



28th Eurofiling Conference **Tuesday, 13 July in Frankfurt**

Daniel Pérez - Head of Data Analysis and Processes Unit

Data collection and analysis at EIOPA: plans and strategic outline

- Thank you for the opportunity to bring EIOPA's views on data collection and analysis in the context of supervisory technologies innovation to the Eurofiling Conference.
- In line with previous editions today's Conference offers a space to present how European Authorities across financial sector deal with the challenges around **policies, data and technology mix**, hence promoting collaboration between regulatory and market societies and building on the latest experiences and developments in a connected world.
- EIOPA is "fully-in" with the goal of *promoting interoperability, transparency, efficiency, and openness with the vision to build trust and sustainability in the European and global ecosystem.*
- In my opinion, **there's only two ways of understanding the world. It sounds overly simplistic but, hopefully simplicity fits well with my objective of driving you through EIOPA's experience without any slides.**
 - **We can either understand the world right or wrong.** I acknowledge there's scope for grey areas, but it is not entirely clear whether those are available options for supervisory purposes.
- Data plays a central role in giving the supervised and the supervisors the appropriate means to understand the world right. And, no surprise, it can also bring the means for misinterpreting

situations, circumstances, risks, gaps, opportunities, trends, around a particular entity or a whole sector.

- Data, even if correct, it is not enough to undertake our missions, without the appropriate knowledge and experience and it is of limited use without the appropriate technologies in place.
- Supervisory authorities cannot fulfil their mandates of ensuring financial stability, market integrity, and investor protection without the appropriate financial data. Likewise, insurance and reinsurance companies and pension funds would not be able to manage their risks.
- Supervised entities need to understand fully how these sets of data must be produced and analyzed, not for the mere purpose of reporting to the supervisor, but to get the full benefits of such a process in their risk management.
- Ideally, gaps in the usefulness of the reporting process should be minimized and an appropriate balance must be found considering the needs of the Supervisory Review Process and the costs associated.
- Therefore, defining the relevant data set is a fundamental step in searching for appropriate policy options, then followed by a continuous reassessment and fine tuning.
- Only a 'good' policy process ensures that the right set of data is selected for regulatory reporting. Enormous effort and resources are dedicated to that, from legislators, regulators, supervisors of course, and not less from regulated entities and their customers, both represented by different stakeholders.
- **EIOPA has always aspired to capitalize on all these efforts and become a Centre of expertise on models and data** which would help to create a common understanding and improve the assessment of risks also in changing contexts for the European insurance or pensions sector.
- **EIOPA is naturally keen to address any protection gap by bridging the knowledge, data, and model gap.**

- The constructive dialogue between all players will remain key also going forward, so I am glad to see many participants from various sectors and countries here today.
- Let me briefly introduce **the Data framework for EIOPA** before addressing where we stand on the use of technology for the data collection and analysis:

I. **Data framework for EIOPA: brief introduction**

- **The implementation of Solvency II** in 2016 brought a new supervisory reporting framework allowing for a proper risk-based supervisory review process and the adequate fulfilment of supervisor's mandate to protect European policyholders.
- Since then, European supervisors receive meaningful data in terms of granularity, coverage, frequency and within proper timelines to identify and early assess the risks the industry face, both at micro and macro levels.
- Before that, we did not have this holistic view about the risks associated with the European insurance industry at the level of the undertaking, the country, and the European Union.
- It is also essential that in parallel insurance and reinsurance undertakings embedded in their own risks assessment framework the supervisory reporting process.
- Particularly relevant are the benefits stemming from the **harmonisation** of the supervisory information throughout Europe as an essential instrument to **promote supervisory convergence**.
- Currently Solvency II data is part of our day-to-day work and used to take informed decisions to fulfil our mandate in the areas of financial stability, oversight, and consumer protection.
- During the development of Solvency II, extensive consideration was given by EIOPA and the EU Commission to

the relevance, added value **and proportionality** of the reporting requirements in reference to the costs. And these considerations continue to be at the centre of any new developments.

- While the fine tuning of the insurance supervisory reporting framework has been an ongoing endeavour, **Solvency II 2020 review represents its mayor revision until now**, requiring changes to numerous templates, the addition of new templates and the removal of obsolete ones.
- A significant revision process has been followed including open public consultations, analysis of the potential related costs and benefits and advice of the Insurance and Reinsurance Stakeholder Group ending in the adoption by European Commission of the Implementing Technical Standards on reporting and disclosure.
- On **the 5th May European Commission [officially published the ITS](#)** which will be applicable as of 31 December 2023 repealing the existing ITS.
- Changes in the ITS due to mistakes and inconsistencies found will be addressed in future revisions. EIOPA will continue supporting the industry through the Q&A and List of known issues [published on its website](#), as well as organising specific public events on reporting like the one we aim to organise in Autumn, most probably in October.
- The main elements of this revision have been discussed abundantly and it is not in the focus of today's presentation. However, the **inclusion of sustainability elements, the ESG data in the Solvency II regular supervisory reporting will be deeply explained tomorrow in a dedicated session around noon**. Pamela Schuermans Leading the interdepartmental group on sustainability aspects in EIOPA.

- In **the field of pensions**, in 2018 EIOPA defined a single framework for regular information requests towards national competent authorities regarding the provision of occupational pension information to effectively monitor and assess the European occupational pensions sector, with a particular focus on effects to financial stability.
- Such framework enables EIOPA to receive since 2019 sufficient information required for appropriate monitoring and thoroughly assessing market developments around occupational pensions as well as to undertake in-depth economic analyses of the occupational pension market.
- EIOPA decided to revise the information it receives from national supervisors on occupational pensions, amending the system in place since 2018.
- The new decision was published on the 10th of February this year and will be applicable as of 1 January 2025, closes important data gaps on emerging risks and fixes inconsistencies that have been reported to EIOPA over the past years.
- As it was done in 2018, the revised EIOPA decision benefitted from a very close cooperation with the European Central Bank (ECB) to reach consistency and alignment between the different European reporting standards (supervisory and statistical) as well as other international standards enabling pension funds to use a 'single data flow' and a common set of reporting templates.
- To complete the outline of EIOPA's supervisory data framework, on March 2021 Commission adopted the implementing technical standards about the format of supervisory reporting to the competent authorities and the cooperation and exchange of information between competent authorities and with EIOPA of the **pan European personal pension products (PEPP)**.

II. In terms of application of technology applied to data collection:

- EIOPA approach to deal with such a rich but complex supervisory data framework was to undertake additional **efforts in data standardisation throughout the financial sector.**
 - This is an area where EIOPA has worked extensively and where we witnessed substantive reduction of costs and burden to the industry and the supervisors.
 - **In the field of insurance**, the coherence of the supervisory reporting requirements is boosted by a unified reporting system, which includes:
 - **A common methodology** applied to all regulatory reporting frameworks developed by EIOPA.
 - **A single data dictionary for all EIOPA's frameworks and templates**, including other requirements for insurance undertakings, like the ones defined by the ECB for the insurance and pension funds sector.
 - **A harmonized structure of business instructions and codification of templates and codes.**
 - **A common standard (DPM/XBRL) for technical means of the data collection.**

EIOPA is in fact providing several technical artefacts including a common XBRL taxonomy, which has been voluntarily adopted by most EU National Competent Authorities. This unique formatting facilitated the reporting of the undertakings operating in multiple European countries, improved and reduced the costs of the services provided by software companies to the undertakings.

The data point model (DPM) implements the uniform and consistent definitions included in the implementing technical standards (ITS), guidelines and Board of Supervisors decisions on reporting and disclosure. It is composed of the annotated templates for the PEPP

Prudential, Solvency II and for the pension funds with the common DPM dictionary.

- **Conscious that reliable data is the basis for successful, data-driven supervision, evidence-based decision making and micro- and macro-prudential analysis.** EIOPA has been constantly working to assess and improve the quality of the available insurance reporting data.
- After six years of prudential reporting, the [Solvency II Data Quality report published in September 2022](#), describes the importance of data quality and the work done to improve it, particularly through the validations embedded in the taxonomy playing a key role. The report recognizes that lot of work is still required in this area.
- **EBA and EIOPA published today the DPM Standard 2.0 to foster stronger collaboration and higher harmonization in the field of supervisory reporting.**
- In the last decade, the DPM methodology has successfully supported EBA and EIOPA in integrating their respective regulatory reporting frameworks. DPM Refit is the joint response to address the challenges of increased volume, granularity, and complexity of the data. The enhanced DPM standard 2.0 is made available as a public good for the benefit of all stakeholders involved in the reporting process.
- In the longer term, the DPM Standard in supporting the syntactic integration for multiple reporting frameworks will play a key role in enabling a semantic integration of a single cross-sectoral dictionary for the whole financial sector. **EIOPA is open for other institutions to join and contribute to future evolutions together in a transparent governance and coordination framework.**
- **A Governance of taxonomies and regulation updates**

EIOPA has developed a Governance of Taxonomies linked with the business regulations. This Governance defines the approach of defining and updating the technical artefacts. In this way EIOPA's framework is scheduled to be updated at the same point of time of the year and, in normal years, by having only one yearly update. This makes the introduction of new taxonomies very predictable for the undertakings to be prepared for the changes coming from EIOPA.

Following Solvency II 2020 review, which posed some strain to the taxonomy updates, EIOPA expects recovering its regularity.

- **All these elements, with all the details will be presented and explained deeply by EIOPA representatives at the EIOPA meet-the-market sessions hosted tomorrow at this Eurofiling conference.** Do not hesitate to ask there any question on the process followed to update the DPM standard, the next steps or the envisaged roadmap for the taxonomy releases.
 - Aitor Azcoaga, open workshops on DPM Refit will follow in Autumn 2023 (more likely on October)

III. Where do we stand in the use of technology for the analysis

- One important priority for EIOPA moving forward is SupTech and how to use new technologies to improve efficiency of the supervisory processes.
- A lot has been already accomplished in this area, such for example the work developed on the harmonisation and implementation of the supervisory reporting framework, including the tool for undertakings, the XBRL taxonomy and data point modelling associated to it.
- National Competent Authorities and EIOPA have been already making good use of technology in supervision leading to develop a SupTech Strategy.
- In February 2020 EIOPA published its SupTech Strategy, setting the main objectives for EIOPA on the use of technology for Supervisory purposes in collaboration with the NCAs. It provides a clear prioritisation process via the SupTech programs as well as well-defined structure, including specific groups, i.e., the SupTech interdepartmental teams and the SupTech Forum.
- The first EIOPA SupTech program, which included two SupTech projects: the revision of EIOPA's register of insurance and reinsurance undertakings and a project on conduct of business supervision.
- The main objective of the register project was to address the inconsistencies among NCAs and EIOPA registers of insurance and reinsurance undertakings, regarding cross-border activity. An efficient traditional approach leveraging on EIOPA's cooperation platform was chosen and it is currently being implemented

- a. **The main lesson learned here is about the relevance of exploratory phases and choosing proportionate technological approaches.** It is fundamental to consider the current and foreseeable needs as well as the maturity and implementation costs of the technologies available before you move.
- The conduct of business project, also under implementation, consists of a web-scraping tool that gather's Insurance Based Investment products (IBIPs) Key Information Documents (KIDs) and analyses them using Natural Language Processing
 - a. Lesson learned here is about the relevance of ensuring central access to public disclosure, hence EIOPA fully supports the European Single Access Point (ESAP) project.
- Now that the projects from the first SupTech Program are being implemented, it is time to restart the EIOPA's SupTech cycle (i.e., second program) assessing and identifying the next projects to be developed.
- 1. Natural Language Processing (NLP) tool applied to extract information from SFCRs automatically and present/save it in a structured format allowing a better and more extensive use of such information for supervisory purposes.
- This project would be complemented with a Multi-lingual Solvency term base containing all terms from the Solvency 2 XBRL taxonomy to enable the use of both qualitative information and quantitative information.
- 2. Network analysis tool. This tool could be applied to data including several references or dependencies to get a simplified overview (e.g., group structure or intragroup transactions) or find relevant dependencies (encumbrances on own fund items or reinsurance transactions) These analyses

could also be fed with external data, as GLEIF data on the ownership of undertakings.

- 3. Predictive tool. Tool(s) for predictive/forward looking analysis (e.g., SCR, future premiums, future value of investments portfolio, etc). This tool would support Supervisors in implementing a predictive/forwarding supervision as required by Solvency II.
- 4. Scenarios and Validation tool for scenarios generated using an Economic Scenario Generator (ESG). A tool to assess whether the scenarios generated with an ESG fit Solvency II requirements, as this is not always possible just reviewing the ESG used.
- 5. Data quality: Two different proposals:
 - 5.1. Data quality rules: A platform to perform and gather validations that allow flexible validation management (e.g., through an Excel file). This would allow NCAs to propose new validations and test new ones identified with the rule miner. This approach would also facilitate EIOPA and NCAs to run some validations that are not possible through the XBRL (e.g., comparing data from different reports). Contingent to the outcome of the analysis phase, the platform could be open to the industry, i.e., allowing undertakings to run the validations by themselves or even proposing new validations.
 - 5.2. Rule miner: Within the current reporting framework it is not feasible to predefine very large sets of validation rules (mainly templates including item by item reporting) and impossible to specify rules between two subsequent supervisory reports or to use external data sources in validation rules. The rule miner is an open-source Python package to discover underlying data patterns in datasets and to automatically generate large sets of potential validation rules. It subsequently ranks these rules

with a statistical machine learning model to select the most relevant and probable validation rules.

- 6. Tool for analysing reinsurance: Deep expertise on reinsurance is scarce and reinsurance templates are complex. This tool would support supervisors providing useful and clear indicators to better understand outwards reinsurance. Some examples of potential applications are
 - i) Assessing reinsurance concentration risk.
 - ii) Assessing whether the reinsurance contracts are consistent with the risk mitigation reported in the QRT.

Conclusions:

Data Framework:

- I would finalise highlighting the role of the supervisory authorities in Europe and the need to allow them to be able to fulfil their mandates of ensuring financial stability, market integrity, and investor protection.
- For that, European Union policy makers must act accordingly and provide the relevant framework.
- Without an adequate level of data, the supervisory mission is jeopardized. However, we need a proper balance when addressing changes to avoid undue costs and we need to continue to work on the alignment between the information used for internal risk management and the information reported to supervisors.
- In this context EIOPA is committed to continue working identifying areas for improvement particularly to advice the European Commission towards a more efficient and integrated reporting framework in the 2 years after the Solvency II 2020 review is approved.

On data collection

- Ensuring an efficient and effective process covering the full reporting cycle has always been an important EIOPA objective. Supporting this process leads to reduced reporting burden, higher data quality, more consistent and comparable data.
- For this, EIOPA has been increasingly using technology over the years and has always understood the need to dedicate attention and resources to support the market in the implementation of the reporting requirements and contributing to the use of efficient and effective tools for data dissemination.
- A centrally managed XBRL taxonomy and Data Point Metamodeling for both insurance and pensions while also covering needs from the European Central Bank (ECB) in these two sectors.

Data/technology MIX

- For own data purposes through a project denominated Business Intelligence 2.0 to bring EIOPA to the next level becoming a data-driven institution and delivering back to stakeholders. Among other examples, this enables enhanced publication of studies and statistics, improved reports, and analysis for National Competent Authorities (NCAs) using the European database, including some pilots using machine learning techniques.

On Sup Tech:

- **Any SupTech Strategy requires** clear criteria to the projects to be included:
 - common interest and where enhanced cooperation and common work would be beneficial.
 - real need identified by supervisors.

- whether EIOPA can add value through a centralised development or use of EIOPA's database, and
- enhance the knowledge sharing and cooperation between NCAs.
- After 2 years of experience, EIOPA agreed to two additional criteria to support the prioritisation:
 - avoiding partial overlaps with other collaborative projects and
 - balance between innovation and feasibility.

Thank you for your attention and I stand ready to answer your questions.

EIOPA Westhafen Tower, Westhafenplatz 1 60327 Frankfurt – Germany Tel. + 49 69-951119-20
info@eiopa.europa.eu <https://www.eiopa.europa.eu>

Follow us

- [Twitter](#)
- [Facebook](#)
- [LinkedIn](#)
- [YouTube](#)