

NUMBER 77
FEBRUARY 2025

Contents

Highlights	1
Forthcoming events	3
Latest Working Papers	4
Latest Occasional Papers	7
Notes on Financial Stability and Supervision	12
Markets, Infrastructures, Payment Systems	12
Articles in Economics Blogs	13
Selection of Journal articles and books	14
Useful links	17

Highlights

3rd workshop on 'Trade, value chains and financial linkages in the global economy'

(Rome, 14-15 November 2024)

On 14-15 November 2024 Banca d'Italia, together with the European Central Bank and the World Bank Development Economics Vice-Presidency (Research Group and Institute for Economic Development), hosted the third edition of the joint workshop on **'Trade, value chains and financial linkages in the global economy'** in Rome.

Isabelle Méjean (Sciences Po) and Amit Khandelwal (Yale University) delivered keynote lectures. With a special emphasis on the implications of recent events – such as ongoing wars and disruptions, geopolitical tensions, climate-related shocks and critical-material-related policies – the papers delivered at the conference focused on the reconfiguration of international trade, global value chains, financial flows and firm strategies, firm-to-firm linkages, the role of multinational corporations in global value chains, trade, investment and industrial policies, strategic interdependencies and value chain dynamics in renewables, natural resources, and critical inputs markets.

A detailed programme of the event and the slides of the presentations are available [here](#).

Joint Banca d'Italia - SUERF conference on 'Inflation, inflation expectations, and policy: new perspectives'

(Rome, 18-19 November 2024)

Banca d'Italia and the European Money and Finance Forum (SUERF) held a joint conference on **'Inflation, inflation expectations, and policy: new perspectives'** in Rome on 18-19 November 2024.

The conference was chiefly focused on the determinants of the rise and fall of inflation in the post-pandemic period, the impact of a rapidly changing inflation environment on economic agents' behaviour and expectations, and the challenges for monetary and fiscal policy. The event provided a platform for academic researchers and representatives of central banks and other institutions to discuss these highly topical issues. The welcome address by Banca d'Italia's Senior Deputy Governor Luigi Federico Signorini is available [here](#). Philip R. Lane (ECB) gave the SUERF Marjolin Lecture (available [here](#)) while Pierpaolo Benigno (University of Bern) and Michael Weber (Chicago Booth I SUERF Fellow) delivered the keynote speeches.

The conference programme, together with the papers and slides, can be found [here](#).

Conference on 'Banking, insurance and financial stability'

(Rome, 6 December 2024)

Banca d'Italia and the Italian Insurance Supervisory Authority (IVASS) organized an international research conference on **'Banking, insurance and financial stability'**, held in Rome on 6 December 2024. The conference promoted the discussion of new

Highlights

research from academic and other institutions on how evolving business models, increasing interconnections and technological developments in the banking and insurance industries may affect financial stability. The welcome address was held by Luigi Federico Signorini (Senior Deputy Governor of the Bank of Italy and President of the Italian Insurance Supervisory Authority - Ivass). The keynote speech was given by Prof. Andrew Ellul (Kelley School of Business, Indiana University).

The programme is available [here](#).

Workshop on ‘I servizi pubblici locali tra disparità economiche e sfide demografiche’

(Rome, 13 December 2024)

Banca d'Italia held the workshop ‘**I servizi pubblici locali tra disparità economiche e sfide demografiche**’ in Rome on 13 December 2024. The event brought together academics and experts to discuss the role of national and local policies in guaranteeing adequate public services in all areas of the country, even against the backdrop of demographic differences. The opening remarks were given by Roberto Torrini, Head of Banca d'Italia's Structural Economic Analysis Directorate. Alessandro Rosina, Professor of Demography, Population Dynamics, and Social Statistics at Università Cattolica in Milan, delivered the keynote lecture.

The programme of the event and the papers are available [here](#).

Workshop on ‘The economic implications of climate change and the transition to a low-carbon economy’

(Rome, 16-17 December 2024)

Banca d'Italia's Directorate General for Economics, Statistics and Research organized a workshop on ‘**The economic implications of climate change and the transition to a low-carbon economy**’ that was held in Rome on 16-17 December 2024. The conference brought together academics and experts from Italian and international institutions to examine topical issues including the impact of the green transition on the production sector and its macroeconomic implications, finance and financing, carbon taxes, financial markets and environmental issues.

The programme of the event is available [here](#).

14th workshop on ‘Exchange Rates’

(Brussels, Belgium, 19 December 2024)

Banca d'Italia, the National Bank of Belgium, the European Central Bank, Banka Slovenije and the Bank for International Settlements jointly organized the Fourteenth Workshop on ‘**Exchange Rates**’. In line with the previous editions, this workshop aims to provide a forum for discussing innovative research on analytical and policy issues relating to exchange rates. The workshop brought together economists working in central banks, academia, and the private sector. Professor Lucio Sarno (Cambridge Judge Business School) gave the keynote lecture.

The programme is available [here](#).

Workshop on ‘Macroeconomic Dynamics: theory and applications’

(Rome, 20 December 2024)

Banca d'Italia organized the 23rd edition of the ‘**Macroeconomic Dynamics Workshop**’ in Rome on 20 December 2024. The workshop aimed at (i) bringing together economists working at the frontier of economic knowledge, (ii) offering participants, especially junior economists, an opportunity to present and discuss research on modern dynamic macroeconomics and (iii) encouraging the creation of networks of economists working in closely related fields and topics, ideally for future joint research projects and collaborations. The list of participants included several talented economists from the most prestigious research and policy institutions.

The programme of the event and further information on the workshop series are available [here](#).

Highlights

Events organized by the Seminar Committee

The seminar series hosts internationally renowned speakers from academia, international organizations, and other central banks. The seminars offer an excellent opportunity to keep abreast of the most recent developments of the literature and allow economists at Banca d'Italia to share their research projects and professional knowledge with international experts of various fields.

The list of the events, together with the papers and slides, whenever available, can be found [here](#).

Forthcoming events

11th International Conference on 'Sovereign bond markets: sailing in calm and stormy waters'

(Venice, 10-11 June 2025)

Banca d'Italia is organizing the '11th International conference on sovereign bond markets'. The event will be held at its Venice branch on 10-11 June 2025. The theme of this year's conference is 'Sovereign bond markets: sailing in calm and stormy waters'. The conference will bring together academics and experts from Italian and international institutions and will also feature panel discussions on the major outstanding issues in sovereign bond markets. Co-organizers include the Bank of Canada, the Deutsche Bundesbank, the European Central Bank, Imperial College/Brevan Howard Centre for Financial Analysis, the Leibniz Institute for Financial Research SAFE, the London Business School/AQR Asset Management Institute, and the NYU Stern/Volatility and Risk Institute.

For further information, please see the [call for papers](#).

1st Banca d'Italia Research Conference on Monetary Policy

(Rome, 12-13 June 2025)

Banca d'Italia is organizing its '1st Research Conference on Monetary Policy'. The event will take place in Rome on 12-13 June 2025. Prof. George-Marios Angeletos (Northwestern University) and Prof. Vasso Ioannidou (Bayes Business School) are confirmed keynote speakers for the event. The conference will bring together economists from academia and central banks to address key aspects of the conduct of monetary policy. The event will chiefly focus on: 1) the role of information frictions in the conduct and transmission of monetary policy; 2) monetary-fiscal interactions, especially in a de-globalizing environment; and 3) the transmission of monetary policy through financial intermediaries.

For further information, please email us at MonPolConf2025@bancaditalia.it and refer to the call for papers on our website (forthcoming).

2025 Annual Meeting of the Central Bank Research Association

(Boston, 6-8 August 2025)

Banca d'Italia is organizing a session on 'Women in Central Banking' at the 2025 Annual Meeting of the Central Bank Research Association (CEBRA). The CEBRA Annual Meeting brings together professionals, academics and other experts to explore a wide range of pressing topics relevant to central banks, financial regulators, international financial institutions and fiscal authorities.

The call for papers will be available [here](#). The presenting author should be female, with submissions from early-career women especially encouraged.

Latest Working Papers

No. 1478: **Uncovering the inventory-business cycle nexus** (February 2025)

Luca Rossi

In the US, inventories are the smallest component of GDP, but represent the second largest source of fluctuations in quarterly data, after consumption. The cyclical behaviour of inventory investment is driven by shocks to demand and supply conditions, both current and expected. The latter generate precautionary motives for inventory investment. There is no consensus on which shock is more relevant; this work suggests a new methodology to jointly estimate the contribution of each of them.

In the short run, the highest share of fluctuations in inventory investment is explained by firms' sales forecast errors; the precautionary component linked to shocks to future costs gains more relevance at longer horizons. The results are coherent with what observed in the post-pandemic period, when inventory investment made up an exceptionally high share of GDP dynamics.

[Full text](#)

No. 1477: **Business loan characteristics and inflation shocks transmission in the euro area** (February 2025)

Valentina Michelangeli and Fabio Massimo Piersanti

This paper investigates how business loan characteristics, i.e. interest rate type and maturity, affect the transmission of inflation shocks across euro-area countries by means of a DSGE model. We use a local projection model to validate our findings. Finally, we use the theoretical model to propose the most appropriate policy tool to uniform the shock transmission across euro-area countries with different business loan characteristics.

We find that longer maturity loans stabilize business cycles, while adjustable-rate loans exacerbate recessions. Finally, the model shows that, in the context of inflation shocks, countries with higher shares of adjustable-rate loans would benefit from less reactive, but still restrictive, monetary policies and less procyclical fiscal policies.

[Full text](#)

No. 1476: **Artificial intelligence and relationship lending** (February 2025)

Leonardo Gambacorta, Fabiana Sabatini and Stefano Schiaffi

Banks' use of artificial intelligence enables them to process quantitative information more efficiently and can reduce the information asymmetry between financial intermediaries and their clients. In contrast, the more traditional relationship-based approach relies more on qualitative information. This paper empirically studies the relevance of the interaction between these two approaches for Italian banks' credit supply and firms' investment and employment decisions before and during the pandemic crisis.

For the same length of the relationship between banks and firms, intermediaries using artificial intelligence (AI banks) provide more credit and at lower interest rates than other banks in normal times, but this was not the case during the Covid-19 crisis. The supply of credit by AI banks is also less affected by macroeconomic developments, as in the case of the pandemic, reducing their impact on firms' investment and employment decisions.

[Full text](#)

No. 1475: **FraNK: fragmentation in the NK model** (December 2024)

Alessandro Moro and Valerio Nispi Landi

This paper develops a New-Keynesian model with different countries to analyse the macroeconomic consequences of geoeconomic fragmentation. In the model, the economies are divided into blocs that impose tariffs on imports of goods and commodities from rival jurisdictions and restrictions on cross-border financial flows. The calibration is based on four country blocs: a) the United States; b) the allies of the United States; c) China, Russia and their allies; d) other countries, considered neutral. With respect to free trade, fragmentation leads to a sharp decline in production and consumption in the China-led bloc and in US allies. The consequences of fragmentation on the United States are milder because they are less exposed to the China-led coalition than their allies, while the effects on neutral countries are negligible. The inflation response

Latest Working Papers

is uncertain, as both global supply and demand are declining. The exchange rates most affected by fragmentation are those of the pro-China bloc.

[Full text](#)

No. 1474: **Monetary policy shocks and inflation inequality** (December 2024)

Riccardo Degasperis, Seokki Simon Hong and Giovanni Ricco

This paper studies the effects of monetary policy shocks on inflation inequality in the United States, computed by combining disaggregated data on sectoral price growth and household-level consumption data from the Consumer Expenditure Survey.

Following an unexpected increase in the interest rate by the Federal Reserve, the dispersion in inflation inequality decreases. The effect is mainly driven by the energy sector, which accounts for a sizable share of the consumption bundle of lower-income households.

[Full text](#)

No. 1473: **Partial identification of treatment response under complementarity and substitutability** (December 2024)

Tiziano Arduini and Edoardo Rainone

This paper studies partial identification of treatment response when the outcome of an agent is affected heterogeneously by the outcomes, and consequently the treatment statuses, of other agents in the economy. When the sign of the interactions is predicted by the theory, we propose a general approach that allows the use of comparative statics under monotonic treatment response.

The paper provides new theoretical results on how the heterogeneous fixed points theorem can be applied to microfound sharp bounds on the distribution of potential outcomes. Through an empirical application we show that our method can produce narrow and meaningful bounds for the response to central bank funding of credit to the real economy, under full endogeneity of, and heterogeneous interdependence among, banks' balance sheet items.

[Full text](#)

No. 1472: **The macroeconomic effects of reducing a central bank monetary policy portfolio: a model-based evaluation** (December 2024)

Anna Bartocci, Alessandro Notarpietro and Massimiliano Pisani

This paper uses a model with financial market segmentation to assess the macroeconomic effects of a reduction in the stock of long-term sovereign bonds held for monetary policy purposes by a central bank, as the latter does not reinvest the principal payments from maturing bonds. The analysis considers alternative assumptions on the reaction of financial markets. The portfolio reduction lowers economic activity and inflation via a rise in long-term interest rates. These effects are amplified if financial markets overreact in the aftermath of the announcement of the reduction.

[Full text](#)

No. 1471: **Green granular borrowers** (December 2024)

Margherita Bottero and Michele Cascarano

This paper examines the impact of greenhouse gas (GHG) emissions on firms' financing costs, hypothesizing that lower emissions result in a discount justified by reduced exposure to transition risk. It also investigates whether such discounts, when applied to clients holding a significant share of loans, generate indirect effects on the credit supply to other firms.

The estimates reveal that a reduction in GHG emissions is associated with a decrease in the cost of credit. If the reduction benefits larger clients, there is a decline in the bank's profitability, which the bank tends to offset by expanding the credit supply to smaller borrowers, particularly those operating in sectors most affected by the green transition.

[Full text](#)

Other recent Working Papers

October 2024 — November 2024

- No. 1470: The origins of the gender pay gap: education and job characteristics
Giulia Bovini, Marta De Philippis and Lucia Rizzica
- No. 1469: Bank beliefs and firm lending: evidence from Italian loan-level data
Paolo Farroni and Jacopo Tozzo
- No. 1468: Sanctions and Russian online prices
Jonathan Benchimol and Luigi Palumbo
- No. 1467: The market externalities of tax evasion
Irene Di Marzio, Sauro Mocetti and Enrico Rubolino
- No. 1466: The global transmission of U.S. monetary policy
Riccardo Degasper, Seokki Simon Hong and Giovanni Ricco
- No. 1465: Climate supervisory shocks and bank lending: empirical evidence from microdata
Maria Alessia Aiello
- No. 1464: As soon as possible: the effectiveness of a financial education program in Italian schools
Tommaso Agasisti, Alessio D'Ignazio, Gabriele Iannotta, Angela Romagnoli and Marco Tonello
- No. 1463: The distributional effects of carbon taxation in Italy
Francesco Caprioli and Giacomo Caracciolo
- No. 1462: The allocation of public guaranteed loans to firms during Covid-19: credit risk and relationship lending
Emilia Bonaccorsi di Patti, Roberto Felici, Davide Moretti and Francesca Rinaldi

Latest Occasional Papers

No. 909: **Forecasting corporate default probabilities: a local logit approach for scenario analysis** (February 2025)

Giuseppe Cascarino, Federica Ciocchetta, Stefano Pietrosanti and Ivan Quaglia

The paper proposes a new model for forecasting Italian firms' default probability and for scenario analysis, using both firm-level data and macroeconomic series. The forecasting accuracy is assessed by estimating defaults during 2018-20 from the data available at the end of 2017, assuming a 'baseline scenario' using the values of the macroeconomic series actually recorded during this period. Additionally, an 'adverse scenario' is hypothesized, involving a deterioration in the macroeconomic environment analogous to the one witnessed during the sovereign debt crisis.

The model replicates the historical trend of the aggregate default rate of firms and ranks them appropriately according to their default risk. The forecast for the default rate of firms for 2018-20 under the baseline scenario demonstrates a high degree of accuracy. In the adverse scenario, the increase in the default rate is consistent with that experienced in Italy during the sovereign debt crisis.

[Full text](#)

No. 908: **Going green: the recent development of renewable energy sources in Italy** (February 2025)

Matteo Alpino, Luca Brugnara, Maria Giulia Cassinis, Luca Citino, Francesco David, Annalisa Frigo, Giulio Papini, Pasquale Recchia and Luca Sessa

The study analyses the development of renewable energy sources (RES) in Italy, with a particular focus on solar and wind energy, as well as on the goals to be achieved by 2030. It provides information on the location of the plants and the factors influencing it and examines the connection requests for new plants and the main implications for the electricity transmission network.

In recent years, the production capacity of RES plants has increased significantly, particularly for solar installations. However, achieving the targets set by the National Integrated Energy and Climate Plan (PNIEC) by 2030 will require a further acceleration in installations. Photovoltaic plants

are relatively evenly distributed across the national territory, whereas wind farms are concentrated in southern Italy. This area also hosts most of the connection requests for new large-scale wind and solar installations. The increase of RES in the energy mix will require substantial investment in the national transmission grid.

[Full text only in Italian](#)

No. 907: **The cost differential between unit-linked policies and mutual funds** (February 2025)

Angelo Nunnari and Agostino Tripodi

The paper estimates the cost differential borne by subscribers between a sample of unit-linked life insurance policies placed in Italy and a direct investment in the same mutual funds underlying the policies. The analysis focuses on policies that have underlying funds available to retail investors as well. The differential is assessed by comparing the reduction in yield due to the costs of the two investments over horizons of 5, 10 and 20 years.

The cost of unit-linked policies is generally significantly higher than that of retail mutual funds, with differentials ranging from 0.5 to 2.5 percentage points per year. This is mainly due to the additional management fees applied by insurance companies compared with those charged by fund management companies. The differential is higher for policies distributed through financial advisors; it is lower, however, when the management company reserves fund classes for insurance companies with reduced costs compared with those offered to retail investors.

[Full text](#)

No. 906: **Banks' carbon pledges: amazing or a maze?** (February 2025)

Cristina Angelico and Enrico Bernardini

So far, transition risk and banks' climate policies have been assessed with backwards-looking metrics, such as financed emissions. This work aims to strengthen the still scarce knowledge of forward-looking metrics, such as decarbonization pledges. The analysis uses a rich dataset on the climate targets of major euro-area banks, drawn from different sources, combined with information on the financial features of intermediaries and their lending policies.

Latest Occasional Papers

Decarbonization targets are extremely heterogeneous among banks in terms of time horizons, scope, ambition and reference indicators. Banks' commitments have limited and time-delayed effects on credit policies towards carbon-intensive sectors. The euro-area banking system is not yet aligned with the Paris Agreement targets, reflecting the limited progress of financed companies towards the climate transition.

[Full text](#)

No. 905: Commercial real estate loans in Europe: does loan-to-value at origination predict default risk?
(February 2025)

Federica Ciocchetta, Raffaella Pico and Ivan Quaglia

The paper examines the characteristics and riskiness of bank lending to corporations secured by commercial real estate or intended for its purchase ('CRE' loans), in the leading euro-area countries. Moreover, in the case of collateralized loans, the analysis assesses the relationship between the probability of deterioration in loan quality and the loan-to-value ratio at origination (LTV-O), which is the ratio of the loan amount to the real estate value at origination.

In Italy, the share of CRE loans is comparable to that observed in Spain (20 per cent of total loans), but lower than that observed in Germany and France, for example. In contrast to the latter two countries, loans in Italy with an LTV-O above 80 per cent are riskier than those with a lower indicator value (as in Spain). However, the share of such loans in total lending to the sector is relatively modest (less than 10 per cent), and two thirds of them are covered by additional collateral.

[Full text](#)

No. 904: Firm-level uncertainty and investments: evidence from South Tyrol
(December 2024)

Andrea Locatelli, Nicola Riz and Luciano Partacini

This study introduces a new measure of firm-level uncertainty based on firms' ability, or lack thereof, to predict own revenue dynamics. The heterogeneity of this measure is described both at the sectoral level and in relation to firm characteristics. The measure, constructed for a sample of firms in the Province of Bolzano for the period 2014–23, is used to analyze how the

widespread climate of uncertainty observed among firms after the pandemic has influenced their investment decisions.

The share of "uncertain" firms – i.e. those who declare to be unable to predict the evolution of their revenues – is higher among small firms, as well as in the construction and manufacturing sectors, and has significantly increased between 2021 and 2023. An uncertain firm is 3.6 percentage points less likely than other firms to increase its investments in the following year. The size of this gap has remained unchanged over the last three years.

[Full text](#)

No. 903: The role of the Superbonus in the growth of Italian construction costs
(December 2024)

Francesco Corsello and Valerio Ercolani

This paper studies the link between incentives for energy-efficient building renovations (the 'Superbonus') and the dynamics of construction costs of residential buildings in Italy. To this end, an empirical model is estimated that includes, as control variables, the prices of some raw materials and the indicators of input shortages and activity in the construction sector.

The paper documents how construction costs in Italy have risen markedly since 2021, when the Superbonus became more and more commonly used. The empirical analysis shows that the Superbonus likely contributed about half of the increase in construction costs between September 2021 and December 2023.

[Full text](#)

No. 902: The recent weakness in the German manufacturing sector
(December 2024)

Marco Flaccadoro

This paper studies the trends of the German manufacturing sector in recent years, highlighting the factors that have weighed more heavily there than in the rest of the euro area. An econometric analysis allows the authors to assess the spillovers from the German industry to the manufacturing sectors of other major economies in the area.

Higher gas prices penalized German energy-intensive firms more than those of other countries,

Latest Occasional Papers

owing to the greater reliance on gas of the German chemical sector. The impact of weak global demand was stronger in Germany due to its higher trade openness. The automotive industry, which has been declining since 2018, accounts for a larger share of the manufacturing sector in Germany than in the euro area. Shocks to the German industry exert a significant influence on the manufacturing sector of the other main euro-area economies, especially Italy.

[Full text](#)

No. 901: Carbon pricing in the EU: fundamentals or market sentiment? (December 2024)

Andrea Gazzani and Marco Taboga

This study uses an econometric model with daily data to evaluate the relative importance of the four main determinants of the price of emission allowances traded in the European Union: the economic cycle; the emission intensity of industrial activities; the supply of allowances; and financial factors, such as risk aversion, speculative activity and the liquidity needs of market participants. The supply of emission allowances, both current and expected, and financial factors are the main determinants of the price volatility of the allowances. The economic cycle and the intensity of industrial emissions play a less significant role, as they are driven by lower frequency changes which cannot explain the high daily volatility of allowance prices.

[Full text](#)

No. 900: The effects of reforms in the professional services market (December 2024)

Irene Di Marzio, Sauro Mocetti and Giacomo Roma

This paper examines the evolution of regulations governing professions that require specific qualifications. It also analyses the labour market dynamics of these professions and the economic performance of firms in the professional services sector, which employ a significant share of professionals required to register with professional bodies. Lastly, it evaluates the impact of reforms aimed at removing constraints on economic activity in professional services.

Employment in regulated professions has reached an

all-time high. The reforms implemented over the past decade have increased competition in professional services. The removal of price-setting constraints has reduced the 'income premium', although it remains significant. Easing restrictions on the provision of professional services through corporate structures has led to a rise in the number of medium-sized and large firms, although the average firm size remains small, partly for tax reasons.

[Full text only in Italian](#)

No. 899: The exposure of Italian manufacturing firms to hydrogeological risk (December 2024)

Michele Loberto and Riccardo Russo

We introduce a novel approach to assessing the exposure of Italian manufacturing companies to flood and landslide risks. This methodology takes into account the geographical distribution of secondary sites and the number of employees. The risk assessment is based on the hazard maps released by the Italian Institute for Environmental Protection and Research (ISPRA) through the portal 'Idrogeo'.

Approximately 35% of manufacturing companies are potentially at risk of flooding or landslide, although the extent of this risk varies. The most significant risk is flooding, which affects 29% of manufacturing workers. The likelihood of a company being exposed increases with the number of establishments. However, a greater geographic dispersion of firms' sites can also mitigate the potential impact of an adverse event, as it reduces the proportion of employees in at-risk areas.

[Full text](#)

No. 898: Innovation and public support policies: a comparative analysis (December 2024)

Fabio Bertolotti, Luca Citino, Andrea Linarello, Francesca Lotti, Elena Padovani, Elena Pisano, Marzia Romanelli, Alessandra Sanelli, Filippo Scoccianti, Enrico Sette and Ernesto Zangari

The growth in per capita income depends to a large extent on technological progress. It is stimulated by innovative activity, which is also achieved through public and private Research

Latest Occasional Papers

and Development (R&D) and the birth of firms that bring new ideas, new products and new processes. This paper provides a cross-country comparative analysis of innovative activity and public instruments supporting it, with a focus on R&D and innovative firms.

In Italy, direct public spending on R&D as a ratio of GDP was still below the EU average in 2022. The R&D tax credit is also lower than in other advanced economies; the tax support is equivalent only for patents and some other intangibles. It is estimated that aligning the tax credit rate with the OECD average would increase private R&D expenditure by 15 per cent. For innovative start-ups and SMEs, Italian incentives are comparable to those of other advanced countries.

[Full text only in Italian](#)

No. 897: The potential macroeconomic relevance of critical materials: some preliminary evidence
(December 2024)

Marco Taboga

The growth of investment in renewable energy sources has driven up global demand for certain critical materials (including copper, nickel, cobalt, lithium, rare earth elements, and graphite). This paper assesses whether, due to their increased importance, the price volatility of these materials could significantly impact macroeconomic variables such as inflation and output, similar to the effects seen with traditional energy commodities like oil and gas.

In a scenario of accelerated ecological transition, the markets for critical materials could reach an overall size comparable to that of the natural gas market by 2030. However, the potential impacts on inflation and output could be mitigated by several factors, including the increasing substitutability of critical materials due to technological advancements. Nonetheless, supply risks remain, tied to the intensification of geopolitical fragmentation.

[Full text](#)

No. 896: The use of derivatives on CO₂-emission allowances in Italy
(December 2024)

Michele Leonardo Bianchi, Maurizio Magnani and Francesco Vercelli

This paper investigates the transactions in CO₂-emission derivatives made by Italian counterparties. The analysis is based on the EMIR database, which collects daily observations of transactions in derivatives.

Between 2021 and 2023, the use of derivatives on CO₂-emission allowances by Italian counterparties increased rapidly in terms of notional amounts. The number of non-financial companies trading these derivatives, mainly futures, rose as well. A very small number of Italian banks are counterparties to these contracts, representing only a minimal fraction of the overall gross notional amount of their derivatives portfolio.

[Full text](#)

No. 895: Heterogeneity in fertility and newborn health during the COVID-19 pandemic (December 2024)

Edoardo Frattola and Marco Tonello

In this paper, we leverage newly available rich administrative data to study the heterogeneous evolution of fertility and newborn health during the pandemic. Differently from national-level official statistics, the administrative data provided by the Tuscany Regional Health Agency make it possible to study fertility behaviour for different socio-economic groups based on several parental characteristics.

We find a decline in the number of births relative to the pre-pandemic trend in late 2020 and early 2021; starting in March 2021, birth numbers consistently exceeded the pre-pandemic trend. This aggregate increase conceals significant heterogeneity across sociodemographic groups, with positive deviations entirely driven by native, educated, and employed parents. During the same period, newborn health indicators showed no signs of deterioration.

[Full text](#)

Other recent Occasional Papers

October 2024 — November 2024

- No. 894: Multinational enterprises in Italy: insights from firm-level data
Gianmarco Cariola, Giovanni Battista Carnevali, Andrea Linarello, Francesco Manaresi, Litterio Mirenda, Emanuele Russo, Matteo Sartori and Gianluca Viggiano
- No. 893: Money laundering and blockchain technology : can you follow the trail of cryptocurrency transaction
Romina Gabbiadini, Lorenzo Gobbi and Eugenio Rubera
- No. 892: ESG risks and corporate viability: insights from default probability term structure analysis
Fabrizio Ferriani and Marcello Pericoli
- No. 891: US monetary policy spillovers to the euro area
Riccardo Degasperis and Fabrizio Venditti
- No. 890: The role of behavioural economics and neurofinance in financial consumer protection policy
Diletta Antenucci, Francesco Franceschi and Gioia Repaci
- No. 889: High-growth young firms in Italy
Andrea Cintolesi, Edoardo Frattola, Rosalia Greco, Francesca Leombroni, Andrea Linarello, Andrea Locatelli, Sara Nesi and Simone Zuccolà
- No. 888: The case for mindful customer protection: a review and some thoughts on neuroeconomics and neurofinance
Massimiliano Affinito, Ludovica Galotto and Francesco Privitera
- No. 887: Labour shortages in Italy: determinants, firms' responses and employment prospects
Silvia Anna Maria Camussi, Andrea Locatelli, Graziella Mendicino and Francesca Modena
- No. 886: Usus fructus: taking account of property use rights in household wealth measurement
Giovanni D'Alessio, Andrea Neri and Irene Toma
- No. 885: Modelling cognitive response patterns to survey questions using the class of CUB models
Stefania Capecchi, Romina Gambacorta, Rosaria Simone and Domenico Piccolo
- No. 884: Credit strikes back: the macroeconomic impact of the 2022-23 ECB monetary tightening and the role of lending rates
Antonio Maria Conti, Stefano Neri and Alessandro Notarpietro
- No. 883: Relative price shocks and inequality: evidence from Italy
Leonardo Ciambezi and Alessandro Pietropaoli
- No. 882: Trade in low-carbon technology products: macro and micro evidence for Italy
Valerio Della Corte, Stefano Federico and Giacomo Oddo
- No. 881: Trade fragmentation unveiled: five facts on the reconfiguration of global, US and EU trade
Francesco Paolo Conteduca, Simona Giglioli, Claire Giordano, Michele Mancini and Ludovic Panon
- No. 880: Sourcing governance and de-risking strategies in Europe: a comparative study of Germany, Italy and Spain
Marco Bottone, Michele Mancini, Albachiara Boffelli, Diletta Pegoraro, Ambre Kuttan, Irina Balteanu and Javier Quintana
- No. 879: Types of consumer credit and bank distribution channels: insights from Italy
Massimiliano Affinito, Federica Sabbi, Raffaele Santioni and Francesco Santorelli
- No. 878: An assessment of occupational exposure to artificial intelligence in Italy
Antonio Dalla Zuanna, Davide Dottori, Elena Gentili and Salvatore Lattanzio
- No. 877: The quantum challenge: implications and strategies for a secure financial system
Cristina Andriani, Lorenzo Bencivelli, Antonio Castellucci, Mauro De Santis, Sabina Marchetti and Giovanna Piantanida

Other recent Occasional Papers

October 2024 — November 2024

- | | |
|--|--|
| <p>No. 876: The impact of the Trial Office on the functioning of civil justice
<i>Mario Cannella, Marialuisa Cugno, Sauro Mocetti, Giuliana Palumbo and Gianluca Volpe</i></p> <p>No. 875: Design features, market practices and loss absorption of AT1 instruments. Is there anything to fix?
<i>Luca Serafini and Francesco Giovannini</i></p> <p>No. 874: Macroeconomic and environmental effects of portfolio decarbonisation strategies</p> | <p><i>Anna Bartocci, Pietro Cova, Valerio Nispi Landi, Andrea Papetti and Massimiliano Pisani</i></p> <p>No. 873: The drivers of inflation dynamics in Italy over the period 2021-2023
<i>Davide Delle Monache and Claudia Pacella</i></p> <p>No. 872: Portraits on banknotes: a study of the gender gap
<i>Angelamaria Fiori</i></p> <p>No. 871: Accounting for the recent inflation burst in the euro area
<i>Domenico Depalo and Salvatore Lo Bello</i></p> |
|--|--|

Notes on Financial Stability and Supervision

[Full list since 2014](#)

- No. 43: **Bad loan recovery rates in 2023**
(December 2024)
Antonio Luigi Fischetto, Igino Guida, Anna Rendina, Giovanni Santini
[Full text](#)
- No. 42: **Danger rate, the issue of the rating as a risk differentiation driver**
(November 2024)
Daniele Coin, Giuseppe Della Corte and Alberto M. Sorrentino
[Full text](#)
- No. 41: **Analysis of the impact of the SyRB activation on Italian banks' share prices**
(November 2024)
Massimo Molinari and Luca Moller
[Full text](#)

Markets, Infrastructures, Payment Systems

[Full list since 2021](#)

- No. 56: **A general framework to assess the smooth implementation of monetary policy: an application to the introduction of the digital euro** (January 2025)
Annalisa De Nicola and Michelina Lo Russo
[Full text](#)
- No. 55: **Rating the Raters. A Central Bank Perspective** (December 2024)
Francesco Columba, Federica Orsini and Stefano Tranquillo
[Full text](#)

Articles in Economics Blogs

[Full articles Blog list](#)

- 16 Jan. 2025 **“Catch me if you can”: fast-movers and late-comers in euro area inflation** (SUERF)
Francesco Corsello and Stefano Neri
[Full text](#)
- 10 Jan. 2025 **Wind turbines? Please in my backyard** (VoxEU)
Federica Daniele, Guido de Blasio and Alessandra Pasquini
[Full text](#)
- 3 Jan. 2025 **Frank: fragementation in the new Kyenesian model** (VoxEU)
Alessandro Moro and Valerio Nispi Landi
[Full text](#)
- 19 Dec. 2024 **Energy shocks, inflation and the ECB’s monetary policy** (SUERF)
Stefano Neri
[Full text](#)
- 9 Dec. 2024 **Central bank business surveys: version 2.0** (VoxEU)
Chiara Scotti, Concetta Rondinelli, Marco Bottone, Elena Mattevi and Andrea Neri
[Full text](#)
- 5 Dec. 2024 **Trump’s victory and equity markets: the effect of political proximity** (VoxEU)
Fabrizio Ferriani, Andrea Gazzani and Marco Taboga
[Full text](#)
- 5 Dec. 2024 **ESG risks and Corporate Viability: Insights from Default Probability Term** (SUERF)
Fabrizio Ferriani and Marcello Pericoli
[Full text](#)
- 7 Nov. 2024 **Inputs in distress: geoeconomic fragmentation and firms’ sourcing** (SUERF)
Alessandro Borin, Peonare Caka, Gianmarco Cariola, Dennis Essers, Elena Gentili, Laura Lebastard, Andrea Linarello, Michele Mancini, Tullia Padellini, Ludovic Panon, Francisco Requena and Jacopo Timini
[Full text](#)
- 25 Oct. 2024 **L'impatto della maternità sul lavoro femminile: il ruolo delle dinamiche aziendali** (Neodemos)
Francesca Carta, Alessandra Casarico, Marta De Philippis and Salvatore Lattanzio
[Full text](#)
- 24 Oct. 2024 **Bank lending in an unprecedented monetary tightening cycle: Evidence from the euro area** (SUERF)
Simone Auer and Antoniomaria Conti
[Full text](#)
- 24 Oct. 2024 **Easier market entry, higher productivity: the case of Italy** (SUERF)
Andrea Cintolesi, Sauro Mocetti and Giacomo Roma
[Full text](#)
- 18 Oct. 2024 **The macroeconomic effects of AI innovation** (VoxEU)
Andrea Gazzani and Filippo Natoli
[Full text](#)
- 4 Oct. 2024 **Real interest rates and the ECB's monetary policy stance** (SUERF)
Marco Bernardini, Lara D’Arrigo, Alessandro Lin and Andrea Tiseno
[Full text](#)



Directorate General for Economics, Statistics and Research

Via Nazionale, 91
00184 Roma - Italia
Tel. +390647921

E-mail: temidiscussione@bancaditalia.it



www.bancaditalia.it



[Youtube.com/bancaditalia](https://www.youtube.com/bancaditalia)



[Bancaditalia](https://www.linkedin.com/company/bancaditalia)



[@UfficioStampaBI](https://twitter.com/UfficioStampaBI)



[@bancaditalia](https://twitter.com/bancaditalia)

The views expressed in the publications, papers, and seminars summarized in this Newsletter are those of the authors and do not necessarily reflect the position of the Bank of Italy.