

## **Annual programme of activities of the Parliamentary Budget Office 2023**

**(as required by Law 243 of 24 December 2012, Art. 18, par. 4)**

The mission of the Parliamentary Budget Office (PBO) is to contribute to the sustainability of public finance by ensuring the transparency of accounts at the service of Parliament and citizens. As established by its founding law (Law 243/2012, so-called 'reinforced' law, for the implementation of the new Art. 81 of the Constitution), the PBO shall: verify and assess macroeconomic and public finance projections; quantify the impact of major legislative measures on the macroeconomic scenario and public accounts; analyse public finance trends, including by sub-sector, and verify the long-term sustainability of public accounts; assess compliance with budget rules and monitor the implementation and use of certain provisions provided for by the European framework of fiscal rules (specifically, the correction mechanism and the authorisation to deviate from the medium-term objective in the event of exceptional circumstances). Finally, the PBO shall carry out micro- and macroeconomic analyses on topics relevant to public finance-related issues on its own initiative or at the request of parliamentary committees.

### **1. The analysis**

This section briefly describes the PBO's achievements in 2022 and in the first half of 2023 and then outlines the activities planned to be completed by the end of the year.

#### *1.1 Activity carried out in 2022 and in the first half of 2023*

In 2022, the public finance policy documents (the Economic and Financial Document (EFD) and the Update to the Economic and Financial Document (NADEF)) were analysed. Specifically, the results of the validation of the official macroeconomic projections (trend and policy scenarios) and of the public finance assessment were disclosed to the Budget Committees of the Chamber of Deputies and the Senate at the hearings held during the parliamentary examination of the Government's policy documents (April for the EFD and November for the NADEF). In autumn, the activity coincided with the start of the new legislature for which two policy documents were drafted, whose macroeconomic scenarios were both assessed and validated by the PBO. Furthermore, a hearing was held in July and a memorandum was drafted in September to provide an opinion on the

Government's requests to Parliament to deviate from the medium-term objective, as well as, as usual, a hearing on the budget bill for 2023 in December.

Alongside these activities, many analytical documents were drafted on specific topics, independently identified by the PBO within the scope of the duties assigned by the founding law or drafted upon requests of the parliamentary commissions. Specifically, in addition to the above-mentioned hearings and memoranda on the Government's policy documents and on the budget law, three hearings were held on public finance-related issues (on the European Commission's Communication on the implications of the pandemic crisis on EU economic governance, on the structure of regional finance and on the state of implementation of fiscal federalism, and on the so-called 'Aid Decree') and several analytical papers were published in the various series (two Working Papers, nine Focus Papers and two Flashes). The issues explored in the various series were: the *ex-post* evaluation of macroeconomic forecasts; the 2022 budget law approved by the Parliament; the comparison between the budgetary strategies set out in the stability and convergence programmes of EU countries; the outlook for Italian public finance at the beginning of the legislature; the distributional effects of price increases and support measures; an assessment of the adoption of the so-called 'Quota 100' pension system; time efficiency in the execution of public works; the NRRP calls for tenders intended for regional authorities; healthcare in the NRRP; the impact of the pandemic on the budgets of hospitals; the universal single allowance; tax incentives for R&D; and the nursery school and kindergarten plan in the NRRP. These papers were in some cases accompanied by the publication of specific infographics. In addition, the magazine 'Economia Italiana' (no. 3/2022) published a PBO's essay on the medium- to long-term sustainability of Italian public accounts in the context of the ageing process.

Four editions of the Report on recent economic developments were published in 2022, which analysed the development of the Italian and international economy on a quarterly basis. Each Report included an in-depth analysis and, as customary, two Reports dealt with forecasts for the Italian economy (February and August). In April, an analysis on the impacts of the conflict between Russia and Ukraine was presented, while in October the results of a restructuring of the MeMo-It macroeconomic model aimed at quantifying the macroeconomic effects of changes in gas prices for the Italian economy were documented.

An updated database with interactive graphical representations of the forecasts of the main macroeconomic and public finance variables published by the governments of the Member States in the Stability and Convergence Programmes and in the Budgetary Planning Documents as well as by the European Commission in the *Spring Forecast* and *Autumn Forecast* was published on the PBO institutional website.

The effort to strengthen and improve quantitative analysis tools continued.

The macroeconomic assessment included periodic maintenance and improvement of the short-term forecast models of GDP and its components; the usefulness of indicators introduced in previous years to define the effects of COVID was assessed, and new indicators for the service sector were evaluated. Specifically, a more intensive collaboration with the Revenue Agency on electronic invoicing data began. New indicators for monitoring inflation were also developed, with the definition of additional measures for trimmed inflation and some models for forecasting the main inflation components, with particular regard to those affected by the energy shock.

As customary, the PBO models were re-estimated in order to check their statistical properties and the significance of the parameters in relation to the latest economic data. Moreover, expenditure flow data (invoicing and payments) as well as goods transport series were also introduced, tested and strengthened. Still in the context of business cycle analyses, the periodic maintenance and improvement of the indicators used for the assessment of the business cycle conducted in the *Report on recent economic developments* continued.

An extraordinary maintenance of the MeMo-It forecasting model became necessary to meet new analytical requirements. On the one hand, the set of international external variables used in the model was extended to include natural gas prices and non-energy commodity prices - agricultural commodities and metals - in light of the high sensitivity of the business cycle to commodity prices. The specification was also revised with the aim of developing a version of the model with fiscal multipliers more in line with other estimates documented in the econometric literature on the macroeconomic impacts of various commodities.

As far as the mid-term assessment is concerned, estimates of the macroeconomic impact of investment projects prepared with the National Recovery and Resilience Plan (NRRP) were updated.

During the year, the following activities were conducted on the micro-simulation models used for sectoral analyses and, in particular, on the models used on households: updating of the information bases of the models by acquiring information on tax returns, EESI (Equivalent Economic Status Indicator) and the use of the Minimum Income Scheme (*RdC – Reddito di Cittadinanza*); the improvement of the model's procedures with regard to social security contributions, by using information collected from employees' and self-employed workers' social security statements; the use of administrative information for the simulation of family measures (tax returns, family allowances and EESI).

More specifically, a module of the PBO microsimulation model, fed by the ISTAT household budget survey (HBS) supplemented with tax, social security and welfare administrative information (pensions and EESI), was developed to estimate the distributional impact of inflation and the support policies implemented by the Government from mid-2021. The impact of price changes on the budget is calculated as

the difference between the expenditure incurred over the time horizon examined<sup>1</sup>, taking into account the monthly evolution of market prices, compared to a scenario under constant prices. The actual expenditure is calculated by applying the ISTAT price indices for the entire national community (national CPI) to the consumption baskets of the individual households in the sample at a high level of disaggregation (4-digit COICOP, 112 expenditure items). For energy goods (fuel, gas and electricity) prices and rates were applied to an estimate of household consumption expressed in terms of quantity (litres of fuel, kWh of electricity and cubic metres of gas). The estimated expenditure incurred if these measures had not been applied was used to estimate the impact of rate mitigation measures (reduction in fuel excise duty, system charges for electricity and gas and VAT on gas). As regards the measures to mitigate the impact of inflation on households through monetary transfers, the analyses focused on the main measures, including the reinforcement of the social bonuses for electricity and gas, the one-off bonuses of EUR 200 and EUR 150, the social security contribution relief measures and the upward revision of pensions. The resulting benefit was estimated on the individual households in the sample from information on their economic situations (employment status, income and EESI) collected from administrative sources. The distribution of EESI from administrative sources was supplemented by considering an increasing take-up in 2022, justified by the expected increase in the number of new households submitting EESI statements in 2022 due to the introduction of the single allowance for dependent children. The results of these analyses, in addition to being addressed during parliamentary hearings and included the PBO's editorial series, were also presented at various conferences held during the year.

Still in the context of households, efforts continued to develop the integrated microsimulation model of direct and indirect taxes for the assessment of the overall progressive nature of the tax system, including both direct income and property taxation and indirect taxes and excise duties; moreover, the income-consumption ratio was further studied in order to estimate individual cases of evasion according to the consumption-based method.

A model for analysing the use of the so-called *Superbonus* was also developed according to the microeconomic information provided by Enea.

As regards the microsimulation model on corporate taxation (MEDITA), in 2022, balance sheet data were collected from Bureau van Dijk along with 2020 tax return data (Unified and Consolidated Tax Return) from the Revenue Agency. Regular update was also ensured for: a) the Mediocredito Centrale's database on public guarantees granted to businesses (considering that the extraordinary scheme introduced during the health emergency was in force until 31 December 2022); b) the electronic invoicing data provided by the Revenue

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<sup>1</sup> In 2022 and 2023 (see below), several in-depth analyses were conducted over increasingly broader time horizons.

Agency. Finally, data on the guarantees granted by SACE under the '*Garanzia Italia*' fund 2020-2022 were collected and progressively updated.

With regard to the improvement of the model, in order to more effectively assess the effects of the energy crisis and the measures taken in 2021-22 to counter it, the model's database was supplemented - in advance of ordinary activity – with 2021 economic and financial data available as early as November 2022. These data cover 62 per cent of the corporations and 86 per cent of the turnover.

The model for forecasting pension expenditure in the short to medium term kept being updated and improved using data from the National Social Security Institute (INPS) on career profiles and aggregate contributions since 1995; the model for forecasting healthcare expenditure was updated and constantly maintained (a database was set up on a quarterly basis for the 2016-2022 period).

With regard to monitoring the implementation of the NRRP, a dataset containing information on individual calls for projects and resource allocations involving local governments as implementing actors, was set up and updated based on the available information and will continue to be supplemented with information from ReGiS.

In 2022, the ordinary maintenance and management of the tax revenue forecasting tool, of the dataset containing the summary of all discretionary measures, and of the dashboards used to monitor the main public finance aggregates during the year was conducted to ensure the continuity of the predictive capacity of the public accounts.

Furthermore, the database that feeds the PBO model for analysing and forecasting interest expenditure on public debt was updated and published on the site for public consultation, through an interactive display of the main information concerning the evolution of public debt in domestic government bonds (issues, redemptions and net issues) and the related interest expenditure, as well as the distributions of some indicators (including average issuance rates, residual maturity of debt and other indicators).

As for debt sustainability analysis, a methodology to identify the elasticities of the primary balance under different price changes in each individual year of the forecasted period of the policy documents was developed in 2022, in order to assess the sensitivity of the government's planned primary balances to different assumptions on GDP deflator trends and on the consumption deflator. These elasticities were calculated by assuming different fluctuations in government revenue and expenditure as price change.

More specifically, as far as revenue is concerned, VAT revenues are expected to react in the same year to changes in the growth rate of the consumption deflator while the remaining revenues are expected to move in line with changes in the growth rate of the GDP deflator. The assumed line of analysis adopted in terms of expenditure expects that pension expenditure will react to shocks with a one-year lag compared to the consumption deflator, consistent with the rules for indexing social security benefits to

inflation. As for the remaining expenditure items, in order take due account of the strategy adopted to update appropriations, the study expects them to respond with a one-year lag to positive shocks to the GDP deflator growth rate while remaining unchanged in the case of negative shocks, as a reaction to the downward rigidity such allocations.

Moreover, the model typically used to define the projections of the evolution of the debt-to-GDP ratio over the medium term was adjusted and restructured to estimate the consistency of the Government's policy public finance projections with respect to certain multi-year adjustment scenarios that consider the available technical information on the European Commission's guidelines on the new system of EU fiscal rules. The methodology developed allows preparing several specific scenarios relating to the evolution of the debt-to-GDP ratio and of the main public finance aggregates over the medium term that assume, starting from 2024 or 2025, a constant multi-year budgetary adjustment over a 4-year period or a 7-year period, respectively, such as to allow in the decade following the end of the fiscal consolidation plan, a realistic and continuous decline in the debt-to-GDP ratio and, at the same time, for the deficit to fall stably below the 3 per cent of GDP threshold as early as within the Stability Programme time horizon.

In this context, the likelihood of the decline in the debt-to-GDP ratio is assessed by the PBO based upon (a) alternative sensitivity scenarios whose macroeconomic and fiscal assumptions are in line with those adopted in similar simulations developed by the European Commission as part of the analyses of the *Fiscal Sustainability Report 2021*<sup>2</sup> and the *Debt Sustainability Monitor 2022*<sup>3</sup> ; b) the stochastic simulation analysis, conducted through a large number of simulations where the macroeconomic variables influencing the debt-to-GDP ratio dynamics (real GDP growth rate, GDP deflator growth rate, short-term interest rate and the spread between short-term and long-term interest rates) are subjected to temporary shocks, based on their historical variability and correlation, in order to obtain 5.000 possible trajectories of evolution of the debt-to-GDP ratio and the corresponding probability ranges in the five years following the fiscal adjustment.

During the first half of 2023, the PBO's institutional activity firstly focused on the validation of the trend and policy macroeconomic scenario and the assessment of the public finance scenario of the 2023 EFD. Second, five hearings were organised, and one memorandum and two focus papers were drafted.

The hearings focused on: 1) the Communication on the European Commission's orientations for a reform of the EU economic governance framework; 2) tax incentive instruments with particular regard to tax credits, with a focus also on the new accounting classification ordered by Eurostat for some building bonuses; 3) the macroeconomic and public finance effects of tax incentives in the building sector; 4) the 2023 EFD; 5) the

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<sup>2</sup> European Commission (2022), *Fiscal Sustainability Report 2021*, Institutional Paper 171.

<sup>3</sup> European Commission (2023), *Debt Sustainability Monitor 2022*, Institutional Paper 199.

implementation of the different autonomy of ordinary statute regions. The memorandum focused on the enabling law for tax reform.

As customary, one focus paper covered the 2023 Budget Law approved by Parliament, along with a new breakdown of measures by economic areas, through specific classifications adopted at a European level (in particular, for revenue-impacting measures, the approach used in the *Taxation Trends in the European Union* of the European Commission's Directorate-General for Taxation and Customs Union was adopted, and for expenditure-impacting revenues, reference was made to the *Classification of the Functions of Government*, COFOG). The second focus paper covered the NRRP's objective of reorganising non-hospital health care, a crucial step in upgrading the National Health Service (NHS), and reorganising the prevention system, outlining the main critical aspects of the reform.

Finally, a remarkable effort was dedicated to the drafting of the PBO Annual Report, which was publicly presented on 20 June. Unlike in previous years<sup>4</sup>, the Budgetary Planning Report examined the recent trends and prospects for the Italian economy and public finance, and three thematic in-depth studies, concerning the new European governance framework, the reform of anti-poverty measures and the distributional impact of inflation on households in 2022 and 2023.

## 1.2 *The work plan for the remainder of 2023*

In the second half of this year, the tools required for the performance of the Office's institutional activities will continue to be improved: the assessment of budget policy documents, in the spring and autumn sessions, the forecasting and monitoring of trends in the Italian economy and public finance, as well as the analysis of the financial and distributional impact of major legislative measures and the effects on the economic and social conditions of households and businesses. Furthermore, in the light of the legislative proposals presented by the European Commission for the reform of the EU's framework of budgetary rules, the tools necessary to fulfil the new duties that the EU's independent budgetary institutions may take up will be developed.

### 1.2.1 *Recurring institutional activities: development of analysis tools and permanent lines of research*

As part of the **macroeconomic analysis**, the MeMo-It macroeconomic forecasting model will be maintained and further adapted to meet the specific analytical needs of the PBO. Given of the high sensitivity of the business cycle to commodity prices and in order to

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<sup>4</sup> Until 2022, the PBO drafted half-yearly reports reproducing and expanding the analyses contained in the hearings on the policy documents (EFD and NADEF).

account potential turmoil in global supply chains, the set of international external variables considered will be extended and the relevant sections of the model will be specified accordingly. The aim is to develop procedures for the management and use of the MeMo-It model that can represent scenarios over longer time horizons in the light of the new European public account governance framework.

The increasing requests to assess the effects on the overall economy of incentives (*Superbonus*) or taxes (*plastic tax*) in recent years, has led to the need of developing a tool capable of analysing all sectors. During the year, a model for analysing sectoral interdependencies will be developed, thus becoming ready for present and future adoption to assess the effects on the environment as well.

As for short-term models, indicators with information useful to track the development of the service sector will be expanded and new forecasting tools will be defined for inflation components, especially for the more volatile ones.

In the context of **public finance**, the methodologies used will continue to be consolidated and upgraded, in order to strengthen the monitoring activity also at the sector and segment level, with a view to enriching the amount of information useful to the preparation of short-term forecasts. The monitoring and forecasting tools used by the PBO will be further improved, including through the acquisition of more final information from various sources, in particular specific data from ISTAT and the Bank of Italy, which will strengthen the statistical bases underlying the forecasts.

*The ex-post* analysis of the official public finance forecasts contained in the policy documents will continue, comparing them with the actual results (with an assessment of the main causes for discrepancy), in line with the approach used for the main macroeconomic variables. The information provided by the Ministry of the Economy and Finance useful for fulfilling the provisions of the 'Memorandum of Understanding between the Parliamentary Budget Office and the Ministry of the Economy and Finance on the submission of information mandatory for the certification of macroeconomic forecasts and the assessment of public finance' will be used to ensure public disclosure of the *ex-post* assessments.

The model for forecasting interest on domestic government bonds will be maintained, updating the database feeding the model and the database published on the PBO website for consultation. From a methodological perspective, a development-oriented approach will continue by evaluating alternative strategies for simulating future issuance policy that jointly consider cost-risk objectives on the remaining life of the stock of government debt and on interest expenditure. Finally, the model will continue to be supplemented with the estimation of other components contributing to the interest expenditure of the entire public administration (PA) in addition to government bonds.



As far as public debt is concerned, the analysis of the components of the stock-flow adjustment (i.e. the difference between the change in public debt and general government net borrowing) will continue; the disaggregation of this item allows for the analysis of the components of the change in debt other than revenues and expenditures considered in general government net borrowing.

Finally, in line with past years, Italy's public finance performance and strategies will be compared with those of other EU countries, as set out in the Stability and Convergence Programmes and Budgetary Planning Documents and in the European Commission's relevant opinions.

To support the analysis, the **microsimulation models** for households and corporations, already used in past years for the *ex-ante* and *ex-post* evaluation of some legislative measures, will be further strengthened. This will ensure continuity in the ability to analyse issues such as the orientations of tax policy and levy trends for specific sectors, as well as in the reliability of *ex-ante* and *ex-post* impact assessments of legislative measures.

As regards models on household, the existing ambitions will continue to be pursued during the year, in particular in terms of strengthening the analysis of the distributional impact of price development and purchasing power. The databases of the 2022 models will be updated subject to the availability of sample and administrative micro-data. A specific line of action will concern the *ex-post* analysis of subsidies in the field of energy-saving renovation works for buildings.

With regard to the model on corporations, the 2021 balance sheet data from Bureau van Dijk and the data from the tax returns (Unified and Consolidated Tax Return) from the Revenue Agency for 2023 will be collected. Mediocredito Centrale's data on public guarantees granted to business (the ordinary activity of the SME Fund will be monitored from 2023) is also expected to be updated. The model will also be systematically supplemented with the data contained in the tax returns on tax credits granted to corporations as of 2018. Finally, information from MEF-related sources on F24 credit offsets will be incorporated.

Secondly, the model is expected to be significantly restructured in 2023, which entails the transfer of all simulation procedures from STATA to SPSS. This transfer will allow a faster and more flexible use of the model: a significant step forward in improving the tool.

Finally, a more systematic use of electronic invoice data is planned in the medium-term, in order to improve the predictive capabilities of the model. The timely nature of the information provided by these data is useful to improve estimates, considering that the modern societies are faced with the structural changes resulting from the frequent health and energy crises happened in the last three years.

### 1.2.2 Development of analysis tools in light of the EU governance review

The Office will have to stand ready to cope with its potential new duties assigned by the reform of EU governance according to the legislative proposals published on 26 April by the European Commission<sup>5</sup> to amend the regulations and directives related to the Stability and Growth Pact with minor implications on the macroeconomic imbalance procedures.

In order to increase national compliance with the European fiscal rules, Member States will be required to submit medium-term national budgetary and structural plans setting out, for a period of at least four years (extendable to seven upon adoption of specific structural reforms and/or investment programmes), budgetary targets, measures to address macroeconomic imbalances, reforms and priority investments at national level. In addition, Member States will be required to publish an annual progress report on their national plans.

In the national structural and fiscal plans, Member States will define their specific fiscal adjustment programmes, differentiated by country. These will be prepared in terms of multi-year net expenditure targets, which will become the only indicator for fiscal surveillance purposes, thus simplifying fiscal rules.

For each Member State with a public deficit above 3 per cent of GDP or a public debt above 60 per cent of GDP, the Commission will publish a country-specific 'technical trajectory'. This trajectory will seek to ensure that debt remains on a realistic downward trend or at prudent levels, and that the deficit remains or is brought and maintained below 3% of GDP in the medium term.

The legislative proposals, if approved by the EU Council and the European Parliament in their current form, provide for a significant strengthening and extension of the activities of independent fiscal institutions (IFIs), such as the PBO. Indeed, the European Commission recognises that IFIs have been fundamental in promoting budgetary rules and strengthening the credibility of Member States' public finances. In order to improve national transposition of the new governance system, the role of the IFIs, which by their very nature validate governments' macroeconomic forecasts and monitor compliance with the national fiscal rules, should be extended to monitoring the overall EU economic governance framework.

To this end, Article 8 of the proposed amendment of Directive 2011/85/EU stipulates that the independent budgetary institutions shall perform the following tasks:

- i) draft annual and multi-year macroeconomic and public finance forecasts that underpin the government's medium-term planning or validate the forecasts prepared by national authorities;

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<sup>5</sup> European Commission (2023), '[Proposal for Regulation: New economic governance rules fit for the future](#)', April.

- ii) develop debt sustainability assessments to underpin the government's medium-term planning or validate government assessments;
- iii) assess the impact of policies on public finance sustainability and sustainable and inclusive growth or validate government assessments;
- iv) monitor compliance with the country's national budgetary rules;
- v) monitor compliance with the EU fiscal rules in accordance with Regulation 1466/97 on the preventive arm of the Stability and Growth Pact, which in the Commission's proposed revision requires IFIs to provide an assessment of the conformity of the budgetary outturn reported in the Annual Progress Report on the Structural and Fiscal Plans with the evolution of the net expenditure indicator and, where applicable, also analyse the factors underpinning any deviation from the agreed-upon evolution of net expenditure, such as the occurrence of any exceptional circumstances;
- vi) monitor compliance with the EU fiscal rules in accordance with Regulation 1467/97 on the corrective arm of the Stability and Growth Pact, which in the Commission's revision proposal requires the IFIs to provide an assessment on the pertinence of the measures taken by the government to correct excessive budget deficits and to deliver an opinion on the potential existence of factors influencing the assessment on the opening of excessive deficit procedures;
- vii) regularly conduct analyses of the national fiscal rules, including the mechanisms and rules governing budgetary relations between public authorities in the sub-sectors of public administration;
- viii) participate in regular hearings and debates in the national parliament.

Member States' budgetary authorities will be required to comply with the assessments conducted or opinions delivered by the above IFIs or publicly justify their decision not to comply with such assessments and opinions.

In this regard, various options for medium- to long-term macroeconomic forecasts with a horizon of up to twenty years will be assessed. Specifically, consideration will be given to both models on potential, based on time series or the production purpose, and models that allow representing the macroeconomic impacts of the budgetary adjustments needed to achieve public finance targets.

The deterministic DSA framework will also be extended to take account of: 1) any further potential developments during the year with respect to the analysis of debt dynamics in the context of the ongoing negotiations on the EU fiscal framework; 2) the need for a more direct link between the model used for the DSA and the model used to estimate interest expenditure; 3) the impact of the proceeds from the taxation of Italian

government bonds on the primary balance; 4) of the impact of government bonds held by the Bank of Italy as a result of its purchasing policies, also considering the impact of the rollover and the gradual reduction of the portfolio, on the income it distributes to the State from its holdings of government bonds (so-called 'commissions', which impact on the revenue of the PA account under 'Interest income', i.e. part of 'Other current revenue') 5) monetary policy multipliers (estimated through the econometric model used at the PBO), i.e. the impact of interest rate changes on real GDP growth.

As regards the stochastic framework, we will continue to explore the possibility of conducting DSA analysis through vector autoregressive models (VAR) in line with the methods used by the International Monetary Fund (IMF). More specifically, work will be done on the estimation of a VAR model for the simulation of the main macro-financial variables determining public debt trends.

Finally, transforming the model into a stochastic-econometric calculation software more suited to handling complex models is now a priority given the increasing complexity of the deterministic framework and the need for a closer link with the related stochastic framework.

The impact of investments and structural reforms included in the National Structural and Budgetary Plans will be assessed through the macroeconomic models currently used at the PBO, such as MeMo-It and the QUEST general equilibrium macro-economic model.

National plans will have to take into account age-related expenditures, primarily pension expenditure and healthcare. As regards pension expenditure, the short-term pension expenditure forecasting model is currently based on the database of taxpayers managed by INPS and their careers are reconstructed by applying the growth profiles for seniority estimated by INPS, broken down by sector and gender, to the most recent salary data. The objective is to calculate independent estimates using the LOSAI's sample of taxpaying backgrounds. This sample contains each individual's information on the professional positions held in each year of the career and the related salaries. The use of micro-data allows generating growth profiles with the most appropriate levels of disaggregation, depending on the situation. The first step will be to compare the career profiles released by INPS with those obtained from the LOSAI sample.

To develop a dynamic micro-simulation model for the medium- to long-term forecasting of pension expenditure (and, in the long run, of other age-related expenditures), several steps have already been completed (reconstruction of the base year population from the available IT-SILC surveys, their integration with data from the INPS administrative source, estimated transition probabilities between labour market states). For it to become effective, the model requires the following additional steps: comparing the econometric estimates of the life-cycle profile of labour income currently based on the functional forms of CAPP\_DYN with estimates based on original functional forms including variables relating to individuals' complete professional background, which can only be deduced

from administrative information; updating the model's mechanisms determining retirement by incorporating the most recent legislation; updating the base year population by integrating the most recent IT-SILC survey with the respective administrative data from INPS sources. Completing the model in the medium term will be crucial for medium to long term sustainability analyses of public finances and, within the latter, for comparing one's own forecasts with the official ones, i.e. those produced by the State General Accounting Office (*Ragioneria Generale dello Stato*) based on both national scenarios and scenarios agreed upon at European level within the Ageing Working Group (AWG).

With regard to the short-term estimate of healthcare expenditure, the database will be fed every three months with the reconstruction of *pre-2016* years. More specifically, after verifying the last year on a quarterly basis available on BDAP, some items of the income statement will be reconstructed and reclassified according to new regulatory changes, if any. In addition, the extension of the quarterly historical series will allow verifying the possibility further improving the current models.

### *1.2.3 Specific lines of analysis*

As stipulated in the founding law, as part of its duties, the PBO is required to prepare analyses on 'additional economic and public finance issues relevant to the analyses, audits and assessments' independently chosen by the Office.

Below is a description of the specific analyses that, compatibly with other institutional priorities, are expected to be completed during the year and those to be launched in 2023 but expected to be completed in the first part of 2024. In some cases, they refer to lines of research started in previous years but not completed due to late acquisition of mandatory information sources or because the time available for research activity was limited by institutional activities (e.g. the evaluation of the many discretionary measures introduced to mitigate the effects of the energy crisis and others with a high financial impact such as building bonuses and tax credits for businesses).

#### *Analyses on the NRRP*

An updated assessment of the impact of the NRRP on economic growth was published in the 2023 Budgetary Policy Report to take account of the adjustment of the annual distribution of expenditure for the Plan's projects. The activity was conducted with both the MeMo-It econometric model, used by the PBO for medium-term forecasts, and the QUEST model, used by the MEF for the assessments of the macroeconomic effects of the NRRP. The assessments will be repeated and updated following the revision of the Plan, which the Government expects to begin in the coming months.

In the next months, several activities will be dedicated to the implementation of the NRRP.

The ReGiS platform will be used to monitor the status of the implementation of the NRRP in all its aspects. However, the information contained in this platform will require supplementation with other sources (Anac, Opencup, BDAP, Siope+, etc.) and administrative information to ensure timeliness and completeness, in order to meet the institutional needs for analysis. To this end, the Office will continue to collaborate with IRPET to implement a larger dataset and monitor the time schedules of the projects included in the NRRP. This dataset can be used not only to monitor the implementation of the investments and the fulfilment of expenditure requirements under the NRRP, but also for in-depth studies on issues such as the effects of the changes in the Procurement Code to amend the deadlines for completing public works.

Specifically, monitoring of the NRRP calls for proposals with local governments as implementing bodies will continue alongside specific analyses on the allocation of resources to them. Great attention will be paid to the progress of some measures (the most representative cases in terms of amount) and to the coexistence of NRRP-specific objectives (e.g. reduction of the regional gaps) with the specific objectives of the individual measures/calls (e.g. increase of available places in nursery schools).

As for nursery schools, aside from monitoring the implementation of NRRP-related measures, specific assessment will be conducted on the achievement of the Essential Level of Services (*LEPs – Livelli essenziali di prestazione*) indicated in the 2022 budget law and a reconstruction of all the funding sources of the municipalities for the provision of the service (*Fondo di solidarietà comunale, Fondo 0-6, Bonus asili nido, etc.*).

In the health field, the NRRP provides for a significant reorganisation of the National Health Service (NHS), although the actual implementation of innovations in this field remains uncertain. The implementation progress of the initiatives under the NRRP will be monitored during the year and thereafter. A specific Focus Paper already analysed the steps taken to strengthen and reform regional healthcare (the first pillar of the health mission), with a critical analysis of the context in which the NRRP measures are deployed, the reform that introducing standards of regional care, the implications of the interventions based on the geographical gaps and of the current resource and personnel requirements stemming from the implementation of the new structures and the new organisation. The forthcoming papers will seek to assess the capacity to realise healthcare-related investments under Mission 6. This crucial phase follows the stage of reforms and programming. Aspects of integration between health and social care will also be examined in depth, with particular regard to the reform of the support system for non-self-sufficiency, also taking into account the provisions of the budget law for 2022 on the determination of LEPs. The integration between health and social care will also be thoroughly examined, with particular regard to the reform of the support system for dependent persons, taking into account the provisions of the 2022 budget law on the determination of LEPs.

### Analysis on the inflation-induced effects

Last April's Report on recent economic developments presented the preliminary findings of an analysis of the effects of the Superbonus on the prices of energy-intensive home air-conditioning systems. The analysis was based on thorough web-scraping techniques and detailed in the *2023 Budgetary Policy Report* by relating the price indicators previously constructed with the shocks ascribable to the introduction of the Superbonus.

The assessment of the impact of rising energy prices on household budgets and their distributional effects and on the main energy poverty indicators in collaboration with the University of Florence will continue. Likewise, a specific analysis will focus on the impact of rising energy prices on the costs of businesses and the mitigation effects of the measures adopted by the Government.

### Energy and the environment

The green transition provided for by the NRRP raises the issue of *ex ante* and *ex post* evaluation of the main economic policy measures, including under the NRRP, both on growth (actual and potential) and on the reduction of climate-altering gases. Over the previous two years, surveys were conducted to identify the best instrument for these assessments. Economies of scale-related scenarios suggested the adoption of the long-term version of the *Oxford Economics model* - the *Global Economic Model*, already used by the PBO in its medium-term version - as the most convenient tool for assessing both mitigation policies and the effects of the NRRP on climate-altering emissions. In 2023, this instrument will be used to conduct preliminary investigations on the effects of major economic policy measures on harmful emissions.

### The impact of climate change and energy transition on public finance

A review will be conducted to explore the methodologies for estimating the impact on public finance of both climate change, such as higher average temperatures and more frequent extreme weather phenomena, and energy transition, such as increasing energy production from renewable sources and phasing out energy production from fossil fuels. The review would be a preliminary work before the potential construction of analysis models and methodologies that are fit with the Italian scenario.

With regard to the assessment of the impact of climate change, the recent European Commission paper (2023) entitled '*The Fiscal Impact of Extreme Weather and Climate Events: Evidence for EU Countries*' represent a starting point, which analyses the risks of extreme weather and climate events on the sustainability of public debt using a database of natural disasters and estimates of economic losses due to climate events based on

different global warming scenarios. The paper also assesses the effect of climate mitigation and adaptation measures, which are expected to reduce the adverse economic and budgetary impacts of increasingly frequent and intense extreme events.

In the context of the assessment of the impact of the energy transition, it is worth mentioning the models recently used by the UK *Office for Budget Responsibility* and the Dutch *Central Planning Bureau* to assess budgetary costs and debt sustainability under different scenarios of energy transition developments. The methodological approach is described in the EU IFI *Network paper* (*'Assessing the fiscal policy impact of the climate transition'*) presented at the EFB Annual Conference in 2022, together with the IFIs' responses to a Network questionnaire.

### Evaluating policy measures

Some analyses will focus on the evaluation of specific public policies implemented in past years or being discussed.

The available databases updated, when possible, to 2022 - and the data collected from the Revenue Agency – will be used to reconstruct the changes in the population patterns and the transformation of the economic-financial situation of companies and, in particular, of corporations following the two crises triggered by the pandemic and rising energy prices. This reconstruction will allow analysing the evolution of the distribution of corporate tax revenues for each sector and field, also in the light of the provisions of the enabling law for the reform of tax laws.

An enabling law for the overall reorganisation of the system of incentives for businesses was presented as a bill linked to the 2023 public finance policy. In this regard, the incentives currently in force can be qualitatively and quantitatively reconstructed on the basis of the different incentives, using the Annual Tax Relief Report as a benchmark. The availability of administrative fiscal data allows continuing to develop the strand of *ex-post* analysis of investment incentive policies. The in-depth analysis carried out in the first part of 2023 on R&D incentives can be broadened and supplemented to cover other investment incentive measures adopted in recent years: super depreciation, Industry 4.0 and tax credits to the South. The large availability of information in the database for some measures - tax credit for the South, Industry 4.0 and incentives for research and development – enables the application of the most recent techniques for evaluating public policies in order to provide an assessment of the effectiveness of these measures not only in terms of increased investments but also in terms of business profitability and employment.

As far as welfare policies are concerned, the available databases - and the potential acquisition of data requested from INPS – will allow reconstructing the potential and



actual beneficiaries of the universal single allowance and of the RdC while monitoring the effects of the introduction of the Support Allowance as from 2024.

The INPS-PBO working group that collaborated on the 'Quota 100' study in 2022 assessed the possibility of launching a new joint working paper to analyse the effects of pension reforms on employment trends. Specifically, the analysis was designed to frame 'Fornero' reforms of 2011 and 'Quota 100' of 2019. The purpose is to identify the companies with the highest incidence of employees involved in the reforms and to assess the effects on terminations, hiring and career advancements. Some years have now elapsed since the introduction of the two measures, and using the INPS databases on workers and companies would allow exploring the generational turnover as a recurrent issue arising every time retirement rules are amended.

Particular attention will be attached to regional asymmetric autonomy, in view of the restart of its implementation process with the provisions of the 2023 Budget Law, which guide the swift identification of the Essential Level of Services (*LEPs – Livelli essenziali di prestazione*) in those fields subject to an autonomy-oriented transition, and with the Bill on regional asymmetric autonomy, filed in the Senate.

The implementation of the regional asymmetric autonomy will also be analysed during the year. The completion of fiscal federalism, representing one of the enabling reforms of the NRRP and which stipulates the implementation of the equitable distribution among the regions of current resources for core issues such as social assistance, education, and local public transport, as well as for capital resources, will be up to the Technical Commission for Basic Needs (*Commissione Tecnica per i Bisogni Standard - CTFS*). During the year, this activity will be examined in the context of the definition of the BLSs and the potential innovations in the taxation of state transfers to the regions and in the general regional taxation, which are key steps for establishing the equalisation fund.

A further analysis will cover the financing mechanisms of the BLSs and service objectives and, most importantly, the mechanisms for improving regional and municipal social services adopted under the poverty fund and the municipal solidarity fund (MSF), as well as for nursery schools and transport for disabled pupils through the MSF. The analysis will take due account of the recent ruling of the Constitutional Court.

The mechanism for distributing healthcare funding among the regions will be revised, thus becoming effective in 2023, to consider variables such as mortality and deprivation. This proposal, whose technical details have not yet been defined, will be examined later this year and the methodologies for its implementation will be discussed.

## 2. Transparency of public accounts and communication

In 2022, the PBO was strongly committed to consolidating its presence in the media, with the aim of fostering ever greater transparency on public accounts at the service of citizens. During the year, the Office appeared around 700, 331 times in web articles. In order to increase its communication capacity and the publicly available information tools, the PBO strengthened its presence on *Twitter* and started the redesign of the institutional website to improve its accessibility.

The section of the PBO website concerning the dissemination of data and analyses through interactive views was improved by updating some existing sections. The sections concerning some of the topics addressed in recent PBO publications were also updated, thus allowing the public easy consultation of the information base used for the analyses. In particular, the infographics published concerned: the comparison between the Stability Programmes; the Budgetary Planning Documents and the European Commission's forecasts; the government bonds database (which provides a detailed analysis of the composition of debt); the distributional effects of inflation on household budgets; and the calls for NRRP investment projects having local authorities as implementing bodies and in which they participate through completions. Infographics were used to quickly and simply disclose the main results of some analyses conducted during 2021 and early 2022.

## 3. The organisational structure

The Office currently employs twenty-six resources (twenty-one economists and five administrative employees) against the forty resources required by its founding law. The gap between the staff plan and the actual workforce is mainly due to the lack of suitable seat for the Office. Article 17, paragraph 6 of Law No. 243 of 24 December 2012, which established the Parliamentary Budget Office, stipulates that *'The Presidents of the Senate and the Chamber of Deputies shall concur on making available premises to be used as the seat of the Office along with the necessary equipment'*. The Office is currently partly hosted by the Chamber of Deputies (at Palazzo San Macuto) and partly by the Senate of the Republic (at Istituto S. Maria in Aquiro). The lack of a single seat, suitable to accommodate the forty staff units provided for by the founding law, reduces the full functionality of the Office, hinders the possibility of efficiently fulfilling its institutional mandate, and also reduces the possibility of analysing factors that are becoming fundamental in the evolution of public finance. To name but a few, the energy transition, challenges in the global economy, climate change, demographic trends and economic and social sustainability. The current logistical inadequacy of the seat leads to organisational issues related to its location in two separate buildings and the lack of common spaces for meetings and external activities.

With a view to 2023, the PBO launched recruitment procedures with the aim of filling gaps in the services of sectoral analysis, public finance and macroeconomic analysis, and to hand over, at the end of the Board term of office, an organisational structure similar to and more in line with the one indicated by the founding law.

#### **4. International Activities**

Still in 2023, the PBO's international activities will play a central role in its institutional action: aside from bilateral meetings with public and private actors operating at supranational level (European Commission, IMF, ECB, OECD, economic counsellors of embassies in Italy, rating agencies), it is worth reminding that the PBO is a member of the OECD *Working Party of Parliamentary Budget Offices and Independent Fiscal Institutions* (IFIs), the European Commission's EUNIFI working group and the EU's IFIs Network, i.e. the network established among the EU national fiscal councils.

In the context of this Network, it is worth noting that the PBO is a member of the Editorial Board of the publication *European Fiscal Monitor*, of the Working Group on Decentralisation of the Fiscal Rules for the preparation of a related paper to be presented at the 2023 EFB Annual Conference as well as of the Working Group on institutional aspects for enhanced effectiveness of IFIs, which is expected to publish a paper in 2023 on this topic. During 2022, the PBO also contributed to the drafting of a series of Network papers on various topics such as minimum standards for IFIs, strengthening their mandates and increasing their role at the EU level, especially in the context of the reform of the EU fiscal rules, as well as an assessment of the impact on public finance of the climate transition.

The PBO will continue to participate in the OECD (STEP) and European Commission (*Expert Meeting on Economic Forecasts*) working groups on macroeconomic forecasts.

The PBO was also involved by the OECD as a stakeholder in two projects that this institution is carrying out on behalf of the MEF concerning the introduction of BES and the spending review process in budgetary procedures.