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Highlights

**Joint Banca d'Italia-European Central Bank -
10th Workshop on exchange rates**

(Online, 17-18 December 2020)

The 10th Workshop on "Exchange Rates", jointly organised with the European Central Bank took place online on December 17-18, 2020.

In line with previous editions, this workshop aims at providing a forum for discussing innovative research on analytical and policy issues relating to exchange rates.

The keynote lecture was given by Matteo Maggiori (Stanford University).

The programme is available [here](#).

**2020 Banca d'Italia and Federal Reserve Board
Joint Conference on "Nontraditional Data &
Statistical Learning with Applications to
Macroeconomics"**

(Online, 11-12 November 2020)

The Bank of Italy and the Federal Reserve Board organized the 2020 Joint Conference on 'Nontraditional Data & Statistical Learning with Applications to Macroeconomics'. This global event was held online (via Webex) on 11-12 November 2020, with more than 700 participants from 65 countries in attendance. There were participants from around 70 central banks, 65 universities, 27 government agencies, 7 international organizations and 26 private companies.

During the conference, leading and emerging researchers in the field – from other central banks and academia or from the private sector – presented their research, mainly using nontraditional data, big data, machine learning or statistical learning techniques, or text mining for macroeconomic or microeconomic applications. There were 44 papers presented in two parallel sessions. At the end of the November 12 session, there was a virtual panel discussion with Prof. Tara Sinclair (of George Washington University and the job site company Indeed), Prof. Stephen Hansen (Imperial College), Ellen Meade (Federal Reserve Board), Marco Marini (IMF), and Giuseppe Bruno (Bank of Italy) on 'The role of Big data, nontraditional data, and machine learning in economic policy'. On November 13, there was a virtual meeting reserved to central bankers with delegates from 46 central banks and 11 government agencies. Delegates discussed a survey on the use of nontraditional data and nonstandard techniques before and during the pandemic. Twenty-one delegates briefly presented some of their use cases.

The programme and the links to the papers presented during the workshop, along with the slides and the video recordings are available [here](#).

Latest Working Papers

No. 1320: Whatever it takes to save the planet? Central banks and unconventional green policies
(February 2021)

Alessandro Ferrari and Valerio Nispi Landi

The paper studies the transmission mechanism of a central bank's purchase programme of green bonds, i.e. bonds issued by firms that do not pollute. We assess the impact of this policy on macroeconomic and environmental variables. We use a dynamic general-equilibrium model in which CO2 emissions increase when the production of polluting ('brown') firms rises, adding to the stock of atmospheric carbon.

Tilting the central bank's portfolio toward green bonds reduces the return on these assets only if there are frictions preventing the private sector from exploiting the resulting arbitrage opportunities. In this case, the purchase programme increases the financing cost of brown firms, temporarily reducing brown production and emissions. However, without other policies facilitating the ecological transition, the effects on the stock of atmospheric carbon are very limited.

[Full text \(pdf\)](#)

No. 1319: Identifying deposits' outflows in real-time (February 2021)

Edoardo Rainone

This paper proposes a methodology to identify deposits' outflows in real-time using daily TARGET2 data from 100 Italian banks. The ability of the methodology to timely identify anomalous outflows is assessed using Monte Carlo methods and comparing it with alternative methodologies.

The methodology identified a limited number of anomalous outflows for the period between August 2012 and August 2019. About 3 percent of deposits was withdrawn on average, 95 percent of which was transferred to other banks. The remaining 5 percent was converted into cash. Bilateral transfers to other banks were mostly directed to large domestic banks, without contagion effects.

[Full text \(pdf\)](#)

No. 1318: Can we measure inflation expectations using Twitter?
(February 2021)

Cristina Angelico, Juri Marcucci, Marcello Miccoli and Filippo Quarta

The paper suggests new daily indicators of consumers' inflation expectations built using machine learning techniques and textual analysis drawn from the microblogging and social networking service, Twitter. Trends in these indicators are compared both with monthly inflation expectations based on the Istat surveys and with those obtained daily from the market prices of derivative contracts on inflation (inflation swaps), which measure the expectations only indirectly, because they include unobservable risk premia.

Adopting the most recent specific algorithms for dealing with big and voluminous data (Big Data Analytics), the paper shows that the Twitter-based indicators are significantly correlated with the other existing measures of inflation expectations. Furthermore, these indicators have a superior forecasting power for survey-based monthly inflation expectations than all the other available sources. Therefore, they represent an additional source of information available in real time.

[Full text \(pdf\)](#)

No. 1317: Declining natural interest rate in the US: the pension system matters (February 2021)

Jacopo Bonchi and Giacomo Caracciolo

The paper develops a general equilibrium model calibrated to the US to quantify the effects of pension reforms on the natural interest rate, that is the level of the real interest rate compatible with potential output and stable prices. Between 1970 and 2015, pension reforms mitigated the secular decline in the natural interest rate overall, raising it by around one percentage point and thus counteracting the downward pressure from adverse demographic and productivity patterns. As regards the future, given the demographic projections between 2015 and 2060, the effects of alternative pension reforms on the interest rate and on welfare depend on the evolution of productivity.

[Full text \(pdf\)](#)

Latest Working Papers

No. 1316: Is inflation targeting a strategy past its sell-by date?
(February 2021)

Alberto Locarno and Alessandra Locarno

The paper compares the main alternative monetary policy strategies to assess which one performs best in terms of both minimising the volatility of inflation and the output-gap and reducing the probability of falling into a liquidity trap. The strategies differ in the degree of history dependence and are assessed by means of a three-equation New Keynesian DSGE model, which is estimated with Bayesian methods on euro-area data. Only optimal rules are considered for each strategy.

The main finding of the paper is that monetary policy strategies exhibiting a higher degree of history dependence perform best: price-level targeting is superior to all the others; nominal GDP-level targeting is second best. Similar results are obtained when the loss function of the central bank includes among its arguments the volatility of the policy rate. Sensitivity analyses show that the ranking of monetary policy strategies is not affected by changes in model parameters.

[Full text \(pdf\)](#)

No. 1315: Bank credit and market-based finance for corporations: the effects of minibond issuances
(February 2021)

Steven Ongena, Sara Pinoli, Paola Rossi and Alessandro Scopelliti

The paper studies the effects of diversifying funding sources on the financing conditions for firms. We exploit a regulatory reform that removed pre-existing limits on the issuance of corporate bonds by unlisted firms in Italy and introduced 'minibonds' in 2012. We measure its impact by comparing the credit conditions applied before and after the reform between issuer firms and ex-ante similar non-issuer firms as a control group.

The issuance of minibonds has a positive effect on the financing conditions applied to bank loans: after the first issuance, we find a reduction in lending rates on long-term loans of 40 basis points and a decrease in bank credit used, while the credit granted remains stable.

The overall external funds available to issuer firms increase without a significant worsening in the overall financing costs. These results support the argument that the diversification of funding sources allows firms to improve their financing conditions.

[Full text \(pdf\)](#)

No. 1314: Working horizon and labour supply: the effect of raising the full retirement age on middle-aged individuals (February 2021)

Francesca Carta and Marta de Philippis

Raising the full retirement age increases the length of individuals' working horizon, possibly causing them to revise their labour supply decisions over their entire life cycle. These changes may spill over into their partner's labour supply too. This paper investigates the effects of raising the full retirement age, as envisaged by the 2011 pension reform, on the labour market participation of individuals at different ages and of their partners.

As a result of the pension reform, women aged between 45 and 59 increased their labour market participation. Men also augmented their labour supply in response to changes in their partners' working horizon: they decided to postpone their retirement, even though it was not envisaged by the pension reform.

[Full text \(pdf\)](#)

No. 1313: The COVID-19 shock and a fiscal-monetary policy mix in a monetary union
(December 2020)

Anna Bartocci, Alessandro Notarpietro and Massimiliano Pisani

We evaluate the effectiveness of a fiscal-monetary policy mix in the euro area, in response to the Covid-19 shock. It is assumed that the monetary union is made up of two symmetric regions. A fraction of households is subject to liquidity constraints and consumes all its available income in every period (another fraction has full access to financial markets and can smooth consumption in response to income fluctuations). We consider expansionary fiscal measures and non-standard monetary policy

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measures (asset purchases).

A fiscal expansion based on an increase in public consumption and transfers to liquidity-constrained households mitigates the recessionary effects of the Covid-19 shock, with positive spillovers across regions. Non-standard monetary policy amplifies the effectiveness of fiscal measures, by reducing long-term interest rates. The issuance by a supranational fiscal authority of a safe bond can avoid the insurgence of financial tensions, thus preserving the effectiveness of fiscal policy in the whole area.

[Full text \(pdf\)](#)

No. 1312: Scars of youth non-employment and labour market conditions
(December 2020)

Giulia Martina Tanzi

According to the economic theory, non-employment periods during the first years of the job career may have negative effects on the subsequent career. This work quantifies these effects using Italian data and it studies if these effects vary according to the conditions of the regional labor market.

There is clear evidence that the effects of non-employment are persistent: on average, every day of non-employment during the first years of the professional career means an additional day of non-employment during the six subsequent years. However, the consequences of youth non-employment are smaller in periods of economic downturns and in regions with high unemployment rates.

[Full text \(pdf\)](#)

No. 1311: Equity tail risk in the treasury bond market (December 2020)

Dario Ruzzi and Mirco Rubin

This study adds to the empirical literature on the identification and estimation of the risk factors that affect and can predict future trends in the Treasury bond market. In particular, we examine the short-term impact of the risk associated with large negative price jumps in the stock market on the prices of and demand for Treasuries.

The risk of large negative price jumps in the stock market leads to an instantaneous significant

increase in Treasury bond prices, with the effect persisting even in the following month. These relationships are observed not only in the US markets but also in some major European markets. Consistent with the observed effect on prices, funds flow from equities into bonds when the risk of stock price jumps is higher.

[Full text \(pdf\)](#)

No. 1310: The market stabilization role of central bank asset purchases: high-frequency evidence from the COVID-19 crisis
(December 2020)

Marco Bernardini and Annalisa De Nicola

This paper uses high-frequency data to investigate the effects on the government bond market of the central bank purchases made by Banca d'Italia during the pandemic crisis. The size, persistence, propagation, and state-dependent nature of these effects inform about the capability of purchases to contribute to the stabilization of government bond markets by mitigating the effects of adverse shocks and containing the volatility of prices.

An outright purchase of government bonds compresses yields immediately and in a persistent manner over the trading day. These effects – different from the permanent ones associated with official programme announcements – are driven by a compression of sovereign spreads and help to improve market liquidity; moreover, they turn out to be particularly strong in times of heightened market stress.

[Full text \(pdf\)](#)

No. 1309: Rare disasters, the natural interest rate and monetary policy
(December 2020)

Alessandro Cantelmo

This paper contributes to the debate about the implications of natural disasters and climate change for the conduct of monetary policy. In particular, it evaluates the effects of both disaster risk and disaster realizations on the natural interest rate and inflation, under alternative monetary policy responses.

An increase in the probability of natural disaster raises precautionary savings thus permanently reducing the natural interest rate and inflation. When a natural disaster strikes, the signs of the

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temporary responses of the natural rate and inflation depend on whether supply- or demand-side effects prevail. This requires different responses of the central bank to keep inflation close to the target and mitigate the output losses.

[Full text \(pdf\)](#)

No. 1308: Monetary policy strategies in the New Normal: a model-based analysis for the euro area
(December 2020)

Fabio Busetti, Stefano Neri, Alessandro Notarpietro and Massimiliano Pisani

This paper evaluates the effectiveness of monetary policy strategies alternative to inflation targeting (IT) when the natural interest rate is low (“new normal”) and the probability that the policy rate hits its effective lower bound (ELB) is relatively high. We use a New Keynesian model calibrated to the euro area, and assume that the economy is hit by demand and supply shocks.

Strategies that compensate for persistent negative deviations of inflation from its target with positive deviations (price level targeting e average inflation targeting) are more effective than IT in stabilizing inflation and output and in reducing the probability to hit the ELB. The effectiveness of such strategies hinges on the central bank’s commitment to keeping the policy rates low for long in response to deflationary shocks.

[Full text \(pdf\)](#)

No. 1307: On the design of grant assignment rules
(December 2020)

Francesca Modena, Santiago Pereda Fernandez and Giulia Martina Tanzi

In Italy, scholarships for first-year university students are assigned on the basis of the family's economic situation. However, not all the eligible students benefit of it due to the limited amount of funds available. By comparing the choices of beneficiaries and eligible non-beneficiaries, this work estimates the effects of alternative rules for awarding grants on dropout rates. The data uses administrative data from all Italian universities. An indiscriminate allocation of scholarships to all eligible students would have modest effects on dropout rates, doubling the spending. For a given level of resources, an attribution based on merit would reduce the share of beneficiaries who leave the studies. A greater reduction in the dropout rate would be obtained by awarding the scholarship on the basis of the characteristics that affect the probability of drop out.

[Full text \(pdf\)](#)

Other recent Working Papers

September 2020 — November 2020

- No. 1306: Demographics and the natural real interest rate: historical and projected paths for the Euro Area
Papetti Andrea
- No. 1305: A quantitative analysis of distortions in managerial forecasts
Yueran Ma, Tiziano Ropele, David Sraer and David Thesmar
- No. 1304: Consumption and wealth: new evidence from Italy
Riccardo De Bonis, Danilo Liberati, John Muellbauer and Concetta Rondinelli
- No. 1303: The effects of structural reforms: Evidence from Italy
Emanuela Ciapanna, Sauro Mocetti and Alessandro Notarpietro
- No. 1302: Bargaining power and the Phillips curve: a micro-macro analysis
Marco J. Lombardi, Marianna Riggi and Eliana Viviano
- No. 1301: Do details matter? An analysis of Italian personal income tax
Martino Tasso
- No. 1300: Effects of eligibility for central bank purchases on corporate bond spreads
Taneli Mäkinen, Fan Li, Andrea Mercatanti and Andrea Silvestrini
- No. 1299: Forecasting US recessions: the role of economic uncertainty
Valerio Ercolani and Filippo Natoli
- No. 1298: Anti-poverty measures in Italy: a microsimulation analysis
Nicola Curci, Giuseppe Grasso, Marco Savegnago and Pasquale Recchia
- No. 1297: Workforce aging, pension reforms, and firm outcomes
Francesca Carta, Francesco D'Amuri and Till von Wachter
- No. 1296: Price dividend ratio and long-run stock returns: a score driven state space model
Davide Delle Monache, Ivan Petrella and Fabrizio Venditti
- No. 1295: How loose, how tight? A measure of monetary and fiscal stance for the euro area
Nicoletta Batini, Alessandro Cantelmo, Giovanni Melina and Stefania Villa
- No. 1294: Prudential policies, credit supply and house prices: evidence from Italy
Pierluigi Bologna, Wanda Cornacchia and Maddalena Galardo
- No. 1293: Fiscal space and the size of fiscal multiplier
Luca Metelli and Kevin Pallara
- No. 1292: Asymmetric information in corporate lending: evidence from SME bond markets
Alessandra Iannamorelli, Stefano Nobili, Antonio Scalia and Luana Zaccaria
- No. 1291: An economic assessment of the evolution of the corporate tax system in Italy
Ernesto Zangari

Latest Occasional Papers

No. 606: The impact of the COVID-19 shock on labour income inequality: Evidence from Italy
(February 2021)

Francesca Carta and Marta De Philippis

The COVID-19 economic shock has impacted workers asymmetrically: it has penalized relatively more workers with unstable and less protected jobs, possibly amplifying existing inequalities. This paper simulates the short term effect of the crisis on the distribution of equalized labour income in Italy. It also assesses the effectiveness of the social insurance benefits in place before the crisis in smoothing labour income losses and of the temporary measures adopted by the Government. The economic repercussions of the pandemic affect low-income households more intensively, implying a substantial increase in labour income inequality. Workers in poorer households have fewer possibilities to work from home, are more likely to be employed in locked-down sectors and in unstable jobs. The social insurance benefits temporarily introduced by the Italian Government to deal with the crisis are able to compensate for the increased inequality significantly more than the pre-crisis measures.

[Full text \(pdf\)](#)

No. 605: Covid-19 and official statistics: a wakeup call? (February 2021)

Claudia Biancotti, Alfonso Rosolia, Giovanni Veronese, Robert Kirchner and Francois Mouriaux

Digitization increases the amount of information collected by public administrations and private operators, expanding the possibilities of understanding phenomena that were previously difficult to measure. During the pandemic, unconventional indicators produced by the private sector filled some gaps in official statistics, providing timely information also on new social and economic dynamics. It is difficult for the producers of official statistics to access the data underlying these indicators.

National and supranational initiatives must be promoted which allow a more extensive and effective access to new generation data. Greater sharing of data collected by private and public entities, while ensuring confidentiality and security

requirements, can also benefit the production of official statistics, extending coverage to phenomena and domains that can prove to be important in dealing with unexpected crises such as those triggered by the pandemic.

[Full text \(pdf\)](#)

No. 604: TLAC-eligible debt: Who holds it? A view from the euro area
(February 2021)

Carmela Aurora Attinà and Pierluigi Bologna

The paper analyses the sectoral composition of the investor base of the bonds eligible for the Total Loss Absorbing Capacity (TLAC) requirement issued between 2013 and the first half of 2020 by the eight euro-area banking groups identified as Global Systemically Important Banks (G-SIBs). We assess the extent to which, in the case of the resolution of a G-SIB, the composition of the investor base could be an obstacle to a bail-in or have repercussions on financial stability.

Two thirds of TLAC-eligible bonds are held by non-euro-area investors. The composition of euro-area investors has changed over time such that a possible bail-in would be less problematic: the share of bonds held by households has significantly declined and the share held by insurances and pension funds has risen. The pandemic has not changed these dynamics. The share of households' wealth invested in TLAC bonds is very low but negatively correlated with the country's average level of financial education.

[Full text \(pdf\)](#)

No. 603: Changes in the employment structure and in job quality in Italy: a national and regional analysis (February 2021)

Luciana Aimone Gigio, Silvia Camussi e Vincenzo Maccarrone

This paper contributes to the literature on changes in the employment structure, focusing on the job quality created and destroyed in Italy and in its regions in the years 2011-17.

Italy experienced a polarisation pattern skewed towards lower-paid jobs. This pattern is the result of diverging trends across Italy: while the central and northern regions are responsible for the

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growth not only in the share of workers in low quality occupations but also in higher quality ones, southern Italy contributed exclusively to the increase in low-paid jobs. Within each macro-area, the contribution of different regions to the total trends was heterogeneous, in particular in the South.

[Full text \(pdf\)](#)

No. 602: CIG: historical evolution, features and limitations (February 2021)

Salvatore Lo Bello

This paper describes the rules and the historical evolution of the Italian short-time work scheme system. Exploiting both sectoral and firm-level data, it analyses the actual use of such instruments across economic sectors in the period 2009-2019. Finally, it describes the system for financing short-time work schemes, and highlights some potential inefficiencies related to extraordinary wage supplementation (CIG).

The system is segmented and heterogeneous. The actual use of wage supplementation schemes is highly concentrated in a few sectors, and a substantial share of employees is excluded from using such instruments. The sectoral heterogeneity reflects the availability of alternative labor cost adjustment channels (e.g. temporary contracts) and firm size. The financing system features structural imbalances that may be corrected also by revising the mechanism used to compute the contributions to be paid.

[Full text \(pdf\) in Italian only](#)

No. 601: Return of the NPLs to the bright side: which unlikely to pay firms are more likely to pay? (February 2021)

Massimiliano Affinito and Giorgio Meucci

Non-performing loans (NPLs) are classified into categories characterized by a different degree of difficulty of the borrower. Unlike bad loans, Unlikely to Pay loans (UtPs) present a nonnegligible probability of returning to the performing status. The paper uses data from the Italian Central Credit Register from 2005 to 2019 to estimate both the probability that UtP firms return to the performing

status and the characteristics most associated with this return.

The analysis shows that the share of UtP firms returned to the performing status has never been negligible even during the most acute phases of the global financial and sovereign debt crises; therefore it provides insights also in the context of the current pandemic crisis. The probability of an UtP firm to return to the performing status is negatively correlated with its size and debt value and positively with the ratio between capital and assets, measured at the time of the UtP classification.

[Full text \(pdf\)](#)

No. 600: The professional associations in Italy: the measurement and effects of regulation (February 2021)

Sauro Mocetti and Giacomo Roma

The paper presents a new index that measures the degree of regulation for fourteen professions for which enrolment in a professional association is required, in order to highlight the varying degrees of restrictiveness of the regulation along multiple dimensions. It also describes the characteristics of the people employed in these professions and the impact of regulation on their income.

Professions that require enrolment in a professional association represent a significant share of employment, especially of the more highly educated workers, and are characterized by a wage premium of 7 per cent (net of other observable individual characteristics). Incomes are higher for professions with more stringent regulation. The persistence of rents, the ineffective selection process in some professions and the need to take into account structural changes in the service market suggest that the quality of regulation could improve in some areas.

[Full text \(pdf\) in Italian only](#)

No. 599: Natural unemployment and activity rates: flow-based determinants and implications for price dynamics (February 2021)

Francesco D'Amuri, Marta De Philippis, Elisa Guglielminetti and Salvatore Lo Bello

In this paper we jointly estimate the natural

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unemployment and participation rates for Italy through a forward-looking Phillips curve informed by structural labour market flows and demographic trends. We then exploit our model to assess the effect on inflation of a sudden expansion in labour supply caused by a far-reaching and unexpected pension reform implemented in 2012.

We find that the estimated reaction of inflation to the participation gap (the difference between the actual and the natural participation rates) is twice as large as that to the unemployment gap (the difference between the actual and the natural unemployment rates). Moreover, we find that, while the pension reform did not affect the unemployment gap, it triggered an increase in the participation gap. Trends in activity thus explain in part why inflation has been so low in recent years.

[Full text \(pdf\)](#)

No. 598: Will multilateral development banks weather the Covid-19 crisis? (February 2021)

Raffaele De Marchi and Riccardo Settimo

The paper provides an estimate of the impact of the COVID-19 crisis on the lending capacity of the main multilateral development banks (MDBs). For this purpose, it considers some scenarios that reflect the potential channels through which the crisis could lead to an erosion of the lending capacity, based on available capital buffers and while maintaining triple-A ratings. It also offers some policy proposals, with a view to safeguarding the role of MDBs in supporting the post-pandemic recovery.

MDBs' capacity to increase exposures, on aggregate estimated in the range of \$860-896 billion, would grow to \$985-1,020 billion, benefiting from the capital increases approved recently. Simultaneously, some potential factors – such as the foreseeable increase in lending due to the MDBs' countercyclical role, the deterioration in the ratings of borrowing and non-borrowing member countries, and the possible weakening of the preferred creditor status – could erode this capacity to \$116-227 billion.

[Full text \(pdf\)](#)

No. 597: The (little) reallocation potential of workers most hit by the Covid-19 crisis (February 2021)

Gaetano Basso, Adele Grompone and Francesca Modena

Workers in the accommodation and food services and in entertainment and sport activities – most hit by the pandemic crisis – will face greater difficulties in the labour market if they cannot easily relocate to other sectors. Using Italian administrative data on hirings and contract terminations, the paper analyses job transitions before the COVID-19 pandemic in order to describe job mobility across sectors.

Over a three-year horizon, workers in the accommodation and food services had similar labour market opportunities to those of workers in other service sectors; they were lower for entertainment and sport activities workers. If they found a job, this latter group of workers had a higher probability of moving to another sector. Low skill levels, which characterize workers in the accommodation and food services in particular, might lower the extent of cross-sector mobility. Looking ahead, the potential for reallocation will be limited, in particular if the demand in the service sector drops considerably.

[Full text \(pdf\)](#)

No. 596: Forecasting corporate capital accumulation in Italy: the role of survey-based information (February 2021)

Claire Giordano, Marco Marinucci and Andrea Silvestrini

The study appraises to what extent firm survey information on business sentiment, economic uncertainty and financial constraints can improve the forecasting performance of a number of macro-econometric models on the capital accumulation of Italian non-financial corporations. The analysis also investigates the impact of the global financial crisis and of the sovereign debt crisis on forecasting accuracy. A Vector Error Correction Model (VECM) that includes the above-mentioned auxiliary variables displays a good forecasting performance in comparison with alternative models, especially

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when it is estimated on the entire 1995-2012 period, which includes both the global financial crisis and the sovereign debt crisis.

[Full text \(pdf\)](#)

No. 595: An OEE index for the Bank of Italy's banknote production plant (February 2021)

Michele Manna

The Overall Equipment Effectiveness (OEE) index identifies the share of manufacturing time that is truly productive. Following a manufacturing best practice, in this work we present a monthly series of the OEE index for the Bank of Italy's banknote production plant, from January 2014 to September 2020. During this time, the plant underwent a major reorganization, which was negotiated with the in-house trade unions (2017-18). More recently, the COVID-19 has brought about new challenges.

We measure an increase in the plant's OEE of 6 percentage points, from 57 to 63 per cent on average, after the rollout of the reorganization in March 2018. During the negotiations with the trade unions, a time of heightened uncertainty, the index fell below 50 per cent, providing empirical support to the existence of a pattern well known in the industrial organization literature. The developments in the index in 2020 prove that production was resilient even during the health emergency.

[Full text \(pdf\) in Italian only](#)

No. 594: The EU Bank Insolvency Framework: Could Less Be More? (February 2021)

Giovanni Majnoni, Gabriele Bernardini, Andreas Dal Santo and Maurizio Trapanese

This paper shows that the present European framework for bank crisis management in the Banking Union (BU) follows multiple criteria that, when applied in combination, can generate unintended consequences that undermine the effectiveness of the system, highlighting a case of fallacy of composition. The paper suggests that a piecemeal reform would not be adequate to tackle the framework's shortcomings. A broader

effort is required to streamline the current criteria into a single rulebook, achieving effectiveness through simplification.

The paper suggests that the experience of the US FDIC provides a useful benchmark. The adoption in the BU of a single and clear criterion – the Least Cost Test as in the US – makes it possible to fully protect taxpayers and to contain the value destruction caused by bank failures. It is suggested that its adoption by the BU would help frame a common approach to failing banks of all sizes and would provide a solution to the geographic and institutional fragmentation of the current set-up.

[Full text \(pdf\)](#)

No. 593: Alternative measures of underlying inflation in the euro area (December 2020)

Cristina Conflitti

This paper proposes two measures of underlying inflation for euro-area as an alternative to the harmonized index of consumer prices, excluding food and energy products. The first measure, called the Core cycle measure, distinguishes the price changes that respond to the economic cycle (pro-cyclical) from those that do not (acyclical), as the latter are driven by specific trends. In the second measure, called the Common core, the items subject to strong idiosyncratic price changes are removed, assuming that these changes are not generally correlated to the underlying trend of inflation.

Taken together, the two indicators can provide useful information for diagnoses on the dynamics of underlying inflation. However, based on a series of comparative exercises, neither the measures traditionally used nor those proposed here have properties that make them exclusively preferable to others. It is appropriate to jointly monitor several indicators for an accurate assessment of price dynamics in the medium term.

[Full text \(pdf\)](#)

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No. 592: Thus spake the Bank of Italy's Governors: an analysis of the language corpus of the Concluding Remarks (December 2020)

Valerio Astuti, Riccardo De Bonis, Sergio Marroni and Alessandro Vinci

This paper is the first to construct and analyse the language corpus of the Concluding Remarks (CF from now on), using the texts from 1946 to 2018. The first part of the paper summarizes the characteristics of the dataset, which contains around 850,000 words. The second part analyses the topics addressed by the Bank's Governors over seventy years of Italian economic history. The third section provides a linguistic analysis of the CF, focusing in particular on the use of some types of subordinate clauses.

The topics covered in the CF have been influenced by events, but also by each Governor's personal point of view. The CF reached their maximum length in the 1970s and then became shorter. The length of the sentences increased in the 1950s and then declined, with the shortest sentences dating to the end of the 1990s. Our linguistic analysis shows that, up until the time of Baffi, the Governors concentrated on presenting economic trends. Over the last 25 years, however, the CF have focused on drawing up action programmes for Italy's economy.

[Full text \(pdf\) in Italian only](#)

No. 591: A game changer in payment habits: evidence from daily data during a pandemic (December 2020)

Guerino Ardizzi, Andrea Nobili and Giorgia Rocco

The paper investigates the changes in consumers' payment habits in Italy caused by the COVID-19 pandemic. We analyse indicators of payment card usage in place of cash and measures of the pandemic's intensity that capture the fear of infection and its impact on demand for payment instruments. We also evaluate the effect of the pandemic on the circulation of banknotes.

The pandemic has led to a greater use of cashless payment instruments, notably via e-commerce purchases and contact-less cards. In addition, we find an increase in the demand for cash for

precautionary motives. Looking forward, digital payments would make the economy more resilient to adverse shocks. At the same time, ensuring the adequate and efficient availability of cash remains essential for the proper functioning of the economy and for social inclusion purposes.

[Full text \(pdf\)](#)

No. 590: Firm undercapitalization in Italy: business crisis and survival before and after COVID-19 (December 2020)

Tommaso Orlando and Giacomo Rodano

The paper examines the diffusion of undercapitalization (equity below the legal limits) among Italian firms. It describes the magnitude and persistence of the phenomenon in Italy in the years 2010-18 and analyzes the relationship between undercapitalization, bankruptcy and business termination. It evaluates the potential effects of the COVID-19 epidemic and its consequences for the new early warning system, that will become operational in September 2021. In 2010-18, around 8.5 percent of Italian companies were undercapitalized. The onset of undercapitalization often anticipates business termination: around 60 percent of involved firms go out of business within 3 years. Even considering the mitigating role of government interventions, the COVID-19 epidemic might lead to a sensible increment in the rate of undercapitalization in 2020. As a consequence, early warning procedures may face operating difficulties.

[Full text \(pdf\)](#)

No. 589: Capital flows during the pandemic: lessons for a more resilient international financial architecture (December 2020)

Fernando Eguren Martin, Mark Joy, Claudia Maurini, Alessandro Moro, Valerio Nispi Landi, Alessandro Schiavone and Carlos van Hombeeck

The paper analyses capital flows to emerging economies during the pandemic, focusing on the sudden stop that occurred in the early stages. It describes the policy responses at country level and the measures taken by the International Monetary

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Fund. In addition, it provides an estimate of the emerging economies' demand for financial resources from the International Monetary Fund that could arise from a protracted sudden stop, using two alternative approaches: scenario analysis and the capital flows at risk.

The work documents the key role of non-bank financial intermediaries in causing the sudden stop. The response to the crisis in emerging economies includes the adoption of unconventional monetary policies and countercyclical macroprudential measures. The simulations set out in this paper suggest that in the event of a protracted sudden stop, the financing needs of emerging economies could exceed the Fund's resources.

[Full text \(pdf\)](#)

No. 588: Italian people's financial literacy: the results of the Bank of Italy's 2020 survey (December 2020)

Giovanni D'Alessio, Riccardo De Bonis, Andrea Neri and Cristiana Rampazzi

The paper analyses the results of the survey on the financial literacy of Italian adults, conducted by the Bank of Italy in January and February. This is part of an OECD project, which has created a harmonized questionnaire used by 26 countries. The Italian sample comprises 2,000 adults. In line with the OECD's methodology, the financial literacy indicator is the sum of the scores calculated for three factors: knowledge, behaviour and attitudes. The survey confirms that Italy lags behind by international standards, as already noted in the 2017 survey. Compared with 2017, the new survey shows that Italian people's financial knowledge has improved, while their behaviour and attitudes have essentially remained stable. Financial literacy varies among the population according to the education levels – the most significant variable – gender, age and geographical location of those interviewed.

[Full text \(pdf\) in Italian only](#)

No. 587: Firms' leverage across business cycles (December 2020)

Antonio De Socio

Firms' leverage, i.e. the ratio between debt and equity (including profits), is usually driven in opposite directions by its two components (up and down respectively). Specifically, leverage could increase during busts because debt grows faster than equity or because a decrease in debt is offset by a larger decline in equity due to losses. This study evaluates how the relative contributions of debt and equity affect leverage across the cycle and whether dynamics differ among size classes. Aggregate leverage initially increases during busts, as debt growth remains steady while the counterbalancing contribution of equity is smaller; after one year, leverage decreases, as debt slows down. There are differences by firm size: leverage increases more at the beginning of busts for both very large and smaller firms; after one year, leverage decreases less for the latter, mainly due to persistently lower profits.

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Guerino Ardizzi, Elisa Bonifacio, Cristina Demma and Laura Painelli

Notes on Financial Stability and Supervision

No. 23: Bad loan recovery rates in 2019
(December 2020)

*Antonio Luigi Fischetto, Iginò Guida, Anna Rendina,
Giovanni Santini and Marco Scotto di Carlo*

This note updates to 2019 the estimated bad loan recovery rates already published in the Notes on Financial Stability and Supervision, Nos. 7 and 11 of 2017, No. 13 of 2018 and No. 18 of 2019. Moreover, the note illustrates the findings of the yearly survey of NPL sales, conducted by the

Bank of Italy starting from 2016. The data, together with some detailed breakdowns that are commented on but not reproduced in this text, are available in digital format.

The analysis reached the following main conclusions....

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Economic History Working Papers

**No. 46: A short history of trade barriers
in Italy** (December 2020)

Matteo Gomellini

This paper summarizes and partially revisits the analyses and the results of some studies carried out in the recent past on the measurement of the intensity and effects of trade barriers in Italian history. Firstly, the research identifies the

main turning points in Italian trade policy; it then shows that trade barriers recorded a sizeable decline between 1870 and 2000, giving a strong boost to the country's foreign trade. The gains from trade have been significant, especially since World War II.

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