit available or in indebtedness.¹⁸

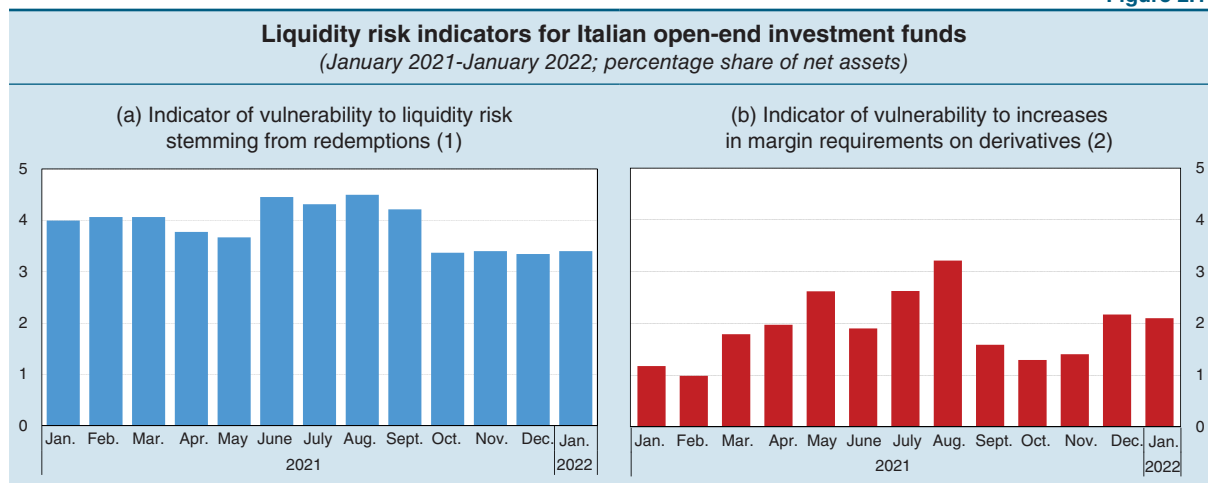
From July 2021 to January 2022, the share of funds vulnerable to particularly heavy demand for redemptions (with a liquidity indicator of less than one)¹⁹ declined, from 4.3 to 3.4 per cent (Figure 2.19.a).²⁰ Exposure to derivative instruments has remained limited. In January, funds vulnerable to liquidity risk attributable to changes in margin requirements on derivatives accounted for 2.1 per cent of total assets, down from July (2.6 per cent; Figure 2.19.b).

Figure 2.18



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 Q1 2022.

Figure 2.19



Sources: Supervisory reports and ECB (Centralised Securities Database).

(1) Ratio of the net assets of funds with a liquidity risk indicator of less than 1 to total sector net assets. 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). – (2) 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 equal to or higher than AA.

¹⁷ 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.

¹⁸ Italian legislation envisages 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 for no more than 10 per cent of the overall net value of the fund.

¹⁹ The liquidity indicator is equal to the ratio of a fund's assets weighted by the degree of liquidity of its components to net redemptions under the stress scenario (see note 1 to Figure 2.19).

²⁰ In January, the vulnerable funds were primarily specialized in bond segments characterized by low credit ratings (high yield) and emerging market funds. Among the vulnerable funds, excluding those nearing maturity, none have recorded significant net surrenders in recent months.

Despite the slight increase in recent years, in line with what has been observed at global level (see the box ‘Corporate bond funds: central bank interventions after the pandemic and regulatory reforms’), exposure to credit risk and to interest rate risk continued to be limited. Between 2019 and 2021, the share of high-yield bonds held by Italian funds rose from 8.0 to 9.4 per cent of total assets, while the average financial duration of the overall bond portfolio went from 5.4 to 5.8 years, a level that was nevertheless below the European average (7.3 years in 2021). The increase in the share of risky securities and in the average financial duration of portfolios mostly reflected the pursuit of higher yields in a low interest rate environment. The reduction in the average credit ratings of issuers due to the effects of the pandemic crisis also contributed to the growth in riskiness.

CORPORATE BOND FUNDS: CENTRAL BANK INTERVENTIONS AFTER THE PANDEMIC AND REGULATORY REFORMS¹

The crisis triggered by the pandemic has highlighted vulnerabilities in the segment of corporate bond funds, owing both to the large mismatch between the liquidity of the assets and that of the liabilities, and to the uncertainty about the value of their investments during the phases of considerable market volatility (see the box ‘The tensions on the financial markets in 2020: indications for non-bank intermediation and financial stability’, in *Financial Stability Report*, 1, 2021). The financial conditions in the segment improved above all following the monetary authority interventions, which proved effective in restoring the regular functioning of the markets.

The central bank measures, especially the asset purchase programmes, helped increase liquidity in the bond markets, reducing uncertainty about the valuation of the funds’ assets and mitigating the risk of large-scale investor redemptions. Improved financial market conditions may nonetheless have also influenced the investment decisions of bond funds, providing incentives to managers to increase the riskiness of the assets to obtain higher yields.

An analysis of investment decisions taken in 2020 by European and US corporate bond funds has revealed how intermediaries have increased their overall exposure to credit and liquidity risks following the launch of asset purchase programmes by the central banks.²

In particular, the funds more exposed to these interventions – i.e. those which immediately prior to the pandemic crisis held a high share of securities eligible for inclusion in purchase programmes – reduced both the credit rating and degree of liquidity of their portfolios to a greater extent than those who were less exposed (see the figure).³ Moreover, the funds that were more exposed to the measures increased the average riskiness of their portfolios when they under-performed with respect to their peers. This contrasts with what is generally found in the literature, i.e. that bond funds with lower than average yields tend to reduce the riskiness of the securities held in their portfolios because they anticipate a possible increase in redemptions (reverse tournament).⁴

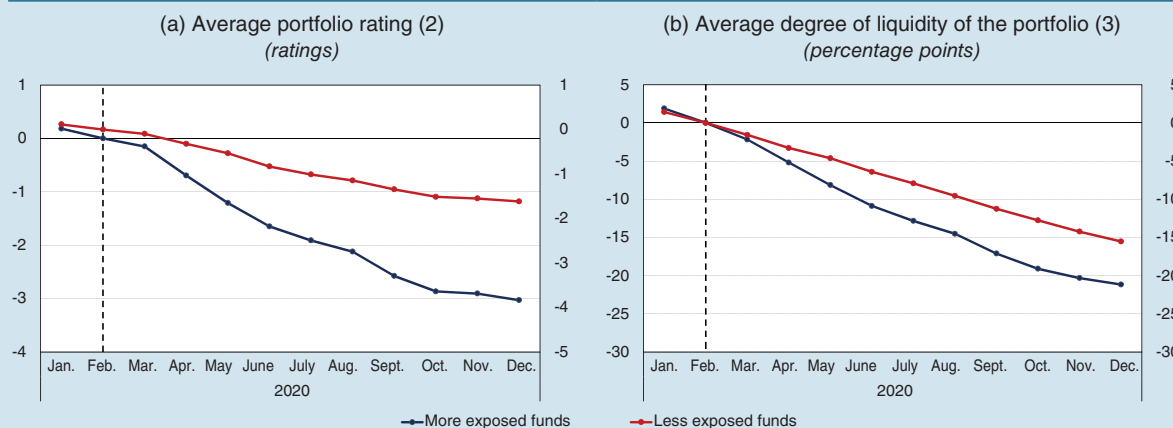
¹ By Giovanni di Iasio and Raffaele Gallo.

² N. Branzoli, R. Gallo, A. Ilari, and D. Portioli, ‘Financial fragilities and risk-taking in the aftermath of market stress: corporate bond funds and policy interventions after the outbreak of the Covid-19 pandemic’, Banca d’Italia, Temi di Discussione (Working Papers), forthcoming.

³ The degree of liquidity of the funds’ assets is assessed based on the methodology used to measure banks’ prudential liquidity requirements (HQLA – high-quality liquid assets), adapted to the context of reference.

⁴ J. Cutura, G. Parise and A. Schimpf, ‘Debt de-risking’, BIS Working Papers, 868, 2020.

Average variation of credit risk and liquidity of bond fund portfolios based on exposure to central banks' purchase programmes (1)



Sources: Based on data from the ECB (Centralised Securities Database) and Morningstar.

(1) The changes are cumulative with respect to February 2020. More exposed funds are those which in February 2020 held a higher than median share of securities eligible for inclusion in the purchase programmes of the main central banks in their portfolios (ECB, Federal Reserve and the central banks of Canada, the United Kingdom and Sweden). – (2) The credit rating was converted into a number using a scale comprising 22 levels. – (3) The average degree of liquidity of the portfolio is equal to the ratio of the assets of a fund weighted by the degree of liquidity of each exposure to total assets.

Another analysis, based on a general equilibrium model calibrated on the euro area, shows that the funds tend to hold low liquidity buffers. The fund managers, who are forced to sell assets when investor redemption requests exceed their liquidity buffers, do not take into account the negative externality associated with these (fire) sales.⁵ The model indicates that the introduction of a regulatory liquidity requirement would improve welfare in the economy. The requirement would come to around 8 per cent of the assets under management, a value that is significantly above the liquidity buffers actually available (around 2 per cent of assets, on average between 2015 and 2019). The analysis also shows that a requirement of this magnitude would also be able to limit the effects of a sharp increase in redemption requests similar to that observed in March 2020.

Both analyses underscore the need to introduce prudential rules aimed at preventing excessive risk-taking by investment funds.

⁵ G. di Iasio, C. Kaufmann, F. Wicknig, 'Macroprudential regulation of investment funds', European Central Bank, Working Paper Series (forthcoming).

The vulnerability of Italian funds to the tensions engendered by the conflict in Ukraine is limited. In December 2021, the share of securities issued by institutions resident in Russia, Ukraine and Belarus amounted to 0.3 per cent of the total assets of Italian funds, a very small amount, close to that of European funds. The share of securities issued by firms operating in high energy-intensive sectors amounted to 5.8 per cent (Figure 2.20), slightly above that recorded for European funds (4.3 per cent); exposures were concentrated in securities issued by firms that produce electricity and refined petroleum products, 60 per cent of which attributable to Italian firms.

The total assets of alternative investment funds continued to grow at a rapid pace (21.9 per cent in 2021), though the sector remains small. The expansion is mostly attributable to intermediaries investing in private equity and to funds specialized in the direct provision of finance or in the purchase of loans originated by other financial intermediaries. In December 2021, the assets of

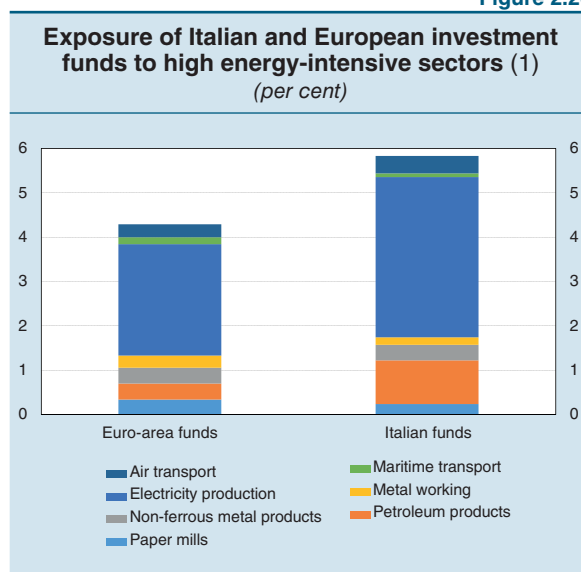
these funds amounted to €19.4 billion and €5.4 billion, respectively. On the same date, there were 16 alternative individual saving plans (PIRs),²¹ for a total amount equal to €1.7 billion.

A recent regulation redefined the entry thresholds to Italian alternative reserved investment funds, to give access to these forms of investment to a broader set of customers, willing to make medium- and long-term investments in illiquid assets in order to diversify their financial portfolios.²² Currently, retail customers hold a limited portion of the net assets of alternative funds (12.0 per cent for alternative investment funds and 0.3 per cent for alternative property funds).

The risks to financial stability stemming from open-end alternative funds, which accounted for 10.5 per cent of the overall net assets of Italian funds at the end of 2021, remain low. Leverage is modest overall (102.9 per cent of net assets; Figure 2.21.a) and lower than European leverage (139.0 per cent in 2020). Short-term liquidity risks for open-end alternative funds have not emerged (Figure 2.21.b); in the event of persistent outflows over a time horizon of between three and six months, there could be a slight mismatch, equal to about 1.4 per cent of the securities portfolio, between asset liquidity and redemptions for investors; over a time horizon of between six months and one year, the mismatch would instead amount to 2.7 per cent.²³ The potential risks associated with the scarce liquidity of assets are mitigated by the legislation, which obliges funds that invest more than 20 per cent of their assets in illiquid assets to be set up as closed-end funds.

The assets of Italian real estate funds rose by 8.3 per cent in 2021, reaching €106 billion (Figure 2.22.a). The increase was entirely confined to the funds reserved to professional investors and, unlike what

Figure 2.20



Source: ECB (Securities Holding Statistics and Centralized Securities Database).

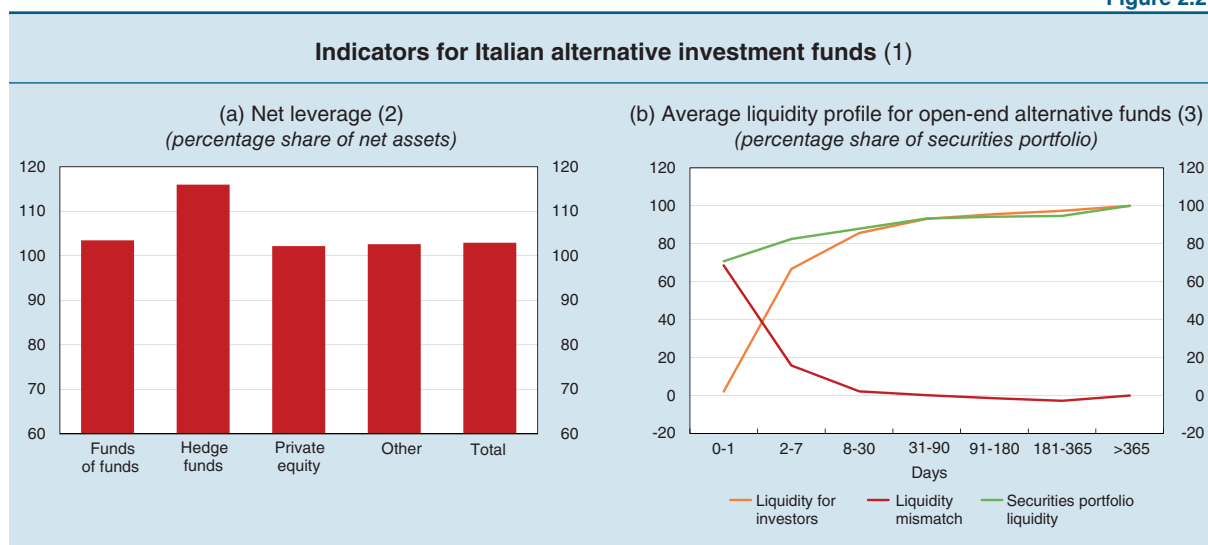
(1) Data on non-money market funds. The analysis considers direct exposures only (through bonds or equity). Indirect exposures are not considered (through fund shares). To identify the high energy-intensive sectors, tonnes of oil equivalent were considered per million euros of value added at market prices. The indicator is drawn from G. Greca and G. Vetrella, 2021, op. cit. The following sectors, which have an index above the threshold of 500 tonnes of oil per million euros of value added, were included in the high energy-intensive category: manufacture of paper and paper products; coke and refined petroleum products; other non-metallic mineral products; metal working; electricity generation, transmission and distribution; maritime transport; air transport.

²¹ 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 the tax credit to losses realized on investments made in the calendar year 2022 to the new PIRs, for an amount not exceeding 10 per cent of the sums invested.

²² Decree 19/2022 of the Ministry of Economy and Finance made it possible for non-professional investors to subscribe to reserved alternative investment funds for a minimum amount of €100,000, provided that the sum invested did not exceed 10 per cent of the subscriber's financial portfolio and that the investment was made as part of the provision of a consultancy service. The decree also envisages that portfolio managers can acquire shares of reserved alternative investment funds on behalf of non-professional investors, so long as the sum invested is at least equal to €100,000.

²³ 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 (see note 2 to Figure 2.21). The estimate does not take account of any current account holdings.

Figure 2.21

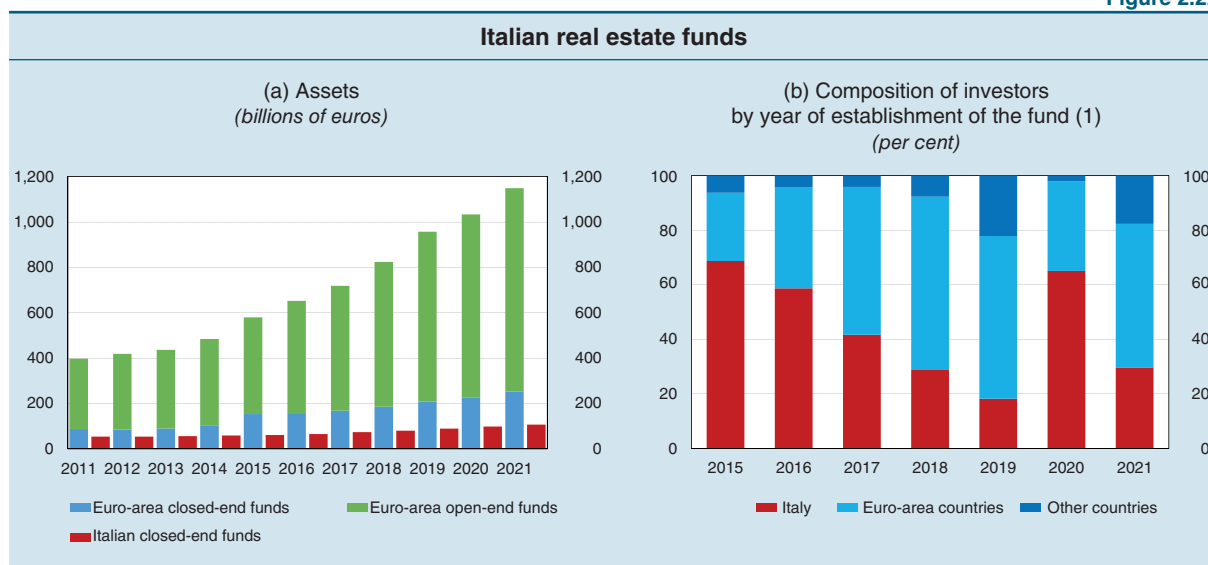


Sources: Supervisory reports and data submitted pursuant to the Alternative Investment Fund Managers Directive (AIFMD).

(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 ESMA (European Securities and Markets Authority). – (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 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.

happened in 2020, was mostly ascribable to foreign investors (Figure 2.22.b).²⁴ Around half of the new investments made during the year were in the province of Milan.

Figure 2.22



Source: Supervisory reports.

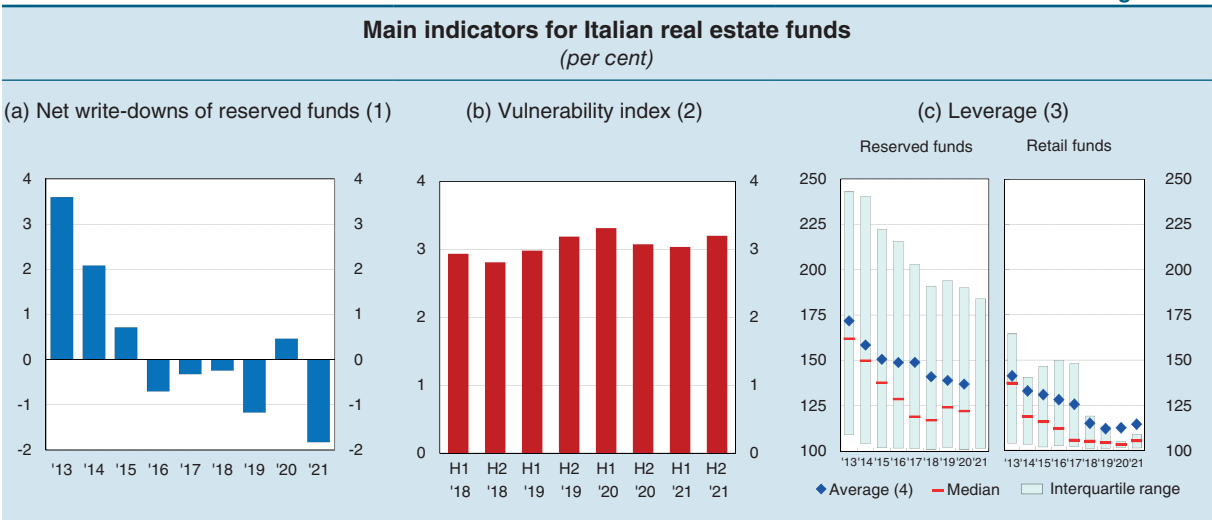
(1) Share of net assets subscribed by the different categories of investor.

²⁴ Operators believe that the conditions of uncertainty caused by the pandemic during 2020 have encouraged foreign institutional investors, such as pension funds and sovereign funds, to postpone their investment decisions.

Real estate funds recorded a net revaluation of their portfolio in 2021, thanks to the favourable trend in property prices (Figure 2.23.a). The risks to financial stability stemming from this sector remain low. Italian funds are, in fact, not subject to the liquidity risk deriving from high demand for redemptions, as national legislation requires them to be closed-end.

The risk that, at maturity, the valuation of the real estate portfolio entered on the funds' books may diverge significantly from market values, remains moderate: in December, funds characterized by a difference between the book value and the market value of properties higher than net assets represented only 3.2 per cent of the total net assets of the sector (Figure 2.23.b). Leverage has remained at historically low levels (Figure 2.23.c). The overall exposure of the financial system to this sector continues to be limited (1.0 per cent of total loans).

Figure 2.23



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 we estimate that the difference between the book value and the market value of properties is greater than net assets. For each fund, we calculate the difference 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) by 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 assets. – (4) Weighted average with weights equal to the denominator of each ratio.

The segment of real estate funds offered to retail investors, which account for a little over 1.0 per cent of the sector's total net assets, was the subject of a new legislative measure at the end of the year that made it possible to postpone, on an exceptional basis, their closing date to the end of 2023 in order to complete the sales of properties still in the portfolio.

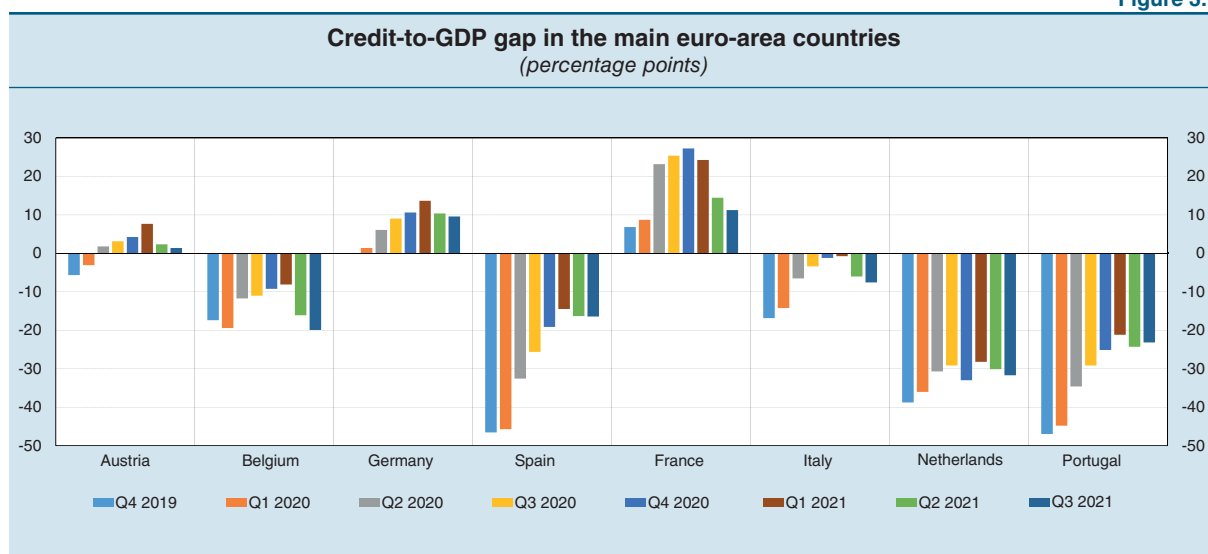
3 FINANCIAL STABILITY POLICIES

Macprudential policy

In the absence of risks to financial stability stemming from an excessive growth in credit, the Bank of Italy kept the countercyclical capital buffer (CCyB) rate at zero per cent for the second quarter of 2022 (Table 3.1).¹ In line with expectations, in the fourth quarter of 2021, the credit-to-GDP gap was negative and had widened further (see Section 1.2). The other indicators linked to developments in macrofinancial conditions did not point to the build-up of any vulnerabilities either.

The credit-to-GDP gap is very uneven in the euro area: it is positive in Austria, France and Germany while it is negative in the other main euro-area countries (Figure 3.1). This situation is reflected in different CCyB levels: positive in France and Germany from 2023, they are nil elsewhere (see Table A10 in Selected Statistics).

Figure 3.1



Source: ECB.

Last December, the Bank of Italy confirmed UniCredit Group's designation as a global systemically important institution (G-SII):² based on data at 31 December 2020, the UniCredit Group remained in

¹ For details on the main macroprudential instruments for the banking system, see Table A9 in Selected Statistics.

² The methodology used to identify and classify G-SIIs, which was established by European law, relies on a range of indicators, including size, complexity, and their degree of interconnectedness and internationalization. For further details, see Commission Delegated Regulation (EU) No 1222/2014, containing provisions consistent with those set out by the Basel Committee on Banking Supervision (BCBS) and by the FSB.

Table 3.1

Recent macroprudential policy decisions of the Bank of Italy (1)			
	Decision	Capital requirement for this year (per cent)	Fully phased in capital requirement (2) (per cent)
10.12.2021	Identification of the UniCredit group as a G-SII and setting of the related capital requirement ratio (3)	1.00	1.00 (2023)
17.12.2021	Setting of the CCyB rate for the first quarter of 2022	0.00	–
14.01.2022	Decision not to reciprocate a macroprudential measures adopted by the <i>Haut Conseil de stabilité financière</i> in France	–	–
21.03.2022	The Bank of Italy's response to the European Commission's consultation document on the review of the EU macroprudential policy framework	–	–
25.03.2022	Setting of the CCyB rate for the second quarter of 2022	0.00	–

(1) The dates given are those on which the decisions were published. For a complete list of the [macroprudential policy decisions](#) see the Bank's website. – (2) In brackets, the year of full implementation. – (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.

the first subcategory of global systemic importance (which envisages the less stringent requirement).³ Accordingly, as of 1 January 2023, it will be required to continue to maintain an additional capital buffer of 1.0 per cent of its total risk-weighted exposures.

At the start of this year, the Bank of Italy assessed a request by the French macroprudential authority to reciprocate a measure limiting the exposures of systemically important banks to highly-indebted large non-financial corporations (NFCs) or groups of NFCs headquartered in France. The Bank of Italy decided not to adopt the French measure in Italy since no systemically important Italian bank has exposures above the relevant threshold; it will continue to periodically monitor the large exposures of Italian banks to France and can change this decision if the circumstances require it.

The Bank of Italy recently responded to the European Commission's public consultation on the review of the EU macroprudential framework for the banking sector. Also in light of the pandemic crisis, the Bank considers it useful to increase the share of capital buffers that can actually be released by the authorities in the event of exogenous shocks independent of the economic or financial cycle. To this end, for example, the possibility for the authorities to release, in whole or in part, the capital conservation buffer (CCoB) in particularly adverse circumstances could be introduced in the regulatory framework. In the Bank of Italy's response to the consultation, greater flexibility in setting the CCyB rate is also looked on favourably, provided that it continues to be based on the use of quantitative cyclical risk indicators; it is also recommended that this specific capital buffer not be used to address non-cyclical risks. In addition, the Bank of Italy favours harmonization,

³ The banking groups currently identified as other systemically important institutions (O-SIIs) are UniCredit, Intesa Sanpaolo, Banco BPM and Monte dei Paschi di Siena. For information on the respective reserve levels, see *Financial Stability Report*, 2, 2021.

however minimal, of the borrower-based macroprudential instruments at EU level,⁴ to be achieved on the basis of the recommendations already issued on this subject by the European Systemic Risk Board (ESRB). The design, calibration and activation of these instruments must remain the exclusive purview of the national authorities.

One of the most frequently discussed issues in the international fora, especially following the pandemic and the countermeasures taken by the authorities, concerns the extent to which banks' capital buffers can actually be utilized. In addition to a series of factors that are external to regulation (such as the stigma that could be attached to intermediaries opting to avail of the flexibility envisaged) there is also the issue of the design of the buffers and their interaction with the other capital requirements (see the box 'The actual usability of the combined buffer requirement for Italian banks: a comprehensive approach').

THE ACTUAL USABILITY OF THE COMBINED BUFFER REQUIREMENT FOR ITALIAN BANKS: A COMPREHENSIVE APPROACH¹

The current regulatory framework requires that banks comply with different minimum capital requirements at the same time: a prudential requirement based on risk weights (RWs); another prudential requirement, but based on the leverage ratio (LR); a requirement related to the resolution framework, to ensure that banks have the minimum requirement for own funds and eligible liabilities (MREL), formulated both in terms of risk-weighted assets (MREL-RW) and of leverage (MREL-LR).

Since the combined buffer requirement (CBR) is required only in addition to some requirements,² it may happen that Common Equity Tier 1 (CET1) capital can be used simultaneously to comply with the CBR in one framework and with the minimum requirement in another. In these cases, we talk about overlaps, which make it impossible to use (in whole or in part) the CBR to absorb losses without violating a minimum requirement.³

¹ By Wanda Cornacchia and Giulio Guerra.

² The CBR is equal, for each bank, to the sum of the Capital Conservation Buffer (CCoB), Countercyclical Capital Buffer (CCyB), the buffers for global (G-SII) and other (O-SII) systemically important institutions, and the Systemic Risk Buffer (SRB). In the regulation the CBR is required only on top of the risk-weighted requirements - i.e. the minimum capital requirements (RW) and those of MREL based on RW (MREL-RW) - but not also in addition to the requirements based on the notion of leverage, i.e. LR and the unweighted MREL (MREL-LR).

³ The consequences of the violations are proportionate to their seriousness: those relative to the minimum requirements can lead to the declaration of failure (or risk of failure) of the bank and eventually to liquidation or resolution procedures; those relative to the CBR can lead to, among other things, limits on the distribution of dividends.

⁴ These instruments (for example, limits on the loan to value ratio) have been recently introduced in the national regulatory framework; see Bank of Italy Circular No. 285/2013 for banks ([only in Italian](#)); Bank of Italy Circular No. 288/2015 for financial intermediaries ([only in Italian](#)); supervisory provisions for payment institutions and e-money institutions ([only in Italian](#)).

A comprehensive methodological approach was taken to measure the usability of the CBR.⁴ This approach differs from the one recently adopted by the ESRB,⁵ insofar as it provides a broad overview of the actual usability of the CBR, considering that this is required not only on top of the RW requirement, but also in addition to the MREL-RW requirement. Should the MREL-RW requirement prove to be higher than the RW one, the CBR may be more usable than it would be using the approach based solely on the RW requirement. This explains why, also considering the regulatory requirements envisaged by the resolution framework, the usability of the CBR increases.

Table

CBR usability of Italian banks (per cent of the CBR; data at 31 December 2020)		
	RW approach	Comprehensive approach
Banks with MREL requirements	10.8	69.0
Total banking system	26.7	73.6

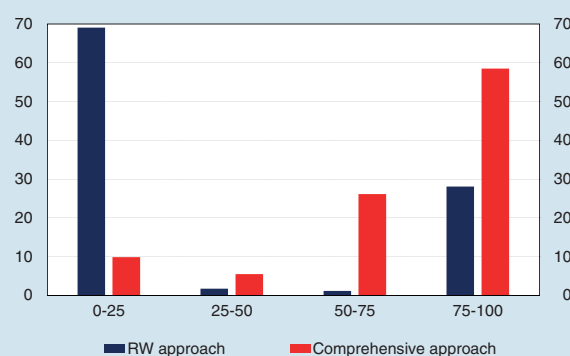
Source: Supervisory reports.

Overlaps concern about one fourth of Italian banks (which account for almost 75 per cent of the total system assets). The table shows the contribution of the comprehensive approach to quantifying the usability of the CBR: for the Italian banks that have MREL requirements (accounting for 80 per cent of total assets), the actual usability is 69.0 per cent on average, compared with 10.8 based solely on the RW approach. For the Italian banking system as a whole, the usability would amount to 73.6 per cent on average, compared with 26.7 per cent based on the RW approach.

The difference between the two approaches to measuring the CBR's usability also emerges from the distribution of the risk-weighted assets (RWAs) of Italian banks by buckets of CBR usability (see the figure). In particular, based on the RW approach, almost 70 per cent of the banking system RWAs are attributable to banks with a very limited CBR usability (between 0 and 25 per cent). According to the comprehensive approach, instead, 85 per cent of RWAs are attributable to banks with a medium/high CBR usability (above 50 per cent).

Figure

Distribution of RWAs in the Italian banking system according to CBR usability (1)
(per cent; data at 31 December 2020)



Source: Supervisory reports.
(1) Share of banking system RWAs by bucket of CBR usability.

⁴ For more details on the proposed methodology, see W. Cornacchia and G. Guerra, 'Overlaps between minimum requirements and capital buffers: the usability of the Combined Buffer Requirement for Italian banks', *Notes on Financial Stability and Supervision*, forthcoming.

⁵ For further details, see the ESRB, *Report of the Analytical Task Force on the overlap between capital buffers and minimum requirements*, December 2021.

Intervention power

Among the instruments available to the Bank of Italy to preserve the stability of the national financial system, are those envisaged under Regulation (EU) No 600/2014 (MiFIR). This attributed to the national supervisory authorities and, in some cases, to the European Securities and Markets Authority (ESMA) and the European Banking Authority (EBA), the power to ban or limit: (a) the marketing, distribution or sale of financial instruments and structured deposits; and (b) certain associated financial activities and practices. In transposing the provisions of MiFIR, Article 7-*bis* of the Consolidated Law on Finance grants the Bank of Italy ‘product intervention power’ to safeguard financial stability.⁵ The interventions pursue a different objective than the periodic controls carried out by the Bank of Italy on the transparency of contractual conditions and propriety of banks’ dealings with customers.⁶ Measures can be issued with regard to banks, investment firms and market operators and can be temporary or permanent. Before exercising this intervention power, the authorities must verify that it is not possible to counter the risks with other supervisory measures and that interventions are proportional and non-discriminatory. Based on the latest analyses and assessments, at the end of 2021, the risks to financial stability linked to financial instruments circulating in Italy appear moderate (see the box ‘The Bank of Italy’s intervention power: assessing the risks to financial stability’).

THE BANK OF ITALY’S INTERVENTION POWER: ASSESSING THE RISKS TO FINANCIAL STABILITY¹

To support the possible exercise of its intervention power, the Bank of Italy regularly carries out analyses on the risks for the stability of Italy’s financial system that may stem from financial instruments that are traded, distributed or sold in Italy or from Italy.² Numerous products are considered in the analysis, and subdivided into macro-categories of securities and derivatives, which are broken down further into complex and non-complex.³

Based on the latest assessments, debt securities worth a total of about €2,400 billion were in circulation in Italy at the end of 2021.⁴ Some 16 per cent of these were represented by complex instruments, the most common of which were: (a) securitizations, also in the form of self-

¹ By Arianna Miglietta.

² For further information on the framework 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.

³ For securities, the following are considered complex: securitizations, self-securitizations, certificates, credit linked notes, structured bonds, subordinated bonds and AT1 subordinated bonds; the following are considered non-complex, in addition to the residual types: shares, commercial papers, covered bonds, rights, exchange traded funds (ETFs), open-end and closed-end funds, other types of funds, other bonds and Italian and foreign government bonds. For derivatives, the following are considered non-complex: forwards, futures, forward rate agreements (FRAs), plain-vanilla options and interest rate swaps, while these are considered complex derivatives: credit default swaps, other options (not plain vanilla), other derivative contracts, and other credit derivatives (including credit default options).

⁴ The securities considered comprise the various types of bonds and the securitized financial instruments with characteristics typical of derivatives contracts, such as certificates and covered warrants; shares and investment fund units are excluded.

⁵ The same power is also granted to the Italian Companies and Stock Exchange Commission (Consob) with the aim of safeguarding investors and promoting the orderly functioning and integrity of the financial and goods markets. For more information on the product intervention power, see on the Bank of Italy’s website, [The Bank of Italy’s ‘intervention power’ concerning financial instruments, structured deposits and related financial activities/practices](#).

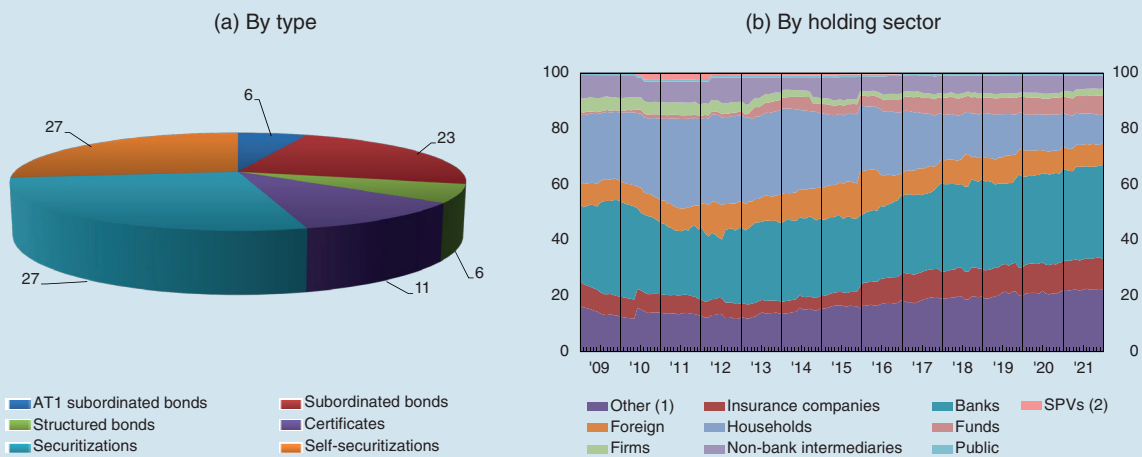
⁶ The controls on transparency and propriety for which the Bank of Italy is responsible concern banking and financial products and services (such as current accounts, deposits, loans, payment services) but not investment products, which are instead monitored by Consob.

securitizations (27 per cent in both cases; see panel (a) of the figure); (b) subordinated bonds (23 per cent); (c) certificates (11 per cent).⁵ The total of complex securities, around €389 billion, has remained essentially unchanged over the last five years. The notional value of complex derivatives, equal to 5 per cent of total derivatives, amounted to €295 billion; credit default swaps accounted for around 70 per cent of them.⁶

The market shares of holding sectors have also remained relatively stable over the last five years (see panel (b) of the figure). At the end of 2021, Italian banks held complex securities worth about €134 billion, while households had €40 billion worth (equal to 34 and 10 per cent respectively of the complex securities in circulation). Among the products in this category in household portfolios, certificates are the most common instrument (almost €26 billion), followed by subordinated bonds (€7 billion) and structured bonds (€5 billion).

Figure

Allocation of complex securities
(per cent; data at 31 December 2021)



Sources: Based on data from supervisory reports, reports under Article 129 of the Consolidated Law on Banking (TUB), and the Securities Database.
(1) The 'other' category is residual and includes: (a) other holding sectors than those reported; (b) the case in which the sector of the holder is unknown. –
(2) Special purpose vehicles (SPVs).

At the end of 2021, the financial instruments assessed as being potentially risky for financial stability were: (a) securitizations, also in the form of self-securitizations; (b) AT1 subordinated bonds (also known as contingent convertibles, CoCos); and (c) certificates. The first two categories are identified based on the growth in volumes in the last few years, the latter instead is based on the ample fluctuations in prices to which the related securities may be subject. The high amount of securitizations reflects the sales of non-performing loans by banks to specialized investors, while that of self-securitizations is affected by their use in Eurosystem refinancing operations. As far as AT1 subordinated bonds are concerned, although the amount in circulation has grown in the last few years, the volume is modest. The risks for financial stability appear to be low for both categories of product.

⁵ 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'.

⁶ The analysis is limited to the derivatives instruments held by banks.

Certificates are particularly risky debt securities because they comprise a derivative component; their market value may be subject to ample changes caused by variations in the prices of the underlying financial products. The potential adverse effects on the stability of the financial system are limited, however, given the low share of certificates in households' financial wealth (0.5 per cent, of which almost half is accounted for by fully or partially protected capital certificates). Nevertheless, the Bank of Italy monitors the developments in this segment, as any losses could have repercussions for households, which hold most of these products.

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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 sustainability 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)	Households			Non-financial firms	Current account balance	Net international investment position	
2022	2023	2022	2023				2021	2021				2022
Italy	2.3	1.7	150.6	148.7	7.1	32.6	-1.7	2.1	43.5	72.8	3.8	6.0
Germany	2.1	2.7	70.9	67.7	6.3	47.2	-1.5	2.6	57.5	72.9	7.4	65.5
France	2.9	1.4	112.6	112.9	8.2	53.4	-3.9	1.8	67.2	163.7	-0.8	-32.7
Spain	4.8	3.3	116.4	115.9	7.9	48.0	-3.2	2.2	59.8	104.8	1.0	-77.3
Netherlands	3.0	2.0	55.3	54.8	8.0	35.8	-1.8	5.3	102.1	148.3	9.3	88.1
Belgium	2.1	1.4	107.5	108.9	9.3	62.0	-3.3	7.8	63.3	146.9	2.2	54.5
Austria	2.6	3.0	80.7	76.6	11.5	68.6	-2.3	3.5	52.7	99.6	-0.2	12.2
Finland	1.6	1.7	67.1	67.2	7.2	58.2	-2.7	3	68.5	118.9	2.1	-2.4
Greece	3.5	2.6	185.4	178.7	....	....	-1.3	....	56.8	67.3	-4.6	-176.0
Portugal	4.0	2.1	121.6	117.9	7.2	51.5	-0.8	0	68.8	104.2	-0.9	-99.7
Ireland	5.2	5.0	53.3	50.3	11.2	53.0	-2.5	5.7	31.3	165.9	16.6	-142.7
Euro area	2.8	2.3	95.2	93.4	....	....	-2.3	2.9	60.7	110.4	2.8	-2.3
United Kingdom	3.7	1.2	87.8	82.7	14.6	35.6	-4.6	....	87.7	73.7	-2.6	-22.1
United States	3.7	2.3	125.6	123.7	5.9	25.0	-5.6	....	78.5	81.1	-3.5	-69.9
Japan	2.4	2.3	262.5	258.3	8.1	12.8	-3.6	....	66.9	115.7	2.9	69.3
Canada	3.9	2.8	101.8	98.5	5.7	22.9	-2.1	....	108.8	124.5	0.1	55.9

Sources: IMF, ECB, BIS and European Commission.

(1) IMF, *World Economic Outlook*, April 2022. – (2) IMF, *Fiscal Monitor*, April 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 Q3 2021; data for the United Kingdom and non-European countries are from BIS statistics and refer to the end of Q3 2021. – (5) Data for the euro area countries are from ECB, Statistical Data Warehouse and refer to the end of Q3 2021. Data for the United Kingdom and non-European countries are from the IMF Data Warehouse and refer to the end of Q3 2021.

Table A2

Italian banks' NPL rates and coverage ratios by business model
(per cent)

	Non-performing			Bad debts			Unlikely to pay			Past-due		
	Gross ratio	Net ratio	Coverage ratio	Gross ratio	Net ratio	Coverage ratio	Gross ratio	Net ratio	Coverage ratio	Gross ratio	Net ratio	Coverage ratio
December 2021 (1)												
Significant banks	3.1	1.4	55.0	1.2	0.4	70.8	1.8	1.0	46.2	0.1	0.1	30.2
Less significant banks	5.1	3.3	36.5	2.6	1.5	41.6	2.2	1.5	34.2	0.3	0.3	11.3
Traditional banks	3.9	2.1	47.5	1.7	0.7	60.8	1.9	1.2	40.2	0.3	0.2	13.0
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	42.7	2.5	1.0	61.0	1.1	0.7	33.5	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
June 2021												
Significant banks	3.8	1.8	53.5	1.5	0.5	67.0	2.1	1.2	45.3	0.2	0.1	28.4
Less significant banks	5.7	3.5	39.8	3.1	1.7	46.2	2.3	1.5	35.3	0.4	0.3	13.5
Traditional banks	4.6	2.4	49.2	2.3	0.9	62.4	2.0	1.2	40.3	0.3	0.3	13.7
Banks specialized in managing NPLs	22.6	20.9	10.2	15.4	14.4	9.2	6.8	6.1	12.5	0.4	0.4	10.7
Other specialized banks	4.7	2.3	51.9	2.5	0.8	67.5	1.4	0.8	46.4	0.8	0.7	12.4
Total banking system (2)	4.0	2.0	52.0	1.8	0.7	63.0	2.0	1.2	44.4	0.2	0.1	26.8

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.

Table A3

Italian banks' non-performing loans and guarantees by counterparty sector (1)
(billions of euros; per cent; December 2021)

	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	50	7.2	21	3.1	24	10	65.9
<i>of which:</i> manufacturing	10	4.9	3	1.8	3	2	70.4
construction (5)	11	17.5	4	8.0	6	2	68.9
services	26	7.0	11	3.2	13	5	62.4
<i>of which:</i> bad loans	22	3.1	6	1.0	10	6	77.9
<i>of which:</i> manufacturing	4	2.1	1	0.6	1	1	78.3
construction (5)	5	8.2	2	2.8	3	1	77.1
services	11	3.0	3	0.9	5	3	78.0
Consumer households							
Non-performing loans to customers	18	3.3	10	1.8	12	1	65.1
<i>of which:</i> bad loans	7	1.3	3	0.5	4	0	73.7
Total (6)							
Non-performing loans to customers	74	4.8	33	2.2	38	11	63.2
<i>of which:</i> bad loans	30	2.0	10	0.6	15	6	75.8

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 December 2021 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; December 2021)

	Public sector	Banks	Financial corporations	Households 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)	186.2	63.2	57.2	221.8	528.4	-1.9	8.8	18.2
Other industrialized countries	43.1	20.4	33.6	41.1	138.2	17.3	1.0	4.8
<i>of which:</i> United Kingdom	0.8	5.7	17.3	9.2	33.0	17.2	1.3	1.1
Emerging and developing countries	63.6	19.7	4.8	93.7	181.8	0.3	3.8	6.3
Europe	47.0	8.9	3.5	81.7	141.1	-1.4	13.9	4.9
<i>of which:</i> Russia	1.2	2.2	0.4	16.4	20.2	3.5	22.1	0.7
Turkey	0.5	3.0	0.3	1.5	5.2	-1.7	4.1	0.2
Africa and the Middle East	11.2	2.9	0.1	6.6	20.9	6.6	3.5	0.7
Asia and Pacific	3.7	5.6	1.1	3.1	13.5	14.3	0.6	0.5
Central and South America	1.7	2.3	0.1	2.2	6.3	-5.5	0.7	0.2
<i>of which:</i> Argentina	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brazil	0.1	2.1	0.0	0.8	3.0	-16.9	1.3	0.1
Mexico	0.6	0.0	0.1	1.1	1.8	11.5	0.5	0.1
Offshore financial centres	0.4	0.5	2.9	4.6	8.3	-1.1	0.3	0.3
Total	293.3	103.7	98.5	361.2	856.6	1.3	3.2	29.5
<i>Memorandum item:</i>								
Energy-exporting emerging and developing countries (4)	7.7	4.8	0.5	19.2	32.2	4.2	6.0	1.1

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 30 September 2021. – (3) Total exposures to residents and non-residents. The numerator and denominator refer to 31 December 2021. – (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.	351,040	-6,788	9.8	1,112,201	-3,495	2.9
Dec.	342,001	-7,225	9.6	1,092,366	-16,627	3.0
2022 – Jan.	351,938	10,511	9.8	1,098,122	8,375	2.9
Feb.	360,383	11,647	10.0	1,114,399	22,535	2.9

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; February 2022)

	Maturity				Total
	by 2022	between 2023 and 2024	between 2025 and 2029	beyond 2030	
Households (2)	7,133	11,040	16,569	1,507	36,250
<i>of which:</i> senior non preferred bonds	–	9	44	6	59
subordinated bonds	1,307	769	2,605	333	5,013
Banks in the issuer's group (3)	3,658	4,580	13,911	1,704	23,853
<i>of which:</i> senior non preferred bonds	–	–	–	–	–
subordinated bonds	60	450	123	600	1,233
Other Italian banks	4,924	8,710	12,391	1,760	27,785
<i>of which:</i> senior non preferred bonds	–	366	1,222	127	1,715
subordinated bonds	76	106	798	452	1,433
Other investors	25,555	43,701	74,564	25,302	169,122
<i>of which:</i> senior non preferred bonds	–	2,238	6,239	1,352	9,829
subordinated bonds	2,091	3,928	9,765	10,787	26,571
Total	41,271	68,031	117,434	30,273	257,009
<i>of which:</i> senior non preferred bonds	–	2,613	7,505	1,485	11,603
subordinated bonds	3,534	5,252	13,292	12,172	34,250

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
								June	December	March	
Total	283.5	253.7	297.3	321.2	310.5	285.8	436.1	503.1	513.5	510.3	
Government securities	119.8	97.6	88.8	105.8	78.0	68.1	129.4	166.9	156.9	154.3	
Local and regional government securities	2.9	2.6	1.7	1.9	1.3	0.5	0.8	1.8	2.0	1.6	
Uncovered bank bonds	10.4	5.8	5.3	5.4	5.0	3.3	5.4	7.0	7.4	7.2	
Government-guaranteed bank bonds	15.0	0.4	0.3	1.3	2.5	1.0	0.6	0.6	0.6	0.6	
Covered bonds	49.8	46.4	76.3	76.8	91.3	86.1	99.8	102.5	107.3	104.5	
Non-bank bonds	1.0	2.5	3.0	3.0	4.3	3.7	4.9	9.3	10.0	10.1	
Asset-backed securities	40.0	35.5	44.0	49.9	49.7	47.7	45.5	54.9	61.8	58.7	
Other marketable assets	0.4	0.6	0.8	2.8	1.3	1.8	2.6	3.8	6.3	7.9	
Non-negotiable assets (bank loans)	44.3	62.4	77.1	74.3	77.1	73.6	147.1	156.3	161.2	165.4	

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.	-1.8	26.9	25.2	-2.9	25.7	22.8

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

Main macroprudential instruments for the banking sector (1)	
Instrument	Purpose
Instruments harmonized at European level (2)	
Countercyclical capital buffer (CCyB)	To reduce the procyclicality of the financial system by building up capital buffers during expansions in the financial cycle for absorbing potential losses during contractions
Capital buffers for global systemically important institutions and other systemically important institutions (G-SII and O-SII buffers)	To increase the ability of systemically important institutions to absorb losses
Systemic risk buffer (SyRB)	To avert or mitigate long-term structural systemic risks
Higher capital requirements for exposures to the real estate sector	To avert or mitigate systemic risks stemming from exposures to the real estate sector
Instruments not harmonized at European level (3)	
Limits on loan-to-value, loan-to-income, and debt-service-to-income ratios	To smooth the credit cycle and to increase the resilience of banks, by reducing risk-taking by borrowers

(1) For a more detailed list of the instruments, see Recommendation ESRB/2013/1 issued by the European Systemic Risk Board (ESRB). – (2) Provided for in Directive 2013/36/EU (Capital Requirements Directive, CRD IV) on the taking up of the business of credit institutions and on the prudential supervision of credit institutions and investment firms; Regulation (EU) No. 575/2013 (Capital Requirements Regulation, CRR) on prudential requirements for credit institutions and investment firms. – (3) Instruments not envisaged under EU legislation but which can be activated in individual member states based on national legislation, where this is permitted. The list is not exhaustive.

Table A10

Macroprudential capital buffers in the countries of the European Economic Area
(per cent; data at 1 April 2022)

	Combined buffer requirement (CBR) (1)	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	1 Jan. 2016	0.00			1 Jan. 2022	9 banks: 0.50-1.00	3 June 2021	12 banks (includes 8 O-SIIs): 0.50-1.00		
Belgium	2.50-4.00	1 Apr. 2020	0.00			1 Dec. 2021	8 banks: 0.75-1.50				
Bulgaria	6.00-7.00	1 Apr. 2020	0.50	1 Jan. 2023	1.50	1 Jan. 2022	8 banks: 0.50-1.00	3 Dec. 2021	3.00 (4)		
Cyprus	2.50-2.50	1 Jan. 2016	0.00			1 Jan. 2022	0 banks				
Croatia	4.00-6.00	1 Jan. 2016	0.00	1 Mar. 2023	0.50	1 Jan. 2022	7 banks: 0.50-2.00	29 Dec. 2020	1.50		
Denmark	2.50-5.50	12 Mar. 2020	0.00	1 Dec. 2022	2.00	28 Dec. 2020	7 banks: 1.00-3.00				
Estonia	2.50-4.50	1 Jan. 2016	0.00	1 Dec. 2022	1.00	1 Jan. 2019	4 banks: 1.00-2.00	1 May 2020	0.00		
Finland	2.50-4.50	16 Mar. 2015	0.00			29 June 2021	3 banks: 0.50-2.00	6 Apr. 2020	0.00		
France	2.50-4.00	1 Apr. 2020	0.00	1 Apr. 2023	0.50	1 Jan. 2022	7 banks: 0.25-1.50				
Germany	2.50-4.50	1 Apr. 2020	0.00	1 Feb. 2023	0.75	1 Jan. 2022	14 banks: 0.25-2.00				
Greece	2.50-3.25	1 Jan. 2016	0.00			1 Jan. 2022	4 banks: 0.75 (2)				
Ireland	2.50-4.00	1 Apr. 2020	0.00			1 Jan. 2022	6 banks: 0.50-1.50				
Iceland	2.50-7.50	18 Mar. 2020	0.00			8 Apr. 2020	3 banks: 2.00	8 Apr. 2020	8 banks (includes O-SIIs): 3.00 (4)		
Italy	2.50-3.50	1 Jan. 2016	0.00	1 Jan. 2022	1.00	1 Jan. 2022	4 banks: 0.25-1.00				
Latvia	2.50-4.50	1 Feb. 2016	0.00			8 Dec. 2020	4 banks: 1.25-2.00				

Sources: ESRB and macroprudential supervisory authorities.

(1) For each bank, the CBR is equal to the sum of the CCyB (equal to 2.5 per cent), 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) of CRD IV. – (2) France expects to raise its maximum G-SII buffer to 2.0 per cent starting in January 2023. Greece expects to complete the phase-in of the O-SII buffer at a maximum level of 1.0 per cent in January 2023. – (3) Belgium and Germany expect to introduce a sectoral SyRB, starting in May 2022 and equal to 9.0 per cent for Belgium and starting in February 2023 and equal to 2.0 per cent for Germany, for exposures guaranteed by residential property. – (4) The SyRB applies only to domestic exposures.

Cont.

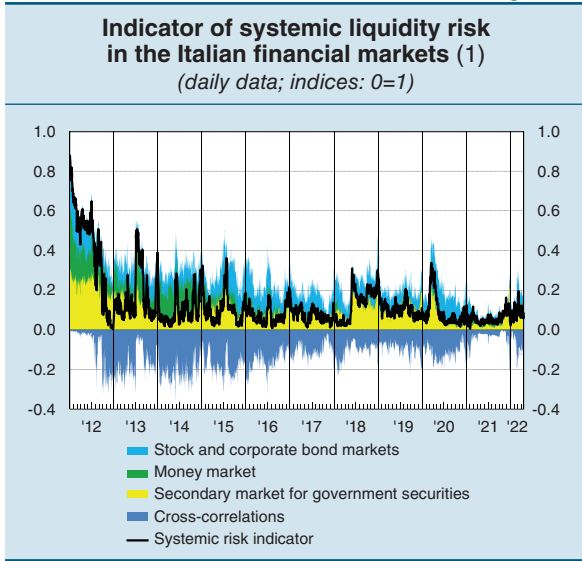
Macroprudential capital buffers in the countries of the European Economic Area
(per cent; data at 1 April 2022)

	Combined buffer requirement (CBR) (1)	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)	Description
		Date of entry into force	Current rate	Fully phased-in date	Fully phased-in rate	Date of entry into force	Description		
Liechtenstein	2.50-4.50	1 July 2019	0.00			1 Jan. 2022	3 banks: 2.00	1 Jan. 2020	5 banks (includes O-SIIs): 1.00-2.00 – (3)
Lithuania	2.50-4.50	1 Apr. 2020	0.00			31 Dec. 2021	3 banks: 1.00-2.00		
Luxembourg	3.00-4.00	1 Jan. 2021	0.50			1 Jan. 2022	7 banks: 0.50-1.00		
Malta	2.50-4.50	1 Jan. 2016	0.00			1 Jan. 2022	4 banks: 0.125-2.00		
Norway	6.50-10.00	13 Mar. 2020	1.00	31 Mar. 2023	2.50	1 Jan. 2021	2 banks: 1.00-2.00	31 Dec. 2020	3.00-4.50 (4) (5)
Netherlands	2.50-5.00	1 Jan. 2016	0.00			1 Jan. 2022	5 banks: 1.00-2.50		
Poland	2.50-3.50	1 Jan. 2016	0.00			29 Oct. 2021	10 banks: 0.10-1.00		
Portugal	2.50-3.50	1 Jan. 2016	0.00			1 Jan. 2022	6 banks: 0.25-1.00		
Czech Republic	3.00-5.50	1 July 2020	0.50	1 Apr. 2023	2.50	1 Oct. 2021	5 banks: 0.50-2.50		
Romania	2.50-4.50	1 Jan. 2016	0.00	17 Oct. 2022	0.50	1 Jan. 2022	9 banks: 0.50-2.00	1 Jan. 2022	0.00-2.00
Slovakia	3.50-5.50	1 Aug. 2020	1.00			1 Jan. 2022	5 banks: 0.25-2.00		
Slovenia	2.50-3.50	1 Jan. 2016	0.00			1 Jan. 2022	6 banks: 0.25-1.00 (2)		
Spain	2.50-3.50	1 Jan. 2016	0.00			1 Jan. 2022	4 banks: 0.25-1.00		
Sweden	2.50-6.50	16 Mar. 2020	0.00	29 Sept. 2022	1.00	1 Jan. 2022	4 banks: 0.00-1.00	29 Dec. 2020	3 O-SIIs: 3.00
Hungary	2.50-3.00	1 Jan. 2016	0.00			1 Jan. 2022	7 banks: 0.125-0.50	18 Mar. 2020	0.00 (4)

Sources: ESRB and macroprudential supervisory authorities.

(1) For each bank, the CBR is equal to the sum of the CCyB (equal to 2.5 per cent), 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) of CRD IV. – (2) In Slovenia, the maximum O-SII buffer will rise to 1.25 per cent starting in January 2023. – (3) Lithuania expects to introduce a sectoral SyRB, starting in July 2022 and equal to 2.0 per cent, for exposures guaranteed by residential property. – (4) The SyRB applies only to domestic exposures. – (5) 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.

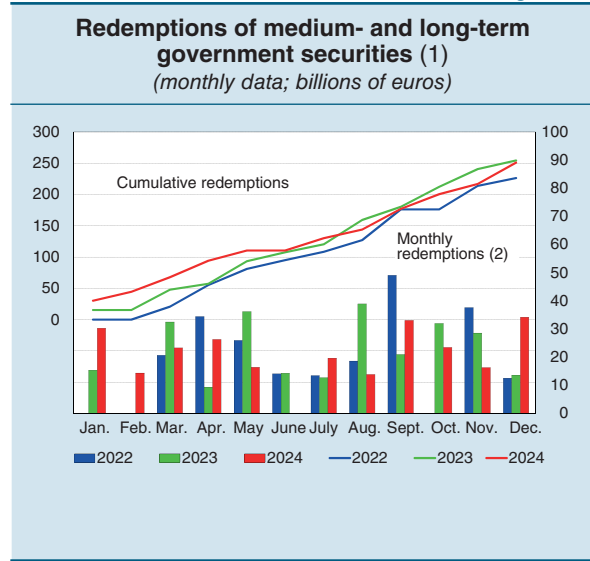
Figure A1



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.

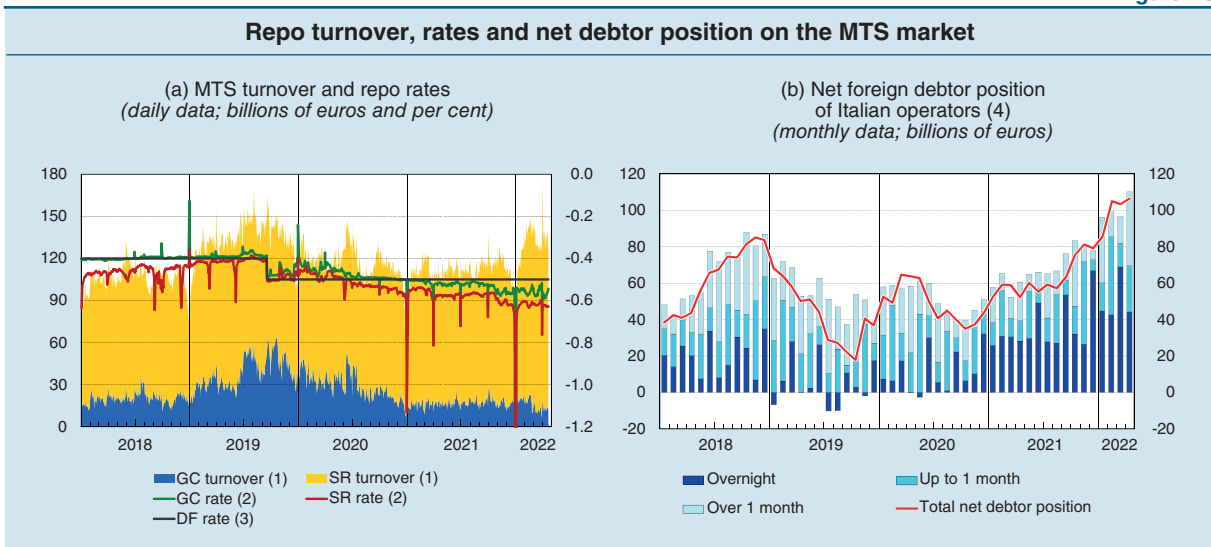
Figure A2



Sources: Based on data from the Ministry of Economy and Finance and the Bank of Italy. Data updated to March 2022.

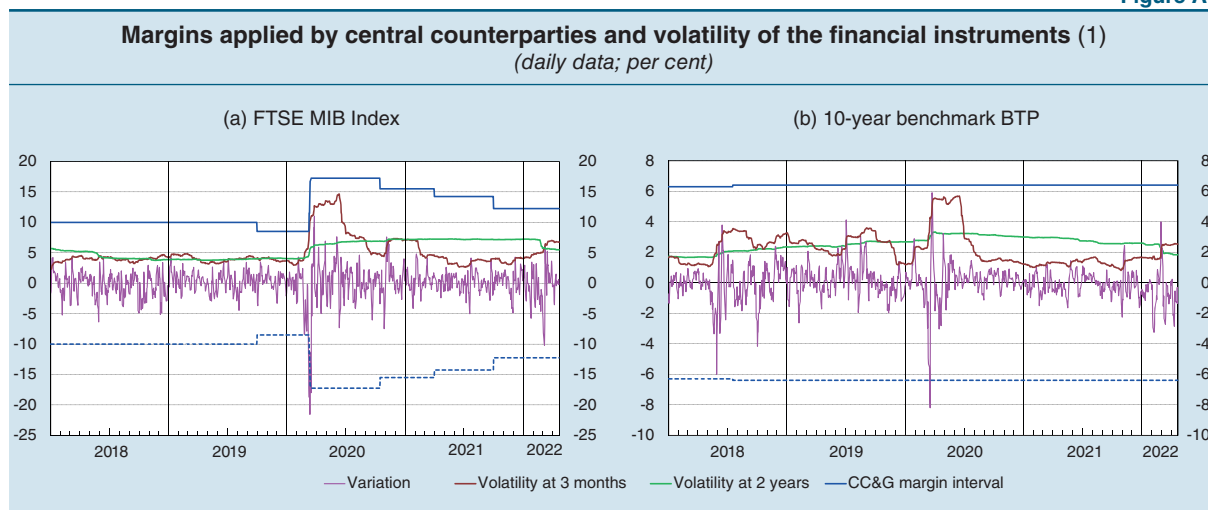
(1) Government securities (including those placed in the international markets) with a maturity at issue of more than one year. Excludes the tranches issued by the Ministry of Economy and Finance to establish its own securities portfolio to be used exclusively for repos. Redemptions of indexed BTPs are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

Figure A3



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) Interest rate on the Eurosystem's deposit facility (DF). – (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.



Sources: Based on data from Bloomberg, Reuters and Cassa di Compensazione e Garanzia SpA (CC&G).

(1) Variation in the price of the benchmark 10-year Italian government bonds (BTPs) over a 5-day horizon and in the price of futures on the FTSE MIB Index over a 3-day horizon. 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 margins for BTPs are those referring to the respective duration bucket. The broken lines, which are mirror images of the margins, indicate the adequacy of the margin requirements to cope with the negative price fluctuations actually recorded in the market.

